Τιμητικός τόμος
Εύης Λάσκαρι

Honorary volume for
Evi Laskari

Κείμενα και άρθρα από το 5ο Διεθνές Συνέδριο Δικαίου
της Πληροφορίας (ICIL 2012),
αφιερωμένο στη μνήμη της Εύης Λάσκαρι

Texts and articles from the 5th International Conference
on Information Law (ICIL 2012),
dedicated to the memory of Evi Laskari

Τιμητικός τόμος Εύης Λάσκαρι – Honorary volume for Evi Laskari
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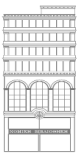



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Τιμητικός τόμος Εύης Λάσκαρι

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Κείμενα και άρθρα από το 5ο Διεθνές Συνέδριο Δικαίου της Πληροφορίας (ICIL 2012), αφιερωμένο στη μνήμη της Εύης Λάσκαρι

Texts and articles from the 5th International Conference on Information Law (ICIL 2012), dedicated to the memory of Evi Laskari

Επιμέλεια: Μαρία Κανελλοπούλου-Μπότη, Ανδρέας Γιαννακουλόπουλος
Editors: Maria Bottis, Andreas Giannakoulopoulos

Με την ευγενική χορηγία του Ιδρύματος Μποδοσάκη
Under the generous sponsoring of the Bodossaki Foundation

NOMIKI BIBLIOTHIKI

Σημείωμα από τους επιμελητές του τιμητικού τόμου για την Εύη Λάσκαρι

Ο τιμητικός τόμος αυτός είναι αφιερωμένος στη μνήμη της Εύης Λάσκαρι, φιλολόγου, αποφοίτου της Φιλοσοφικής Σχολής του Εθνικού Καποδιστριακού Πανεπιστημίου Αθηνών και του Τμήματος Αρχειονομίας και Βιβλιοθηκονομίας του Ιονίου Πανεπιστημίου (μεταπτυχιακό δίπλωμα ειδίκευσης), Διευθύντριας, από το 2001 μέχρι τον θάνατό της το 2008, της Κεντρικής Δημόσιας Βιβλιοθήκης Κερκύρας.

Ο τόμος περιέχει κείμενα αφιερωμένα στη μνήμη της Εύης Λάσκαρι και εργασίες από το πέμπτο διεθνές συνέδριο δικαίου της πληροφορίας 2012 (ICIL 2012), συνέδριο το οποίο επίσης αφιερώθηκε στη μνήμη της και διεξήχθη στην Κέρκυρα, στην Ιόνιο Ακαδημία, τον Ιούνιο του 2012. Οι εργασίες δημοσιεύονται στη γλώσσα που συντάχθηκαν και παρουσιάστηκαν, την αγγλική, λόγω του διεθνούς χαρακτήρα του συνεδρίου.

Το διεθνές συνέδριο δικαίου και δεοντολογίας της πληροφορίας «γεννήθηκε» στην Κέρκυρα το 2008 με την ενθουσιώδη στήριξη του τότε Προέδρου του Τμήματος Αρχειονομίας και Βιβλιοθηκονομίας, Ομότιμου Καθηγητή Γεωργίου Μπόκου. Αυτή ήταν και η χρονιά που μας άφησε η Εύη Λάσκαρι…

Η ιδέα ήταν ένα διεθνές συνέδριο με ευρεία θεματική που θα κάλυπτε κάθε πιθανή σύνδεση της έννοιας της πληροφορίας με το δίκαιο και την ηθική, αλλά κατόπιν και τη φιλοσοφία, την ψυχολογία, την κοινωνιολογία, την εγκληματολογία κ.λπ.-ο συνδετικός κρίκος είναι η έννοια της πληροφορίας.

Στην Εύη αφιερώσαμε το πιο μεγάλο, το πιο πλούσιο μέχρι τότε ICIL-του 2012. Είχε τρεις ολοήμερες παράλληλες συνεδρίες, πέντε ειδικές συνεδρίες και πάνω από 100 ομιλητές από όλον τον κόσμο.

Το 2012, το συνέδριο τιτλοφορήθηκε “Equity, Integrity and Beauty in Information Law and Ethics”. Η έννοια της πληροφορίας συνδέθηκε και με την έννοια της ομορφιάς, μια αισθητική βέβαια κατηγορία. Εκεί είδαμε περισσότερο τη σχέση του Τμήματος Τεχνών Ήχου και Εικόνας του Ιονίου Πανεπιστημίου με το συνέδριο αυτό. Ο εξαιρετικός πίνακας του Renoir στην αφίσα του συνεδρίου -όπως και οι πανέμορφοι πίνακες σε κάθε σελίδα του ιστοχώρου του συνεδρίου- εκφράζει ακριβώς αυτή την ιδέα -ευχαριστίες και πάλι στη Νομική Βιβλιοθήκη για τον σχεδιασμό της όμορφης αυτής αφίσας. Υπάρχει, λοιπόν, ομορφιά στο δίκαιο, όπως ακριβώς αντίθετα, το δίκαιο και η ηθική «ρυθμίζουν» την ομορφιά -ως προς αυτό, χαρακτηριστική είναι η ειδική συνεδρία του ICIL 2012, Arts and Ethics. Αριστοτεχνικό και το ρεσιτάλ πιάνου που ευγενικά προσέφερε στο ICIL 2012 ο διεθνούς φήμης σολίστ και Καθηγητής Πιάνου του Τμήματος Μουσικών Σπουδών του Ιονίου Πανεπιστημίου Λάμπης Βασιλειάδης -ευχαριστούμε. Και βέβαια, όμορφοι πο-

λύ και οι πίνακες του Κερκυραίου ζωγράφου Γιώργου Πέννα, που εκτέθηκαν ειδικά για τους συνέδρους του ICIL στη διάρκεια του συνεδρίου, στην αίθουσα που ευγενέστατα μας προσέφερε για χρήση του συνεδρίου η Ιερά Μητρόπολις Κερκύρας -πολλά ευχαριστώ κι εδώ οφείλονται. Ευχαριστούμε τον Σεβασμιότατο Μητροπολίτη Κερκύρας, Παξών και Διαποντίων Νήσων κ. κ. Νεκτάριο Ντόβα για τη στήριξή του σε σχέση με την παραχώρηση και χρήση της αίθουσας αυτής, που τόσο χρειαζόμασταν αφού είχαμε τρεις παράλληλες συνεδρίες στο ICIL 2012.

Το πέμπτο διεθνές συνέδριο δικαίου και δεοντολογίας της πληροφορίας 2012 συμπεριέλαβε, εκτός από τις γενικές συνεδρίες για το δίκαιο και τη δεοντολογία της πληροφορίας και τις εξής ειδικές: Libraries and Intellectual Capital, Living in Surveillance Societies, Arts and Ethics, Women in Academia και Young Scholars' Forum. Το συνέδριο συνδιοργανώθηκε από τα Τμήμα Αρχειονομίας και Βιβλιοθηκονομίας και το Τμήμα Τεχνών Ήχου και Εικόνας του Ιονίου Πανεπιστημίου και τη διεθνή εταιρεία επιστημόνων International Society for Ethics and Information Technology (INSEIT). Η βοήθεια του Προέδρου του Τμήματος Αρχειονομίας και Βιβλιοθηκονομίας, Καθηγητή Σπυρίδωνα Ασωνίτη (δυστυχώς απεβίωσε, αφήνοντάς μας ένα μεγάλο κενό) υπήρξε πολύτιμη. Ευχαριστούμε και τον τότε Πρόεδρο του Τμήματος Τεχνών Ήχου και Εικόνας, και νυν Μέλος του Συμβουλίου Διοίκησης του Ιονίου Πανεπιστημίου, Καθηγητή κ. Νικόλαο-Γρηγόριο Κανελλόπουλο. Ευχαριστούμε και τον Πρόεδρο, τότε, της διεθνούς εταιρείας INSEIT, Professor Herman Tavani.

Επίτιμος πρόεδρος του ICIL 2012 ήταν ο Ομότιμος Καθηγητής του Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης και Αντεπιστέλλον Μέλος της Ακαδημίας Αθηνών Λάμπρος Κοτσίρης. Τον ευχαριστούμε για τη σταθερή του αγάπη, συμβουλή και συμβολή, και υποστήριξη του ICIL, από την πρώτη στιγμή. Ευχαριστούμε θερμά τους κύριους ομιλητές του συνεδρίου, Professor Herman Tavani, Professor Paul Sturges, Professor Bernt Hugenholtz και Professor Reto Hilty.

Το ICIL 2012 υποστηρίχθηκε ηθικά από το Institute for Legal Informatics (Γερμανία, ευχαριστούμε Καθηγητά Nikolaus Forgo), το International Center for Information Ethics (Γερμανία, ευχαριστούμε Καθηγητά Rafael Capurro) και το Nexa Center for Internet and Society (Ιταλία, ευχαριστούμε Καθηγητά Marco Ricolfi και Καθηγητά Juan Carlos de Marin). Επίσης το ICIL 2012 υποστηρίχθηκε ηθικά από την E-themis, ευχαριστούμε τον πρόεδρό της, δικηγόρο, Δημήτρη Αναστασόπουλο, LL.M. Ευχαριστούμε όλους για τη σημαντική ηθική υποστήριξη αυτή.

Ευχαριστούμε από καρδιάς τη Ρουμπίνη Οικονομίδου, πολιτικό επιστήμονα, ερευνήτρια, MSc., για την οργάνωση και την επιμέλεια του ιστοχώρου του συνεδρίου, χωρίς την οποία το συνέδριο θα ήταν αδύνατο να γίνει.

Ευχαριστούμε πολύ τον Κερκυραίο ζωγράφο Γιώργο Πέννα που φιλοτέχνησε αφιλοκερδώς το πορτραίτο της Εύης για το εξώφυλλο του τόμου αυτού.

Ευχαριστούμε ιδιαίτερα τον Καθηγητή Βασίλη Χρυσικόπουλο, πρώην Αντιπρύτανη Οικονομικών του Ιονίου Πανεπιστημίου, πρώην Πρόεδρο του Τμήματος Πληροφορικής και Μέλος του Συμβουλίου Διοίκησης του Ιδρύματος, για τη συνεχή βοήθειά του στα συνέδρια αυτά, από το 2008.

Ευχαριστούμε ειδικά τον Αλέξανδρο Πανάρετο, Πληροφορικό, MSc., Μέλος Ε.Τ.Ε.Π. ΠΕ, Τμήματος Πληροφορικής του Ιονίου Πανεπιστημίου, επικεφαλής της ομάδας τεχνικής στήριξης του ICIL 2012-και των προηγούμενων, στην Κέρκυρα. Ο Αλέξανδρος ξέρει καλά πια ότι αυτό το συνέδριο δεν μπορεί να γίνει στην Κέρκυρα χωρίς αυτόν.

Ευχαριστούμε πολύ τη Δρ. Ρωξάνα Θεοδώρου, MSc., Επ. Καθηγήτριας- Διευθύντριας της Βιβλιοθήκης της Ελληνοαμερικανικού Πανεπιστημίου στην Αθήνα, για τη βοήθειά της στον σχεδιασμό του προγράμματος του ICIL και της αρχικής αφίσας του.

Ευχαριστούμε τα μέλη της οργανωτικής επιτροπής του συνεδρίου, Κατερίνα Τζάλη, ΜΔΕ, Δρ. Νίκο Κούτρα, ΜΔΕ, Νίκο Αναστασίου, ΜΔΕ, Ράνια Κώνστα, ΜΔΕ, Γιάννα Σιαμέτη, ΜΔΕ, Μαρία Μαυρωνά και Αγάθη Μουρούζη, ΜΔΕ. Ευχαριστούμε επίσης, πολύ, τη Μαρία Δουκατά, ΜΔΕ.

Ευχαριστούμε όλους τους συγγραφείς, Έλληνες και ξένους, συγγενείς, φίλους, συνεργάτες, γνωστούς της Εύης Λάσκαρι γιατί μας εμπιστεύτηκαν τη συμβολή τους. Ευχαριστούμε πολύ την Έλενα Λάσκαρι, εξαδέλφη της Εύης, για την πολύτιμη βοήθειά της στην προσπάθειά μας αυτή. Ευχαριστούμε τον Καθηγητή Paul Sturges για τη συγγραφή της εισαγωγής στον τόμο αυτόν. Ευχαριστούμε επίσης το Ίδρυμα Μποδοσάκη και ιδιαίτερα τον Πρόεδρό του, τον Κερκυραίο κ. Δημήτρη Βλαστό, για τη χρηματοδότηση του τιμητικού αυτού τόμου για την Εύη.

Ευχαριστούμε τη Νομική Βιβλιοθήκη και την εκδότριά μας, κ. Λίλα Καρατζά, για τον άψογο επαγγελματισμό και την βοήθεια από καρδιάς που πάντοτε μας προσφέρει στις εκδόσεις μας. Ευχαριστούμε την κ. Ελένη Στεφανίδη, τον κ. Θεόδωρο Μαστρογιάννη, τον κ. Ανδρέα Μενούνο, την κ. Αριστέα Διακομοπούλου και την κ. Θεώνη Χαραλαμπάκη για την πολύτιμη βοήθειά τους, την εντυπωσιακή καλή πίστη που επέδειξαν, αλλά και την υπομονή τους για τη δημιουργία του έργου αυτού.

Ευχαριστούμε το διοικητικό συμβούλιο της Δημόσιας Κεντρικής Βιβλιοθήκης της Κέρκυρας και τον Πρόεδρό της, Μάριο Πούλο, Επίκουρο Καθηγητή του Τμήματος Αρχειονομίας και Βιβλιοθηκονομίας του Ιονίου Πανεπιστημίου, για τη βοήθεια του.

Περισσότερο όμως από όλους, ευχαριστούμε την Εύη για όλα όσα έχει προσφέρει και για την έμπνευση –και την εντολή- που μας κληροδότησε για το μέλλον.

Μαρία Κανελλοπούλου-Μπότη & Ανδρέας Γιαννακουλόπουλος,
Επιμελητές τόμου, Κέρκυρα, Ιούνιος 2013

A note from the editors of the honorary volume for Evi Laskari

This honorary volume is dedicated to the memory of Evi Laskari, philologist, graduate of the School of Philosophy of the National and Kapodestrian University of Athens and graduate of the Department of the Archive and Library Sciences of the Ionian University (Master's diploma) and Head of the Central Public Library of Corfu, until her untimely death in 2008. This volume contains texts dedicated to her memory and papers from the fifth international conference on information law 2012 (ICIL 2012), an international conference also dedicated to her memory which took place in Corfu, in June 2012. The papers are published in English, in the language they were written and presented in this international conference.

ICIL was "born" in Corfu, in 2008 due to the enthousiastic support of the chair of the Department of Archieve and Library Sciences, Professor Emeritus George Bokos -the year Evi Laskari left us...

The idea was an international conference covering a wide field connecting information to the meaning of information with law, ethics and also, afterwards, philosophy, psychology, sociology, criminology etc. - the connecting link is information.

We dedicated to Evi Laskari the biggest and richest, until then, ICIL-that of 2012. It run in three parallel sessions, hosted five special sessions and included more than 100 speakers from all over the world.

In 2012, the conference was titled 'Equity, integrity and beauty in information law and ethics'. The concept of information was tied also to the concept of beauty, which however belongs to aesthetics; this was the point where the Department of Audio and Visual Arts came to its co-organization. The wonderful Renoir painting featuring at the ICIL 2102 poster shows exactly this connection-thank you again Nomiki Bibliothiki, for this beautiful poster.

There is, therefore, beauty in the law, as law and ethics in their turn "regulate" beauty-hence the special session of ICIL 2012, Arts and Ethics. And how beautiful was, also, the piano recital offered especially for the ICIL 2012 conference by the world famous piano soloist and Professor of the Department of Music Studies of the Ionian University, Lambis Vassiliadis -thank you, so much. Beautiful also were the paintings of the Corfiot painter George Pennas, offered for a special exhibition for ICIL 2012 by the painter, at the Spiritual Center of the Holy Greek Orthodox Metropolis of Corfu, offered for ICIL during the conference-thank you, so much for this generous offer. We would like to thank the Metropolitan Bishop

of Corfu, Paxoi and the Diapontia Islands Nektarios Dovas and for his support during the conference, who offered us the venue for ICIL 2012 which we needed so much, as ICIL run three parallel sessions every day, all day.

The fifth international conference on information law and ethics 2012 (ICIL 2012) included, except the general sessions, the following special sessions: Libraries and Intellectual Capital, Living in Surveillance Societies, Arts and Ethics, Women in Academia και Young Scholars' Forum. The conference was co-organized by the Ionian University (Department of Archive and Library Sciences and Department of Audio and Visual Arts) and the International Society for Ethics and Information Technology (INSEIT). The help of the Head, at the time of the Department of Archive and Library Sciences, Professor Spiros Asonitis (now sadly deceased) was valuable. Also valuable was the help of the Head, at that time, of the Department of Audio and Visual Arts, now Member of the Board of Trustees of the Ionian University, Professor Nikolaos-Grigorios Kanellopoulos. We also thank the Chair, then, of INSEIT, Professor Herman Tavani.

Professor Emeritus Labros Kotsiris, member of the Academy of Athens, was the honorary Chair of ICIL 2012. We thank him for his constant love, advice and contribution and support of ICIL, from the very first moment. We thank the keynote speakers of the conference, Professor Herman Tavani, Professor Paul Sturges, Professor Bernt Hugenholtz και Professor Reto Hilty.

ICIL 2012 was morally sponsored by the Institute for Legal Informatics (IRI, Germany, thank you Professor Nikolaus Forgo), the International Center for Information Ethics (ICIE, Germany, thank you Professor Rafael Capurro) and the Nexa Center for Internet and Society (Italy, thank you Professors Marco Ricolfi and Juan Carlos de Marin). ICIL 2012 was also supported morally by the Greek E-themis, thank you Dimitris Anastasopoulos, E-themis Chair, LL.M. We thank all of you for this moral support.

We thank from our hearts Roubini Oikonomidou, researcher, political scientist, MSc., for the perfect organization and the content management of the ICIL 2012 website. The conference would be impossible without her.

We thank the Corfiot painter George Pennas, who kindly painted Evi's portrait for this volume's cover.

Thank you, so much, Professor Vassileios Chryssikopoulos, ex-Vice Rector of the Ionian University and ex-Head of the Informatics Department, current member of the Board of Trustees of the Ionian University, for your help and the inspiration he offered us -in all ICILs, actually, since 2008, again, in Corfu.

We especially thank Alexandros Panaretos, Computer Scientist, MSc., Specialized Technical Scientific Staff of the Department of Informatics of the Ionian

University, Head of the Technical Support team of ICIL 2012-and of the previous ones! Alexandros knows now that ICIL cannot run in Corfu without him.

We thank Dr. Roxana Theodorou, MSc., Head Librarian of the Hellenic American University in Athens, Assistant Professor, for her help in the design of the ICIL program and its first poster.

We thank the members of the organizing committee of ICIL 2012, Katerina Tzali, MSc., Dr. Nikos Koutras, MSc., Nikos Anastasiou, MSc., Rania Konsta, MSc., Gianna Siameti, Maria Maurona and Agathi Mourouzi, MSc.. We also thank Maria Doukata, MSc.

We thank all authors, Greek and non-Greek, relatives, friends, collaborators, acquaintances of Evi Laskari because they entrusted us with their contributions. We thank Elena Laskari, cousin of Evi, for her valuable help in our effort for this volume. We thank Professor Paul Sturges for his introduction, written especially for this volume. We also thank the Bodossaki Foundation and especially its Chair, the Corfiot Mr. Dimitris Vlastos, for the funding of this honorary volume for Evi.

We specially thank Nomiki Bibliothiki and our publisher, Lila Karatza, for her impeccable professionalism and help from the heart she always offers us for our publications. We thank Eleni Stefanidi, Theodore Mastrogianni, Andreas Menounos, Aristea Diakomopoulou and Theano Charalambaki for their exceptional good will, their impressive help and their patience for the creation of this work.

We thank the board of the Public Central Library of Corfu and its Chair, Marios Poulos, Assistant Professor of the Department of Archives and Library Sciences of the Ionian University, for his help.

But most of everyone, most of all, we thank Evi for all she has offered us and for the inspiration-and the mandate- she bequeathed us for the future.

Maria Bottis & Andreas Giannakoulopoulos,
Editors of the volume, Corfu, June of 2013

Περιεχόμενα

2. Κείμενα για τη Δημόσια Βιβλιοθήκη της Κέρκυρας

ΔΕΥΤΕΡΟ ΜΕΡΟΣ - PART II

Papers presented in the 5th International Conference on Information Law and Ethics 2012

I. Keynote presentation of the 5th ICIL 2012

II. Papers from ICIL 2012, selected for this volume

1. Copyright

2. Patents

3. Privacy

4. Computer and information ethics

5. Freedom of speech

6. Libraries and open access

7. *Varia*

8. Women in Academia

ΠΡΩΤΟ ΜΕΡΟΣ - PART I

1. Κείμενα για την Εύη Λάσκαρι - Texts on Evi Laskari

Εύη Λάσκαρι

Διευθύντρια Δημόσιας Βιβλιοθήκης Κέρκυρας

Βιογραφικό

Η Εύη Λάσκαρι γεννήθηκε τον Απρίλη του 1964 στο Λονδίνο, όπου ο Κερκυραίος πατέρας της Σπύρος έκανε μεταπτυχιακά στα Οικονομικά, και η Κερκυραία μητέρα της Ειρήνη σπούδαζε επίσης. Η πρώτη τάξη του δημοτικού τη βρίσκει στη Γαλλία, στη Γκρενόμπλ, όπου ο πατέρας συνέχιζε διδακτορικές σπουδές. Τα πρώτα παιδικά χρόνια στην Ευρώπη έδωσαν στην Εύη Λάσκαρι, σε συνδυασμό με τα φυσικά πνευματικά της χαρίσματα, μια μεγάλη άνεση στη χρήση της αγγλικής και γαλλικής γλώσσας, την οποία τελειοποίησε αργότερα, όταν η οικογένεια γύρισε στην Ελλάδα (στην Πάτρα όπου ο πατέρας κατέλαβε θέση Καθηγητή στο ΤΕΙ Πάτρας), με μελέτη και εργατικότητα, αποκτώντας σε εφηβική ηλικία διπλώματα και στις δύο γλώσσες. Μελέτη και εργατικότητα, οι αρετές που δεν την εγκατέλειψαν ποτέ, σε όλη τη διάρκεια της ζωής της. Έτσι, περνάει με άριστα στη Φιλοσοφική Σχολή του Εθνικού και Καποδιστριακού Πανεπιστημίου Αθηνών, στην κατεύθυνση Ιστορικό-Αρχαιολογικό. Αποφοιτώντας, επιλέγει να ζήσει στην Κέρκυρα, όπου μέχρι τότε περνούσε τα καλοκαίρια της.

Μετά από ένα σύντομο πέρασμα από το Ιστορικό Αρχείο, από το 1992 εργάζεται στη Δημόσια Βιβλιοθήκη, το δε 2001 γίνεται Διευθύντρια. Εργάζεται με ζήλο, αφοσίωση, πάντα πολύ πέραν του ωραρίου, με στόχους, ανιδιοτέλεια, όραμα και αποτελεσματικότητα. Για δεκαεπτά ολόκληρα χρόνια γίνεται η «ψυχή» της Δημόσιας Κεντρικής Ιστορικής Βιβλιοθήκης της Κέρκυρας, πετυχαίνοντας κυριολεκτικά τη μεταμόρφωσή της.

Με την άριστη συνεργασία και αμέριστη υποστήριξη του Εφορευτικού Συμβουλίου της Βιβλιοθήκης, πετυχαίνει πολλά:

– Την οργάνωση της Βιβλιοθήκης σε όλα τα επίπεδα, από μηδενική βάση, συμπεριλαμβανομένης της οικονομικής διαχείρισης, μισθοδοσίας προσωπικού κ.λπ.

– Την παρακολούθηση και επίσπευση των εργασιών αποκατάστασης του κτηρίου στο οποίο σήμερα, και από το 1997, στεγάζεται η Δημόσια Βιβλιοθήκη

– Την ηλεκτρονική καταλογογράφηση και επιστημονική επεξεργασία του υλικού, μια συνεχή προσπάθεια

– Την εξασφάλιση προσωπικού στο μέτρο του εφικτού, μια συνεχής επίπονη προσπάθεια

– Το συνεχή εμπλουτισμό και ανανέωση της συλλογής των βιβλίων προς δανεισμό

– Τη δημιουργία τμήματος παιδικού βιβλίου

– Την προσέλκυση και αξιοποίηση δωρεών (δωρεά 2.500 βιβλίων από τις εκδόσεις Καστανιώτη, δωρεά 1.000 βιβλίων από την Αμερικανική Πρεσβεία, δωρεά της κ. Γούστη-Σταμπόγλη για την αποκατάσταση της αίθουσας υποδοχής του ισογείου του κτηρίου, δωρεά του Ιδρύματος Μποδοσάκη για τη συντήρηση των παλαιών βιβλίων της Βιβλιοθήκης)

– Τη συνεχή βελτίωση του εξοπλισμού, ηλεκτρονικού και μη

– Τη διεκδίκηση κονδυλίων, κάτι καθόλου εύκολο

– Την επίβλεψη της Πρακτικής Άσκησης φοιτητών Βιβλιοθηκονομίας και Ιστορίας, μέσα από την οποία προχώρησε η αποδελτίωση δύο επτανησιακών ιστορικών εφημερίδων

– Την Έκθεση στο κοινό, τον Οκτώβριο του 2004, σε συνδιοργάνωση με το Τμήμα Αρχειονομίας-Βιβλιοθηκονομίας του Ιονίου Πανεπιστημίου, των παλαιών και μεγάλων βιβλίων (διαστάσεων περίπου 50 εκ. επί 40 εκ.) μεγάλης αξίας, που διαθέτει η Βιβλιοθήκη

– Τη διοργάνωση πολλών ομιλιών με καλεσμένους διακεκριμένους ομιλητές

– Την ξενάγηση σχολείων στους χώρους της Βιβλιοθήκης και παρουσίαση των δραστηριοτήτων της, προσωπικά από την ίδια μια που πίστευε ιδιαίτερα στην αξία της εκπαίδευσης των παιδιών

– Τη διοργάνωση εκπαιδευτικών προγραμμάτων σε συνεργασία με το Εθνικό Κέντρο Βιβλίου

– Την αξιοποίηση Προγραμμάτων του Υπουργείου Παιδείας, μέσω των οποίων πέτυχε:

α. Τη λειτουργία Κινητής Βιβλιοθήκης (ειδικά εξοπλισμένο όχημα το οποίο επισκέπτεται τα χωριά και τα σχολεία του νομού Κέρκυρας, με βιβλία για δανεισμό, και βιβλιοθηκονόμο που υποστηρίζει και συμβουλεύει τους δανειζόμενους). Με δική της πρωτοβουλία η Κινητή επισκέπτεται επίσης το “Χαμόγελο του Παιδιού” στους Μαγουλάδες.

β. Τη λειτουργία Κέντρου Πληροφόρησης στο χώρο της Βιβλιοθήκης με εννέα ηλεκτρονικούς υπολογιστές για το κοινό

γ. Τη λειτουργία, σε ξεχωριστή αίθουσα της Βιβλιοθήκης, δύο ηλεκτρονικών υπολογιστών, για χρήση από άτομα με ειδικές ανάγκες. Ο ένας για τυφλούς, που αξιοποιεί το σύστημα Braille, και ο άλλος για άτομα με κινητικά προβλήματα

δ. Την ψηφιοποίηση μεγάλου αριθμού παλαιών και σπάνιων βιβλίων, μια διαδικασία σε εξέλιξη.

Η Εύη Λάσκαρι, πέραν της διεκπεραίωσης των διοικητικών και αναπτυξιακών δραστηριοτήτων της Βιβλιοθήκης, φρόντισε ιδιαίτερα και για τη δική της συνεχή ενημέρωση και εκπαίδευση ώστε να παρακολουθεί τις εξελίξεις τόσο στη διεθνή πρακτική οργάνωσης και διοίκησης Βιβλιοθηκών, όσο και στην Επιστήμη της Βιβλιοθηκονομίας. Έτσι, τον Μάρτιο του 1995 παρακολουθεί σεμινάριο στη Γλασκώβη, το Δεκέμβριο του 1998 στο Sainte Maxime Var (Γαλλία), τον Ιούνιο του 1999 στη La Londe (Γαλλία), το 2007 στη Βιέννη, όπως και διάφορα σεμινάρια του Εθνικού Κέντρου Τεκμηρίωσης στην Αθήνα. Το 2003 παρακολουθεί το Μεταπτυχιακό Πρόγραμμα Ειδίκευσης «Υπηρεσίες Πληροφόρησης σε Ψηφιακό Περιβάλλον» του Τμήματος Αρχειονομίας-Βιβλιοθηκονομίας στο Ιόνιο Πανεπιστήμιο, σχετικά με τη μετεξέλιξη της Επιστήμης της Βιβλιοθηκονομίας σε Επιστήμη της Πληροφόρησης. Τελειώνει τις σπουδές της αυτές με τη συγγραφή της εργασίας με τίτλο: «Τεχνολογίες κωδικοποίησης Open URL σε Dublin Core μεταδεδομένα». Η επιλογή του συγκεκριμένου θέματος είναι ενδεικτική της ικανότητάς της να εξελίσσεται και να αποζητά την πρωτοπορία στον τομέα της, αφού δεν περιορίστηκε στην κλασική βιβλιοθηκονομική προσέγγιση αλλά δοκιμάστηκε με αυτήν την εργασία της σε ένα πρωτοποριακό θέμα που προσεγγίζει τη Βιβλιοθηκονομία μέσα από τα εργαλεία της Πληροφορικής.

Μετά την απόκτηση του μεταπτυχιακού της τίτλου, η Εύη Λάσκαρι ανοίγεται περισσότερο στην επιστήμη. Τον Ιούνιο του 2008 σε συνεργασία με τους Λέκτορες στο Τμήμα Αρχειονομίας-Βιβλιοθηκονομίας Χριστίνα Μπάνου και Πέτρο Κωσταγιόλα πραγματοποιούν επιστημονική ανακοίνωση στο διεθνές συνέδριο «Metropolitan Libraries Conference» στην Πράγα, την οποία παρουσιάζει η ίδια, με τίτλο «Έρευνα για τον στρατηγικό σχεδιασμό ως μέσο ανάπτυξης των ελληνικών Κεντρικών Δημοσίων Βιβλιοθηκών στις αρχές του 21ου αιώνα». Η ίδια συγγραφική ομάδα συγγράφει επιστημονικό άρθρο με τίτλο «Στρατηγικός σχεδιασμός και διοίκηση των Δημοσίων Βιβλιοθηκών: η περίπτωση της Δημόσιας Βιβλιοθήκης της Κέρκυρας» το οποίο έχει γίνει δεκτό, με τη διαδικασία της κρίσης, προς δημοσίευση στο Library Management, ένα από τα σοβαρότερα επιστημονικά περιοδικά στο χώρο της Βιβλιοθηκονομίας. Στο ίδιο τεύχος θα δημοσιευτεί κείμενο των συνσυγγραφέων του άρθρου, αφιερωμένο στο έργο της στη Βιβλιοθήκη, και στη μνήμη της. Έτσι η Δημόσια Βιβλιοθήκη της Κέρκυρας γίνεται γνωστή ως περίπτωση επιτυχημένης Δημόσιας Βιβλιοθήκης, στους βιβλιοθηκονόμους της Ευρώπης και του κόσμου, μία ακόμη συμβολή της Εύης Λάσκαρι στην ανάδειξη της Βιβλιοθήκης που τόσο αγάπησε.

Στις 26 Σεπτεμβρίου 2008, στο 17ο Συνέδριο Ακαδημαϊκών Βιβλιοθηκών, στα Ιωάννινα, έχει μία ακόμη ανακοίνωση με τίτλο «Η αλληλεπίδραση των Πανεπιστημι-

ακών Βιβλιοθηκών με τις Δημόσιες Βιβλιοθήκες». Δεν είναι όμως εκεί για να την παρουσιάσει: η μοίρα θέλησε να διακόψει αναπάντεχα μια πορεία προόδου, επαγγελματικής και επιστημονικής.

Δεκαεννιά Αυγούστου 2008, η μέρα που η Εύη Λάσκαρι έφυγε από κοντά μας ως φυσική παρουσία. Όμως ένας τόσο δημιουργικός και βαθιά ηθικός και αξιόλογος άνθρωπος δε φεύγει ποτέ από κοντά μας γιατί ζει ως παράδειγμα στο μυαλό και την ψυχή μας. Η Εύη Λάσκαρι μας αφήνει κληρονομιά το πάθος της για την πρόοδο, τη βελτίωση, την καινοτομία, μας εμπνέει με τις αρχές που διαπότισαν τη ζωή της: την εργατικότητα, την προσήλωση στους στόχους, την επιμονή στην προσπάθεια, την καθαρότητα ψυχής, την αξιοπρέπεια. Είναι γι΄ αυτό εξίσου αλήθεια ότι μας αφήνει ένα δυσαναπλήρωτο "κενό", όσο και ένα υπέροχο "γέμισμα".

Οκτώβριος 2012

Evi Laskari

Director
Public Library of Corfu

Curriculum Vitae

Evi Laskari was born in April of 1964 in London, where his father Spiros studied for his Masters in Economics, and her mother Irini studied as well. During the first class of primary school Evi was in France, in Grenoble, where her father was continuing his PhD studies. As she was living in her childhood age in Europe, Evi Laskari had the chance, in combination with her intellectual gifts, to speak in foreign languages, in English and in French (in which later on she learned fluently) more effectively, when her family returned to Greece (in Patras, where her father became Professor at the TEI of Patras), by studying and hard working, she attained proficiency in two foreign languages. Studying hard and industriousness, virtues that never 'abandoned' her, stayed with her during her life. Hence, she graduated with distinction from the Faculty of Philosophy (History and Archeology Department) of the National and Kapodestrian University of Athens. Then, Evi chise to live in Corfu, where she was spending her summers, usually.

After a short passage from the Historical Archive of Corfu, from 1992, she worked in the Corfu Public Library and in 2001, she became Director of this Library. She works with ardor and she always overworks (later on than normal working hours), adopting goals with selflessness, vision and effectiveness. For

ten years Evi Laskari is the 'soul' of the Public Central Historical Library of Corfu, accomplishing its transformation.

Supported by the excellent cooperation of the Council of the Library, she achieves impressive outcomes:

- The organization of Library throughout its levels, its management and coordination simultaneously
- The supervision and acceleration of building reconstruction which, nowadays, and since 1997, hosted the Public Library
- The digital archiving and scientific elaboration of a continuous outcome
- The hiring of the staff, as much as possible, a continuous and painful effort
- The continuous enrichment and renewal of books to be borrowed
- The creation of the Children's Book Department
- The attraction and exploitation of donations (donation of 2.500 books from the Publisher Kastaniotis, donation of 1.000 books from the American Embassy, Goustis-Stampoglis' donation for the reconstruction of the grand floor reception, donation of Bodossaki Foundation for the maintenance of the Library's old books)
- The continuous improvement of infrastructure, equipment and facilities
- The claim of finds for the Library, something really difficult
- The supervision of student internships (librarianship and history students), who assisted in indexing two significant newspapers of the Ionian Islands
- The exhibition of old, aged and big books (sizes 50 centimeters on 40 centimeters), in October of 2004, in co-organization with the Department of Archives and Library Science, Ionian University
- The organization of several discussions with guests and well-known speakers
- The sightseeing tour of schools in Library's rooms and the presentation of its activities, in personal by Evi Laskari who believes in children's education as a value
- The organization of educational programs in co-operation with the National Book Centre
- The development of Ministry of Education Programs which supported:
    - The operation of a Mobile Library (specially equipped vehicle which visited the villages and schools of Corfu, with books for borrowing, and appointing

a librarian who supported and advised borrowers). Under Evi's initiative, the Mobile Library visited the philanthropic foundation for kids, 'Xamogelo tou Paidiou'- 'Child's smile', in Magoulades

- The operation of two computers, in a separate room of the Library, for use by disabled persons. One of this computers is for blind persons, under Braille system and the other one for persons with disabilities
- The archiving of a great amount of aged and rare books, a process under evolution

Evi Laskari, beyond her managerial and development activities of the Library, especially tended to follow updates and education regarding well-known and beneficial ways (globally), to manage and organize libraries, still called the Science of Librariaship. Therefore, in March 1995, she attended a seminar in Glasgow, in December of 1998 in Saint Maxime Var (France), in June 1999 in La Londe (France) and 2007 in Vienna, as well as several seminars of the National Documentation Centre in Athens. In 2003 she attended the Postgraduate Program in "Science of Information in a Digital Environment" of the Department of Archives and Library Science, Ionian University, in relation with the Science of Librarianship's evolution. She ended her studies by writing her thesis titled: 'Open URL code technologies in relation to Dublin Core metadata'. This kind of research topic indicates her ability to pass off and research for innovation in her discipline, as she did not 'stop' in a classic approach of a librarian, but within this thesis, she tried to test herself with an innovative subject, which reaches Library Science based on Informatics tools. After obtaining her Masters degree, Evi Laskari broadened her scientific vision. In June 2008 collaborating with the Lecturers Christina Banou and Petros Kostagioals, she lectures in the Department of Archives and Library Science. Evi Laskari made a scientific announcement at the International Conference 'Metropolitan Libraries Conference' in Prague, in which she presented a paper titled: 'Research as regards strategic planning as mean of Greek Public Central Libraries development in 21st century'. The same team publishes a scientific article titled 'Strategic planning and management of Public Libraries: the case study of Public Library of Corfu' that has been accepted to be published, after a review, in Library Management, one of most wwell-known scientific journals in Library Science. In the same volume, the remaining to authors published an article dedicated to the work of the Library, and Evi's memory. Thus, the Public Library of Corfu became well-known as a successful Public Library, among Librarians of Europe and whole world, something that can be seen as an additional effort made by Evi Laskari regarding this Library.

In 26 September 2008, during the 17th National Conference of Academic Librarians, in Ioannina, Evi had planned to present a scientific announcement titled:

'The interaction between University Libraries and Public Libraries'. However, she did not attend to present it: fate had another desire and unexpectedly 'stopped' her scientific and professional evolution.

19th of August 2008, Evi Laskari said 'goodbye'. Nevertheless, an innovative and creative person like Evi Laskari did not leave us, as she still lives in our thoughts, in our souls as a great example. Evi Laskari leaves us her passion for development, improvement, innovation as legacy and inspires us with principles that pervaded her life such as: industriousness, commitment to objectives, persistence in trying, purity of soul and dignity. Thus, she left us a really irreplaceable 'vacuum', as well as a wonderful 'fulfillment'.

October 2012

Λίγα λόγια από τη μητέρα της Εύης

Η Εύη υπήρξε χαρισματικό παιδί, έχοντας μια γρήγορη αντίληψη, που, σε συνδυασμό με την έμφυτη περιέργειά της, της έδωσε εκπληκτική ευκολία στο να μαθαίνει, εξ ου και οι έπαινοι και τα βραβεία στο σχολείο.

Δε μπορώ να μην προσθέσω και τα άλλα της ταλέντα, ζωγραφική, μαγειρική, κηπουρική, ακόμη και μουσική(!)- μπορούσε να παίξει πρακτικά έναν ήχο «με το αυτί».

Η Βιβλιοθήκη ήταν για την Εύη χώρος που αγάπησε. Διάβαζε βιβλία από μικρή, και όχι μόνο λογοτεχνία, αλλά κυριολεκτικά ό,τι έπεφτε στα χέρια της ή μάλλον ό,τι μπορούσε να αγοράσει σε βάρος άλλων αναγκών της.

Όσοι την ήξεραν γνωρίζουν τις ώρες που εργαζόταν, πολύ πάνω από το «οκτάωρο» των δημοσίων υπαλλήλων, αφού συχνά έμενε στη δουλειά μέχρι τις εννέα το βράδυ, και εάν είχε συμβούλιο, ακόμη πιο αργά.

Ενθουσιώδης, επίμονη, με πείσμα όπου αυτό χρειαζόταν, κατάφερε νομίζω πολλά στον λίγο χρόνο που κράτησε το πέρασμά της από τη ζωή.

Οι λίγοι, αλλά καλοί φίλοι της ήξεραν ότι μπορούσαν να βασιστούν σ' αυτή σε ό,τι αφορούσε στην εκμυστήρευση ενός μυστικού, τη συζήτηση για κάποιο πρόβλημά τους, την παρέα.

Μιλώντας για την Εύη, θα ήταν, νομίζω, άδικο να μην αναφερθώ στο χιούμορ της, άλλοτε καυστικό, κάποτε αυτοσαρκαστικό, πάντοτε όμως εύστοχο.

Θα μπορούσα να αναφερθώ και σε τόσα άλλα, στην αγάπη για τα ζώα ας πούμε, ή για τη φύση.

Στο μυαλό μου υπάρχουν όλες οι στιγμές που κρατάνε αιώνια, γι' αυτό δίκαια έχει ειπωθεί ότι κανείς δεν πεθαίνει όσο υπάρχουν εκείνοι που τον κρατούν ζωντανό στη μνήμη τους, καθώς και το έργο του που αφήνει ίχνη.

Ειρήνη Λάσκαρι

A few words for Evi from her mother

Evi had been a gifted child and very intelligent. This intelligence, combined with her innate curiosity, gave her an impressive facility in learning, hence her awards and distinctions at school.

I have to add here her other talents, such as painting, cooking, gardening, even music (!), as she had the ability to play, practically, a sound just by listening to it

The library was to Evi a place she adored. She was reading books since she was child, and not only literature, but whatever was on her desk, in her hands or rather whatever she could buy, ignoring her other needs.

Everybody who knew her working hours, knew she worked much more than the usual eight-hours of public servants daily, as several times, she remained at work until 21:00 at night and if she had to attend council, she was staying much longer.

Enthousiastic, persistent, stubborn whenever needed, I think she was able to achieve many things in contrast to her short life.

Her few, but good friends, knew that they could be supported by Evi when they trusted her with a secret, and that she was a person that they could share problems with, and to enjoy her company.

Talking about Evi, it would be, I suppose, unfair not to mention her humor, sometimes caustic, sometimes self-sarcastic, but always felicitous.

I could also refer to many other things, her love for animals for example, or for nature.

In my mind there are all the moments that last forever so it is justly said that no one dies, as long as people keep this person in their memory, as well as their work, which leaves its traces behind.

Irini Laskari

Αποχαιρετισμός στην Εύη Λάσκαρι

Ένα ζεστό απόγευμα του Αυγούστου, η διευθύντρια της Δημόσιας Βιβλιοθήκης, Εύη Λάσκαρι, έφυγε αναπάντεχα από τη ζωή βυθίζοντας την οικογένειά της και τους φίλους της σε βαρύ πένθος κι αφήνοντας δυσαναπλήρωτο κενό στη Βιβλιοθήκη που με τόσο πάθος κι εργατικότητα επεδίωκε να αναβαθμίσει, και στην κοινωνία μας που τόσο ανάγκη έχει από τέτοιους ανθρώπους για να πάει ένα βήμα μπροστά.

Η Εύη Λάσκαρι είχε το προνόμιο να γεννηθεί σε μια αγαπημένη και μορφωμένη οικογένεια και η επίδραση αυτού του γεγονότος ήταν εμφανώς μεγάλη. Με πατέρα καθηγητή πανεπιστημίου, μητέρα φιλόλογο, και εγγονή δικαστή, επέδειξε από νωρίς ροπή προς τη μελέτη και τα γράμματα. Αριστούχος στο σχολείο και στο πανεπιστήμιο, νεανικό ταλέντο στο τέννις, κάτοχος τριών ξένων γλωσσών με ανώτερα διπλώματα και στις τρείς, κι αργότερα πανίσχυρος παίκτης του μπρίτζ, επεδείκνυε από μικρή εκπληκτική ευφυία, έμφυτη οξυδέρκεια, ταχύτατη σκέψη και ορθή –σχεδόν δικαστική- κρίση. Γνωστοί και φίλοι της κατέφευγαν σ' αυτήν για τη γνώμη της.

Αν και από μικρή «έπαιζε» με ευκολία σε όλα τα «τερραίν», από τη χημεία μέχρι τη λογοτεχνία, εστράφη τελικά στην ιστορία και την αρχαιολογία των οποίων έγινε βαθύς και έγκριτος γνώστης από νεαρή ήδη ηλικία, ενώ η ανέλιξή της στον κόσμο των βιβλιοθηκών, των αρχείων και της βιβλιοθηκονομίας, την έσπρωξε να κάνει μεταπτυχιακές σπουδές σ' αυτόν το χώρο αφού -φευ- ό,τι έκανε δε μπορούσε παρά να το κάνει τέλεια.

Το πέρασμά της από τη Δημόσια Βιβλιοθήκη μας, θορυβώδες, ενεργητικό και αφάνταστα παραγωγικό, δεν είναι εύκολο να ξεχαστεί –ακόμα ακούγεται ο βόμβος. Εργάστηκε σκληρά και με αφοσίωση, κινητοποιώντας γη και ουρανό για να μεγαλώσει και να εκσυγχρονίσει τη Βιβλιοθήκη και να τη φέρει στην εποχή της. Εξασφάλισε πιστώσεις με τρόπο ταχυδακτυλουργικό, κατέγραψε το τεράστιο υλικό σε υπολογιστές χρησιμοποιώντας την τελευταία λέξη της ηλεκτρονικής μόδας (δύσκολη δουλειά που κράτησε χρόνια), αύξησε με κάθε τρόπο το προσωπικό, ίδρυσε κινητή μονάδα, οργάνωσε τμήματα και υπηρεσίες για διαφορετικές ηλικίες και κατηγορίες μελετητών (από παιδιά μέχρι πανεπιστημιακούς και ιστορικούς ερευνητές), επιμελήθηκε τη συντήρηση των ιστορικής αξίας κτηρίων της Βιβλιοθήκης καθώς και του μουσειακού υλικού της, οργάνωσε πνευματικά γεγονότα, ημερίδες και συνέδρια, έκανε ακαδημαϊκές δημοσιεύσεις, ενώ ταυτόχρονα ήταν πάντοτε εκεί, να βοηθήσει κάθε συμπολίτη που είχε ανάγκη τη Βιβλιοθήκη, να προωθήσει το βιβλίο με κάθε τρόπο και να υπηρετήσει προσωπικά τη λογοτεχνία.

Οι ρυθμοί της καθημερινής δουλειάς της ήταν υπερφυσικοί. Η παραγωγικότητά της σου έπιανε την αναπνοή. Σπάνια έκανε χρήση της υπηρεσιακής της άδειας και συνήθως έφευγε απ' τη δουλειά της το βράδυ. Κι ακόμα κι έτσι, πάλι είχε χρόνο να αγκαλιάσει την παλιά συμμαθήτρια, να πιεί καφέ με όποιον ζητούσε μια συμβουλή, να νοιαστεί τους συγγενείς της. Ίσως έκαψε το κερί της κι απ' τις δυο μεριές. Ποιός ξέρει. Έφυγε πολύ νωρίς. Αν κάτι μένει στους φίλους της, εκτός από την πίκρα, είναι αυτό το αίσθημα προσωπικής λεβεντιάς και ντομπροσύνης που απέπνεε, η εμμονή της στο τίμιο παιχνίδι και στα «καθαρά χέρια», η έλλειψη διπλωματίας και πονηριάς, και η ποιότητά της που θύμιζε άλλους καιρούς ξεχασμένους.

Κείμενο αγνώστου

Δημοσιεύτηκε στην εφημερίδα «Άποψη» την Πέμπτη 11 Σεπτεμβρίου 2008

A farewell to Evi Laskari

During a warm evening in August, the Director of the Corfu Public Library, Evi Laskari, unexpectedly died, sinking her family and her friends into deep mourning and leaving a gap difficult to be filled to the Library. She worked with passion and great industriousness to upgrade the Library. She also left our society, which needs this kind of people so much, to progress.

Evi Laskari had the privilege to be born into a loving and well-educated family and this kind of effect over her was obviously great. Having as a father a University Professor, as a mother a philologist, and being the granddaughter, of a judge, she showed early on a tendency towards letters and study. A honors graduate of both her high school and her university, an talent in tennis when she was young, holder of three foreign languages proficiency and later, on a strong player of bridge, she showed since her young age a stunning intelligence, an innate brightness and the most rapid way of thinking and correct - almost juridical – judgment. Her acquaintances and her Fellows and friends sought her opinion all the time.

However, even if since she was very young, she had the flexibility to 'play into' various terrains, from chemistry to literature, she turned to history studies and archeology, which she learned extremely well. Her progress within the world of libraries, archives and library science pushed her to initiate postgraduate studies in this discipline, since whatever she wanted to accomplish, she unfortunately had to accomplish absolutely perfectly.

Her passage from the Public Library was loud, active and unbelievably productive, therefore it not easy to be forgotten, as we still can hear this kind of 'noise'.

She worked hard with loyalty and no obstacle could stop her from enlarging and further develop the Library and modernize it. She secured funding with the ability of a juggler, recorded the vast material in computers by using the latest state-of-the art computer technologies (really hard work that lasted for years), she increased staff members with any way possible, she founded a Mobile Library as part of the Library, she organized departments and services regarding various ages and categories of scholars (from children to students and researchers), she supervised the maintenance of Library buildings and its museum materials as well, she organized intellectual events, seminars and conferences, she wrote academic publications and papers, while she was always there to help any citizen who needed the Library, advance books in any possible way and personally serve literature.

Her daily working rythms were supernatural. Her effectiveness was breathtaking. She rarely using her time off work and usually, she left work late at night. Yet, she had time to hug' an old student of hers, to drink coffee with anyone in need of her assistance, to care for her relatives. Maybe, she 'burned her candle' from both sides. Who knows. She left us too early. If there is something left to her friends besides bitterness, is the feeling of her personal manliness and outspokeness, her stubborness for fair play and her 'clean hands', her lack of diplomacy and cunning, and her quality, a quality reminiscent of other, forgotten times.

Text with no signature

Published in newspaper called 'Apopsi', Thursday 11th September 2008

Μήνυμα από τον Ν. Σ. Δένδια
Υπουργό Δικαιοσύνης

Αγαπητέ κ. Πρόεδρε,

Θα ήθελα να σας ευχαριστήσω για την πρόσκλησή σας να παρευρεθώ στην εκδήλωση που διοργανώνετε στη μνήμη της Εύης Λάσκαρι.

Παρά την επιθυμία μου να ανταποκριθώ στην πρόσκλησή σας και να τιμήσουμε όλοι μαζί την μνήμη της Εύης Λάσκαρι, αυτό δεν καθίσταται δυνατό λόγω ανειλημμένων υποχρεώσεων στο Υπουργείο Δικαιοσύνης.

Επιτρέψατε μου παρακαλώ, τον σύντομο αυτόν χαιρετισμό ως ελάχιστο φόρο τιμής στην μνήμη της και στην πολύχρονη προσφορά της στον πνευματικό κόσμο της Κέρκυρας.

Με τιμή,

Νικόλαος Σ. Δένδιας
Υπουργός Δικαιοσύνης

Message from N. S. Dendias,
Minister of Justice

Dear M. Savvanis, President,

I would like to thank you for your invitation to attend the memorial event for Evi Laskari.

Despite my desire to attend in order to honor Evi Laskaris' memorial event with all of you together, it is impossible, due to my prior commitments to the Ministry of Justice.

I would be grateful if you could accept this short greeting as a minimum tribute to her memory and her contribution to the intellectual life of Corfu.

With honor,

Nikolaos S. Dendias
Minister of Justice

Αναφορά στην αείμνηστη Εύη Λάσκαρι ως φόρο τιμής

Η σημερινή εκδήλωση μνήμης για την Εύη Λάσκαρι είναι εκδήλωση αδήριτης ανάγκης συναδέλφων και συνεργατών να «αγκαλιάσουν» μνήμες και εμπειρίες που αποκόμισαν μαζί της σε συνεργασίες υπηρεσιακές, επιστημονικές και ευρύτερα πολιτιστικές.

Η Εύη Λάσκαρι υπήρξε ένα άτομο με πολυσχιδή προσωπικότητα και πολύπλευρη δράση. Ως υπάλληλος και αργότερα ως Διευθύντρια της Δημόσιας Κεντρικής Βιβλιοθήκης Κέρκυρας, αποτέλεσε ένα υπηρεσιακό στέλεχος με ιδιαίτερα ανεπτυγμένο το αίσθημα της αφοσίωσης και της προσήλωσης στα διοικητικά καθήκοντά της. Υπήρξε δημιουργική και αποτελεσματική, με κύριο χαρακτηριστικό την ανάπτυξη πρωτοβουλιών και δράσεων που οδήγησαν στην αναμόρφωση και τον εκσυγχρονισμό των βιβλιοθηκονομικών και εκπαιδευτικών λειτουργιών της Βιβλιοθήκης, καθώς και του ευρύτερου πολιτιστικού τους ρόλου. Διακρινόταν για τη διορατικότητα και οξύνοια ως προς τις προκλήσεις στις οποίες καλούνται να ανταποκριθούν οι Βιβλιοθήκες στο σύγχρονο συνεχώς μεταβαλλόμενο τεχνολογικό περιβάλλον. Αναλάμβανε πρωτοβουλίες για συνεχή αυτομόρφωση, επεδείκνυε ιδιαίτερη κοινωνική ευαισθησία για ευπαθείς κοινωνικές ομάδες πληθυσμού, καθώς και ιδιαίτερο ενδιαφέρον για τη μέγιστη αξιοποίηση των δυνατοτήτων της νέας τεχνολογίας για τους χρήστες, προκειμένου να έχουν ελεύθερη και ανοικτή πρόσβαση στην πληροφορία και τη γνώση.

Χαρακτηριστικά παραδείγματα αποτελούν η διοικητική αναδιοργάνωση της Βιβλιοθήκης, η μέριμνα για την επίλυση του στεγαστικού προβλήματος, η αδιάλειπτη προσπάθεια για βιβλιοθηκονομική επεξεργασία του υλικού (καταλογογράφηση, κατάλογοι, ευρετήρια), η συστηματική συνεργασία μεταξύ Δημόσιων Βιβλιοθηκών, σχολείου και σχολικών βιβλιοθηκών με την εκπόνηση εκπαιδευτικών προγραμμάτων και τη λειτουργία της Κινητής Βιβλιοθήκης, η οργάνωση εκδηλώσεων με ευρύτερο μορφωτικό και πολιτιστικό χαρακτήρα, η χρήση του Δημόσιου Κέντρου Πληροφόρησης ως οργανικού ζωντανού κυττάρου της Βιβλιοθήκης για την προσέλκυση νέων κυρίως χρηστών με πολυποίκιλα και πολλαπλά ενδιαφέροντα, η ενεργή υποστήριξη της διαδικασίας της ψηφιοποίησης σπάνιου και πολύτιμου βιβλιακού υλικού, καθώς συμμετείχε με ξεχωριστό ζήλο και υπευθυνότητα στην Επιτροπή Διενέργειας και Αξιολόγησης του Διαγωνισμού του συγχρηματοδοτούμενου ευρωπαϊκού προγράμματος «Ψηφιοποίηση Υλικού Δημόσιων Βιβλιοθηκών», και τέλος, η λειτουργία σε ξεχωριστή αίθουσα της Βιβλιοθήκης ηλεκτρονικών υπολογιστών για χρήση από άτομα με ειδικές ανάγκες.

Κλείνοντας, θα θέλαμε να τονίσουμε ότι ο πυρήνας όλων αυτών των δραστηριοτήτων και ο τελικός της στόχος ήταν καθαρά ανθρωποκεντρικός. Η Βιβλιοθήκη, ανεξάρτητα από τα μέσα και τα εργαλεία που χρησιμοποιεί, και που συνεχώς επιβάλλεται να εμπλουτίζει και ανανεώνει, αποτελούσε για την Εύη Λάσκαρι ένα χώρο που διαχρονικά προάγει την παραγωγή ιδεών, υποστηρίζει με σύγχρονες καινοτόμες δράσεις την εκπαιδευτική διαδικασία, προωθεί τον διάλογο και τη συνάντηση διαφορετικών κοινωνικών ομάδων, συμβάλλει ενεργά στην προώθηση της δια βίου μάθησης και τέλος διαμορφώνει την κοσμοθεωρία, τη νοοτροπία και τον τρόπο σκέψης του ατόμου ως κοινωνικού και πολιτικού όντος.

Η Εύη Λάσκαρι χάρη στο οικογενειακό περιβάλλον, την πνευματική συγκρότηση και την παιδεία της χάραξε μια πορεία ζωής που διακρίνεται από πάθος και αφοσίωση, διάθεση για απόκτηση νέων γνώσεων και δεξιοτήτων και αγώνα για αδιάκοπη επαγγελματική και προσωπική πρόοδο. Αυτά ακριβώς τα στοιχεία αποτελούν την παρακαταθήκη για τους συνεχιστές της, τους οποίους παροτρύνουμε να ακολουθήσουν τις αρχές, τους στόχους και τα οράματά της επιδεικνύοντας δημιουργικότητα, πάθος και διάθεση για συνεχή αγώνα και προσφορά.

Η Πρόεδρος
του Γενικού Συμβουλίου Βιβλιοθηκών

Ευγενία Κεφαλληναίου

Reference to the immemorial Evi Laskari, as a tribute

This event to honor Evi Laskari is an event of an imperious need of her colleagues and friends, to embrace memories and experiences they had with her in diverse scientific and cultural co-operations.

Evi Laskari has been a multi-faced personality with intense activity. As an employee officer at first and then, as the Head of the Public Central Library of Corfu, she has been an officer with a highly developed sense of loyalty and commitment to her managerial duties. She has been creative and effective, and her main trait was development of initiatives and activities leading to the upgrade and modernization of the library and educational operations of the Public Library and also, its cultural role, in general. She was distinguished for her insight and gumption facing challenges to which libraries are called to meet in the modern everchanging technological environment. She undertook initiatives for continuous self-education, she displayed exceptional social sensitivity for the weak members of our society and in particular, she showed a special interest for the maximum

use of new technologies by users in order to have open and free access to information and knowledge.

Representative examples are: administrative reorganization of Library, solving the Library's housing problems, the unceasing effort towards the library processing (cataloguing, catalogs, indexes), the systematic cooperation among public libraries, school libraries and schools by developing educational programs and Mobile Library operation, organizing events with a broader educational and cultural character, the use of the Public Information Center as the 'living cell' of the Library to attract new users and mainly users with varied and multiple interests, the active support of the process of the digitization of rare and valuable books, the participation with special zeal and responsibility in the Committee of Conducting and Evaluating the competition of the European co-funded project titled 'Digitization of Public Libraries' and operating a separate Library room of Computers for disabled people.

To sum up, we would like to mention that the core of all these activities and the final target was clearly centered around man. The Library, regardless of the means and tools used, which have to be updated and developed constantly, was for Evi Laskari a place to broaden her visions and ideas, to support modern, alternative and innovative educational activities, to forward the discussion and the connectedness of different social groups, to actively contribute to lifelong learning and finally to form a worldview, a mentality and a way of thinking of the human as a social and political being.

Evi Laskari thanks to her family environment, her spiritual formation and education charted a course of life distinghuished for passion and dedication, willingness to acquire new skills and knowledge, ceaseless struggle for personal and professional evolution. These traits constitute legacy for heirs of her work who we encourage to follow her values, aims and visions showing creativity, passion and offering of self to a constant battle and donation.

The Head
General Council of Libraries

Evgenia Kefallineou

Εύη Λάσκαρι

Η Εύη Λάσκαρι, Διευθύντρια της Δημόσιας Βιβλιοθήκης Κερκύρας, που έφυγε στα μέσα Αυγούστου, τόσο άδικα, τόσο αναπάντεχα, τόσο νωρίς, αφήνει πίσω της δυσαναπλήρωτο κενό.

Ως Διευθύντρια της Δημόσιας Βιβλιοθήκης Κερκύρας τα τελευταία χρόνια κατάφερε να αναγάγει τη Βιβλιοθήκη όχι απλά σε μια τυπική δημόσια υπηρεσία με άψογη λειτουργία, αλλά και σε ένα ζωντανό πνευματικό οργανισμό. Προσέδωσε στο θαυμάσιο- ούτως ή άλλως-χώρο της Βιβλιοθήκης, την αρχοντιά της ψυχής της και της οικογενειακής της αγωγής. Στις ομιλίες που διοργάνωνε τα τελευταία χρόνια για λογαριασμό της Δημόσιας Βιβλιοθήκης, διέκρινες τόσο τη σωστή επιλογή αξιόλογων ομιλητών, όσο και τη διακριτική της παρουσία, μέχρι την τελευταία λεπτομέρεια. Ύστερα ήταν και η διαμόρφωση του χώρου της Βιβλιοθήκης, που καθιστούσε τις συγκεντρώσεις μοναδικές!

Η Εύη Λάσκαρι ήταν φίλη. Ήταν συνεργάτις και αρωγός στο έργο της Περιβαλλοντικής Εκπαίδευσης, καθώς καθοδηγούσε τους μαθητές Δημοτικών, Γυμνασίων και Λυκείων του τόπου μας, στην ανεύρεση των αναγκαίων πληροφοριών για την εκπόνηση των περιβαλλοντικών τους εργασιών.

Μακάρι το έργο της να έχει άξιους συνεχιστές.

Μηλιά Παπαδημητρίου-Παγκράτη

Φιλόλογος
Υπεύθυνη Περιβαλλοντικής Εκπαίδευσης Ν. Κερκύρας

Evi Laskari

Evi Laskari, Head of the Public Library of Corfu, who left us in the middle of August 2008, so unfairly, so suddenly, so early, leaves behind her a great gap.

As Head of the Public Library of Corfu during the last years, she accomplished to transform the Public Library not only into a typical public service functioning perfectly, but to a living intellectual organization. She gave to the wonderful in any respect place of the Library the nobility of her soul and her family education. In the lectures she was organizing these last years, one could detect not only the correct selection of the invited speakers, but also her tactful presence, to the last detail. Besides, there was the formation of the place of the Library that made these events so unique!

Evi Laskari was a friend. She was a collaborator and a contributor in the work of the Environmental Education, as she was leading Primary, Gymnasium and High School students of Corfu to find the necessary information on their projects.

May her work enjoy worthy successors.

Milia Papadimitriou-Pagkrati

Philologist
Supervisor of Environmental Education of Corfu

Στη μνήμη της Εύης Λάσκαρι

Κέρκυρα 20-5-2009

Η συνεργασία μου με την Εύη Λάσκαρι ξεκίνησε το έτος 2001 και συνέπεσε με την ανάληψη από εκείνην της διεύθυνσης της Βιβλιοθήκης. Συνεχίστηκε αδιάκοπα μέχρι την Άνοιξη του 2008, οπότε έπαυσα να είμαι πρόεδρος του εφορευτικού συμβουλίου. Στο πλαίσιο της σχεδόν καθημερινής συνεργασίας μας, σε μία μεγάλη περίοδο περίπου επτά ετών, είχα την δυνατότητα να την γνωρίσω και να εκτιμήσω την προσωπικότητά της. Είναι λοιπόν φυσικό στην σημερινή εκδήλωση μνήμης να μιλήσω γι' αυτήν την συνεργασία καθώς αποτελεί για μένα την μοναδική πηγή από την οποία μπορώ να αντλήσω στοιχεία για έναν άνθρωπο που με θέρμη και αφοσίωση υπηρέτησε ένα σκοπό: να γίνει η Δημόσια Βιβλιοθήκη Κερκύρας, ένας παραγωγικός και ωφέλιμος για την Κέρκυρα δημόσιος φορέας.

Θα ξεκινήσω περιγράφοντας τις δυσκολίες του παραπάνω εγχειρήματος, να διοικήσεις δηλαδή αποτελεσματικά και χρηστά ένα νομικό πρόσωπο όπως είναι μία Δημόσια Βιβλιοθήκη. Για την επιτυχία αυτού του σκοπού απαιτούνται γνώσεις και ηθικά χαρίσματα σε πολύ μεγαλύτερο βαθμό από ότι σε άλλα είδη δημόσιων υπηρεσιών. Αυτό συμβαίνει επειδή η πολιτεία παρέχει στο νομικό πρόσωπο περισσότερη ανεξαρτησία που συνδέεται όμως και με πολλαπλές υποχρεώσεις. Η εκπλήρωση των υποχρεώσεων αυτών είναι εξαιρετικά δυσχερής δεδομένου ότι αυτό το είδος του δημόσιου φορέα πρέπει από μόνο του να καταβάλλει προσπάθειες προκειμένου να αποκτήσει τα μέσα που χρειάζονται για την εκπλήρωση του σκοπού του. Τα δε μέσα που συνήθως του χορηγούνται με διαδικασίες σύνθετες και χρονοβόρες υπολείπονται τις περισσότερες φορές των πραγματικών αναγκών του. Έτσι ο λειτουργός που διοικεί ένα νομικό πρόσωπο πρέπει να προβλέψει, να επιλέξει και να διαχειριστεί χρηματικούς και ανθρώπινους πόρους ώστε να εξασφαλίσει στον φορέα την επιβίωσή του. Με τον τρόπο αυτό η διοίκηση ενός νομικού προσώπου μετατρέπεται πολύ γρήγορα σε προσωπική υπόθεση του διευθυντή του και σε ταύτιση της προσωπικότητάς του με την υπηρεσία και τα προβλήματά της. Ίσως αυτό το συναίσθημα να το έχουμε νιώσει σε μικρότερο ή μεγαλύτερο βαθμό όσοι εργαστήκαμε σε μία δημόσια υπηρεσία, όταν μεταφέρουμε στην προσωπική μας ζωή ζητήματα που μας απασχολούν στην υπηρεσιακή μας ζωή. Η ταύτιση δε αυτή γίνεται ακόμη πιο βασανιστική όταν ο επικεφαλής του φορέα διέπεται από ένα κώδικα αξιών, από ένα δηλαδή πολιτισμικό μόρφωμα, που ενισχύει τις απαιτήσεις για ευθύνη και αξιοπρέπεια κατά την άσκηση των καθηκόντων του.

Επικρατεί συνήθως η άποψη ότι η διοίκηση μιας δημόσιας υπηρεσία είναι κάτι τεχνικό και διαδικαστικό. Ξεχνούμε εύκολα όμως ότι τις υπηρεσίες τις διοικούν άνθρωποι που έχουν συναισθήματα, προσδοκίες, πεποιθήσεις και οράματα. Και ότι

σ' αυτές μετουσιώνεται το καλό και το κακό της ανθρώπινης φύσης. Ίσως να μην είναι πάντοτε εύκολο να διακρίνουμε την ποιότητα ενός ανθρώπου στο πλαίσιο της άσκησης των καθηκόντων του, επειδή τα καθήκοντα αυτά είναι εκ πρώτη όψεως τυπικά και απρόσωπα. Ωστόσο, αυτή η αντίληψη δεν απηχεί την αλήθεια. Πίσω από τις διοικητικές συμπεριφορές «κρύβεται» μία προσωπικότητα που άλλοτε χαρακτηρίζεται από ηθικά και ενάρετα στοιχεία και άλλοτε χαρακτηρίζεται από πάθη και υλικές επιθυμίες.

Έκανα αυτή την μικρή εισαγωγή για να προβάλλω τον σημαντικό ρόλο που διαδραμάτισε η προσωπικότητα της Εύης Λάσκαρι στην διεύθυνση της Δημόσιας Βιβλιοθήκης της Κέρκυρας. Και για τον λόγο αυτό σαν μία ελάχιστη ένδειξη τιμής στην μνήμη της θα προβάλλω ορισμένα χαρακτηριστικά στοιχεία της προσωπικότητάς της όπως τα αντιλήφθηκα κατά την διάρκεια της συνεργασίας μας.

Η Εύη Λάσκαρι διέθετε ένα ισχυρό και συγκροτημένο σύστημα αξιών, που εφάρμοζε στην υπηρεσιακή της σταδιοδρομία με κυρίαρχα στοιχεία την υπευθυνότητα και την εντιμότητα. Παράλληλα διακρινόταν από την επιθυμία να αποκτήσει όλες τις ειδικές γνώσεις που απαιτούνται για την διοίκηση μιας Βιβλιοθήκης. Στο πρόσωπό της λοιπόν συνδυάστηκαν ένας ευσυνείδητος κρατικός λειτουργός και ένας ικανός επιστήμονας Τα δύο αυτά στοιχεία αλληλοσυμπληρώνονταν. Το πρώτο την τροφοδοτούσε με συγκεκριμένους περιορισμούς και υποχρεώσεις ενώ το δεύτερο με ενεργό ενδιαφέρον και αγάπη για την επιστήμη που υπηρετούσε. Είχε το προνόμιο να αγαπά τη δουλειά που κάνει. Τόσο οι αρχές που προανέφερα όσο και η επιστημονική της συγκρότηση την οδήγησαν πολύ γρήγορα στην ταύτιση με την υπηρεσία, αφού έπρεπε να είναι συνεπής με την αποστολή που της ανατέθηκε. Υπάρχουν πολλές ευκαιρίες να αναδείξει κανείς τα παραπάνω χαρακτηριστικά της προσωπικότητας της. Από την πλευρά μου επέλεξα να δύο χαρακτηριστικές πτυχές της σταδιοδρομίας της, οι οποίες μου έκαναν εντύπωση επειδή δεν τις συναντά κανείς συχνά στον δημόσιο τομέα.

Το πρώτο στοιχείο που με εντυπωσίασε ήταν η *επιθυμία παραγωγικού έργου*. Κατέβαλλε πάντοτε επίμονες προσπάθειες να ξεφύγει από την τυπική δημοσιοϋπαλληλική νοοτροπία και να αναπτύξει πρωτοβουλίες που κατέληγαν σε συγκεκριμένο αποτέλεσμα χρήσιμο για τον τόπο της. Λέγοντας «παραγωγικό έργο» εννοώ το έργο που είναι ορατό στην κοινωνία. Π.χ. η κινητή βιβλιοθήκη, το κέντρο πληροφόρησης, οι διαλέξεις και λοιπές εκδηλώσεις, οι δωρεές, η συνεργασία με άλλους φορείς, το παιδικό τμήμα, η πρακτική άσκηση των φοιτητών, αποτελούν παραγωγικά έργα της Βιβλιοθήκης. Κάθε ένα από τα έργα που ανέφερα προσφέρει συγκεκριμένη και μετρήσιμη πνευματική απολαβή στους πολίτες. Συνήθως οι τελευταίοι ως αποδέκτες αυτών των υπηρεσιών δεν αξιολογούν την εσωτερική διεργασία που απαιτείται για την υλοποίησή των έργων αυτών. Δεν βλέπουν δηλαδή ότι πίσω από τα συγκεκριμένα έργα κρύβεται ένας αγώνας για εξεύρεση πόρων και προσω-

πικού. Κρύβονται ατέλειωτες ώρες δουλειάς προκειμένου να τηρηθούν οι απαιτούμενες διαδικασίες, να συντονιστούν άνθρωποι, να επιλυθούν τεχνικά και διοικητικά προβλήματα. Κρύβεται ψυχική και συναισθηματική φόρτιση για το εάν θα επιτευχθεί το επιθυμητό αποτέλεσμα. Δεν ξέρω αν υπάρχουν άλλες χώρες όπου αυτές οι προσπάθειες συνιστούν μία ρουτίνα που δεν απαιτεί ψυχική φόρτιση. Σίγουρα όμως η Ελλάδα δεν συμπεριλαμβάνεται σε αυτές τις χώρες. Οτιδήποτε γίνεται στο πλαίσιο της ελληνικής Διοίκησης απαιτεί ισχυρό ψυχικό περίσσευμα εκ μέρους του δημόσιου λειτουργού. Απαιτεί φιλότιμο, αφοσίωση και θάρρος. Τίποτε δεν γίνεται με εύκολο τρόπο. Και ακριβώς επειδή δεν γίνεται με εύκολο τρόπο πολλές φορές οι δημόσιοι λειτουργοί αποθαρρύνονται από τις δυσκολίες και παραιτούνται των προσπαθειών τους μεταβαίνοντας στην λεγόμενη δημοσιοϋπαλληλική νοοτροπία, την νοοτροπία της ήσσονος προσπάθειας. Είναι ένας αγώνας, ένα στοίχημα που συνήθως το βάζουμε με τον εαυτό μας, όσο και αν φαίνεται ότι το βάζουμε με τους άλλους. Πρέπει να αποδείξουμε ότι μπορούμε, είμαστε ικανοί, να ανταποκριθούμε στην αποστολή μας. Στην πραγματικότητα η σταδιοδρομία στην δημόσια υπηρεσία συνιστά περισσότερο ένα πολιτισμικό διακύβευμα παρά μία τεχνική διαδικασία. Μία μάχη που δίνει το καλό κομμάτι του εαυτού μας για δημιουργία και πρόοδο εναντίον της αδράνειας. Στην περίπτωση της Εύης Λάσκαρι εκείνο που θέλω να τονίσω είναι ότι αγωνίστηκε σκληρά και με πάθος για να πετύχει τα αποτελέσματα που όλοι μας γνωρίσαμε. Με άλλα λόγια το στοίχημα με τον εαυτό της το κέρδισε.

Το δεύτερο στοιχείο που με εντυπωσίασε είναι η σχέση της με την κοινωνία της Κέρκυρας. Την σχέση αυτή θα την αποκαλούσα *«πολιτική» αξιοπρέπειας*. Σε μία μικρή κοινωνία όπως είναι η Κέρκυρα, είναι πολύ δύσκολο να χαράξουμε μία διαχωριστική γραμμή μεταξύ της κοινωνίας και της δημόσιας υπηρεσίας. Έτσι δεν είναι λίγες οι φορές που μεταφέρονται μέσω των δημόσιων φορέων τα προσωπικά συναισθήματα των λειτουργών τους. Τα συναισθήματα αυτά οδηγούν σε αντιπαραθέσεις φορέων, με αποτέλεσμα να χάνεται η ουδετερότητα, ευθυκρισία και ο ορθολογισμός. Είναι δε χαρακτηριστικό ότι άμα διαμορφωθούν αυτές οι αντιθέσεις δύσκολα σταματούν. Αντίθετα αναπαράγονται και επεκτείνονται. Εκείνο που εκτίμησα ιδιαίτερα κατά την πολυετή συνεργασία μου με την Εύη Λάσκαρι είναι ότι ουδέποτε φόρτισε τον φορέα με προσωπικές απόψεις και επιδιώξεις. Ουδέποτε συγκρούστηκε με άλλους φορείς. Δεν θεώρησε την Βιβλιοθήκη που διεύθυνε προσωπικό φέουδο, αλλά ούτε και βήμα προβολής και δημοσιότητας. Αντίθετα προσπάθησε να διευθύνει τον φορέα με ουδετερότητα και ορθολογισμό αποφεύγοντας την άσκοπη δημοσιότητα και παράγωντας έργο. Με άλλα λόγια παρέμεινε «εντός της γραμμής της υπηρεσίας της» χωρίς να αποκλίνει. Απέδειξε ότι η άσκηση χρηστής διοίκησης είναι πρωτίστως ζήτημα πολιτισμού. Αν δε λάβουμε υπόψη ότι αυτή δεν είναι η κυριαρχούσα νοοτροπία στις μέρες μας, τότε θα εκτιμήσουμε ακόμη

περισσότερο αυτό το χαρακτηριστικό γνώρισμα της προσωπικότητάς της, που στην ουσία προστάτευσε ένα δημόσιο αγαθό.

Η απώλεια ενός ανθρώπου μοιραία οδηγεί σε άλλες απώλειες για εκείνους που μένουν. Χάνουμε κάτι από την προηγούμενη ζωή μας, κι έτσι αλλάζουμε. Η απώλειά της Εύης Λάσκαρι ήταν αιφνίδια και άδικη, ήταν μία διακοπή και όχι μία ολοκλήρωση. Το κενό δεν αναπληρώνεται, εκείνο που μας μένει είναι να σταθούμε μπροστά στη νέα πραγματικότητα, ενσωματώνοντας σε αυτήν το παράδειγμά της. Το παράδειγμα ενός ανθρώπου που δούλεψε με συνέπεια, επιμονή και ορθολογισμό για έναν σκοπό.

Διονύσης Μοσχόπουλος

Μόνιμος Επίκουρος Καθηγητής

Από τη Σόνια Γραμματικού

Η συγκέντρωση των φίλων σου χθες βράδυ στη βιβλιοθήκη, στο άλλο σου σπίτι, στην αίθουσα που τώρα παίρνει το όνομά σου, σε διαβεβαιώ πως ήταν «εκπληκτική». Έτσι θα έλεγες κι εσύ και αυτή την έκφραση ακριβώς θα χρησιμοποιούσες όπως έκανες για κάθε τι που θαύμαζες και που σου έδινε χαρά.

Έφτασα απ' τους πρώτους. Στο χρωστούσα άλλωστε για όλες εκείνες τις φορές που δεν κατάφερα να παρευρεθώ στις τόσο ενδιαφέρουσες συγκεντρώσεις που ως τώρα οργάνωνες εσύ, θύμα κι εγώ μιας κάποτε ανούσιας επαναλαμβανόμενης καθημερινότητας. Πώς θα μπορούσα να λείψω όταν δεν έχει περάσει ούτε μια μέρα από εκείνη του «τρομερού μήνα Αύγουστου» που να μη σε θυμηθώ.

Με κοιτούσες μέσα απ΄ το καλοφτιαγμένο πορτραίτο σου, απαλλαγμένη πια από το φόβο του θανάτου. Ελεύθερη. Ο λόγος των ομιλητών συγκινητικός, ειλικρινής, δυνατός, όπως σου έπρεπε, να επισημαίνει τη σπουδαιότητά σου. Σαν μουσική που παίζει σε τόνους υψηλούς αντίθετα με τους δικούς σου. Για μια στιγμή σκέφτηκα πως μάλλον θα αισθάνεσαι άβολα με όλα τούτα. Συγκλονιστικό φινάλε, η μάνα σου. Την άκουσες; Γλυκιά, αξιοπρεπής, πονεμένη, να δηλώνει με αδικαιολόγητη συστολή πως «υπάρχει μια υπερηφάνεια» περιγράφοντας ακριβώς το πώς νιώθουμε όλοι για σένα και για όλα αυτά που πρόσφερες.

Έφυγες πρώτη. Αυτή ήταν και η μόνη άδικη πρωτιά σου. Ήσουν για μένα φίλη καλή και αγαπημένη. Η φιλία μας τώρα κενό δυσαναπλήρωτο. Μικρή παρηγοριά μου η συντροφιά μιας μικρής και άκακης ύπαρξης που τόσο είχες αγαπήσει.

Να' σαι σίγουρη πως όταν το σκληρό, αλλά αναπόφευκτο κάλεσμα της μοίρας φτάσει και στα δικά μου τα αυτιά, θα τα πούμε από κοντά. Και αυτά και όσα δεν προλάβαμε να πούμε. Και ίσως τότε, οπλισμένες ξανά με το παλιό μας γνώριμο χιούμορ, αυτοσαρκάζοντας θα κάνουμε ακόμη κι αυτόν τον άκαρδο εχθρό, τον θάνατο, να φαντάζει ανίσχυρος και αποδεκατισμένος. Καλή αντάμωση.

Η φίλη σου, Σόνια

In Memoriam

Μετά σαράντα περίπου μέρες από την έξοδο της Εύης Λάσκαρι, Διευθύντριας της Δημόσιας Βιβλιοθήκης Κέρκυρας το εφορευτικό Συμβούλιο της, αισθάνεται την ανάγκη να επαναλάβει όσα τότε κατέθεσε από καρδιάς:

«Αναπάντεχη και σκληρή η διακοπή της πολύ σύντομης γνωριμίας μας Εύη.

Οι συνεργάτες σου στη Δημόσια Βιβλιοθήκη, η εφορευτική επιτροπή της Βιβλιοθήκης, ωθούμαστε βίαια να περάσουμε από τη χαρά της σχέσης μας μαζί σου στην οδύνη και το κενό που δημιουργεί η απουσία σου.

Η επιστημονική σου ενημέρωση, η διοικητική σου ικανότητα και προπάντων η ΑΓΑΠΗ σου για την Βιβλιοθήκη, την έχουν ανεβάσει στο επίπεδο του πνευματικού ιδρύματος περιωπής.

Όλα αυτά θα λείψουν από την Κέρκυρα και από εμάς.

Είμαστε πολύ φτωχότεροι από σήμερα.

Αν τα έργα και οι ημέρες του καθενός μας είναι μια πρόγευση και μια προτύπωση της πορείας του στην αιωνιότητα, μας δίνει αυτήν την ώρα της οδύνης παρηγοριά η βεβαιότητα πως η δική σου πορεία θα είναι φωτεινή και αληθινή. Αληθινή με την πραγματικότητα έννοια της λέξης. Του αντίθετου δηλαδή της λήθης».

Αυτά είπαμε τότε, την ημέρα που αρχίζει το μεγάλο σου ταξίδι.

Τα ίδια ξαναλέμε σήμερα, και αυτές τις απόψεις έρχονται να ενισχύσουν μαρτυρίες από τον πνευματικό και κοινωνικό χώρο.

Αναφέρουμε ενδεικτικά δύο, ο Πρέσβης της Γαλλίας στη Αθήνα κ. Cristophe Farnan σε γράμμα προς το εφορευτικό συμβούλιο χαρακτηρίζει την Εύη «...έναν ενθουσιώδη άνθρωπο, παθιασμένο με το επάγγελμά του».

Η κα Ελένη Γούστη-Σταμπόγλη σε γράμμα της επίσης προς το Συμβούλιο διαπιστώνει: «...το κενό που αφήνει η Εύη Λάσκαρι είναι μεγάλο, γιατί είχε τις γνώσεις, την εργατικότητα, την αφοσίωση, το πείσμα, τον ενθουσιασμό που θα έκαναν το όραμά της για τη Δημόσια Κεντρική Βιβλιοθήκη Κέρκυρας πραγματικότητα...»

Καλό ταξίδι Εύη!

Σπύρος Σαββανής

Παιδίατρος,
Πρόεδρος Εφορευτικού Συμβουλίου Δημόσιας Βιβλιοθήκης Κέρκυρας

Στις βιβλιοθήκες του ουρανού: Εύη Λάσκαρι (1964-2008)

Στις 19 Αυγούστου 2008 έφυγε από κοντά μας η αγαπημένη φίλη Εύη Λάσκαρι, Διευθύντρια της Δημόσιας Κεντρικής Βιβλιοθήκης Κέρκυρας. Η Εύη κατά τη διάρκεια της σύντομης αλλά δημιουργικής ζωής της υπηρέτησε με ειλικρίνεια, συνέπεια, εντιμότητα και ανιδιοτέλεια τις δημόσιες βιβλιοθήκες στην Ελλάδα. Για την Εύη οι βιβλιοθήκες έπρεπε να είναι σύγχρονες, λειτουργικές, ανοικτές, προσιτές και ελεύθερες σε όλους, ώστε να ικανοποιούν τις αυξανόμενες ανάγκες και τις προσδοκίες των χρηστών. Το σύμπαν που άλλοι το ονομάζουν βιβλιοθήκη, σύμφωνα με τον Μπόρχες, ήταν το σύμπαν της Εύης, ο χώρος της δημιουργίας και της προσφοράς, ένας χώρος ζωής.

Και εάν ο Μπόρχες σε άλλο κείμενό του είχε αναφέρει ότι φανταζόταν πάντοτε τον παράδεισο ως ένα είδος βιβλιοθήκης, η Εύη (πέρα από την επιθυμία και τη διάθεση) προσπάθησε και κατόρθωσε να καταστήσει τη Δημόσια Κεντρική Βιβλιοθήκη της Κέρκυρας έναν παράδεισο - συχνά μέσα σε αντίξοες συνθήκες. Εάν κοιτάξουμε γύρω μας σήμερα στη βιβλιοθήκη, όλα θυμίζουν την Εύη. Η διαμόρφωση του χώρου στον οποίο βρισκόμαστε, η δημιουργία του παιδικού τμήματος, η κινητή βιβλιοθήκη για την οποία τόσους αγώνες η Εύη έδωσε, η ηλεκτρονική καταλογογράφηση και επιστημονική επεξεργασία του υλικού της βιβλιοθήκης, η συνεχής ανανέωση και βελτίωση του εξοπλισμού, ο διαρκής εμπλουτισμός της συλλογής με έργα που ικανοποιούν τις ανάγκες και ανταποκρίνονται στις προσδοκίες του αναγνωστικού κοινού της βιβλιοθήκης. Η Εύη -ανοικτή στις νέες τεχνολογίες της πληροφόρησης, πρόθυμη να πειραματιστεί, με στόχο να δημιουργήσει νέους αναγνώστες- αποτέλεσε το έμπρακτο παράδειγμα της εναρμόνισης, της σύζευξης των νέων τεχνολογιών με το συμβατικό περιβάλλον της πληροφόρησης.

Η Εύη πάλεψε και κατάφερε να ξεπεράσει τις αντιξοότητες με την επιμονή, το πείσμα, τις ηθικές αξίες της, την προσήλωση στον στόχο της, πάντοτε με την αμέριστη συμπαράσταση και την καλή συνεργασία της με το εφορευτικό συμβούλιο και τον τότε πρόεδρό του τον κ. Διονύση Μοσχόπουλο, επίκουρο καθηγητή του Τμήματος Αρχειονομίας – Βιβλιοθηκονομίας του Ιονίου Πανεπιστημίου, και πρόσφατα με τον νυν πρόεδρο ιατρό κ. Σπύρο Σαββανή και το νέο συμβούλιο. Η Εύη έδωσε πνοή και συνέβαλλε καθοριστικά στη σημερινή μορφή της Δημόσιας Κεντρικής Βιβλιοθήκης Κέρκυρας, στην οποία αφιέρωσε το χρόνο και τις προσπάθειές της. Όραμά της ήταν, άλλωστε, η δημιουργία νέων αναγνωστών σε έναν χώρο υποδειγματικό, εφάμιλλο των ευρωπαϊκών προτύπων. Γι' αυτόν τον λόγο, οργάνωσε τον επιτυχημένο κύκλο ομιλιών για τη γλώσσα, την ποίηση, τη λογοτεχνία, με υπεύθυνο τον καθηγητή του Τμήματος Ιστορίας του Ιονίου Πανεπιστημίου κ. Θεοδόση

Πυλαρινό. Γι' αυτόν τον λόγο, η κινητή βιβλιοθήκη πήγαινε παντού, στους υπάρχοντες ή στους δυνάμει αναγνώστες, που ήταν δύσκολο να επισκεφθούν τη βιβλιοθήκη. Συχνά συνόδευε η Εύη το βιβλιοαυτοκίνητο και η καλύτερη επιβράβευσή της ήταν οι φωνές του παιδιών που καλωσόριζαν τα βιβλία.

Υποδειγματική και εποικοδομητική ήταν και η συνεργασία της Εύης με το Ιόνιο Πανεπιστήμιο, και ειδικότερα με το Τμήμα Αρχειονομίας & Βιβλιοθηκονομίας, σε πολλούς τομείς, όπως για παράδειγμα στην Πρακτική Άσκηση. Πολλοί φοιτητές και φοιτήτριές μας πέρασαν από τη ΔΚΒ της Κέρκυρας και καθοδηγήθηκαν από την Εύη και τα στελέχη της βιβλιοθήκης. Επίσης, η βιβλιοθήκη πάντοτε υπήρξε ανοικτή για τη διεξαγωγή μαθημάτων, καθώς και για επισκέψεις των φοιτητών μας. Είναι, άλλωστε, ενδεικτικό ότι σημαντικό ποσοστό των φοιτητών/φοιτητριών του Ιονίου Πανεπιστημίου είναι μέλη της Δημόσιας Κεντρικής Βιβλιοθήκης Κέρκυρας.

Δεν θα ήθελα, όμως, να μακρηγορήσω και να επαναλάβω τα όσα οι προλαλήσαντες ήδη ανέφεραν για την Εύη σκιαγραφώντας το έργο της στη βιβλιοθήκη και εξαίροντας την προσφορά της. Θα σταθώ, λοιπόν, περισσότερο στην Εύη ως επιστήμονα, στην Εύη ως άνθρωπο που διψούσε για τη γνώση και την έρευνα, και στην Εύη ως φίλη.

Η Εύη Λάσκαρι ήταν μια σπάνια προσωπικότητα με αυστηρή βιβλιοφιλική συνείδηση αλλά και επιστημονικά ερείσματα καθώς και ερευνητικές αναζητήσεις, τις οποίες δυστυχώς δεν πρόλαβε να συνεχίσει. Η αγάπη της για το έντυπο βιβλίο, η πίστη της στις βιβλιοθήκες, η δίψα της για γνώση και το ανήσυχο πνεύμα της την ώθησαν κατά τα τελευταία έτη σε μια σειρά από επιστημονικές αναζητήσεις, σε άρθρα, συμμετοχές σε συνέδρια, έρευνα. Δυστυχώς η προσπάθεια αυτή εν τη γενέσει της σχεδόν διεκόπη προλαβαίνοντας ευτυχώς να δώσει λιγοστούς αλλά ώριμους καρπούς.

Ενδεικτικό των ανησυχιών και των αναζητήσεων της είναι ότι παρακολούθησε με αφοσίωση και κριτικό πνεύμα, από το πρώτο κιόλας έτος της λειτουργίας του, το Πρόγραμμα Μεταπτυχιακών Σπουδών στο Τμήμα Αρχειονομίας & Βιβλιοθηκονομίας με τίτλο «Υπηρεσίες πληροφόρησης σε ψηφιακό περιβάλλον». Εκπόνησε τη διπλωματική εργασία της με επιβλέποντα τον επίκουρο καθηγητή του ΤΑΒ κ. Μάριο Πούλο και ορκίστηκε το 2006.

Είχα την τύχη, τη χαρά και την τιμή να συνεργαστώ επιστημονικά με την Εύη στενά. Η Εύη υπήρξε μια σπουδαία συνεργάτης, με ήθος, επιμονή, συνέπεια, εργατικότητα και κυρίως θάρρος και εμπιστοσύνη – εμπιστοσύνη στους συνεργάτες και τον εαυτό της. Με την Εύη γράψαμε μαζί, ερευνήσαμε, αναζητήσαμε, χαρήκαμε, ανησυχήσαμε και δημοσιεύσαμε δύο άρθρα.

Άρθρα σε επιστημονικά περιοδικά

1. Kostagiolas, Petros & Banou, Christina & Laskari, Evangelia-Maria† (2009), "Strategic planning and management for the public libraries: the case of Greek central public libraries", *Library Management*, vol. 30 (4/5), σ. 253-265. Στο ίδιο τεύχος του σημαντικού, με σύστημα κριτών, περιοδικού, δημοσιεύεται κείμενο εις μνήμη της Εύης γραμμένο από την ομιλούσα και τον Πέτρο Κωσταγιόλα.

2. Μπάνου, Χριστίνα & Λάσκαρι, Ευαγγελία-Μαρία (2007), «Διαμόρφωση πολιτικών στις υπηρεσίες πληροφόρησης με άξονα τα παλαιά και σπάνια έντυπα βιβλία», *Βιβλιοθήκη και Πληροφόρηση. Περιοδικό της Ένωσης Ελλήνων Βιβλιοθηκονόμων και Επιστημόνων της Πληροφόρησης*, τ. 19, σ. 46-50.

Η συνεργασία μας ξεκίνησε νωρίτερα, το 2004, όταν ετοιμάζαμε την έκθεση «Μεγάλα Βιβλία» στη Δημόσια Βιβλιοθήκη της Κέρκυρας στο πλαίσιο του 13ου Πανελλήνιου Συνεδρίου Ακαδημαϊκών Βιβλιοθηκών, που διεξήχθη στην Κέρκυρα, στο Ιόνιο Πανεπιστήμιο. Καθημερινά, το Καλοκαίρι και τον Σεπτέμβριο του 2004 απολαμβάναμε την προετοιμασία και αγωνιούσαμε για το τελικό αποτέλεσμα τόσο του στησίματος της έκθεσης όσο και της προετοιμασίας και της εκτύπωσης του καταλόγου. Πρέπει να μνημονευτεί η συνεργασία με την καθηγήτρια του Τμήματος Αρχειονομίας και Βιβλιοθηκονομίας κ. Αναστασία Σαλή για το στήσιμο της έκθεσης, με τον αναπληρωτή καθηγητή κ. Γιάννη Κόκκωνα για τον τυπογραφικό σχεδιασμό και την εκτύπωση του καταλόγου και με τη διευθύντρια της ακαδημαϊκής βιβλιοθήκης του Ιονίου Πανεπιστημίου κ. Έλλη Άνθη στη συγγραφή του καταλόγου.

Η Εύη συμμετείχε σε ένα συνέδριο: Laskari, Evangelia-Maria & Banou, Christina & Kostagiolas, Petros A. (2008), "A study concerning strategic planning as a vehicle of the Greek Central Public Libraries at the beginning of the 21st century", *Metropolitan Libraries Conference "Libraries for everybody seeking to understand the world and themselves"*, Πράγα 1-6 June 2008, όπου παρουσίασε την επιστημονική εργασία.

Επίσης για το 17ο Πανελλήνιο Συνέδριο Ακαδημαϊκών Βιβλιοθηκών, Πανεπιστήμιο Ιωαννίνων, Σεπτέμβριος 2008, η Εύη είχε στείλει την περίληψη της ανακοίνωσής της «Η αλληλεπίδραση των πανεπιστημιακών βιβλιοθηκών με τις Δημόσιες Βιβλιοθήκες». Τις ζεστές μέρες του καλοκαιριού του 2008 μιλούσαμε για το ενδιαφέρον θέμα, το πλήρες κείμενο του οποίου θα ετοίμαζε μέσα στον Αύγουστο. Δυστυχώς δεν πρόλαβε να το ολοκληρώσει.

Για την Εύη ως άνθρωπο και ως φίλη θα ζητήσω να μου επιτρέψετε να μιλήσω πάλι σε πρώτο πρόσωπο, καθώς είχα την χαρά να είμαι φίλη της. Σε μια τέτοια εκδήλωση μνήμης, άλλωστε, τα όρια τίθενται από παράγοντες που δεν χωράνε περιορισμούς και κανόνες πλέον, και το πρώτο πρόσωπο μάλλον δημιουργεί τις παραμέ-

τρους της προσέγγισης και μιας δυνάμει παρηγορίας. Βρίσκομαι σε μια ηλικία που οι φίλοι, οι πραγματικοί φίλοι λιγοστεύουν, αντιθέτως νιώθω ότι πληθαίνουν οι κριτές, που με καταδικάζουν. Η Εύη είχε το σπάνιο και πραγματικό χάρισμα της φιλίας. Ικανότητα να προσδίδει ακόμη και στα πλέον φαινομενικά ασήμαντα πράγματα μιαν αξία μοναδική. Οι λεπτομέρειες της ζωής, μέσα από τις οποίες άλλωστε διυλίζεται και κοσκινίζεται η πραγματική φιλία, αποκτούσαν ένα νόημα μοιράσματος πέρα από το επιφανειακό.

Ως άνθρωπος με ήθος, διακρινόταν από το χάρισμα της επικοινωνίας, από ειλικρίνεια, από συνέπεια, από βαθιά καλλιέργεια, από καλαισθησία. Στους συναδέλφους, τους συνεργάτες και τους φίλους της έδινε το αίσθημα της ασφάλειας, της σταθερότητας, την πεποίθηση πως οτιδήποτε κι αν συμβεί, θετικό ή αρνητικό, καλό ή κακό, η Εύη θα είναι εκεί, έτοιμη να συμβάλει, να αγωνιστεί, να συμπαρασταθεί. Το αίσθημα αυτό πήγαζε από τις αρχές και την προσωπικότητα της Εύης, προσωπικότητα στέρεα δημιουργημένης σε ένα εξαιρετικό οικογενειακό περιβάλλον και λαξευμένης με αναζητήσεις πνευματικές.

Η Δημόσια Κεντρική Βιβλιοθήκη Κέρκυρας αποτελεί κληρονομιά για όλους, ιδίως για όσους διαχειριζόμαστε το παρόν και το μέλλον των υπηρεσιών πληροφόρησης. Για το λόγο αυτό, όχι ύστατη αλλά διαρκής είναι η αναγνώριση που απευθύνουμε στην Εύη, η οποία ταξίδεψε στις βιβλιοθήκες του ουρανού. Άλλωστε, σύμφωνα με τον ποιητή, «Οι δυνατότητες στους ουρανούς είναι απεριόριστες». Χρέος μας είναι να συνεχίσουμε το έργο της Εύης. Εκτός, όμως, από το συλλογικό χρέος, υπάρχει το προσωπικό «χρέος» συνδεόμενο με τη μνήμη και τον χρόνο, η δική μας αναμέτρηση με τις αναμνήσεις και τις απώλειες, αλλά και με τον ξανακερδισμένο χρόνο.

Παραφράζοντας τη Joyce Mansour που έγραφε «θέλω να φύγω δίχως αποσκευές για τα ουράνια», η Εύη έφυγε για τις βιβλιοθήκες του ουρανού, με αποσκευές την αγάπη και τη μνήμη μας.

Χριστίνα Μπάνου

Επίκουρη Καθηγήτρια

2. Κείμενα για τη Δημόσια Βιβλιοθήκη της Κέρκυρας

Βιβλιοθήκη Κέρκυρας

Εύη Λάσκαρι
Φιλόλογος

Η δημόσια βιβλιοθήκη Κέρκυρας είναι η αρχαιότερη από τις δημόσιες βιβλιοθήκες. Η αρχή της ανάγεται στα μέσα του ΙΗ αιώνα (περίοδος ενετικής κυριαρχίας), οπότε γίνεται η πρώτη προσπάθεια συγκρότησης βιβλιοθήκης στη μονή της Αγ. Ιουστίνης (στο προάστειο Γαρίτσα), αποτελούμενη κυρίως από θεολογικά και ιατρικά συγγράμματα. Σαν πρώτος ευεργέτης μνημονεύεται ο ενετός Κανονικός Ιάκωβος Σαβέριος Κανάλ.

(ΓΑ.Κ. - Αρχεία Νομού Κέρκυρας - Argomenti diversi della citta di Corfu, vol. 72, filza 42).

Τα στοιχεία για το σύντομο ιστορικό της βιβλιοθήκης προέρχονται από τα βιβλία:

- Λ. Βροκίνη/Περί αρχής και ιδρύσεως της Δημοσίας εν Κέρκυρα Βιβλιοθήκης Κερκυραϊκά Χρονικά, τ. 17ος, Κέρκυρα, 1973

- Soldatos, Constantin/La Bibliotheque Publique de Corfou, Athenes, 1947

- Κυριάκης, Κ.Χ.Μ./Οδηγός της νήσου Κέρκυρας μετά προσθήκης ιστορικών και άλλων ποικίλων ειδήσεων, εν Αθήναις, 1902.

- Κερκυραϊκά Χρονικά, τ. 1ος 1951

- Ippaviz, Luuigi C./Corcira antica e moderna, Corfu, 1901

Ένα μήνα μετά την πρώτη γαλλική κυριαρχία (Ιούλιος 1797) πραγματοποιείται η μεταφορά της στη μονή Υ.Θ. Τενέδου. Η βιβλιοθήκη τότε υπαγόταν στη δικαιοδοσία του βουλευτηρίου Αστυνομίας (Comitato di Polizia), ο βιβλιοθηκάριος αναδεικνυόταν από τους καλόγερους της μονής και ήταν προσιτή στους λίγους. Τότε χαρακτηρίζεται ως "δημόσια", που εκείνη την εποχή είχε την έννοια ότι δεν ανήκε αποκλειστικά σε ιδιώτες, αλλά ήταν στην αποκλειστική δικαιοδοσία της κοινότητας. Το 1798 υπάγεται στη δικαιοδοσία του βουλευτηρίου Οικονομίας, συντάσσεται οργανισμός της βιβλιοθήκης από το νομαρχιακό διαχειριστή Αντώνιο Μαρούλη και κηρύσσεται «Εθνική του Νομού Κερκύρας βιβλιοθήκη». Ο βιβλιοφύλακας Gaetano Rusconi καίει 107 βιβλία που πραγματεύονται αρχαίες ελληνικές προσευχές και την παπική εξουσία, με το δικαιολογητικό ότι μπορεί να απέβαιναν βλαβερά για τη νεολαία.

Κατά τη διάρκεια της Επτανήσου Πολιτείας (1800-1807) γίνεται σύνταξη ειδικού οργανισμού από 13 άρθρα, όμοιου ως επί το πλείστον με εκείνον του 1798. Το 1805 προσαρτείται στη Δημόσια Ελληνική Σχολή που βρισκόταν σε συνεχόμενο οίκημα της μονής Τενέδου.

Στη διάρκεια της β' γαλλικής κυριαρχίας (1807-1814) ο αριθμός των βιβλίων προσεγγίζει τις 7.000. Στην αύξηση του πλούτου συνετέλεσε η εκχώρηση της ιδιωτικής βιβλιοθήκης του Ανδ. Καλογερά.

Κατά την περίοδο της κυριαρχίας των άγγλων (1814-1864) η βιβλιοθήκη προσαρτείται στην Ιόνιο Ακαδημία και μεταφέρεται στο παλάτι του Ύπατου Αρμοστή, ενώ στις 21-5-1824 γίνονται τα επίσημα εγκαίνια. Εκείνη την εποχή γίνεται η μεταφορά στη βιβλιοθήκη της ιδιωτικής συλλογής του κόμη Guilford (25.000 τόμοι), που περιελάμβανε την πιο πλήρη σειρά που είχε μέχρι τότε εκδοθεί στη νέα ελληνική και 3.000 χειρόγραφα, ανέκδοτα τα πιο πολλά. Ακολουθεί η εγκατάσταση της βιβλιοθήκης σε ενετικό κτίριο στην κεντρική πλατεία, τους παλιούς στρατώνες Grimari.

Μετά την ένωση της επτανήσου με την Ελλάδα (1864) η βιβλιοθήκη εξαρτάται από το Υπ. Παιδείας και στα 1930 παίρνει στην ιδιοκτησία της το κτίριο της πρώην Ιονίου Ακαδημίας.

Το Σεπτέμβριο του 1943 η Κέρκυρα γίνεται το θέατρο των πολεμικών αναμετρήσεων μεταξύ των γερμανικών στρατευμάτων και εκείνων της ιταλικής κατοχής. Οι εμπρηστικές βόμβες των γερμανών καταστρέφουν μεγάλο αριθμό κτιρίων της πόλης, ενώ συγχρόνως καίγονται βιβλία της βιβλιοθήκης, όπως επίσης βιβλία και αρχεία άλλων υπηρεσιών, σωματείων, ιδιωτών κλπ. Υπολογίζεται ότι οι απώλειες σε βιβλία σε όλη την Κέρκυρα προσεγγίζουν τις 150.000. Σύμφωνα με τις επίσημες στατιστικές που αφορούν στην καταστροφή των ελληνικών βιβλιοθηκών κατά τη διάρκεια του πολέμου και της κατοχής, η βιβλιοθήκη της Κέρκυρας έρχεται πρώτη σε απώλειες. Πριν την καταστροφή περιείχε 70.000 τόμους, χειρόγραφα και σπάνιες εκδόσεις.

Μετά την απελευθέρωση της πόλης (10-10-1944) γίνεται μεγάλη προσπάθεια ανασυγκρότησης της βιβλιοθήκης, η οποία βρίσκει τη μέγιστη ανταπόκριση από παντού. Γίνονται πολύ σημαντικές δωρεές από κερκυραίους που κατείχαν ιδιωτικές συλλογές και είχαν διασωθεί, όπως επίσης από την Ακαδημία Αθηνών, την Εθνική Βιβλιοθήκη, την Αρχαιολογική Εταιρεία, την Εταιρεία Βυζαντινών Σπουδών, το Εθνικό Τυπογραφείο, το Πανεπιστήμιο Αθηνών, την Ορθόδοξη Εκκλησία, αλλά και από ξένα κράτη.

Από τότε μέχρι και τον Μάρτιο του 1994 η Βιβλιοθήκη στεγαζόταν στην αριστερή πτέρυγα του ανακτόρου των Αγίων Μιχαήλ και Γεωργίου. Οι εργασίες επισκευής και αναπαλαίωσης του συγκεκριμένου κτιρίου, εν όψει της Συνόδου Κορυφής που

πραγματοποιήθηκε τον Ιούνιο του 1994, κατέστησαν απαραίτητη τη μεταφορά της βιβλιοθήκης, όπως και των άλλων υπηρεσιών που στεγάζονταν στα παλαιά ανάκτορα, σε άλλο κτίριο.

Η βιβλιοθήκη, κατά συνέπεια, από τον Μάρτιο του 1994 μέχρι σήμερα υπολειτουργεί σε 78 τ.μ. στο κτίριο της Αγροτικής Τράπεζας στο νέο λιμάνι με ένα πολύ μικρό μέρος του υλικού της, αφού το υπόλοιπο βρίσκεται αποθηκευμένο σε κιβώτια 12 χμ. έξω από την πόλη. Αναμένεται δε η οριστική εγκατάστασή της σε τμήμα του κτιρίου των αγγλικών στρατώνων, που είχε προαποφασιστεί της συνόδου, με σχετική απόφαση της τότε υπουργού πολιτισμού κ. Μελίνας Μερκούρη. Το εν λόγω κτίριο επισκευάστηκε επίσης εν όψει της Συνόδου Κορυφής του 1994 και χρησιμοποιήθηκε σαν αίθουσα τύπου.

Το κύριο πρόβλημα επομένως της βιβλιοθήκης αυτή τη στιγμή, είναι αυτό του κτιρίου. Ας σημειωθεί, ότι στα παλαιά ανάκτορα είχε στη διάθεσή της περίπου 700 τ.μ., τα οποία δεν επαρκούσαν για την έκθεση του υλικού, αφού ήδη χρησιμοποιούσε αποθηκευτικό χώρο σε οίκημα του Παλαιού Φρουρίου.

Η βιβλιοθήκη σήμερα διαθέτει περίπου 80.000 τόμους. Υπάρχουν δύο οργανικές θέσεις, μια ΥΕ (Κλητήρα) και μια ΠΕ (Βιβλιοφύλακα). Από αυτές η μια (του κλητήρα) είναι κενή εδώ και 15 μήνες λόγω συνταξιοδότησης του υπαλλήλου. Αυτή τη στιγμή, υπηρετούν δυο υπάλληλοι, ο προαναφερόμενος ΠΕ και άλλος ένας ΠΕ (Βιβλιοφύλακας) με προσωποπαγή θέση.

Επί σειρά ετών στις αίθουσες της βιβλιοθήκης της Κέρκυρας λειτουργούσε ελεύθερο ανοιχτό πανεπιστήμιο, πραγματοποιούνταν συνέδρια, ενώ συχνά διάφοροι φορείς ζητούσαν για διαλέξεις ή άλλους λόγους αίθουσα που η βιβλιοθήκη διέθετε ειδικά, για ανάλογους σκοπούς. Δεν έχει πραγματοποιήσει μέχρι σήμερα δικές της εκδόσεις. Η βιβλιοθήκη εμπλουτίζεται κάθε χρόνο με νέους τίτλους, που προέρχονται είτε από αγορές είτε από δωρεές βιβλίων. Το μεγαλύτερο μέρος του αναγνωστικού κοινού είναι γυναίκες και τα βιβλία που είναι περισσότερο δημοφιλή είναι τα λογοτεχνικά, όπως και εκείνα που αφορούν στην τοπική ιστορία και σε άλλα τοπικά θέματα. Στη βιβλιοθήκη υπάρχουν πολλά παλαιά και σπάνια βιβλία και εκεί ακριβώς έγκειται η σπουδαιότητα της.

Η Δημόσια Κεντρική βιβλιοθήκη Κέρκυρας που είναι μια από τις παλαιότερες βιβλιοθήκες στην Ελλάδα (η αρχαιότερη δημόσια), έχει ιστορία που είναι ιδιαίτερα ενδιαφέρουσα και πολυτάραχη και εξίσου ενδιαφέρον και ξεχωριστό το υλικό της, που στο μεγαλύτερο μέρος του αποτελείται από παλιές, σπάνιες εκδόσεις.

Σήμερα στεγάζεται στο Παλαιό Φρούριο, σε τμήμα του κτιρίου των Αγγλικών Στρατώνων και το πρωταρχικό πρόβλημα που αντιμετωπίζει, είναι ότι δεν έχει ακόμη αποκατασταθεί το μέρος ακριβώς του κτιρίου που της αναλογεί. Το αποτέλεσμα είναι να μην υπάρχει η δυνατότητα να εκτεθεί το υλικό της. Αν και έχει εκπονηθεί η

σχετική μελέτη, δεν έχει ακόμη δημοπρατηθεί το έργο που θα έχει σαν αποτέλεσμα την υλοποίηση της.

Ο ρόλος που μπορεί να διαδραματίσει η βιβλιοθήκη είναι προφανής: είναι ο ρόλος που μπορεί και επιβάλλεται να παίξει κάθε βιβλιοθήκη σε ένα αστικό κέντρο, σε μια κοινότητα, σε ένα δήμο, σε μια ευρύτερη περιοχή. Η βιβλιοθήκη η δημόσια (ή αλλιώς, λαϊκή) δεν απευθύνεται σε ένα συγκεκριμένο κοινό, αλλά σε όλους: στα παιδιά, στους μαθητές, στους συνταξιούχους, στους ερευνητές, στους φοιτητές.

Πέρυσι, με σχετική απόφαση του Υπουργείου Παιδείας, η βιβλιοθήκη της Κέρκυρας έγινε κεντρική, γεγονός που της δίνει δυνατότητα στο εγγύς μέλλον να κινεί βιβλιοαυτοκίνητο (αλλιώς, κινητή μονάδα) σε όλο το νησί, εξυπηρετώντας το κοινό που δεν έχει εύκολη πρόσβαση στην πόλη της Κέρκυρας και τα σχολεία που στη συντριπτική πλειονότητά τους δεν διατηρούν βιβλιοθήκες.

Η βιβλιοθήκη λειτουργεί και ως δανειστική, αλλά και ως χώρος όπου κάποιος μπορεί να συμβουλευτεί βιβλία που δεν δανείζονται, όπως εγκυκλοπαίδειες, λεξικά, παλαιές εκδόσεις, κ.λπ. Κατά καιρούς πραγματοποιεί διάφορες εκθέσεις (σύμφωνα με τη μελέτη προβλέπεται μόνιμος εκθεσιακός χώρος) και βέβαια είναι ο φυσικός χώρος, όπου οι φοιτητές του τμήματος Βιβλιοθηκονομίας του Ιονίου Πανεπιστημίου και του αντίστοιχου τμήματος των ΤΕΙ πραγματοποιούν την πρακτική τους άσκηση.

Η Δημόσια Κεντρική Ιστορική Βιβλιοθήκη της Κέρκυρας

Ιστορία δυόμισι αιώνων

Γιώργος Σ. Ζούμπος
Μαθηματικός - Δρ. Τμήματος Ιστορίας Ιονίου Πανεπιστημίου

Η Δημόσια Κεντρική Ιστορική Βιβλιοθήκη της Κέρκυρας είναι η παλαιότερη δημόσια βιβλιοθήκη στην Ελλάδα, έχοντας μια ιστορία η οποία μετρά περισσότερα από διακόσια πενήντα χρόνια. Η λειτουργία της στα χρόνια αυτά γνώρισε πολλούς σταθμούς με σημαντικότερο την καταστροφή του 1943. Η ταχύτατη μεταπολεμική ανασύστασή της αποτέλεσε πραγματικό άθλο και σήμερα αποτελεί έναν πολύ αξιόλογο παράγοντα της πνευματικής ζωής του νησιού.

1. Ως το τέλος της Βενετοκρατίας (1797)

Στην Κέρκυρα, η συγκέντρωση βιβλίων για πρώτη φορά σε καθορισμένο χώρο για να χρησιμοποιηθούν από τους ενδιαφερόμενους, χρονολογείται από τα μέσα του 18ου αιώνα[1]. Ως τότε, βιβλία (κύρια εκκλησιαστικά) βρίσκονταν στα ορθόδοξα μοναστήρια (Υ.Θ. Παλαιοκαστρίτσας, Υ.Θ. Πλατυτέρας, Υ.Θ. Ζωοδόχου Πηγής Καστελλάνων Μέσης, Αγ. Αικατερίνης του Καροφυλάτου) και στα καθολικά (Αγ. Φραγκίσκου, Υ.Θ. Τενέδου, Αγ. Ιουστίνας στη Γαρίτσα), στην Πρωτοπαπαδική Ιερογραμματεία και στη Λατινική Αρχιεπισκοπή.

Στο μοναστήρι της Αγίας Ιουστίνας οι μοναχοί παρείχαν νοσοκομειακή περίθαλψη και στη βιβλιοθήκη του συγκεντρώθηκαν σταδιακά βιβλία Ιατρικής και άλλων κλάδων δημιουργώντας τη σημαντικότερη βιβλιοθήκη του νησιού. Σημαντικός παράγων στη δημιουργία της ήταν η δωρεά της βιβλιοθήκης του βενετού Doria[2].

Στα 1758 ο Κανονικός Ιάκωβος Κανάλ, τοποτηρητής του Καθολικού Μητροπολίτη, δώρησε τη βιβλιοθήκη του στο μοναστήρι ενισχύοντας σημαντικά την ήδη υπάρχουσα η οποία διέθετε πλέον περί τους 3500 τόμους και ήταν προσιτή σε κάθε ενδιαφερόμενο[3]. Στα 1773 ο ίδιος άφησε στο Ενεχυροδανειστήριο κεφάλαιο 200 τζεκινιών ώστε με τον τόκο να εμπλουτίζεται και να συντηρείται η βιβλιοθήκη η οποία αναφέρεται ως «Pubblica Libreria».

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1. Βροκίνης, ό.π., σελ. 174.
2. Soldatos, ό.π., σελ. 6.
3. Βροκίνης, ό.π., σελ. 177.

Μεταφράζει ο Βροκίνης το σχετικό σημείο της διαθήκης[4]:

«Τη Δημοσία Βιβλιοθήκη ήδη εν Κερκύρα ιδρυμένη εις το προάστειον Γαστράδων, παρά τη μονή των μετερρυθμισμένων Π. Πατέρων της Αγίας Ιουστίνης, αφίημι χρυσίνους διακοσίους αρ. 200 όπως παραδοθώσιν εις το ιερόν ίδρυμα του εν Κερκύρα Ενεχυροδανειστηρίου, η δε πρόσοδος αυτών εισπράττηται παρά των εκάστοτε επιφανεστάτων κ.ων Συνδίκων της περιβλέπτου ταύτης Κοινότητος, και χρησιμεύη προς ωφέλειαν της αυτής βιβλιοθήκης τόσω προς αύξησιν δια της προσκτήσεως άλλων βιβλίων, όσω και προς αναπλήρωσιν παντός αναγκαίου αυτή, προς τον σκοπόν να ευδοκιμή ή τε ύπαρξις και η μετ' αξιοπρεπείας διατήρησις τοσούτον πολυωφελούς ιδρύματος, όπερ προς τη ωφελείαην δύνανται να καρπώνται οι τε φιλομαθείς και λόγιοι, χρησιμεύει έτι προς κόσμον και αξιοπρέπειαν της αυτής πόλεως».

Λόγω της απόστασης από την τειχισμένη πόλη, οι σύνδικοι της Κοινότητας προσπάθησαν από το 1795, χωρίς επιτυχία, να πείσουν τους μοναχούς να μεταφερθεί η Βιβλιοθήκη στο φραγκισκανικό μοναστήρι της Υ.Θ. Τενέδου, κοντά στο Νέο Φρούριο.

2. Δημοκρατικοί Γάλλοι (1797-1799)

Στις 29 Ιούνη του 1797 (9 Messidor Ε΄ χρόνου της Γαλλικής Δημοκρατίας) η Κέρκυρα καταλήφθηκε αμαχητί από τους Γάλλους, η σύντομη παραμονή των οποίων προκάλεσε στα νησιά του Ιονίου τεράστιες κοινωνικές αλλαγές.

Τα βιβλία από τις βιβλιοθήκες των μοναστηριών, καθώς και όσα πρόσφεραν γάλλοι αξιωματικοί (4.500 τόμοι περίπου) συγκεντρώθηκαν στο μοναστήρι της Υ.Θ. Τενέδου, το οποίο δημεύτηκε για το σκοπό αυτό, και τοποθετήθηκαν σε μια μεγάλη αίθουσα που βρίσκονταν στο βόρειο μέρος του δεύτερου ορόφου της οικίας η οποία ήταν συνεχόμενη με την εκκλησία[5]. Οι Γάλλοι έλαβαν διάφορα μέτρα για να εξασφαλιστεί η λειτουργία της Βιβλιοθήκης και τα εγκαίνιά της έγιναν στις 28 Ιούλη 1798, ενώ βιβλιοθηκάριος ορίστηκε την 1-6-1798 ο Ιωάννης Μάρμορας.

11 Prairial 6ου χρόνου της Δημοκρατίας

Η Κεντρική Διοίκηση του διαμερίσματος της Κέρκυρας

Λαμβάνοντας υπόψιν ότι αυτό που ενδιαφέρει κύρια είναι να ανοίξει η Εθνική Βιβλιοθήκη ώστε οι πολίτες που θα έλθουν να μπορούν ελεύθερα να βρίσκουν τα μέσα για τη μόρφωσή τους. Λαμβάνοντας επίσης υπόψιν ότι χρειάζεται ο διορισμός ενός ατόμου ικανού να

4. Βροκίνης, ό.π., σελ. 178.

5. Βροκίνης, ό.π., σελ. 182.

αναλάβει το λειτούργημα του βιβλιοθηκάριου και το οποίο να μπορεί να αναλάβει επίσης τη φύλαξη των βιβλίων με δική του ευθύνη.

Παραθέτει τα παρακάτω:

1ο. Ο πολίτης Ιωάννης Μάρμορας ονομάζεται έφορος της Εθνικής Βιβλιοθήκης η οποία είναι εγκατεστημένη στο μοναστήρι της Τενέδου.

2ο. Ο πολίτης Μάρμορας θα κρατά ανοιχτή τη Βιβλιοθήκη όλες τις μέρες από τις 10 π.μ. ως τις 2 μ.μ. Την 5η και τη 10η θα είναι αργία.

3ο. Θα δοθούν στον πολίτη Μάρμορα από τη διοίκηση του διαμερίσματος που ασχολείται με τη δημόσια εκπαίδευση, όλα τα βιβλία με φροντίδα και ακρίβεια και ο ίδιος, από τη στιγμή που θα τα παραλάβει, θα είναι ο νόμιμος βιβλιοθηκάριος και υπεύθυνος. Δεν θα επιτρέπεται ποτέ να βγαίνει από τη Βιβλιοθήκη κάποιο βιβλίο για οποιονδήποτε λόγο.

4ο. Ο ίδιος ο Μάρμορας θα πρέπει να έχει στενή σχέση με τη Διοίκηση που ασχολείται με τη Δημόσια Εκπαίδευση.

5ο. Η Βιβλιοθήκη, εκτός από το φύλακα θα έχει έναν υπάλληλο, ο οποίο θα πληρώνεται ανάλογα με τους εργαζόμενους στην Κεντρική Διοίκηση.

6ο. Ο πολίτης Μάρμορας θα έχει ετήσιο εισόδημα ίσο με εκείνο των προϊσταμένων υπαλλήλων της Κεντρικής Διοίκησης. Αυτό θα του στέλνεται μήνα παρά μήνα για το μήνα που πέρασε, και όταν το ταμείο θα είναι σε θέση να κάνει πληρωμές. Έτσι θα θεωρείται χρέος του Ταμείου οι μισθοί που δεν πληρώθηκαν έγκαιρα στο Μάρμορα[6].

Στη συνέχεια, συνταγμένος από το γιατρό Α. Μαρούλλι, δημοσιεύτηκε ο κανονισμός της Βιβλιοθήκης[7]:

3 Thermidor 6ου χρόνου της Δημοκρατίας

Σχέδιο κανονισμού για την Εθνική Βιβλιοθήκη του Διαμερίσματος της Κέρκυρας

Άρθρο 1ο. Η Βιβλιοθήκη θα παραμένει ανοιχτή κάθε μέρα από τις 10 π.μ. ως τις 2 μ.μ. εκτός της πέμπτης και της δεκάτης

Άρθρο 2ο. Μόνον ο φύλακας θα κρατά τα κλειδιά της Βιβλιοθήκης η οποία δεν θα ανοίγει και ούτε θα μένει ανοιχτή χωρίς να είναι παρών.

Άρθρο 3ο. Μόνον ο φύλακας ή ο υπάλληλος υπηρεσίας, μετά από διαταγή του πρώτου, θα μπορεί να βγάζει και να ξαναβάζει στη θέση τους τα βιβλία.

6. Ζούμπος, ό.π., σελ. 14-15.

7. Ζούμπος, ό.π., σελ. 15-16.

Άρθρο 4ο. Ο φύλακας θα έχει έναν κατάλογο με όλα τα έργα που υπάρχουν στη Βιβλιοθήκη και έχει παραλάβει ο ίδιος, κατά αλφαβητική σειρά των ονομάτων των συγγραφέων και ο οποίος επιπλέον θα αναφέρει τον αριθμό των τόμων, το σχήμα τους, τον τόπο που τυπώθηκαν και το όνομα του εκδότη. Αυτός ο κατάλογος, υπογραμμένος από τη Διοίκηση, θα δοθεί στο φύλακα. Ένα όμοιο αντίγραφο, στο οποίο θα δηλώνεται η παραλαβή των προαναφερθέντων, θα υπογραφτεί από το φύλακα και θα περαστεί στα αρχεία της Δημόσιας Εκπαίδευσης της Διοίκησης.

Άρθρο 5ο. Ο φύλακας θα έχει μια σφραγίδα που θα του δοθεί από τη Διοίκηση. Θα φέρει χαραγμένες στη μέση τις λέξεις «ΕΘΝΙΚΗ ΒΙΒΛΙΟΘΗΚΗ» και περιμετρικά «DEPARTEMENT DE CORCYRE»

Άρθρο 6ο. Ο φύλακας θα έχει την υποχρέωση να σφραγίσει την πρώτη και την τελευταία σελίδα όλων των βιβλίων που υπάρχουν στη Βιβλιοθήκη και αυτών που αργότερα θα πλουτίσουν τη συλλογή.

Άρθρο 7ο. Κάθε πολίτης που θα μπει στη Βιβλιοθήκη, θα πρέπει να απευθύνεται στο φύλακα. Ο αναγνώστης οφείλει να πει το όνομα του βιβλίου το οποίο χρειάζεται. Ο φύλακας θα γράψει το όνομα του αναγνώστη, την ποιότητα και τον αριθμό των βιβλίων τα οποία θα του δώσει και τα οποία δεν επιτρέπεται να περάσει τα έξι κάθε φορά.

Άρθρο 8ο. Κάθε πολίτης, πριν βγει από τη Βιβλιοθήκη, θα επιστρέφει στο φύλακα βιβλία, χάρτες ή ότι άλλο πήρε.

Άρθρο 9ο. Απαγορεύεται ρητά σε οποιονδήποτε να σημειώσει στο βιβλίο με κάθε τρόπο, εκτός από το να χρησιμοποιεί ένα κομμάτι χαρτί. Απαγορεύεται επίσης να καταστρέφει τα γραφεία, ακόμα και να ακουμπά πάνω στο βιβλίο ενώ γράφει.

Επιβάλλεται επίσης, σε όσους θέλουν να αντιγράψουν σχέδια, να προσέχουν με κάθε τρόπο να μη λερώσουν με μελάνι τα βιβλία. Οι παραβάτες αυτού του άρθρου θα τιμωρούνται με επιβολή της αξίας του έργου που κατέστρεψαν.

Άρθρο 10ο. Δεν επιτρέπεται για κανένα λόγο και με καμία δικαιολογία να βγει κάποιο βιβλίο από τη Βιβλιοθήκη. Ο φύλακας θα είναι προσωπικά υπεύθυνος.

Άρθρο 11ο. Θα υπάρχει πάντα κρεμασμένη μια πινακίδα όπου θα αναφέρονται τα ονόματα των πολιτών οι οποίοι με τις δωρεές τους θα ήθελαν να αυξήσουν τη συλλογή των βιβλίων.

Άρθρο 12ο. Ο φύλακας της Βιβλιοθήκης θα είναι υπεύθυνος για τη διαφύλαξή της και θα πρέπει να χαίρει του σεβασμού ο οποίος οφείλεται σε λαϊκό λειτουργό.

Άρθρο 13ο. Το παρόν σχέδιο κανονισμού θα είναι εκτεθειμένο για το κοινό στη Βιβλιοθήκη προς ενημέρωση όλων.

Α. Μαρούλλι Διοικητής

Τον έφορο Ι. Μάρμορα διαδέχτηκε στις 20-11-1798 ο ιακωβίνος Gaetano Rusconi από την Pavia, του οποίου η τυφλή προσήλωση προς την Επανάσταση, υπαγόρευσε την καταστροφή πολλών βιβλίων που πραγματεύονταν θεολογικά θέματα και θέματα παπικής εξουσίας. Ο κατάλογος που συνέταξε ο ίδιος περιλάμβανε μόλις 680 συγγράμματα σε 1605 τόμους[8].

3. Ρωσοτούρκοι & Επτάνησος Πολιτεία (1799-1807)

Κατά την περίοδο της ρωσοτουρκικής διοίκησης ζητήθηκε η βοήθεια των πολιτών ώστε να επιστραφούν στη Βιβλιοθήκη όσα βιβλία βρίσκονταν στην κατοχή τρίτων, με πενιχρά αποτελέσματα (επιστράφηκαν μόλις 35 τόμοι). Οι ανακρίσεις οι οποίες έγιναν για τον τρόπο διαχείρισης της Βιβλιοθήκης και την καταστροφή του μεγαλύτερου μέρους της έδειξαν την αθωότητα του Μάρμορα και τις ευθύνες του Gaetano Rusconi ο οποίος όταν επέστρεψε στην Κέρκυρα το καλοκαίρι του 1799 φυλακίστηκε.

Στις 20 Μάρτη/1 Απρίλη 1800 ορίστηκε από τη Γερουσία κοινή διοίκηση της Βιβλιοθήκης και του τυπογραφείου (είχε εγκαινιαστεί στις 15 Ιούνη του 1798 από τους Γάλλους υπό τη διεύθυνση του γάλλου λόγιου P. Jouenne).

Στις 5/17 Μάη 1801 επιτροπή η οποία είχε αναλάβει να ερευνήσει την κατάσταση στη Βιβλιοθήκη υπέβαλε πολυσέλιδη έκθεση προς τις αρχές όπου εξέθετε την υπάρχουσα κατάσταση, εισηγούνταν προτάσεις και μεταξύ άλλων ανέφερε[9]:

«… ουδόλως αμφίβολον, ότι αι δημόσιαι βιβλιοθήκαι δύνανται να χορηγήσωσι τη πατρίδι πολίτας συνετούς και αγαθούς.

Η έλλειψις δημοσίων σχολείων ή ιδιωτικών γραμματολογικών εκγυμνασμάτων σκοπούντων να εκκαθάρωσι τον νουν, ώφειλε να καταστήση ολοψύχως παραδεκτόν το διάγραμμα τούτο, όπερ υπαγορεύει ο ημέτερος ζήλος, και την ευκαιρίαν ταύτην προς τον φωτισμόν των νέων.

Αι ελεειναί ακρωτηριάσεις άτινες ανιχνεύονται εις ένια των συγγραμμάτων της βιβλιοθήκης, επίσης αναγκάζουσιν ημάς να υποβάλωμεν τινά μέσα προς τε την οπωσδήποτ΄ επανόρθωσιν αυτών, και τον πλουτισμόν της ιδίας.

Υπάρχουσιν εν αυτή διάφοροι τόμοι (ιδίως εκκλησιαστικοί) οίτινες εισί διπλοί και επομένως περιττοί. Πειρατέα η ανταλλαγή αυτών προς άλλους εκ των εν τη πόλει υπερπλεοναζόντων εν ταις βιβλιοθήκαις πολλών ιδιωτών, οίτινες θα καθίσταντο αξιέπαινοι χορηγούντες τούτους εις τον ιερόν τόπον, ή ανταλλαγήν προτείνοντες τοις κοινοβίοις άλλων πόλεων

8. Βροκίνης, ό.π., σελ. 194. Ο Βροκίνης αναφέρει και το φάκελο στα Γ.Α.Κ. Κέρκυρας όπου υπάρχει ο παραπάνω κατάλογος.

9. Βροκίνης, ό.π., σελ. 210-211.

και επ' αυτώ τούτω τω σκοπώ ερχόμενοι εις φιλολογικήν αλληλογραφίαν ιδίως προς τους μοναχούς του τάγματος εις ο πρότερον ανήκεν αύτη, και οίτινες στοργής ένεκα ηδύναντο να υποβοηθήσωσι τη ωφελίμω δοκιμή...»

Αμέσως μετά εγκρίθηκε δαπάνη 981 λιρών και 16 σολδίων για να επισκευαστούν οι χώροι της Βιβλιοθήκης.

Κατά την περίοδο της Επτανήσου Πολιτείας στα εκπαιδευτικά ζητήματα εμπλέκεται ο Ιωάννης Καποδίστριας, ενώ η Βιβλιοθήκη παραμένει στον χώρο της μονής της Τενέδου. Από το Μάη του 1802 ως τον Οκτώβρη του 1804 τη διαχείρισή της είχε το «Ιατρικό Κολλέγιο» και στο χώρο της πραγματοποιούνταν και οι συνεδριάσεις και οι ομιλίες του Κολλεγίου[10].

Η εναρκτήρια ομιλία έγινε στις 21/6-3/7/1802 με ομιλία του γιατρού Αντώνιου Μαρούλη για τη σπουδαιότητα των δημοσίων βιβλιοθηκών και την ιστορία του κερκυραϊκού ιδρύματος[11]. Ο νέος κανονισμός, με 13 άρθρα και σε γενικές γραμμές όμοιος με αυτόν του 1798, επικυρώθηκε από τη Γερουσία στις 3/15 Ιούλη του 1802. Στον κανονισμό αυτό προβλέπονταν και η νέα σφραγίδα της Βιβλιοθήκης στην οποία απεικονίζονταν η «απήδαλος ναυς» με τον τίτλο «Biblioteca Pubblica Corcyrae».

Στις 16/28 Οκτώβρη του 1804 η Βιβλιοθήκη παραδίδεται, σε πλήρη τάξη, στο Στυλιανό Βλασσόπουλο. Το Μάρτη του 1805 στο χώρο της μονής της Τενέδου λειτουργεί Δημόσιο Ελληνικό Σχολείο και την επίβλεψη του καθώς και της Βιβλιοθήκης αναλαμβάνει ο Ι. Καποδίστριας.

Τότε συμπληρώνεται το υλικό της Βιβλιοθήκης με δωρεές των αδελφών Ζωσιμά και του Γεωργίου Μοντσενίγου, με αγορές της Γερουσίας και με την προσθήκη της βιβλιοθήκης της μονής της Αγίας Αικατερίνης του Καροφυλάτου.

4. Αυτοκρατορικοί Γάλλοι (1807-1814)

Με τη δημιουργία της «Ιονικής Ακαδημίας»[12] η διοίκηση της Βιβλιοθήκης ανατέθηκε σε μία επιτροπή Ακαδημαϊκών με πρώτο διευθυντή το βαρώνο Εμμανουήλ Θεοτόκη ο οποίος είχε ήδη αναλάβει τη διεύθυνση στις 28/2-12/3/1807 (μετά από παραίτηση του Καποδίστρια) και αντικαταστάθηκε στις 31-7-1807 από το γάλλο λόγιο Latour Maubret[13] παρέμεινε στη θέση αυτή ως το Φλεβάρη του 1808. Τό-

10. Soldatos, ό.π., σελ. 7.

11. Κουρκουμέλης, ό.π., σελ. 119.

12. Αναλυτικά για την «Ιονική Ακαδημία», βλ. Jean Savant, 1980.

13. Ο Latour δίδασκε παράλληλα Κοσμογραφία και Ιστορία στη Σχολή της Τενέδου. Βροκίνης, ό.π., σελ. 224.

τε δημιουργήθηκε νέα επιτροπή για να αναζητηθούν και να επιστραφούν τα βιβλία τα οποία είχαν δανειστεί σε πολίτες και δεν είχαν επιστραφεί.

Στη συνέχεια ανέλαβε τη διεύθυνση ο Μιχαήλ Τριβόλης Πιέρης, βοτανολόγος και μέλος της Ακαδημίας. Αυτήν την εποχή (Ιούνης του 1808) η συλλογή της Βιβλιοθήκης εμπλουτίζεται με 1675 τόμους από τη βιβλιοθήκη του Γεωργίου Θεοτόκη, προέδρου της Επτανήσου Πολιτείας, οι οποίοι προσφέρθηκαν από τον Ανδρέα Καλογερά[14]. Με το τέλος της δεύτερης γαλλικής διοίκησης η Βιβλιοθήκη περιλάμβανε εφτά χιλιάδες τόμους.

5. Βρετανική «Προστασία» (1814-1864)

Στα 1824 λειτουργεί η Ιόνιος Ακαδημία. Στην πανεπιστημιακή βιβλιοθήκη η οποία δημιουργείται με μέριμνα του δημιουργού της λόρδου Guilford, προσαρτάται στις 2/15 Δεκέμβρη του 1824 το υλικό της Βιβλιοθήκης της Τενέδου. Υπήρχε πλέον πρόβλεψη για ετήσια δαπάνη αγοράς βιβλίων και πρόσληψη βιβλιοδέτη[15]. Η Βιβλιοθήκη μεταφέρεται στο Αρμοστείο το οποίο χρησιμοποιούνταν και ως έδρα του Πανεπιστημίου, ενώ τη διεύθυνσή της αναλαμβάνει ο Ανδρέας Παπαδόπουλος-Βρεττός[16].

Κατά την πρώτη περίοδο λειτουργίας της Ιονίου Ακαδημίας η Βιβλιοθήκη διοικείται από τριμελή επιτροπή καθηγητών, δέχεται πολλές δωρεές από το εξωτερικό (πανεπιστήμια Oxford, Cambridge, Trinity College), την προσωπική βιβλιοθήκη του Γεωργίου Μοντσενίγου (περισσότεροι από χίλιοι τόμοι), αντιπροσώπου του Τσάρου στην Επτάνησο Πολιτεία, και ενσωματώνεται η συλλογή του λόρδου Gulford (25.000 τόμοι και 3.000 χειρόγραφα). Οι γενικοί κατάλογοι αυτής της περιόδου διασώζονται στην Εθνική Βιβλιοθήκη της Ελλάδας και σε αυτούς εντοπίζονται τα βιβλία του Guilford τα οποία μετά τον θάνατό του ζήτησαν και έλαβαν οι κληρονόμοι[17].

Από το 1840 η Ιόνιος Ακαδημία στεγάζεται στο κτίριο των βενετσιάνικων στρατώνων Grimani στο νότιο άκρο της πλατείας και παραμένει εκεί μέχρι την καταστροφή του 1943.

Η Βιβλιοθήκη λειτουργεί στον τρίτο όροφο. Στιας άλλες αίθουσες λειτουργούν τα μουσεία: αρχαιολογικό, νομισματικό, ζωολογικό και μουσείο φυσικής ιστορίας

14. Soldatos, ό.π., σελ. 8.

15. Αγγελομάτη-Τσουγκαράκη, ό.π., σελ. 124.

16. Soldatos, ό.π., σελ. 8.

17. Μπόμπου-Σταμάτη Βασιλική, 2008, ό.π., σελ. 95-98.

στο οποίο προστέθηκε στο 1846 η ορυκτολογική συλλογή η οποία είχε δωρηθεί από τον Καποδίστρια[18].

Τον Απρίλη του 1841 εγκρίνεται από την Ιόνιο Βουλή ο *«Κανονισμός της Βιβλιοθήκης της Ιονίου Ακαδημίας»* με 47 άρθρα τα οποία καλύπτουν κάθε πτυχή της λειτουργίας της. Η ταξινόμηση και καταλογογράφηση του υλικού γίνεται με τη μέθοδο η οποία μέχρι σήμερα χρησιμοποιείται από την Εθνική Βιβλιοθήκη της Ελλάδας. Αναφέρει ο Κανονισμός:

.....

Άρθρο 4: Ο Βιβλιοθηκάριος εις την βραχυτέραν χρονικήν περίοδον θέλει, με την οδηγίαν του ήδη υπάρχοντος καταλόγου των βιβλίων της Βιβλιοθήκης, συντάξη νέον άλλον κατάλογον, διαιρούμενον εις πέντε αρχικούς κλάδους, ήτοι Θεολογίαν, Νομικήν, Ιατρικήν, Φιλοσοφίαν καιι Φιλολογίαν, και υποδιαιρούμενον εις άλλους δευτερεύοντας τόσους, όσους περιέχει έκαστος των ρηθέντων κλάδων.

Άρθρο 5: Εις αυτόν θέλει σημειώνεσθαι κατ' έκτασιν η Επιγραφή του Συγγράμματος, η έκδοσις, το έτος και ο τόπος της τυπώσεως, το μήκος του βιβλίου, το στίχωμα, το γράμμα του αλαφαβήτου, και ο αριθμός του αρμαρίου και του χωρίσματος, όπου ευρίσκεται θεμένον.

Άρθρο 6: Θέλει γένη ωσαύτως άλλος Αλφαβητικός δεύτερος κατάλογος, φέρων την επιγραφήν του συγγράμματος, και τρίτος ακόμη κατ' αλφάβητον με το όνομα Συγγραφέως εκάστου.

.....

Σε αυτά τα χρόνια τη διεύθυνση της Βιβλιοθήκης έχουν φυσιογνωμίες όπως ο Κ. Ασώπιος, ο Π. Κουαρτάνος και ο Ιάκ. Πολυλάς.

6. Ελληνική διοίκηση

Μετά την Ένωση των Ιονίων Νήσων με την Ελλάδα (21-5-1864 π.η.) και με το κλείσιμο της Ιονίου Ακαδημίας το 1865, η Βιβλιοθήκη δεν υφίσταται πλέον ως πανεπιστημιακή και συνεχίζει τη λειτουργία της ως Δημόσια. Σε αυτήν ενσωματώνεται και η βιβλιοθήκη του βρετανού αρμοστή, ενώ το 1870 αυτή του μητροπολίτη Αθανασίου Πολίτη.

Στα επόμενα χρόνια δέχεται σημαντικές δωρεές από το βασιλιά Φρειδερίκο της Δανίας, τον τσάρο Αλέξανδρο ΙΙ, τον αρχιδούκα της Αυστρίας Λουδοβίκο καθώς και από τους: Π. Οικονόμου, Σπ. Νεράντζη, Γ. Λασκαρίδη, Ι. Τζουλάτη, Άντα Κοκκίδη και Δ. Σαρακωμένο. Στα 1886 προστίθεται και η βιβλιοθήκη του Ανδρέα Μουστοξύδη.

18. Στη συλλογή αυτή είναι αναφέρεται η *Ορυκτολογική μαθηματική μελέτη* του μαθηματικού Σπύρου Βουτσινά.

Στο γύρισμα από το 19ο στον 20ο αιώνα, η Βιβλιοθήκη, έχοντας εμπλουτιστεί επιπλέον με δωρεές των Σ. Σκορδίλη, Μ. Πιέρρη, Α. Πολυλά, Π. Πετρίδη, Α. Κογεβίνα, Ν. Ζαμπέλη, διέθετε περί τους 40.000 τόμους[19].

Ο λόγιος Ιωάννης Ρωμανός (1836-1892) από το 1882 μέχρι τον θάνατό του διεύθυνε το Γυμνάσιο της Κέρκυρας και ταυτόχρονα είχε την εποπτεία της Βιβλιοθήκης, την οποίαν και αναδιοργάνωσε, ενώ παράλληλα χρησιμοποιώντας τις γνωριμίες του στην Ευρώπη και την Ελλάδα φρόντισε για τον πλουτισμό των συλλογών της με νέες δωρεές εκατοντάδων τόμων[20].

Το Δεκέμβρη του 1890 διορίστηκε βιβλιοθηκάριος ο Λαυρέντιος Βροκίνης ο οποίος στη συνέχεια, για μικρό διάστημα, διαδέχτηκε τον Ι. Ρωμανό[21].

Στα 1930 η Βιβλιοθήκη, λόγω του εμπλουτισμού της με νέους τόμους, καταλαμβάνει και άλλους χώρους στο κτίριο της Ακαδημίας, οργανώνεται με σύγχρονες μεθόδους ενώ είναι η μόνη εξειδικευμένη στις επτανησιακές σπουδές και μέχρι τον πόλεμο δέχεται συνέχεια δωρεές όπως του ιστορικού Σπυρίδωνος Θεοτόκη (1.200 τόμοι), μέρος της βιβλιοθήκης του Σπ. Ζαβιτσιάνου, της οικογένειας Ιδρωμένου, της βιβλιοθήκης του Αρσακείου της Κέρκυρας (600 τόμοι), της οικογένειας Θεόδωρου και Σταμάτη Δεσύλλα, της Τράπεζας της Ελλάδας και της Εθνικής Τράπεζας.

7. Μια περιγραφή

Η τελευταία περιγραφή της Δημόσιας Βιβλιοθήκης, πριν την καταστροφή του 1943, δημοσιεύεται στην *Ιόνιο Ανθολογία* το Μάρτη του 1941:

«… Η τωρινή βιβλιοθήκη είναι δημιούργημα ενός νέου επιστήμονα και διανοούμενου, του Διευθυντού της κ. Κ. Σολδάτου, που δούλεψε σκληρά, συμμάζεψε τα βιβλία της, καμμιά σαρανταριά χιλιάδες τόμους, τα ταξινόμησε, τα δελτιοποίησε σε τριπλό κι από το τίποτα χάρισε στον τόπο μια πολύτιμη βιβλιοθήκη με άρτια βιβλιογράφηση, που κατατοπίζει αμέσως τον μελετητή στο περιεχόμενό της. Σήμερα η Δημόσια Βιβλιοθήκη Κερκύρας έχει 70.000 τόμους, γενικόν αλφαβητικό κατάλογο, ένα συστηματικό κι έναν επτανησιακό, που αναφέρει κι όλα τα σχετικά με την Επτάνησο άρθρα, που δημοσιεύτηκαν κατά καιρούς σε περιοδικά κι εφημερίδες. Η ημερήσια κίνηση του αναγνωστηρίου υπολογίζεται σε 40-50 μελετητές. Χιλιάδες τόμους δανείστηκαν επίσης οι δημόσιοι υπάλληλοι και οι Κερκυραίοι διανοούμενοι. Για την άρτια λειτουργία της και τον πλουτισμό της καταβάλλεται επίσης αδιάκοπη προσπάθεια…

19. Κυριάκης, ό.π., σελ. 86

20. «Ιωάννου Ρωμανού Ιστορικά έργα», ό.π., σελ. θ΄.

21. Στεριώτης Π.Θ., «Βροκίνης Λαυρέντιος», στη *Μεγάλη Ελληνική Εγκυκλοπαίδεια*, τ. Ζ, Πυρσός, Αθήνα, 1929.

Το αναγνωστήριο της βιβλιοθήκης βρίσκεται στην «αίθουσα Διονυσίου Σολωμού», πριν αίθουσα τελετών της Ιονίου Ακαδημίας και στολίζεται με εικόνες επιφανών Κερκυραίων, του φιλοσόφου Βράιλα Αρμένη, του Ιακ. Πολυλά, του Ηλία Μηνιάτη, του Γ. Καλοσγούρου, του Πλ. Πετρίδη κ.ά. Η συνεχόμενη «αίθουσα Πολυλά» χρησιμοποιείται για αναγνωστήριο περιοδικών.

Στον τρίτον όροφο είναι η αίθουσα Γκίλφορδ, με ωραία έργα της περίφημης «Σχολής των Καλών Τεχνών» του Προσαλέντη, και στο διάδρομο η πελώρια δακρυδόχος, που βρέθηκε άθικτη στο μνημείο του Μενεκράτους. Τελευταία παραχωρήθηκε στη Βιβλιοθήκη και το συνεχόμενο αμφιθέατρο της Ιονίου Ακαδημίας, όπου γίνονται τώρα οι διαλέξεις, οι επιστημονικές ανακοινώσεις και τα δημόσια μαθήματα της Εταιρίας Επτανησιακών Μελετών…».

Κατά το δεύτερο Παγκόσμιο Πόλεμο η Κέρκυρα ιταλοκρατείται μέχρι τον Σεπτέμβρη του 1943. Μετά τη συνθηκολόγηση της Ιταλίας με τους Συμμάχους, οι Γερμανοί προσπαθούν να την καταλάβουν, αρχικά χωρίς επιτυχία. Προκειμένου να καμφθεί το ηθικό της ιταλικής φρουράς και να αποθαρρυνθεί η πιθανή αντίσταση των Κερκυραίων, εκτός από τους συνεχείς βομβαρδισμούς, τη νύχτα 13 προς 14 Σεπτέμβρη η γερμανική αεροπορία πραγματοποιεί βομβαρδισμό με εμπρηστικές βόμβες. Οι ζημίες ήταν απερίγραπτες. Μεγάλο μέρος της πόλης καταστράφηκε, ενώ μνημεία και πνευματικοί θησαυροί έγιναν στάχτη[22]. Τότε καταστράφηκε ολοσχερώς η Δημόσια Βιβλιοθήκη και το ενσωματωμένο σε αυτήν αρχείο της Ιονίου Ακαδημίας[23].

8. Μετά την καταστροφή του 1943

Η καταστροφή της Δημόσιας Βιβλιοθήκης υπήρξε σημαντικό πλήγμα στην πνευματική εξέλιξη της Κέρκυρας. Μετά την απελευθέρωση, στις 10 Οκτώβρη του 1944, άρχισαν οι προσπάθειες για την ανασύστασή της. Η ανταπόκριση των Κερκυραίων ήταν σημαντική διότι και σε δωρεές πολλών βιβλίων προέβησαν, αλλά και προσφέρθηκαν να εργαστούν εθελοντικά στις διάφορες απαραίτητες εργασίες.

Η κίνηση η οποία δημιουργήθηκε για την ανασύσταση της είχε μεγάλη απήχηση στην Ελλάδα και στο εξωτερικό, σε φορείς και ιδιώτες[24] και μέσα σε ελάχιστο χρονικό διάστημα μια σειρά 30.000 τόμων αποτέλεσε τον πυρήνα της νέας Βιβλιοθήκης η οποία στεγάστηκε για χρόνια στην ανατολική πτέρυγα των ανακτόρων των Αγίων Γεωργίου και Μιχαήλ.

22. Αθανάσαινας, ό.π., σελ. 141-143.

23. Ο Σολδάτος υπολογίζει ότι συνολικά κατά τους βομβαρδισμούς του πολέμου χάθηκαν από τη Δημόσια και από τις διάφορες ιδιωτικές βιβλιοθήκες περίπου 150.000 τόμοι. Soldatos, ό.π., σελ. 5.

24. Soldatos, ό.π., σελ. 13-16.

9. Σήμερα

Σήμερα η Δημόσια Κεντρική Ιστορική Βιβλιοθήκη της Κέρκυρας στεγάζεται στους αγγλικούς στρατώνες του Παλιού Φρουρίου. Διαθέτει περίπου 75.000 έντυπα, λειτουργεί ως δανειστική, έχει ευρύχωρο αναγνωστήριο για τις μη δανειζόμενες εκδόσεις και αίθουσα πρόσβασης στο διαδίκτυο για τους χρήστες της. Παράλληλα οργανώνει εκθέσεις βιβλίων, ομιλίες, συνέδρια, ενώ αναπτύσσει έντονη δραστηριότητα στον τομέα της διάδοσης του βιβλίου.

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2004: ανοικοδομημένη και σε χρήση από το Ιόνιο Πανεπιστήμιο

Στοιχεία για την παράδοση των Βιβλιοθηκών στην Κέρκυρα

Δημήτρης Κ. Ζυμάρης
Ιστορικός

Κυρίες και κύριοι,

Σε λίγους μήνες συμπληρώνονται τρία χρόνια απ' όταν το παρόν Εφορευτικό Συμβούλιο ανέλαβε τα καθήκοντά του[1]. Θυμάμαι – οι περισσότεροι παριστάμενοι θυμούνται – τις ακάματες προσπάθειες της αείμνηστης Διευθύντριας Εύης Λάσκαρι να οργανωθεί και ν' αναπτυχθεί η Δημόσια Βιβλιοθήκη στο χώρο που τώρα βρισκόμαστε.

Η Εύη έφυγε αναπάντεχα από κοντά μας τον Αύγουστο του 2008, αφήνοντας ένα μεγάλο κενό. Η αφιέρωση της αποψινής ομιλίας στη μνήμη της, αποτελεί, νομίζω, την ελάχιστη οφειλόμενη τιμή.

Ο πρόεδρος κ. Σπύρος Σαββανής και το Εφορευτικό Συμβούλιο της Δημόσιας Βιβλιοθήκης, μου επεφύλαξαν την τιμή να μιλήσω απόψε για ένα θέμα που το ίδιο το Συμβούλιο επέλεξε. Ένα θέμα απέραντο, το οποίο φυσικά δεν μπορεί να παρουσιαστεί όπως του πρέπει στα στενά χρονικά περιθώρια μιας διάλεξης, συνεπώς η παρουσίαση θα είναι αναγκαστικά ελλιπής. Για τις παραλείψεις ζητώ εκ των προτέρων την κατανόησή σας. Πάντως, επικράτησε η άποψη να αναφερθούμε, έστω ακροθιγώς, σε ορισμένα στοιχεία για τη μακραίωνη παράδοση των Βιβλιοθηκών της Κέρκυρας, διότι, από τη μελέτη της ιστορίας και του περιεχομένου τους, μπορεί κανείς να σταθμίσει το μορφωτικό επίπεδο και τα πνευματικά ενδιαφέροντα των κοινωνικών ομάδων που καθόρισαν τις τύχες και τη μορφή του τόπου μας.

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1. Το παρόν κείμενο, που παρουσιάζεται όπως διαβάστηκε, με την προσθήκη μόνον των αναγκαίων υποσημειώσεων, αποτελεί ομιλία του γράφοντος, τότε μέλους του Εφορευτικού Συμβουλίου της Δημόσιας Κεντρικής Βιβλιοθήκης Κέρκυρας, στην εκδήλωση προς τιμήν του Ιδρύματος Μποδοσάκη και του προέδρου του κ. Δημήτρη Βλαστού, για τη χορηγία του Ιδρύματος προς τη Βιβλιοθήκη, που δόθηκε επί των ημερών της αείμνηστης Διευθύντριας Εύης Λάσκαρι. Η εκδήλωση πραγματοποιήθηκε στην αίθουσα «Εύη Λάσκαρι», της Δημόσιας Βιβλιοθήκης, το Σάββατο, 12 Μαρτίου 2011.

   Είναι αυτονόητο ότι δεν πρόκειται για μια πρωτότυπη έρευνα, ούτε, βέβαια, για σφαιρική παρουσίαση, παρά για επιλογή και σύνθεση ορισμένων χαρακτηριστικών στοιχείων από μια ενδεικτική βιβλιογραφία, που σκοπό είχε κυρίως να υπενθυμίσει τη μακραίωνη παράδοση των Βιβλιοθηκών στον τόπο μας και να τονίσει τη σημερινή ευθύνη μας.

Επίσης, επιθυμούμε να τονίσουμε την πεποίθηση ότι μια υγιής, δυναμική, συλλογική έκφραση στα ζητήματα του πολιτισμού μας, περνάει οπωσδήποτε μέσα από τη βιωματική σχέση με τον φορτισμένο με βαριά κληρονομιά χώρο των Βιβλιοθηκών, οι οποίες, για να μπορούν να συνεχίζουν να προσφέρουν, χρειάζονται την ενεργό υποστήριξη όλων μας. Μόνο μ' αυτό τον τρόπο θα έχουμε τη δυνατότητα να παραδώσουμε χωρίς τύψεις τη σκυτάλη στις επόμενες γενιές. Συνεπώς, τόσο ο τόπος γενικά, όσο και οι Βιβλιοθήκες ειδικότερα, ως δείκτες πολιτισμού, χρειάζονται την αμέριστη και έμπρακτη φροντίδα αφ' ενός του κράτους, αφ' ετέρου της τοπικής κοινωνίας δια των επισήμων φορέων της.

Η Κέρκυρα, όταν αποκόπηκε από τη Βυζαντινή Αυτοκρατορία, συνδέθηκε σταθερά με την ευρωπαϊκή Δύση, και, σε αντίθεση με την υπόλοιπη Ελλάδα, είχε την τύχη να συμμετάσχει από πολύ ενωρίς και αδιαλείπτως, στον καλούμενο «πολιτισμό του εγγράφου», έναν πολιτισμό συστηματικό, οργανωτικό˙ θα λέγαμε μια κιβωτό συλλογικής μνήμης. Ο πολιτισμός αυτός, ο οποίος πρωτίστως αφορά τα Δημόσια Αρχεία της πόλης, εξασφαλίζει συνέχειες, τεκμηριώνει δικαιώματα και υποχρεώσεις των κατοίκων, αναδεικνύει νοοτροπίες και κοινωνικές δομές. Ο πολιτισμός του εγγράφου αποτελεί μοναδική πνευματική παρακαταθήκη, καθώς, εν τέλει, επιβεβαιώνει, αποκρυσταλλώνει και αντανακλά τη συλλογική μας ταυτότητα.

Τα πρώιμα αρχειακά τεκμήρια της Κέρκυρας, δεν παρέχουν άμεσες πληροφορίες για την ύπαρξη Βιβλιοθηκών. Περισσότερες είναι οι γνώσεις μας για το δεύτερο μισό του 15ου αιώνα. Η κατάληψη της Άρτας, πρωτεύουσας του Δεσποτάτου της Ηπείρου, έως τα 1449, η άλωση της Κωνσταντινούπολης στα 1453 και η συνακόλουθη πτώση του Μυστρά στα 1461, είχαν ως συνέπεια την έλευση πολλών Ελλήνων προσφύγων στην Κέρκυρα. Μεταξύ αυτών, εγκαταστάθηκαν και δεκάδες σημαντικοί λόγιοι, οι οποίοι, εκτός από την άφατη πικρία τους, έφεραν μαζί και την πνευματική σκευή τους, καθώς υπήρξαν άμεσοι φορείς της υψηλότατης υστεροβυζαντινής πολιτισμικής ακτινοβολίας[2].

Αν και οι σχετικές πληροφορίες για το 15ο αιώνα είναι ελάχιστες, λόγω της μεγάλης καταστροφής της πόλης από τη πολιορκία του 1537, έχουν σωθεί, κυρίως σε ευρωπαϊκές Βιβλιοθήκες και Αρχεία, κάποιες μαρτυρίες που μπορούν να μας υποψιάσουν για τον κόσμο της εποχής. Σ' αυτές συγκαταλέγεται η πολύτιμη αναφορά που συνέταξε στα 1490 ο γνωστός λόγιος Ιανός Λάσκαρις, ο οποίος επισκέφθηκε το νησί μας, απεσταλμένος του Λαυρεντίου των Μεδίκων του Μεγαλοπρεπούς, με σκοπό την αγορά χειρογράφων για τη συγκρότηση της περίφημης ομώνυμης Βιβλιοθήκης στη Φλωρεντία[3].

2. Βλ. Έλλης Γιωτοπούλου-Σισιλιάνου, «Η πνευματική κατάσταση στην Κέρκυρα στα τέλη του ΙΕ΄ αιώνα. Μια προσπάθεια ανασύνθεσης», στο: η ίδια, *Κερκυραϊκά*, Αθήνα 1997, σελ. 218-237.

3. Ό.π., σελ. 221.

Ο Λάσκαρις, λοιπόν, αναφέρεται σε τρεις σημαντικές ιδιωτικές συλλογές κωδίκων, εκ των οποίων, μάλιστα, οι δύο ανήκαν σε παλαιές γηγενείς οικογένειες. Πρόκειται για τις Βιβλιοθήκες του, προερχόμενου από την Κωνσταντινούπολη, ιατρού Ανδρόνικου Έπαρχου, παππού του γνωστού ουμανιστή Αντωνίου Έπαρχου, του ιερέως Τιμοθέου Σπυρή, καθώς και της ευγενούς λόγιας οικογένειας Αβράμη. Ιδιαίτερο χαρακτηριστικό της σημασίας αυτών των συλλογών είναι ότι περιλάμβαναν σπάνιους και ποικίλους κώδικες, που απηχούσαν το εύρος των πνευματικών ενδιαφερόντων των ιδιοκτητών τους.

Από μια άλλη πηγή της εποχής[4], πληροφορούμαστε για τη σπουδαία Βιβλιοθήκη του, καταγόμενου από το Μυστρά, Ιωάννη Μόσχου, ενός από τους αξιολογότερους μαθητές του Πλήθωνα Γεμιστού, ο οποίος, μαζί με τους γιούς του Δημήτριο και Νικόλαο, είχαν ιδρύσει στην Κέρκυρα τη γνωστή σχολή Φιλοσοφίας, Ιατρικής και Ρητορείας. Η σχολή αυτή ήταν ένα είδος Ακαδημίας της εποχής, αντίστοιχης με τις ευρωπαϊκές. Στην Ακαδημία αυτή φοίτησαν σημαντικοί ουμανιστές της Ιταλίας, καθώς και ο Μιχαήλ Τριβώλης, γνωστός ως Μάξιμος Γραικός[5]. Επίσης, αξιομνημόνευτη υπήρξε η Βιβλιοθήκη του Δημητρίου Τριβώλη, κώδικες της οποίας πιθανότατα έχουν εντοπιστεί στη Λαυρεντιανή Βιβλιοθήκη[6].

Λιγότερο γνωστές, αλλά εξίσου σημαντικές, ήταν και οι Βιβλιοθήκες του Κερκυραίου ευγενούς Ανδρέα Ανέζιου, τον οποίον εκθειάζει ο Ιταλός ουμανιστής Giovanni Bembo, όσο και του Ιουστίνου Δεκαδίου, στον οποίο ως «Κερκυραίο» αφιερώνει με θαυμασμό ο Άλδος Μανούτιος τον πρώτο τόμο της έκδοσης του Αριστοτέλη[7]. Συνέπεια της ευρείας ελληνομάθειας της εποχής, αλλά και της ώσμωσης με το περιβάλλον των Βιβλιοθηκών, θα πρέπει να θεωρηθεί ο σημαντικός αριθμός αντιγραφέων κωδίκων που δραστηριοποιήθηκε στην Κέρκυρα εκείνη την περίοδο[8].

Όμως, το σημαντικότερο όλων είναι πως ο άξονας των πνευματικών δραστηριοτήτων εκείνων των ανθρώπων, υπήρξε η συνειδητή και συστηματική προσπάθεια διάσωσης και ανάδειξης της ελληνικής παιδείας. Από αυτή την άποψη, η εισροή των βυζαντινών προσφύγων, στάθηκε μια λαμπρή και καθοριστική ανανεωτική πνευματική κίνηση, που ενίσχυσε τη λόγια ελληνική ταυτότητα το τόπου μας. Ήδη στις αρχές του 16ου αιώνα, οι οικογένειες των Βυζαντινών προσφύγων είχαν πλήρως αφομοιωθεί στην κερκυραϊκή πραγματικότητα, στην οποία πολλά προσέφεραν και τους επόμενους αιώνες.

4. Ό.π., σελ. 223.

5. Ό.π., σελ. 230-237.

6. Ό.π., σελ. 224.

7. Ό.π., σελ. 224-230.

8. Ό.π., σελ. 219.

Κι ενώ η πόλη μας αναπτύσσονταν με γοργούς ρυθμούς, ήρθε στα 1537 η πολιορκία των Οθωμανών, μια μεγάλη ουλή στην ιστορία και τη μνήμη του νησιού. Βαρύ υπήρξε το τίμημα και στον αρχειακό πλούτο και στον κόσμο των βιβλίων, καθώς το ξωπόλι, όπου υπήρχαν οι περισσότερες κατοικίες των Κερκυραίων, καταστράφηκε ολοσχερώς[9]. Κι όμως, η πόλη ξανάρχισε τον αγώνα της, εκτός όλων των άλλων, τόσο για τη διατήρηση και μετάδοση της ελληνικής παιδείας, όσο και για την ένταξη και συμμετοχή στις συνήθειες και τις αξίες του δυτικοευρωπαϊκού κόσμου.

Έτσι, στα 1546, η πρεσβεία των Κερκυραίων προς τη Βενετία, επανερχόμενη σε παλαιότερο αίτημά της, πετυχαίνει να εγκριθεί από δημόσιες προσόδους η αμοιβή ενός διδασκάλου ελληνικών και ενός λατινικών[10]. Και παρότι η παιδεία τότε παρέχονταν σε περιορισμένο αριθμό νέων, έχει σημασία ότι οι - έστω λίγοι - φωτισμένοι Κερκυραίοι της εποχής, όχι μόνο δεν εξιταλίστικαν πλήρως, αλλά με επιμονή διατήρησαν την ιδιαίτερη ταυτότητά τους.

Μια ακόμη σημαντική πληροφορία για το 16ο αιώνα, είναι πως στα 1571, σε ανάμνηση της μεγάλης νικηφόρας ναυμαχίας της Ναυπάκτου, το Τάγμα των Φραγγισκανών μοναχών ίδρυσε το Μοναστήρι της Αγίας Ιουστίνης στη Γαρίτσα, όπου και συνέστησε εκπαιδευτήριο, εμπλουτίζοντάς το, σταδιακά, με πλήθος βιβλίων. Το εκπαιδευτήριο αυτό συνέβαλε καθοριστικά στη μόρφωση πολλών γόνων αστικών οικογενειών, οι οποίοι συνέχισαν τις σπουδές τους σε Πανεπιστήμια της Ιταλίας και μετέφεραν τις πολύτιμες γνώσεις τους στον τόπο μας[11].

Επιπλέον, οι μορφωμένοι εκείνοι άνθρωποι απέκτησαν τη συνήθεια δημιουργίας των δικών τους Βιβλιοθηκών, η ύπαρξη των οποίων προκύπτει κυρίως από κείμενα διαθηκών που φυλάσσονται στο Ιστορικό Αρχείο της Κέρκυρας. Δεκάδες ελλάσσονες και τέσσερις μεγάλες Βιβλιοθήκες (του ιππότη Πρόσπερο Μαρίνι, του νομικού Αλταβίλα Χαλικιοπούλου, του υμνογράφου Νικολάου Τριαντάφυλλου και του ιερέα-διδασκάλου Νικολάου Λαρδέα), έχουν ως τώρα βρεθεί, μέσα από τα ινβεντάρια – δηλαδή τις απογραφές των τίτλων – που συντάχθηκαν κατόπιν επιθυμίας των κτητόρων τους, οι οποίοι έτσι εκφράζουν την προσπάθειά τους για τη διάσωση των συλλογών τους[12].

9. Ό.π., σελ. 222-224.

10. Παναγιώτα Τζιβάρα, *Σχολεία και Δάσκαλοι στη Βενετοκρατούμενη Κέρκυρα (16ος-18ος αι.)*, Αθήνα 2003, σελ. 20 κ.ε.

11. Βλ. Λαυρεντίου Βροκίνη, «Περί αρχής και ιδρύσεως της Δημοσίας εν Κερκύρα Βιβλιοθήκης», *Κερκυραϊκά Χρονικά*, τ. 17, Κέρκυρα 1973, σελ. 175-176.

12. Παναγιώτα Τζιβάρα, «Ιδιωτικές βιβλιοθήκες στη Βενετοκατούμενη Κέρκυρα (17ος-18ος αι.)», *Πρακτικά ΚΔ΄ Πανελλήνιου Ιστορικού Συνέδριου Ελληνικής Εταιρείας*, Θεσσαλονίκη 2004, σελ. 185-193.

Τα βιβλία, που ξεπερνούν τα 1.000 – κι ας θυμηθούμε ότι αναφερόμαστε μόνον σε τέσσερις ιδιωτικές Βιβλιοθήκες στα τέλη του 17ου αρχές 18ου αι. – καλύπτουν ποικίλα ενδιαφέροντα: φιλολογικά, θεολογικά, ιστορικά (με έργα όπως του Θουκυδίδη και του Τίτου Λίβιου), νομικά, φιλοσοφικά (όπως η Μεταφυσική του Αριστοτέλη), λογοτεχνικά, πολιτικής θεωρίας, ρητορικής, ακόμη και αρκετά έργα απαγορευμένα από την καθολική εκκλησία, περιλαμβάνονται στους συγκεκριμένους καταλόγους[13]. Είναι δε εξαιρετικά ενδιαφέρον ότι ο ιερέας Λαρδέας προβλέπει στη διαθήκη του και τον τρόπο δανεισμού των βιβλίων του, πράγμα που σημαίνει ότι τα βιβλία μπορεί να ανήκαν σε ένα πρόσωπο, αλλά οι χρήστες ήταν πολλοί.

Σύμφωνα με την Παναγιώτα Τζιβάρα, που μελετάει και την αντίστοιχη ευρωπαϊκή πραγματικότητα, «…Οι Βιβλιοθήκες της Κέρκυρας μαρτυρούν την επίδραση του πνεύματος της Αναγέννησης, γι' αυτό και το περιεχόμενό τους δεν διαφέρει από εκείνο των Βιβλιοθηκών Ιταλών λόγιων, ούτε από τις αντίστοιχες Βιβλιοθήκες ευγενών Βενετοκρητικών…»[14]. Επιπλέον, η ίδια προσθέτει, ότι «…η μελέτη των νομικών κειμένων παράλληλα με τα κλασικά κείμενα, αποδεικνύει ότι και στην Κέρκυρα καλλιεργήθηκε ο ευρωπαϊκός νομικός ουμανισμός…»[15].

Άλλωστε, έμμεση αλλά εύγλωττη μαρτυρία για την ύπαρξη πνευματικής κίνησης, όπως και σημαντικών ιδιωτικών Βιβλιοθηκών κατά τους 17ο και 18ο αιώνα, αποτελεί η ίδρυση τριών Ακαδημιών στην πόλη μας, οι οποίες θα μπορούσαν να θεωρηθούν και ως τέκνα της έφεσης Κερκυραίων επιστημόνων που προσπάθησαν να μιμηθούν τα σύγχρονά τους ευρωπαϊκά πρότυπα[16].

Στα 1656, λοιπόν, ιδρύεται στην Κέρκυρα η «Accademia degli Assicurati», γνωστή και ως «Ακαδημία των Εξησφαλισμένων». Μέλη της Ακαδημίας αρχικά υπήρξαν 30 ευγενείς Κερκυραίοι, κυρίως ιερείς, γιατροί, και νομικοί. Αναφέρουμε ενδεικτικά τον Ανδρέα Μάρμορα, που έγραψε στα 1672 την Ιστορία της Κέρκυρας, τον διδάκτορα Καπέλλο, ο οποίος συνέταξε λεξικό της καθομιλουμένης Ελληνικής, Λατινικής και Ιταλικής γλώσσας, καθώς και τον ιατροδιδάκτορα πολυγραφότατο Νικόλαο Βούλγαρη, ο οποίος, μεταξύ άλλων, το 1681 έγραψε το βιβλίο *«Ιερά κατήχησις»*, πολύτιμο έργο για την εκπαίδευση των κληρικών[17].

Η επιλογή τόσο του ονόματος όσο και του εμβλήματος της Ακαδημίας, δύο βράχοι – το φρούριο – που τους σκέπει ο φτερωτός λέων, δεν είναι διόλου τυχαία. Επιδι-

13. Ό.π., σελ. 189-190.

14. Ό.π., σελ. 191.

15. Ό.π., σελ. 189.

16. Βλ. Ανδρέα Μουστοξύδη, «Περί των εν Κερκύρα Ακαδημιών και των συγχρόνων αυτής λογίων», *Κερκυραϊκά Χρονικά*, τ. 24, Κέρκυρα 1980, σελ. 161-178.

17. Ό.π., σελ. 163.

ώκει να επιβεβαιώσει την πεποίθηση ότι οι Κερκυραίοι είναι ασφαλείς υπό τη βενετική προστασία. Ας μην ξεχνούμε, άλλωστε, την οθωμανική εικοσιπενταετή πολιορκία στη βενετοκρατούμενη Κρήτη, η οποία υπέκυψε τελικά στα 1669.

Με την πτώση του Χάντακα επαναλαμβάνεται, κατ' έναν τρόπο, ό,τι έζησε ο τόπος δυο αιώνες πριν. Μεγάλος αριθμός Κρητών προσφύγων εγκαθίσταται εδώ, ενώ αρκετές ισχυρότατες οικογένειες μεταφέρουν τον πλούτο τους, υλικό και πνευματικό, ασκώντας ευεργετικότατη επίδραση στην οικονομία, τα γράμματα και τις τέχνες.

Μια από τις πολλές σχετικές μαρτυρίες, αφορά τη Βιβλιοθήκη του Κρητικού ιερομονάχου της Παναγίας της Παλαιόπολης, Γεράσιμου Βλάχου, αργότερα επισκόπου Φιλαδελφείας, την οποία επισκέφθηκαν οι περιηγητές Spon και Weller στα 1676[18]. Όπως οι ίδιοι μας πληροφορούν, επρόκειτο για μια πλούσια Βιβλιοθήκη με δεκάδες χειρόγραφους κώδικες, ορισμένοι μάλιστα από τους οποίους έφτασαν στην κατοχή του Α. Μουστοξύδη, όπως ο ίδιος γράφει[19].

Αλλά και στα μοναστήρια της κερκυραϊκής υπαίθρου, συγκροτούνται σημαντικές Βιβλιοθήκες, στις οποίες στηρίχτηκε μεγάλο μέρος της εκκλησιαστικής αλλά και κοσμικής εκπαίδευσης όσων κατοικούσαν στα χωριά. Χαρακτηριστικά αναφέρουμε μόνο δύο, για τις οποίες έχουν δημοσιευτεί οι κατάλογοι. Πρόκειται για τις Βιβλιοθήκες των Ιερών Μονών Παλαιοκαστρίτσας και Μυρτιδιώτισσας[20]. Ειδικά για τη Βιβλιοθήκη της Παλαιοκαστρίτσας, γνωρίζουμε ότι γίνεται πρώτη απογραφή στα 1656 που αναφέρει 47 βιβλία[21], ενώ στα 1688 έχουν προστεθεί αξιόλογα έργα κλασικής γραμματείας[22]. Στις αρχές του 20ου αιώνα περιλαμβάνει πια 490 τόμους και 39 χειρόγραφους κώδικες, μεταξύ των οποίων ένα τετραευαγγέλιο του 11ου αιώνα και αρχέτυπες εκδόσεις[23].

Επιπλέον, είναι βέβαιη η ύπαρξη δεκάδων αξιόλογων Βιβλιοθηκών, διάσπαρτων στα σπίτια των παπάδων και των νοταρίων των χωριών, κυρίως από το 18ο αιώνα, πράγμα που αποδεικνύει ότι η πνευματική καλλιέργεια δεν αποτελούσε αυστηρά αστικό αγαθό.

Ξαναγυρίζοντας τώρα στην παιδεία που παρέχεται στην πόλη, καθώς και στις δημοσίου χαρακτήρα Βιβλιοθήκες, οφείλουμε να αναφέρουμε την ίδρυση του Καθο-

18. Ό.π., σελ. 169.

19. Ό.π., σελ. 170.

20. Παναγιώτα Τζιβάρα-Σπύρος Καρύδης, *Η Βιβλιοθήκη της μονής Υ. Θ. Μυρτιδιωτίσσης Κέρκυρας*, Κέρκυρα 2004.

21. Παναγιώτα Τζιβάρα-Σπύρος Καρύδης, *Η Βιβλιοθήκη της μονή Παλαιοκαστρίτσας Κέρκυρας*, Αθήνα 2001, σελ. 26.

22. Ό.π., σελ. 28.

23. Ό.π., σελ. 31.

λικού Ιεροσπουδαστηρίου στα 1678, από τον Λατινεπίσκοπο Barbarigo, το οποίο λειτούργησε στο μοναστήρι της Ανουντσιάτας και διέθετε, επίσης, σημαντική Βιβλιοθήκη[24]. Ακόμη, ιδιαίτερα αξιόλογη υπήρξε η Βιβλιοθήκη που συνέστησε στα 1704 ο ιερομόναχος Νικόδημος Καροφυλλάτος, κτίτωρ της μονής της Αγίας Αικατερίνης[25].

Όμως, το 1716, το νησί ξαναζεί μέρες σκληρής πολιορκίας των Οθωμανών, τραυματίζεται, αλλά σώζεται για μια ακόμη φορά. Και παρότι αρχίζει να είναι εμφανής η παρακμή της Βενετίας, η πνευματική ανάπτυξη του τόπου συνεχίζεται. Κατά το διάστημα 1700-1760, μόνο στο Πανεπιστήμιο της Padova φοιτούν συνολικά 162 Κερκυραίοι, ενώ στο Φλαγγινιανό Φροντιστήριο άλλοι 27[26]. Όπως ήδη ειπώθηκε, όλοι τούτοι οι άνθρωποι, επιστρέφουν στην πατρίδα τους, ενισχύοντας τα γράμματα και τις τέχνες, ενώ γνωρίζουμε ότι πια δεκάδες ιδιωτικές Βιβλιοθήκες αναπτύσσονται γοργά σε πολλά σπίτια, αρκετές από τις οποίες σώζονται έως τις μέρες μας.

Σπουδαίο σταθμό, κυρίως για την ιστορία της εκπαίδευσης, αποτελεί το έτος 1758, όταν ιδρύθηκε από τους Νικηφόρο Θεοτόκη και Ιερεμία Καββάδα το «Κοινόν Φροντιστήριον», ένα σχολείο ανοιχτό για όλους αδιακρίτως, το οποίο τυπικά δεν ήταν δημόσιο, αλλά παρείχε δωρεάν διδασκαλία στη Γραμματική, Ρητορική, Φιλοσοφία, Μαθηματικά[27]. Πρόκειται για τρανό παράδειγμα αφιλοκερδούς προσφοράς της εκκλησίας εκείνης της εποχής.

Πάντως, εκείνη η Βιβλιοθήκη που πρώτη χαρακτηρίζεται από τότε δημόσια, «Pubblica libreria», κι αποτελεί τη μακρινή πρόγονο του σημερινού πνευματικού φορέα που τώρα βρισκόμαστε, είναι η Βιβλιοθήκη της Αγίας Ιουστίνης στη Γαρίτσα. Εκεί, εκτός από θεολογικά, υπήρχαν και βιβλία ευρύτερου ενδιαφέροντος. Ο Λ. Βροκίνης υποστηρίζει ότι στα μέσα του 18ου αι., ήδη αριθμούσε περίπου 2.000 τόμους[28]. Σ' αυτούς, προστέθηκε μια σημαντική δωρεά από το Βενετό ιερωμένο Σαβέριο Κανάλ, ο οποίος δώρισε στην Κοινότητα της Κέρκυρας την πλούσια Βιβλιοθήκη του, χιλίων τόμων περίπου. Μάλιστα ο Κανάλ με τη διαθήκη του στα 1773, ορίζει και το ποσό των 200 χρυσών zeccini από τους τόκους των οποίων προβλέπονταν ο εμπλουτισμός και η συντήρησή της[29]. Η Κοινότητα, λίγο αργότερα, προσπάθησε – παρά τις αντιδράσεις των μοναχών – να μεταφέρει τα βιβλία στο μοναστήρι της Τενέδου, όπου θα ήταν πιο εύκολη η μελέτη τους, αλλά δεν πρόλαβε, κα-

24. Παναγιώτα Τζιβάρα, *Σχολεία και Δάσκαλοι… ό.π.,* σελ. 415-424.

25. Ό.π., σελ. 335-337.

26. Ό.π., σελ. 177.

27. Ό.π., σελ. 201.

28. Βλ. Λαυρεντίου Βροκίνη, « Περί αρχής και ιδρύσεως της Δημοσίας εν Κερκύρα Βιβλιοθήκης», *ό.π.*, σελ. 177.

29. Ό.π., σελ. 176-177.

θώς η Βενετία κατέρρευσε και ακολούθησε η άφιξη των Γάλλων Δημοκρατικών στο νησί, τον Ιούνιο του 1797.

Είναι εντυπωσιακό και δηλωτικό των προτεραιοτήτων που έθεταν οι νέοι διοικούντες, ότι, μόλις ένα μήνα μετά, τον Ιούλιο του 1797, τα βιβλία μεταφέρονται στην Τένεδο, ενώ το Σεπτέμβριο του ίδιου χρόνου, η προσωρινή Δημαρχία εκδίδει ψήφισμα για τον εμπλουτισμό της Βιβλιοθήκης, όπως και για τον οργανισμό λειτουργίας της, δίνοντας έμφαση στο δημόσιο χαρακτήρα της, αλλά και στην προστασία των βιβλίων[30]. Τον επόμενο χρόνο, με διαταγή της Διοίκησης προστέθηκαν τα βιβλία από τις καθολικές μονές Αγίου Φραγκίσκου και Ανουντσιάτας, με αποτέλεσμα να φτάσουν τους 4.000 τόμους, ενώ ακολούθησαν και δωρεές αρκετών ιδιωτών[31]. Πρώτος διορισμένος Διευθυντής ανέλαβε ο Ιω. Μάρμορας, ενώ ακολούθησαν πανηγυρικά εγκαίνια, παρουσία όλων των αρχών, τον Ιουλίο του 1798[32]. Δυστυχώς, λίγους μήνες αργότερα ο Μάρμορας απομακρύνθηκε και τον διαδέχτηκε ένας Ιταλός, φανατικός Επαναστάτης, ο G. Rusconi, ο οποίος προέβη σε αρκετές καταστροφές όσων βιβλίων θεώρησε σκοταδιστικά[33].

Σύντομα, οι τύχες του νησιού αλλάζουν και πάλι χέρια. Στα 1800 ιδρύεται η Επτάνησος Πολιτεία, στην οποία το 1803 αναλαμβάνει Αρχιγραμματέας της Επικρατείας ο Ιωάννης Καποδίστριας[34]. Από τα πρώτα του μελήματα είναι η ανασυγκρότηση της εκπαίδευσης, με επίκεντρο την αναβάθμιση της Σχολής και της Βιβλιοθήκης της Τενέδου. Έτσι, το Μάρτιο του 1805 εγκαινιάζεται η νέα Δημόσια Ελληνική Σχολή, που έχει προσαρτήσει τη Δημόσια Βιβλιοθήκη, η οποία εμπλουτίστηκε με την πρόσκτηση της Βιβλιοθήκης Καροφυλλάτου από τη Μονή της Αγίας Αικατερίνης, καθώς και με δωρεές άλλων ιδιωτικών Βιβλιοθηκών, όπως των αδελφών Ζωσιμά και του κόμη Μοντσενίγου[35].

Στα 1808, κι ενώ το νησί πια διοικούν οι Γάλλοι Αυτοκρατορικοί, στη Δημόσια Βιβλιοθήκη, που έφτασε τους 7.000 τόμους, ενσωματώνεται η αξιολογότατη Βιβλιοθήκη του Πρίγκιπα της Επτανήσου Πολιτείας Γεωργίου Θεοτόκη, αποτελούμενη από 1675 σπάνιους τόμους, τους οποίους είχε δωρίσει στο στενό φίλο του, ευπατρίδη Κερκυραίο, νομικό Ανδρέα Καλογερά. Ο τελευταίος πρόσφερε τα εν λόγω βιβλία ως «κοινόν κτήμα»[36].

30. Ό.π., σελ. 181.

31. Ό.π., σελ. 198.

32. Ό.π., σελ. 191.

33. Ό.π., σελ. 195.

34. Ό.π., σελ. 219.

35. Ό.π., σελ. 221.

36. Ό.π., σελ. 230.

Την ίδια περίοδο των Αυτοκρατορικών Γάλλων, σύντομη, αλλά εξαιρετικά γόνιμη για την Κέρκυρα, ιδρύθηκε η Ιονική Ακαδημία, ως μια προσπάθεια να να προσεγγίσουν, με επιστημονικό τρόπο, οι μορφωμένοι κάτοικοι ορισμένα πρακτικά προβλήματα του τόπου τους. Ιδρύθηκαν τρία Τμήματα: των φυσικομαθηματικών, των ηθικών και πολιτικών επιστημών και τέλος της γραμματολογίας και των καλών τεχνών[37].

Η Ακαδημία, επίσης, μερίμνησε ουσιαστικά για τη δημόσια εκπαίδευση, ενώ ενσωμάτωσε και τη Δημόσια Βιβλιοθήκη, στην αίθουσα της οποίας συνήθως συνεδρίαζε. Η Βιβλιοθήκη της Ιονικής Ακαδημίας εμπλουτίστηκε με σημαντικές δωρεές από τους Ιω. Καποδίστρια, Στ. Βλασσόπουλο, Εμ. Θεοτόκη, Αν. Μουστοξύδη, Αν. Ιδρωμένο, Χρ. Περραιβό, Αθ. Ψαλίδα, Ιω. Καραντινό και πολλούς άλλους Έλληνες και ξένους. Διευθυντές της, την περίοδο των Αυτοκρατορικών Γάλλων, χρημάτισαν, μεταξύ άλλων, ο βαρόνος Εμμανουήλ Θεοτόκης και ο βοτανολόγος Μιχαήλ Τριβώλης-Πιέρης[38].

Το τέλος της γαλλικής κυριαρχίας σήμανε και το τέλος της Ιονικής Ακαδημίας, όχι όμως και της Δημόσιας Βιβλιοθήκης, η οποία από το 1824 απετέλεσε τη Βιβλιοθήκη της νέας Ιονίου Ακαδημίας, του πρώτου Ελληνικού Πανεπιστημίου. Η σημασία εκείνης της Βιβλιοθήκης υπήρξε τεράστια, ανάλογη με το μέγεθός της. Σύντομα εμπλουτίστηκε με δωρεές από τα Πανεπιστήμια Οξφόρδης, Κέμπριτζ, καθώς και από δεκάδες μεγάλες ευρωπαϊκές προσωπικότητες. Αρκεί να σκεφτούμε ότι μόνον ο Guilford μετέφερε 25.000 τόμους της προσωπικής του συλλογής. Οι περιπέτειες των βιβλίων του Guilford είναι γνωστές. Λίγο μετά το θάνατό του επεστράφησαν στην Αγγλία, αφού το Ιόνιο Κράτος δεν μπόρεσε να αποζημιώσει τον κληρονόμο του και να τα κρατήσει[39].

Όμως, η απώλεια αυτών των βιβλίων, καθόλου δεν ανέστειλε την εξαιρετική άνθηση που παρατηρήθηκε στα πνευματικά πράγματα της Κέρκυρας κατά το 19ο αιώνα, προβάλλοντας, μάλιστα, κυρίως φιλελεύθερα χαρακτηριστικά. Η ίδρυση της Αναγνωστικής Εταιρίας στα 1836, με πρωταρχικό σκοπό τη συγκέντρωση και μελέτη επιστημονικών ευρωπαϊκών συγγραμμάτων, αλλά και με ευρύτερους πολιτικούς και εθνικούς στόχους, της Φιλαρμονικής Εταιρείας στα 1841, η οποία επίσης συγκρότησε μια αξιόλογη Βιβλιοθήκη, όπως και αρκετών άλλων αντίστοιχων σωματείων που ακολούθησαν, αποτελούν μαρτυρίες της θριαμβεύουσας, καλλιεργη-

37. Jean Savant, Η Ιονική Ακαδημία των Γάλλων, Μετάφραση Δήμητρα Πικραμένου-Βάρφη, *Κερκυραϊκά Χρονικά*, τ. 24, Κέρκυρα 1980, σελ. 1-68.

38. Παναγιώτης Χιώτης, *Ιστορικά Απομνημονεύματα της Επτανήσου*, τ. 6, Ζάκυνθος 1887, σελ. 235.

39. Βλ. Βασιλικής Μπόμπου-Σταμάτη, *Η Βιβλιοθήκη του Λόρδου Guilford στην Κέρκυρα (1824-1830)*, Ι.Ν.Ε. Ε.Ι.Ε., Τετράδια εργασίας αρ. 31, Αθήνα 2008, σελ. 33-55.

μένης και εύρωστης αστικής τάξης, που δρα στο νησί ως ένας συγκροτημένος και υπεύθυνος πυρήνας έκφρασης και ανάπτυξης μιας υγιούς συλλογικής ταυτότητας.

Ας δούμε όμως, πολύ σύντομα, την εξέλιξη της Βιβλιοθήκης της Ιονίου Ακαδημίας. Ύστερα από τον Α. Παπαδόπουλο-Βρετό, Διευθυντές της, χρημάτισαν μεταξύ άλλων, ο Κ. Ασώπιος, ο Π. Κουαρτάνος, ο Ι. Πολυλάς, ο Ι. Ρωμανός, ενώ οι δωρεές που δέχτηκε υπήρξαν πάρα πολλές[40]. Ξεχωρίζουμε τις δωρεές δύο μεγάλων ευεργετών της Κέρκυρας, του Ναπολέοντος Ζαμπέλη και του Πλάτωνος Πετρίδη[41].

Παρατηρώντας τα επίθετα των προσώπων που δωρίζουν πολλά και πολύ σημαντικά βιβλία, διαπιστώνει κανείς ότι σε μεγάλο ποσοστό πρόκειται για ονόματα παλαιών οικογενειών που επαναλαμβάνονται, συνήθως από γενιά σε γενιά, πράγμα που δείχνει ότι, πέρα από την επιθυμία διαιώνισης μιας παράδοσης και την πρόθεση διατήρησης του ονόματος κάθε δωρητή στη συλλογική μνήμη, υπάρχει και μια συλλογική αίσθηση καθήκοντος απέναντι στην τοπική κοινωνία, μια ευθύνη για τη διαφύλαξη και μετάδοση της γνώσης ως κοινό αγαθό.

Και παρά την κατάργηση της Ιονίου Ακαδημίας από το Ελληνικό Κράτος το 1864, η Δημόσια Βιβλιοθήκη συνέχισε να στεγάζεται στο ίδιο κτήριο και να εμπλουτίζεται διαρκώς. Ενδεικτικά, στα 1885 υπήρχαν περίπου 40.000 τόμοι. Μάλιστα, ενώ αρχικά είχε περιοριστεί στον τρίτο όροφο του κτηρίου, το 1930 επεκτάθηκε και σε άλλους χώρους, διαμορφώνοντας ακόμη και πινακοθήκη προσωπικοτήτων της Επτανήσου, καθώς λογίζονταν όχι μόνον κερκυραϊκή αλλά επτανησιακή Βιβλιοθήκη[42].

Είναι γνωστή η τραγική μοίρα της Κέρκυρας κατά το Β΄ Παγκόσμιο Πόλεμο. Στις 14 Σεπτεμβρίου του 1943, η πυρκαγιά που προήλθε από τις εμπρηστικές βόμβες των ναζιστών, εκτός από την ολοσχερή καταστροφή της Δημόσιας Βιβλιοθήκης, η οποία τότε περιλάμβανε περί τους 70.000 τόμους, μεταξύ των οποίων πολύτιμα χειρόγραφα και σπάνιες εκδόσεις, κατέκαυσε κι εκατοντάδες κατοικίες της πόλης, σε πολλές από τις οποίες φυλάσσονταν πνευματικοί θησαυροί. Σύμφωνα με τον Κωνσταντίνο Σολδάτο, τότε Διευθυντή της Δημόσιας Βιβλιοθήκης, μεταξύ των Βιβλιοθηκών που κάηκαν ήταν: της Καθολικής Αρχιεπισκοπής με 10.000 τόμους, καθώς και των οικογενειών Καποδίστρια με 6.000 τόμους, Κογεβίνα με 5.000 τό-

40. Constantin Soldatos, *La Bibliothéque Publique de Corfou, Athènes* 1947, σελ. 10.

41. Ειδικώς για το κληροδότημα Πετρίδη και τη μέχρι σήμερα, δυστυχώς, ατελέσφορη σχέση του με τη Δημόσια Βιβλιοθήκη, βλέπε Αλίκης Δ. Νικηφόρου, *Ζητήματα Διαχείρισης Τεκμηρίων Πολιτισμικής Κληρονομιάς. Αρχείο Ανδρέα Μουστοξύδη, βιβλία και καλλιτεχνήματα στο Πετρίδιο κληροδότημα. Μια χρονίζουσα εκκρεμότητα,* Βιβλιοθήκη ΓΑΚ, αρ. 38, Αθήνα 2012, όπου και λεπτομερείς πληροφορίες για την εξέλιξη και τις περιπέτειες της Δημόσιας Βιβλιοθήκης Κέρκυρας, σελ. 19-70 και 111-125.

42. Constantin Soldatos, *ό.π.,* σελ. 12.

μους, Λευτεριώτη με 6.000 τόμους, Γιαλινά με 2.000 τόμους, Καρύδη με 3.000 τόμους. Ακόμη, καταστράφηκαν οι Βιβλιοθήκες Σκάρπα, Κόντη, Πολίτη, Πετριτσόπουλου, Ιω. Βούλγαρη, ιερέα Μούτσου, ζωγράφου Μάριου Πιέρη, Σπύρου Ράθ και πολλών άλλων. Υπολογίζεται ότι, συμπεριλαμβανόμενων των βιβλίων της Δημόσιας Βιβλιοθήκης, απωλέσθησαν εκείνη τη νύχτα περίπου 150.000 τόμοι[43].

Κι όμως, αμέσως μετά την απελευθέρωση, παρατηρείται, ήδη στο τέλος του 1944, ένα συγκινητικό νέο ξεκίνημα για την ανασυγκρότηση της Δημόσιας Βιβλιοθήκης, με δωρεές πολλών Κερκυραίων – σταχυολογούμε ενδεικτικά τους Αντώνιο Βραχλιώτη-Μπότη, Α. Σανσόν, Α. Παλατιανό, Δ. Κυριάκη, Ελ. Μαρτίνη, Κ. Αλαμάνο - ενώ πολλοί φορείς επίσης συνέδραμαν, όπως η Ακαδημία Αθηνών, η Εθνική Βιβλιοθήκη, το Υπ. Παιδείας, ο Οικουμενικός Πατριάρχης Αθηναγόρας και πολλοί άλλοι[44]. Μέσα σε σύντομο χρονικό διάστημα, δημιουργήθηκε ένας αξιόλογος πυρήνας 15.000 βιβλίων, ως ένα νέο ελπιδοφόρο ξεκίνημα. Φυσικά οι δωρεές πολλών και σημαντικών βιβλίων συνεχίστηκαν. Ενδεικτικά αναφέρουμε τις δωρεές Παπαγεωργίου, Θ. Δεσύλλα, Ι. Σορδίνα, Θ. Μακρή, ενώ μπορεί να ακολουθήσει ένας μακρύς κατάλογος ανθρώπων που προσέφεραν ποικιλοτρόπως σε αυτή τη μεγάλη υπόθεση, το «κοινόν κτήμα».

Σήμερα, η Δημόσια Βιβλιοθήκη αριθμεί πάνω από 80.000 τόμους, από τους οποίους πολλοί αποτελούν σπάνιες εκδόσεις. Σώζονται επίσης ορισμένοι, πολύτιμοι χειρόγραφοι κώδικες, αξιόλογα ιδιωτικά αρχεία επτανησιακού περιεχομένου, ενώ κανείς μπορεί να βρει και χιλιάδες βιβλία κάθε είδους.

Και για να κατανοήσουμε ότι η Δημόσια Βιβλιοθήκη παραμένει ένας ζωντανός οργανισμός, παρά τα σοβαρά προβλήματα λειτουργίας που αντιμετωπίζει, ας ακούσουμε δύο, τελευταία, αριθμητικά στοιχεία. Τα εγγεγραμμένα μέλη της ξεπερνούν τα 11.000, ενώ μόνον κατά το έτος 2010, διακινήθηκαν 17.500 βιβλία! Κι όλα αυτά με μία μόνιμη διοικητική υπάλληλο, την αγαπητή και δραστήρια κυρία Κατερίνα Μεσημέρη, και δύο αποσπασμένους εκπαιδευτικούς, εκ των οποίων, η κυρία Δέσποινα Μαυρουδή, επάξια εκτελεί χρέη αναπληρώτριας Διευθύντριας.

Κυρίες και κύριοι, όπως διαπιστώνουμε, οι κρίκοι της αλυσίδας που μας ενώνει με το μακρινό παρελθόν ράγισαν, αλλά δεν έσπασαν, ενώ το δέντρο της Βιβλιοθήκης, με τις ρίζες του να χάνονται σε βάθος τουλάχιστον πέντε αιώνων, μπορεί να έχει πληγωθεί, αλλά συνεχίζει να είναι καρποφόρο.

Κλείνοντας, επιτρέψτε μου μια τελευταία σκέψη. Στη Βιβλιοθήκη της Χαϊδελβέργης υπάρχει χαραγμένη η λατινική επιγραφή «*inter foglia fructus*» δηλαδή «*ανάμεσα στα φύλλα ο καρπός*».

43. Ό.π., σελ. 4-5.

44. Ό.π., σελ. 12-13.

Κύριε Βλαστέ, σας ευχαριστούμε που, συνεχίζοντας κατ' έναν τρόπο την παλιά κερκυραϊκή παράδοση, συμβάλλετε στην καλλιέργεια και στην καρποφορία του δέντρου της Δημόσιας Βιβλιοθήκης. Ελπίζουμε η χειρονομία σας να βρει αρκετούς μιμητές.

Σας ευχαριστώ πολύ.

For the libraries of heaven: in memory of Evi Laskari, Director of the Central Public Library of Corfu

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The Central Public Library of Corfu Island, which is situated in the northwest part of Greece, has become a thriving organization, a landmark public library for Greece and a heritage for the generations to come. This is the only public library in Corfu and the local community looks upon and feels proud of it. It is a profound heritage especially for all those responsible for its present and future development.

On the 19 August 2008, our beloved friend and colleague Evi Laskari, Director of the Central Public Library of Corfu, suddenly passed away. Evi was born in London in 1964 from Greek parents and after a short stay in France, her family moved to Patras, Greece, where she was brought up and graduated from the local high school. She studied at the National and Kapodistrian University of Athens, and graduated from the University of Athens, Department of History and Archeology in 1987. Books and libraries were always in her heart. Over the last 20 years Evi served with responsibility and dedication in various positions the Central Public Library of Corfu and in 2001 she became the library director. Recently (in 2006), Evi completed an MSc course on Library and Information Science at the Department of Archive and Library Science, Ionian University.

Evi revived the Central Public Library of Corfu (www.libcorfu.gr/). Her passion and dedication was the impetus for change and her achievements transformed the Public Library of Corfu to its current-status. She had a deep love for books, literature, and libraries. Her vision was to bridge the gap between the local community and the library, as she strongly believed that, the library is a place for all, a place where history and innovation, children and adults, myth and reality, technology and tradition, culture and society meet. Evi was present in the library reposition into the renewed and excellent building at the old castle of Corfu in the centre of the old city. She strived to provide access to the library and services for the disabled, to organize the cataloguing and conservation of old and rare books, to develop reading policy through exhibitions and numerous lectures, to provide mobile library services for all those in need (institutionalized children, disabled and elderly people) and to host students of the Ionian University for their practice.

Her colleagues, staff and students of the Ionian University and the people of Corfu respected Evi. Over the last few years she desired to share her knowledge and experience, and participated in our research aims. She produced results that have been presented in national and international conferences and published in the Library Management journal. Unfortunately, that activity was never to be completed. Now, Evi continues to work for the libraries of Heaven …, as Borges said "I always imagined paradise as a kind of library".

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ΔΕΥΤΕΡΟ ΜΕΡΟΣ - PART II

Papers presented in the 5th International Conference on Information Law and Ethics 2012

Introduction to this volume by Paul Sturges

Tiny diamonds in the cosmic sands

Ronald Dworkin, the distinguished legal philosopher, might well have smiled benevolently on the papers and discussions of the ICIL conference. The obituaries that followed his death in early 2013 drew attention to his position that the law was essentially a branch of morality and that discussion of law needs to be framed in ethical terms. Frankly, to the non-lawyer this looks too obvious to need saying, and yet the legal profession particularly, and academic specialists on law to some extent, often seem to find it far from self-evident. Dworkin developed his position in a series of excellent books dealing with issues such as race and equality, and euthanasia and abortion. Through all of this, he clung to an understanding of personal and political rights, which he placed above legalistic rulings from the judges. Human dignity was his touchstone and he memorably declared that 'If we manage to lead a good life, we make our lives tiny diamonds in the cosmic sands.' Behaving morally in our dealings with information is clearly an aspect of the good life. Furthermore, morality is arguably capable of conditioning our obligation to respect the laws that are enacted to handle the dilemmas associated with information.

To some people, the suggestion that we need to place morality before law might suggest that the problem is man-made, and that if we turn to some external source of moral instruction we will find guidance that goes beyond the limitations of national and international systems of law. Principled followers of religions have used this line of argument to justify the stands which they have made against particular laws throughout the centuries. Dietrich Bonhoeffer standing out against the laws of Nazi Germany is a shining example. The 'religiously' inspired opponents of abortion in America, who are willing to go as far as murdering alleged abortionists, are deeply troubling users of ostensibly an identical logic. A brief glance at the Biblical Ten Commandments, much cited in all kinds of questions of law and ethics, will illustrate the problems and pitfalls of this approach. Six out of ten of the commandments concern either the human relationship with God (1-4) or are exhortations that have only indirect implication for law (5 and 10). The four (6-9) that embody prohibitions that have been historically cited as a basis for human laws are all ambiguous and arguably useless without interpretation in terms of a morality which might or might not be derived from the same belief system.

The prohibition of killing other human beings (6) and stealing from them (8) might seem the least ambiguous, but that is far from the case. The prohibition of killing is something that churches, states and individuals interpret as not applying under all circumstances, for instance in cases of conflict by the licensed agents of society (soldiers and police). Theft is also much more ambiguous than it looks at first, depending as it does on what one defines as property. The prohibition of adultery (7) is generally taken to refer to sexual relations other than those with a partner with whom one's relationship is officially sanctioned. The definition of this drives interpreters mad. For instance, does it only include relationships intended for procreation, or can it refer to relationships of affection which might include the sterile or homosexual? The prohibition against the bearing of false witness (9), or dishonest testimony about people and events, can be argued scarcely to achieve even the same power to clarify as the other three. What one person might say about another that could be dispassionately considered true or false is virtually impossible to identify. One can only do one's best to be truthful and that is hardly the basis of a set of laws. In all of these examples it is virtually impossible to treat ostensibly categorical Commandments as anything other than an attempt to establish principles for law at a certain time in a certain context.

What is needed is some guiding principle that offers the capacity both to interpret law and the deontological principles that religion and other belief systems apply to human conduct. The morality that Dworkin offered as that guiding principle is rooted in knowledge and understanding of human behaviour as individuals and as members of society. To return to the Commandments to illustrate this, the prohibition on killing in the sixth cannot usefully be seen as dependent on the will of a god. More to the point, it is solidly rooted in the almost universal human revulsion against taking human life. To describe this as almost universal is well advised. An extremely tiny minority find their fulfilment in killing and a rather larger minority, when fighting in a war they believe is justified, can kill without suffering excessive psychological disturbance. The vast majority have the rejection of killing so deeply embedded in their essential being that it makes laws on killing merely an attempt to formalise something that already drives our conduct individually and socially. Without wishing to overlabour the point, the prohibition of sexual conduct outside the marriage bed (and in quite a few ways within the marriage bed too) is shot through with absurdities. The sexuality of human beings is complex, ambiguous and fluctuating. Apart from a few helpful outlines such as the regulation of formal partnerships (marriage, for instance) and protection of the vulnerable (laws on rape and sexual assault) there is little that law can and should do about sex. Crazily, the law has nevertheless tied itself in knots over sex for centuries. When we turn to information law, it seems particularly open to

the suggestion that we need to think ethically, rather than merely legally. To take only two examples, the areas of intellectual property and freedom of expression fall much more comfortably within the domain of morality than that of law.

There is arguably only a limited sense in which intellectual property is property at all. Land, buildings, animals and tangible goods of many kinds are easy to identify as the property of one person or another, but this is not the case for the products of the mind. Before print, those who wrote usually saw themselves as the presenters and interpreters of ideas already well established by the great minds of the past. With the easy multiplication and distribution of printed books the idea that a named person was responsible for what was written began to emerge. Not until this sense was strong enough to be offered protection by states in the form of copyright laws during the eighteenth century was intellectual property more than a discussion point. States saw an economic advantage in protecting their authors and set out to establish the principle that an idea could belong to someone. And yet, at a very deep level people still do not accept the validity of the concept. They know that originality is almost inconceivable: we all stand on the shoulders of giants (or even pygmies) when it comes to our ideas. This understanding emerges occasionally, such as when a joke is attributed to someone like Groucho Marx and earlier versions are immediately unearthed. In contrast, although folksongs must all have had a composer in some distant age we regard them as somehow a product of the collective consciousness. Novels, software, songs, pictures and all the other copyrightable forms all share these often untraceable roots in the culture. This is why people download copyright items from the Internet with little trace of conscience: they perceive them as something to be shared rather than owned. Indeed many creators of intellectual property feel this too and make their creations available via open access in return for the minimum of an acknowledgement. Policing intellectual property laws will thus always be a problem and only an ethical approach can assist navigation through the world of ideas.

Freedom of expression similarly depends on the human perception that ideas and information should not be restricted by laws and systems of regulation. At a very basic level, human beings revel in gossip. Although this is usually regarded with disapproval it can also be seen as a way in which necessary judgements on the character and reliability of others can be formed. In human society secrets are disliked and violated with little compunction. When it comes to the dealings of those who hold economic and political power, the desire for knowledge becomes much more than a relish for gossip. Society needs the means to understand the processes of law-making, administration and business so as to permit the possibility of restraining the excesses of those who hold power. Without this we are in serious danger of being the victims of the devious and corrupt calcula-

tions of an influential few, not to mention their carelessness and blunders. This is why the Universal Declaration of Human Rights protects freedom of expression in Article Nineteen and why campaigners press for transparency laws. Yet freedom of expression is under constant threat from states, politicians, churches and other belief groups, and business interests both national and international. Internet regulation, for instance, may seem comparatively light in the Western democracies, but for an enormous proportion of the global population access is closely restricted. States set up firewalls and surveillance systems and are in the process of developing alternative Internets more totally under their control. All this is usually alleged to be in the interests of protecting state security, national unity and even national culture. The human rejection of such developments is not something that is driven by international conventions like the UN's Universal Declaration. It stems directly from human needs and desires.

When we look at information law from this perspective of human needs and desires, human dignity and human rights, we obtain radically different insights into our dealings with information. The ICIL conference, by combining discussion of ethics and law serves a powerful moral agenda. To adapt Dworkin's terms, ICIL contributes to the creation of little sources of intense light that can be turned on our perceptions of information and ultimately offers to help its participants and the readers of the conference proceedings become diamonds in the cosmic sands.

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I. Keynote presentation of the 5th ICIL 2012

The brain at the centre of the information universe: lessons from popular neuroscience

Paul Sturges

Introduction

Information science is a stimulating field in which to work for many reasons. Paradoxically one of these is because it lacks what we are encouraged to regard as the touchstone of disciplinary strength: a powerful and distinctive body of theory. Because the extant theories of information do not always inspire and involve, we are forced to look outwards for ideas and, in addition, research methods and areas of study. The need for eclectic thinking and research might be somewhat frightening, but it offers the imaginative researcher wonderful scope to choose human activity and environments from which to develop perceptions of information in action.

In the past this was frowned on. For instance, the doyenne of user studies research, Carol Kuhlthau of Rutgers University, was warned by colleagues that her first steps into what became a successful career-long exploration of people and their relationship with information risked jeopardising her academic future. Fortunately her imagination and determination led her onwards into rich and stimulating areas. Ultimately her research in these areas enabled her to establish user studies as a counterbalance to the rather dry theory of the information retrieval (Kuhlthau, 1991). There is much more of this type of path breaking work to be done in information science, both at the micro level (empirical studies of specific problems in well-defined environments) and the macro/theoretical level. To contribute to information science, we still need to look outwards. The contention on which this essay builds is that in the field of neuroscience we can discover something of what we need to create a richer and more meaningful discipline.

What follows is mainly based on a reading of popular neuroscience undertaken by an information scientist. The route into a new disciplinary area is easiest if the discipline has a body of popular writing, and neuroscience very definitely has that. There is a positive outpouring of books, journalism and broadcasts that popularises neuroscience's findings. For instance, high profile broadcasts in the UK include BBC Radio 4's 'Brain Season' of programmes transmitted in November 2011, and backed by podcasts and blogs. Soon after, in January 2012, the Royal Institution's 2011 Christmas Lectures (for children) www.rigb.org, 'Meet

the Brain' by Bruce Hood, were televised on BBC 2. Some, but far from all, of the recent books are specifically referenced in what follows and others (Goldblum, 2001; Winston, 2003; Zimmer, 2005; Edelman, 2006; Gay, 2009; Hood, 2009; Appleyard, 2011) were consulted for this paper. At the same time, the articles in the magazines and quality newspapers, many of them in the form of book reviews, are simply too numerous to mention.

In a flow of popularisation such as this, there is always a danger that the discipline concerned might be misrepresented in the interests of sensationalism. This reading has been undertaken in the understanding that neuroscience is particularly vulnerable to this. We will not ignore the suggestion which is often heard that popular neuroscience, maybe even neuroscience itself, is exaggerating the capacity of current research to explain the phenomena with which it deals. Despite that, the starting point of this essay is that the literature now offers a knowledge of the brain and its workings which challenges the assumptions of a host of human-centred disciplines. The contention is that disciplines such as theology, psychology, pedagogy, computer science and, of course, information science are all obliged to respond to the findings of neuroscience and generally to concede that their assumptions about human beings have been based on comparatively cloudy perceptions, rooted in insufficiently powerful research.

Changing information science

A brain-centred approach to information science requires quite a serious re-examination and rethinking of much of what has been written or taught in information science for more than half a century. However, before beginning, we do need to accept that although relevant and helpful knowledge and ideas are abundant in neuroscience, the discipline itself probably still lacks a 'big theory' (Ramachandran and Blakeslee, 1999, preface). So we need to ask ourselves whether one discipline (information science) can usefully turn to another (neuroscience), which itself is still in the process of developing its body of knowledge and theory. Our contention is that although this involves risk, it is still better than staying safe within the protective envelope of existing theory. This could be seen as a challenge to the paradigm of the discipline. That would be a big enterprise to undertake, and cynicism about suggestions concerning paradigm change is natural. Raymond Tallis, one of the most penetrating critics of the enthusiasm for neuroscience, strikes out hardest against it. He suggests that '"A new paradigm" means lots of lovely conferences and papers' (Tallis, 2011, p. 60). However, he does go on to add that 'It may also help you to overcome a crisis of confidence in the value or validity of what you are doing'. This is surely the point: an entry into the area of basic theory can be well worthwhile, but it does require 'lovely conferences and papers' and it is not always popular.

It is our contention that in most of the considerable body of writings on information theory and the theory of information seeking in particular, no role or insufficient role has been offered for the human brain. Yet the brain is the organ in which information arguably becomes information, and certainly takes on any of the significance which it might have. Information science is at its least helpful when it takes a simplistic view of the mind and makes use of the Shannon-Weaver model which deals with the problem in communication science of transferring signals over a 'noisy' channel (Shannon and Weaver, 1949). But as Rose (2005, p. 103) puts it: 'Affect and cognition are inextricably engaged in all brain and mind processes, creating meaning out of information – just one more reason why brains aren't computers.' A summation of ideas on information seeking, such as that by Wilson (2000), shows how it has been much refined and adapted over the years. Cognitive psychology has moved much more to the centre of the discipline's thinking on human responses to information. Yet there remains at its core a sense that the mind is best understood by likening it to a computer, and that much of what needs to be said can be regarded as a matter of machine talking (as effectively as possible) to machine.

If we turn to the best recent titles on information the tendency persists. Gleick (2011) is a fascinating and stimulating read, full of stories and examples, but essentially it does not stray far from the Shannon-Weaver perspective. Floridi (2010)'s elegant and persuasive thoughts on information, can still be read as dealing with information as if it were a phenomenon independent of the observer or receiver. Thus, he writes of categories such as mathematical, semantic and biological information, adding in a chapter on neural information (p. 86) that 'The brain is still a continent largely unexplored. One of the great informational puzzles is how physical signals, transduced by the nervous system, give rise to high-level, semantic information'. This is surely true, but that puzzle is right at the centre of any worthwhile theory of information and we need to address it however problematic the means available to us might be.

In most theory on information seeking, the 'mind' of an imperfectly articulated 'self' has sought and received information acquired in positively structured ways that, on reflection, bear little resemblance to the hunches and inspirations of real life engagement with information, or indeed its confusions and compromises. The information scientist's notional information seeker has moved in a conscious way from the first imprecise perception of an information need, through to the need's definition and refinement, its transformation into search terms that can be used to address information resources and the obtaining of an appropriate response when they are so addressed. Whether it is acknowledged or not, this looks like a Shannon-Weaver inspired approach. Unusually, a keynote speaker at the 2012 BOBCATSSS Conference in Amsterdam (Shapiro, 2012) did prof-

fer some means to mend Shannon-Weaver, which he described as broken (or, in his oral presentation, inadequate in the first place). In defence of information science, neuroscience has until recently offered only limited help in theory making. Knowledge of the brain has been tantalisingly incomplete and not especially helpful to the layperson. That has changed. If we ask why there has been a change, the answer is solidly based in the technology available to the research scientist.

Neuroscience

In the past, there was only a limited range of approaches from which to derive an understanding of the brain. A wonderful exhibition at the Wellcome Collection in London in May 2012 (Kwint and Wingate, 2012) graphically illustrated these in striking, frequently bizarre, and often inspiring detail. Today, medical ethics generally rules out intrusive investigation and experimentation with the brains of living human subjects. Dissection of the brains of dead subjects had established the basic shape and structure of the tissue in Hellenic times. The various parts of the brain were named and gradually some comparatively clear idea of functions performed there has been developed. A crude version of some of this might say something like - we can observe that the brain has two hemispheres, each split into four further components: occipital lobe (connected visual processing); temporal lobes (language and sound processing); parietal lobes (perceptions of space); frontal lobes (thought and planning). The distinction between the two hemispheres is important and we will return to that in the following section. Beneath the hemispheres there are the structures of the limbic system which are often spoken of as the seat of the emotions, and the hippocampus which plays a part in the storage and retrieval of memories. Then there is the cerebellum, at the back of the brain, that is increasingly seen as the seat of various aspects of cognition, including language and reading. Further reading on any of this reveals that neuroscientists have identified a great deal about the functions these and other parts of the brain seem to perform and how they interact with each other. However, the attempt to tie any specific brain function exclusively to one brain area has been a failed project. What happens in the brain is much more complex than that.

Some insight into that complexity was developed in the nineteenth century, when a great deal was learned by inference from the experience of people who had suffered brain and other neurological injuries. Whilst at first people's response to brain injury was used to infer which functions were dependent on the damaged area, later it became clear that the brain has a degree of plasticity that enables it to compensate for much damage. One of the first widely studied and publicised instances of brain damage as a clue to brain function was that of Phineas Gage. In 1848 whilst working as an engineer on railway projects a premature

explosion drove an iron shaft completely through the frontal lobes of his brain. This did not kill him or damage many of his mental functions, but it does seem to have affected his personality, rendering an amenable and efficient personality irritable and erratic. Gage's case encouraged theorising on the function of the frontal lobes and, presumably, also the medical use of lobotomy to treat personality disorders. Subsequently, physicians and neuroscientists have looked in detail at the way in which compensatory changes have occurred after damage to areas of the brain (Ramachandran and Blakeslee, 1999 and Ramachandran, 2004).

The important point is perhaps that the brain has an amazing capacity to switch functions between areas in response to damage, which suggests that communication and what we might call cooperation between areas of the brain is at least as important as specialisation. It also seems that the brain grows and strengthens according to the ways in which it is used. A clear formulation of this is offered by Carr (2010).

> The recent discoveries about neuroplasticity make the essence of the intellect more visible, its steps and boundaries easier to mark. They tell us that the tools man has used to support or extend his nervous system – all those technologies that through history have influenced how we find, store, and interpret information, how we direct our attention and engage our senses, how we remember and how we forget – have shaped the physical structure and workings of the human mind. Their use has strengthened some neural circuits while leaving others to fade away (Carr 2010, p. 48).

What Carr is pointing towards here is the anxiety that use of the Internet is actually changing users' brains, and maybe not for the better. There is the germ of a research programme in this suggestion and information scientists by turning to current neuroscience seem now rather well equipped to pursue it.

What has made greater progress in research in neuroscience possible is the availability of a range of sophisticated scanning techniques. In the first half of the twentieth century, ways of measuring blood flow and electrical charge in the brain began to be developed. From the former, the technique known as Positron Emission Tomography (PET scanning) was developed to provide three dimensional images of the brain at work. Since then, Magnetic Resonance imaging (MRI) and functional MRI (fMRI) have been developed to provide images of even greater clarity. Now Magnetoencephalography (MEG) can read very small traces of magnetic activity during periods of thousandths of a second. Today, the activity of a single neuron can be monitored, as can many neurons working together. 'Using PET scans and fMRI, we can now find what parts of the brain are active or inactive when a patient performs a specific action or engages in a specific men-

tal process' (Ramachandran, 2004, p. 85) In this way previous vagueness about what actually happens in the brain is in the process of being reduced.

One of the most important consequences of this is that the more we learn about the brain the less obvious it seems that there is a specific location for consciousness. The challenge of locating consciousness has been described as 'how intentional reasons can be reconciled with neural causes through many-to-one mapping of neural activity onto cognition' (Scholl in Gay, 2009, p. 177). It is detailed awareness of the neuroplasticity of the brain that has led to the conclusion that is not necessarily to a specific area of the brain that we must look for understanding of any aspect of brain function, but to the neural connections between parts of the brain. The sum of all these connections is now often referred to as the connectome (Seung, 2012) and there is a kind of mantra: 'You are your connectome', or as Le Doux (2002, p.ix) puts it 'You are your synapses'. This moves us closer towards being able to say something useful (to information science and other disciplines) about human consciousness.

In particular, there is a new understanding of the significance of consciousness in relation to the host of automatic functions that the brain performs. This relates to a line of enquiry that has been pursued intensely since Freud pointed out more than one hundred years ago that at least half of what goes on in the brain takes place at a subconscious, or unconscious, level. Probably the Freudian perspective concentrated too exclusively on the problems and disturbances that the unconscious mind causes our conscious selves. This might, in turn, have distracted our attention from the positive role played by the autonomic nervous system which can, for instance, identify things like statistical patterns well before consciousness does. In fact as Eagleman (2011, pp. 131-2) puts it, 'Almost all of our actions are run by alien subroutines, also known as zombie systems'. Learned and instinctive systems generally work in managed relationships. Consciousness is needed when there is a new problem to solve: it offers the cognitive flexibility that zombie systems cannot offer. Eagleman concludes that consciousness is useful, but only in small amounts for specific tasks (such as long term planning).

In this view of things, the unconscious brain serves consciousness on a need-to-know basis, ignoring things until systematic thought is necessary and then providing the information, in a highly processed form for contemplation and decision making. We ourselves are not aware of the vast majority of our own brain's activities and we couldn't cope if we did know what was happening. This might seem to reduce humanity to a set of automatic, subconscious responses, some of them described by the ugly word zombie, particularly disturbs those who feel that a less (potentially) reductive interpretation is required. For instance, Hick (2006, p205) points out that 'Not only all personal relationships, but all crea-

tive work in literature, painting, music, architecture, and equally in all the great scientific advances, pre-supposes a significant degree of intellectual and physical freedom.' Well, yes, but what does 'significant' mean in this context?

Perhaps the most robust, but also tantalisingly flawed, approach towards answering this question is that of Tallis (2011) who regards the human mind as much more than the sum of the neural activity which we are currently able to measure. Indeed he identifies a phenomenon he calls neuromania, by which he means the belief that what we can learn from neuro-imaging explains virtually all mental phenomena. He draws attention to a 'gap, which cannot be closed, between experience and what neuroscience observes' (p. 97). He then adds that in his view 'The claims for correlations between psychological functions and brain activity based on neuro-imaging techniques are very dodgy indeed' (p. 193). Some of the problem he traces back to the use of the Shannon-Weaver model, arguing that it dehumanises perception, attention and awareness in human beings in favour of an emphasis on a neutral definition of information, unconnected with meaning or significance. His message is intended as a salutary warning to those who dabble with neuroscience. But Tallis's angry mode of expression and his consistent rejection of biological/evolutionary arguments ('darwinitis', in his terms) often leads the reader to expect that he will find a place for something like an immortal soul in accounting for human achievement. As a self-proclaimed humanist atheist he rejects this, but his unwillingness to be very specific about what exactly he thinks makes human beings so unbound by their measurable brain activity is ultimately unsatisfying.

Tallis's polemic encourages us to be cautious in our dealings with neuroscience, which is good, but he offers no convincing alternative. After reading him we return again to our contemplation of the interaction between subconscious and conscious to which neuroscience draws our attention. Reduced to rather simplistic level, what we obtain from our reading of neuroscience is that we are both creatures of instinct and rational individuals. In the scientific observation of the workings of the brain we can now see both of these aspects of our selves in action. If we then turn this notion to our relationship with information, it begins to appear in a new light. Information is what it is because we are what we are, and we are brains, at the centre of a sensory apparatus that feeds us with perceptions, with an individuality conditioned by our social existence with other human beings. With the brain as a consistent starting point for our theorising we are obliged to engage with the questions that form the disciplinary area of information science in fresh ways. Just exactly what those ways are and where they lead us can only be sketched out as a set of suggestions at present and the next section is only a tentative entry into the field.

Information implications

The idea of the brain as an organ that receives and processes massive quantities of information in a host of deeply or lightly coded forms, but not necessarily dominated by conscious intervention naturally leads us to ask 'Is this where we will find significant implications for information seeking and use?' We would answer this in the affirmative, whilst admitting that the implications are comparatively imprecise. To make some progress towards better answers, we can turn for help to writers who have relevant ideas about human abilities and behaviour. Here we will make some use of the ideas of two distinguished and academically respected writers: Daniel Kahneman (Nobel Prize winner and Emeritus Professor at Princeton University) and Mihaly Csikszentmihalyi (formerly of the University of Chicago and now Claremont Graduate University). They are not alone in putting brain activity somewhere near the centre of what they say: nudge theory does this too (Thaler and Sunstein, 2008). This is a libertarian paternalistic attempt to understand social behaviour and identify ways of subtly pushing (nudging) the public in one direction or another. It seeks to bypass 'top of the mind' perceptions and to access 'unconscious feelings and emotions' by using data gathering methods such as focus groups. In this it shares a great deal of ground with the manipulative marketing techniques used by business corporations to influence consumers' attitudes towards their products and services. This kind of exploitation of the unconscious mind to act in ways that conscious consideration might reject is not exactly what we are discussing here. In contrast, both Kahneman and Csikszentmihalyi offer approaches which offer to optimise human effectiveness through recognising the duality of the brain.

Before looking at what Kahneman has to say, it is important to note that there is a distinction, clarified first from studying patients with damage to one hemisphere of the brain, and subsequently given support by neuro-imaging, between the functions of the left and right hemispheres of the brain. Until the 1990s, there was a sense that the left hemisphere of the brain was much more important than the right, because of the strong evidence that it is the significant location of the rational and language-related activities of the brain. In a sense this almost dismissed the right hemisphere as an area where the necessary but 'lower' automatic, animal processes of the brain took place. However, studies of patients with right hemisphere damage showed that there could be a loss of significant areas of understanding, such as the interpretation of pictures and maps, the use of metaphors and jokes, and a grasp of the links between ideas and an ability to make sense of problems holistically. It seems to be the right side of the brain that produces answers to questions and problems 'out of nowhere'. Lehrer (2012) associates it with human creativity. The left hemisphere produces answers more

slowly, working hard to search memory, test ideas and reason out solutions, but often seems to get tired and experience difficulty progressing. The right hemisphere then seems to take the information, experience and ideas generated by the left side and seek answers through associative processes. What is more, the emergence of an answer is often marked by increased evidence of electrical frequency activity in the anterior superior temporal gyrus, which is located in the right hemisphere.

What Kahneman (2011) does is give a slightly different twist to the balance just described. He talks of System One (right hemisphere) which thinks fast, is intuitive, associative, metaphorical, automatic, impressionistic and cannot be 'switched off'. System Two (left hemisphere), in contrast, thinks slow, is deliberate, attentive and hard working. In problem solving, it is brought in to play when things get difficult. This is the conscious being; the self that seems to define us as individuals. Kahneman points out that for the most part System Two effectively defers to System One. The problem, as he sees it, with System One is that it is not good with detail and rushes to conclusions in a way that might prove inadequate because it can be irrational, biased, and prone to interference effects. In consequence, 'as we navigate our lives, we normally allow ourselves to be guided by impressions and feelings, and the confidence we have in our intuitions, beliefs and preferences is usually justified. But not always' (Kahneman, 2011, p. 4). He argues that System One can be a problem because it is prone to mistakes based on misplaced confidence and System Two, which introduces scepticism, is needed to handle complex and difficult problems. Kahneman's main concern could be said to be the encouragement of critical thinking and well-reasoned solutions through the more effective use of System Two. This implies that what we need in life, and in our interaction with information, is an optimum reliance on fast or slow thinking; right and left hemisphere cooperation; and System One and System Two balance.

Where we might find interesting pointers towards this balance is in the idea of 'flow'. This concept elaborated by Csikszentmihalyi (1990), describes a mental state of full immersion in a mental or physical activity to the extent that there is a loss of self-consciousness and the emotions are directed towards a full involvement in performing and learning. Elements of this approach can be identified in eastern meditation techniques, in educational systems such as the Montessori Method, and in the advanced coaching of sportspeople. As Csikszentmihalyi describes it, it is the ideal harmonisation of Kahneman's System One and System Two, in the interests of effective, and ultimately satisfying, activity. Consciousness in a state of flow harnesses our intuitive reception of information in a purposeful way.

The function of consciousness is to represent information about what is happening outside and inside the organism in such a way that it can be evaluated and

acted upon by the body. In this sense, it functions as clearing house for sensations, perceptions, feelings and ideas, establishing priorities among all the diverse information. Without consciousness we would still 'know' what is going on, but we would have to react to it in a reflexive, instinctive way. With consciousness we can deliberately weigh what the senses tell us, and respond accordingly (Csikszentmihalyi, 1990, p. 24).

In flow the brain uses both systems in a balance that is appropriate to the occasion and need. In sports, for instance, we can talk of *the zone* as a perfect balance between conscious intent and a complex set of subconscious perceptions and calculations. A ball coming at a fielder in cricket or baseball with a velocity and curve of trajectory that the eye does not have the time to formulate as a single coherent message to the receptor areas, and so hard and heavy that the hands must be perfectly placed to receive it and soft enough for it to sink into them and stay, will never be caught by conscious calculation.

If we try to turn this to real life information use situations, flow can be identified very closely with the intuitive nature of searching and surfing the web. The web and its hyperlinked resources are particularly conducive to the experience of flow because the human brain (the right hemisphere in particular) is particularly adapted to exploring resources and searching opportunities that have naturally associated structures. Decisions based on systematic planning are less important than following the implications of connections that are offered incidentally in the course of scanning and reading hyperlinked content. It is true that one can experience more or less this phenomenon in a great library, which on the face of it is essentially adapted to the rational, left hemisphere, approach. At the end of a day in a major research collection one is surrounded by a pile of books fetched from the shelves in response to clues and bibliographical guidance obtained along the way. The outcome may well be a thorough enlightenment on some topic. This is, however a very clumsy process, delightful though it may be, requiring catalogue use, conversations with librarians, trips up and along the shelves, consultation of book indexes and other time-consuming activities. It is flow, but not as we have come to experience it. The brain can handle these connections, clues and pointers much faster than a library can offer up the resources. It is as if we have been waiting for something that can respond to our inherent capacity to work in the flow. Today the wait is over, we do have an answer, or the best answer available at this juncture, in the form of the web. It cannot tell us everything we might need to know and it might well provide us with poor or deceptive information. However, it does enable our consciousness to put into play what is clearly our default information gathering mode, which is intuitive, right hemisphere, and definitely System One.

So, to summarise, there is just too much happening in the brain at any one time for the conscious mind to handle the data and calculations that even a simple process, like standing up and walking for a few paces, requires. Most of what we do (and think) is handled somewhere below the level of consciousness. Once we recognise this in relation to our educational, professional and leisure use of information, we can see that an information activity that provides a guaranteed direct line between the need to know (apprehended or implicit) and some form of resolution of the need is almost inconceivable. One line of enquiry, one document with one answer is just not the way we need to work and assuming that there is may even inhibit the power of our brains to work most productively. We need a broad exposure to information of the kind we could find in a very big, very accessible library, and of which we now have a virtual equivalent available for our use on both fixed and mobile devices through the web. We can immerse ourselves (browse or surf), quite naturally achieve the flow, experience serendipity, let our imagination run free and reach unexpected conclusions. What we are doing is essentially accepting the message, implicit in so much of what we learn from neuroscience. This is that we need to free ourselves from an unhelpful overconcern with the conscious mind and put the whole of the brain at the centre of our information universe.

Conclusion

This attempt to learn something relevant to information science from popular interpretations of neuroscience has been used to propose a brain-centred approach to information science. Certainly we hope that the usefulness of neuroscience-related approaches on small scale projects is apparent. To take a single example, the implications for information literacy are considerable. We have suggested above that we need to accept the significance of our fast, left hemisphere, System One mental activity in our relationship to information. If we go down that route, then the embedding of a discriminating and skilful approach to information in people's System Two mental activity moves to the centre of our concerns. System One searching is exciting and productive, but implicit in it is the danger of the intrusion of a certain degree of error, bias and confusion. This calls for a counterbalance. Information literacy programmes seek to empower the searcher, and the first step in that empowerment is to understand the strengths and weaknesses of individual mental processes. Once that is established, selection of the most suitable content for programmes and methods of assisting learners can be devised. In this we can possibly identify another potential line of enquiry from which a brain-centred approach might demonstrate its ability to generate a research programme. A research programme would necessarily try to make use of the brain

scanning techniques discussed earlier. Concerned not merely to be a bearer of suggestions for others to pursue, at the time of writing the author is discussing ways of doing this with colleagues who have access to a suitable facility.

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Biographical sketch

Paul Sturges is Professor Emeritus in the Department of Information Science at Loughborough University. He has 40 years experience as a researcher, writer (over 150 publications) and speaker (in over 60 countries) on a broad range of topics within Information Science, with a particular emphasis on developing countries and more recently clustering in the area of intellectual freedom. His interest in neuroscience arises from a desire to locate intellectual freedom in basic aspects of human brain function. He was Chair of the International Federation of Library Association (IFLA)'s Freedom of Access to Information and Freedom of Expression (FAIFE) Committee 2003-9. He received the UK honour the OBE in 2010 and the IFLA Medal in 2011.

Paul Sturges was the ICIL 2012 Keynote speaker.

II. Papers from ICIL 2012, selected for this volume

1. Copyright

The adoption of anti-circumvention regulation in the EU and the US; an ill-grounded decision?

Petroula Vantsiouri

1. Introduction

At both sides of the Atlantic, anti-circumvention provisions were adopted long before the real potential of digitization and the internet was revealed. In Europe, the first anti-circumvention provision was adopted at Union level in 1991; article 7(1)(c) of the Software Directive[1] required the prohibition of facilitation of circumvention of Technological Protection Measures (TPMs) protecting computer programs. Since 2001, article 6 of the Information Society Directive[2] asks for the prohibition of circumvention and facilitation of effective TPMs protecting copyright works, other than computer programs.[3] In the US, the Digital Millennium Copyright Act[4] (DMCA) introduced anti-circumvention provisions in 1998, adding a new Section 1201 to the 1976 Copyright Act.[5]

1. Directive 2009/24/EC of the European Parliament and the Council of 23 April 2009 on the Legal Protection of Computer Programs, O.J. L111, 16, 05/05/2009, which replaced Council Directive 91/250/EEC on the legal protection of computer programs, O.J. L 122, 17/05/1991, 14/05/1991.
2. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, O.J. L167, 22/06/2001 (henceforth Information Society Directive).
3. Although in the EU anti-circumvention is also regulated by the Conditional Access Directive, its examination falls outside the scope of this paper, as the protection from copyright infringement was not among the aims set by the legislature, as protects TPMs embedded by service providers to avoid the unauthorized reception of their conditional access services, regardless of whether they contain copyright works. Directive 98/84/EC of the European Parliament and of the Council of 20 November 1998 on the legal protection of services based on, or consisting of, conditional access, OJ L320, 28/11/1998.
4. Pub. L. No. 105-304, 112 Stat. 2860, 28/10/1998.
5. Although the 1988 Satellite Home Viewer Act, the 1984 Cable Communications Policy Act also contain anti-circumvention provisions that prohibit the manufacture of devices intended for unauthorised satellite and cable signal reception, their examination falls outside the scope of this paper, as the protection from copyright infringement was not among the aims set by the legislature, as they protect service providers from unauthorised reception of encrypted services regardless of whether they contain copyright works. See Satellite Home Viewer

Although the introduction of anti-circumvention regulation in the EU and the US was hailed as a necessary instrument to promote the development of an electronic marketplace and protect authors and creativity, it was ill-grounded. The Software Directive is the most characteristic example. In 1988 the Commission rejected the idea of an EU initiative to protect computer programs with technical devices with the rational that "further experience [was] needed with their use in practice".[6] Just one year later an anti-circumvention provision was included in the 1989 initial proposal of the Software Directive without any justification offered either in the Explanatory Memorandum of the proposal or in any other official document.[7] What is even more surprising is that the explanations provided by the Commission for the adoption of the Software Directive actually disfavoured the legal protection of TPMs. In the same document, where the first provision that introduced anti-circumvention at a Union level appeared, the Commission argued that copyright and not contract law was the most appropriate form of legal protection for computer programs, as

> "in some areas, the balance of power between producers and users of computer programs may not permit the latter to negotiate equitable contract conditions, due to the market strength of some software suppliers".[8]

One may wonder on what grounds negotiating conditions for the use of computer programs could be problematic, whereas imposing the conditions for use of computer programs through the use of technological systems was not.[9]

Act (1988) codified as 17 U.S.C. Section 119, which amended the Communication Act of 1934, c.652, Title VII, para. 605, 48 Stat. 1103, codified as 47 U.S.C. Section 605 and Cable Communications Policy Act of 1984, Pub. L. No. 98-549, 98 Stat. 2779, codified as amended in scattered sections of 47 U.S.C., which created 47 U.S.C. Section 553.

6. Green Paper on Copyright and the Challenge of Technology - Copyright Issues Requiring Immediate Action. COM (88) 172 final, 7 June 1988 (henceforth 1988 Green Paper), p. 181, para. 5.5.4.

7. In the Explanatory Memorandum of the Initial Proposal the Commission noted that many programs were marketed with technical protection systems and concluded that "[i]f such systems are used by rightholders to protect their exclusive rights, it should not be legally possible to remove or circumvent such systems without the authorization of the right holder" without offering any justifications regarding the reasons why it should not be legally possible to circumvent them. Proposal for a Council Directive on the legal protection of computer programs, COM (88) 816 final, SYN 183, Submitted by the Commission on 5 January 1989, 89/C 91/05, p. 9 (henceforth Software Directive Initial Proposal).

8. Software Directive Initial Proposal, p. 3-4.

9. Ibid, compare p. 4 and p. 9.

Nonetheless, justifications for the legal protection of TPMs can be found in the legislative documents that led to the adoption of the other anti-circumvention norms. Despite the differences in their formulation, the justifications brought forward can be categorised as three main arguments. Legislatures expected that the advent of technology would facilitate copyright infringement, it would change the nature of reproduction for private use and that it would require the development of new business models for the exploitation of copyright works.

In that regard, this paper examines the true dimensions and the novel character of the alleged issues that TPMs and anti-circumvention norms would tackle, as well as the suitability of the adopted means to achieve the envisaged objectives.

2. Facilitation of Copyright Infringement

The first reason offered by legislatures to justify the necessity of affording legal protection to TPMs was the allegedly novel threat that the digital networked environment posed for copyright. Throughout the legislative history of the Information Society Directive and the DMCA it was claimed that the ease of copying, the new models for dissemination of copyright works and the difficulty in detection and enforcement of copyright law would facilitate the infringement of copyright.

In the 1995 Green Paper the Commission anticipated that "[t]he digitization of works or other protected matter [...] would create new scope for piracy and the incentive to engage in it" and that "the danger of piracy and improper use without payment to the rightholders will increase".[10] Two years later in the Explanatory Memorandum of the Proposal of the Information Society Directive it pointed out that "[t]he growing availability of protected works and other subject matter in on-line digital formats, also creates significant new risks for large-scale piracy of intellectual property.[11] Similar concerns were raised in the US before the adoption of the DMCA. In 1998 Senate Report it was stated that "[d]ue to the ease with which digital works can be copied and distributed worldwide virtually instantaneously, copyright owners will hesitate to make their works readily available on the Internet without reasonable assurance that they will be protect-

10. 1995 Green Paper, p.28.

11. Proposal for a European Parliament and Council Directive on the harmonization of certain aspects of copyright and related rights in the Information Society, Explanatory Memorandum, COM(97) 628 final, Brussels, 10.12.1997 (henceforth InfoSoc Explanatory Memorandum), p.7.

ed against massive piracy".[12] The House predicted that "[w]hile such rapid dissemination of perfect copies will benefit both U.S. owners and consumers, it will unfortunately also facilitate pirates who aim to destroy the value of American intellectual property".[13]

Likewise, the alleged need for efficient enforcement of copyright appears to be behind the adoption of Article 7(1)(c) of the Software Directive, although the Commission and the Council did not provide explicit justifications, as mentioned above.[14] Nonetheless, given the placement of the anti-circumvention provision in the Initial Proposal under the title "Secondary Infringement", one may assume that concerns regarding indirect infringement and preparatory actions for the future infringement of copyrights lay behind the inclusion of what was at the time article 6(2) of the Initial Proposal for the Software Directive. According to the Explanatory Memorandum for the Initial Proposal of the Software Directive "the ease with which unauthorized copies of programs can be transferred electronically from one host computer to another, across national borders and without trace" prompted Union action in order to ensure that copyright holders would "bring successful actions against infringers".[15] As the circulation of circumventing devices was also considered by the Initial Proposal a means of secondary infringement, one may assume that the same problem, namely the efficient enforcement of copyright law, was behind the Commission's proposal to protect TPMs legally.[16] The view that article 7(1)(c) of the Software Directive was a

12. Senate Rep. No. 105-190, 105th Cong., 2d Sess. (1998) (henceforth 1998 Senate Report), p.8.

13. H. Rep. No. 105-551, 105th Cong., 2d Sess.(1998) (Part I) (henceforth 1998(a) House Report), p. 9. See also H Rep. No. 105-551,(Part 2) 105th Cong., 2d Sess. (1998) (henceforth 1998(b) House Report), p. 25 "In contrast to the analogue experience, digital technology enables pirates to reproduce and distribute perfect copies of works - virtually at no cost at all to the pirate".

14. See above notes 6 and 7.

15. Software Directive Initial Proposal, p. 9.

16. Article 6 of the Software Directive Initial Proposal remained unchanged from the Compromise Amendment approved by European Parliament on 11 July 1990 and in the Amended Proposal submitted by the Commission (See Amended Proposal of the Commission, COM (90) 509 final published OH No. C. 320. 20. 12. 90.) After further debate between the delegations representing the Member States, the Council of Ministers was finally able to adopt a Common Position on December 13, 1990, incorporating many of the new amendments proposed. (See Text of the Council 14.12.90, 10652/1/90, p.182). The Common Position included a completely new Article 7, which replaced Article 6 of the Amended Proposal. This article, entitled "Special Measures of Protection", required Member States to provide remedies against acts which can broadly be called "secondary infringement", such as know-

means to protect computer programs against copyright infringements was also shared by commentators at the time. Tapper categorised article 7(1)(c) as a provision that addresses "concerns relating to infringement of computer programs"[17] and Lehmann argued that it was enacted "for the purpose of direct, and also indirect, combating of software piracy".[18]

One may dispute, though, the validity of the claim that high speed chain copying for commercial purposes and the ease of dissemination of copyright works via the Internet constituted novel threats for the interests of copyright holders and thus called for the adoption of new norms. Firstly, large scale, commercially organised, unauthorised reproduction of copyright works threatened copyright holders long before the digitally networked age. Secondly, new technologies could not render commercially organised activities undetectable and thus make the enforcement of copyright law impossible or harder. On the contrary, as dissemination of works online leaves traces, detecting infringers was made easier than in the past. Thirdly, even if new technologies made home copying easier, copying for private purposes did not constitute infringement in many countries worldwide.

2.1 The threat of piracy before the emergence of the networked digital environment

The "fight against piracy" constituted part of the standard rhetoric of copyright holders when trying to promote their interests long before the appearance of the networked digital environment.[19] For instance, concerns regarding the future of book trade and authorship itself have been voiced since the 18th century, when reprints and abridgements of English books flourished outside and within the

ingly putting copies into circulation, and circulating any means the sole intended purpose of which is to defeat technical measures applied to protect against copying of a program. (See also T. Vinje, The History of the EC Software Directive in M. Lehmand & C. Tapper (eds.), A Handbook of European Software Law, (1993) Part I p. 76.) The Common Position was finally adopted verbatim as the final Directive. (See Communication from the Commission to the Parliament SEC (91) 87 final. SYN 183 of 18.1.91.)

17. C. Tapper, The Software Directive: The Perspective from the United Kingdom in M. Lehmann & C. Tapper (eds.), A Handbook of European Software Law, Oxford (1993), p. 143, 159.

18. M. Lehmann, The EC Directive on the Protection of Programs in M. Lehmann & C. Tapper (eds.), A Handbook of European Software Law, Oxford (1993), p. 163, 179.

19. Indicatively see I. Alexander, Criminalising Copyright: A Story of Pirates, Publishers and Pieces of Eight 66(3) Cambridge Law Journal 625 (2007); J. Hughes, Copyright and Incomplete Historiographies: of Piracy, propertization and Thomas Jefferson 79 Southern California Law Review 993 (2009), 999.

UK.[20] Printer William Strahan warned that trade "must soon be destroyed if everybody is permitted to print everything," whereas Thomas Birch's bookseller, Andrew Millar, was apparently "worried to death by such reprinting". Daniel Defoe argued that such practices robbed authors and readers from the "prize of learning", and John Wallis, a mathematician, claimed that abridgements of the works published might "endanger the loss of the author himself".[21]

With regard to music piracy, UK publishing firms in Victorian England were alarmed, especially about American pirates who not only sold copies of British copyright works in the US but also reintroduced them in the British market.[22] In the Edwardian era UK music publishers had to face the unauthorised mass production of sheet music due to the advent of photolithography.[23] Nonetheless, in the late 19th and early 20th centuries music publishing prospered as never before.[24] In the US at the turn of the 20th century, sheet music publishers were alarmed about the player piano, which threatened to reduce their revenues.[25] Composer John Philip Sousa bemoaned the introduction of the technology, predicting "a marked deterioration in American music and musical taste, an interruption in the musical development of the country, and a host of other injuries to music in its artistic manifestation".[26]

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20. A. Johns, The Nature of the Book: Print and Knowledge in the Making, (1998), p. 32, 449,454-456 arguing that in the pre-Statute of Anne period incidents of piracy seemed "to be commonplace and representative" and that from the 17th century Dutch libraires reprinted English books, a practice which flourished into the 18th century as book trade increased in sophistication and remained an issue well into the 19th also within the UK, as printers from Edinburgh and Dublin imported reprints into London even after the adoption of the Statute of Anne in 1710 Act. Johns further references Robert Darnton, Business of Enlightenment, 33 ff who argues that reprinting of a large work, such as an encyclopaedia, was immensely profitable in Continental Europe and often regarded as a prestigious national project.

21. Johns, above note 20, p. 454.

22. For evidence of the music publishers' concerns and details of litigation as published in the musical press, see J. Coover, Music Publishing Copyright and Piracy in Victorian England (1985), p. 13-24. See also Spinello R. & Bottis M., A defense of intellectual property rights, Edward Elgar Publishing, 2009, Chapter two.

23. For a discussion of music publishers' campaign for the introduction of criminal sanctions against pirates of sheet music see Alexander, above note 19.

24. D. Krummel, Printing and Publishing of Music, Part II: Publishing under 4. The age of offset printing, 1860-1975, in Grove Music Online, http://www.grovemusic.com, last access June 10, 2013.

25. *Sony v. Universal Symposium* (Panel 3) : A New World Order?, 34 Sw. U. L. Rev. 211, 218 (2004)

26. M. Carrier, Innovation for the 21st Century, Harnessing the power of Intellectual Property and Antirust law, (Oxford 2009) p. 107 citing John Philip Sousa, The Menace of Mechanical Music, 8 Appleton's Mag., 278-284 (1906).

The rhetoric of piracy emerging as a novel danger was not abandoned in the late 20th century. In the 1970s, publishers were warning that "the unprecedented technological progress harms the environment the way that DDT affects wildlife, and if the condition is permitted to continue it may go beyond the point of no return [...] Uncontrolled [...] photocopying may destroy the incentive for writing and the economic viability of publication".[27] Public outcries for the "novel" piracy dangers were echoed in important international fora, such as the Intergovernmental Committee of the Rome Convention, WIPO and UNESCO, who drew "attention to the widespread and increasing unauthorised duplication of phonograms and the prejudice it brings to the interests of authors, performers and producers of phonograms"[28] and emphasized that "the enormous growth of commercial piracy and audio-visual recordings and of films all over the world is posing dangers to national creativity, to cultural development and to the industry, seriously affecting the economic interests of authors, performers, producers of phonograms, videograms and films and broadcasting organisations".[29]

Similar worries were also raised in Europe. In 1983, the UK Publishers Association drew attention to the allegedly serious problem of book piracy, especially in regard to developing countries.[30] Piracy was one of the major subjects of debate at the Symposium on 'Copyright and Cultural Policy – The Gap Between Copyright and Related Rights Legislation and Technological Development' held under the auspices of the Council of Europe in June 1984. The participants stated in the resolution that "piracy has assumed alarming proportions and is to be regarded as a serious offence prejudicial to culture and the economy".[31] In 1988 the Commission stated that "in recent years, piracy has emerged as a serious problem for

27. W. Nasri, Crisis in Copyright (1976), p. 14.

28. Intergovernmental Committee of the Rome Convention at its seventh ordinary session in Paris on 22 and 30 October 1979, DOC. ILO/UNESCO/WIPO/ICR.7/11, para 24.

29. WIPO Forum on Piracy of Sound and Audio-Visual Recordings, Geneva, 25 to 27 March 1981. Geneva, WIPO, 1981 (No. 640). Furthermore, the Director General of UNESCO in his letter to Member States dated 14 October 1983 said that "the investigations of world communication problems has shown that, in recent years, the advent of new forms of printing and recording technology, in particular, has led in many regions to an extension of the practice of pirating works made available either in printed form (books, periodicals) or in form of sound and audio-visual recordings (discs, cassettes, films and radio and television programmes). See Ref. DG/O.1/286/290.

30. Statement by Mr. Clive Bradley of the United Kingdom Publishers Association in the WIPO Worldwide Forum on the Piracy of Broadcasters and the Printed Word, Geneva, March 1983 (PF/11/S/2).

31. Doc. No. CC-GP11 (84) 16.

copyright industries and for creative artists depending upon due respect of copyright for their living".[32]

Large scale unauthorised reproduction and distribution of works was thus by no means a novel threat that emerged in the digital networked environment. However, new technologies could alter the nature of commercial piracy, making it a more significant threat for the interests of copyright holders in comparison to the past.

The US House stated in the Commerce Report that preceded the introduction of the DMCA "in contrast to the analogue experience, digital technology enables pirates to reproduce and distribute perfect copies of works - at virtually no cost at all to the pirate."[33] This statement though disregards the fact that not only the reproduction and distribution of unauthorised copies has been perfected, but also the reproduction and distribution of authorised copyright works. The "perfection" of copies is important to the extent that it makes the copies interchangeable substitutes of the authorised originals.[34] Of course, unauthorised reproductions and original copyright works are not perfect substitutes as the level of substitutability can be influenced by factors other than the quality of the unauthorised reproduction, such as the desire to compensate the author of the work for her creative effort. Nonetheless, contrary to the arguments of the legislature,[35] digital advancements did not render the markets for authorised and pirate goods substitutable to a greater extent than handwritten book copies or music sheets did in the past. For example, an unauthorised handwritten copy of a manuscript or handwritten music sheet substituted original handwritten works in the 15th century, an imported US or Dutch book substituted a printed English book in the 19th century and large scale unauthorised reproductions of cassettes made with the use of professional equipment could substitute the original works, just like the pirated CDs and DVDs sold by professionals are substitutes of the original works.

32. 1988 Green Paper, p. 20. See also Recommendation No. R. (88) 2 of the Committee of ministers to member states on measures to combat piracy in the field of copyright and neighbouring rights, adopted by the committee of ministers on 18 January 1988 at the 414th meeting of the Ministers' Deputies stating "aware that the phenomenon of piracy in the field of copyright and neighbouring rights, that is, the unauthorised duplication, distribution, or communication to the public of protected works, contributions or performances for commercial purposes, has become widespread".

33. 1998(b) House Report, p.25.

34. Substitutes are products that meet similar consumer demands. For two substitute goods a price decline in one leads to a decline in the demand of the other.

35. InfoSoc Explanatory Memorandum, p. 11; NII Report, p. 10-11; B. Lehman, "Intellectual Property and the National and Global Information Infrastructures" in P.B. Hugenholtz (ed.), The Future of Copyright in a Digital Environment (1996), p. 103, 104.

Moreover, the claim that reduced costs of production and distribution of copies of copyright works would induce greater levels of piracy is unsubstantiated. A reduction of the costs of unauthorised reproduction would create a greater profit margin for pirates, only if all other market factors remained the same. However, as new technologies reduced the cost of production and distribution for pirates, they also reduced these costs for copyright holders and allowed them to offer their products in lower prices.

The example of the fall of productions costs for hardcover books of general interests in the digital environment verifies that. Although publishers argue that the expenses for publishing a book do not differ substantially in the digital world, as royalties and the need for editing and marketing remain the same,[36] these costs would only amount to 36.5% of a book's cover price.[37] For e-books there are no returns, no warehouse fees, no printing expenses and shipping costs and the costs for maintaining an electronic market place are substantially less than for the maintenance of numerous bookstores[38]. The costs for running a publishing company are also reduced, as books are sold to a universal marketplace and there is no need for the distribution networks of the off-line world.[39] Moreover, the advent of technology gives the opportunity to authors to publish their works themselves without the cost of the publisher as an intermediary.

36. "Publishers only spend about 3.50$ to print and distribute a hardcover. Hardcovers are sold on a returnable basis, so the costs of retailer returns of unsold stock adds about another dollar or so to the price of each book, depending on how they are accounted for.[…] But those expenses do not change much in the digital world (royalties) nor does the need for editing or marketing" R. Levine, Free Ride; How the Internet is Destroying the Culture Business and How the Culture Business Can Fight Back, The Bodley Head, London, (2011), p. 166.

37. The calculation is based on publishers' costs for hardcover books as reported in K. Auletta, "Publish or Perish. Can the iPas topple the Kindle, and save the book business?", The New Yorker, (April 26, 2010) available at: http://www.newyorker.com/reporting/2010/04/26/100426fa_fact_auletta. "On a new, twenty-six-dollar hardcover, the publisher typically receives thirteen dollars. Authors are paid royalties at a rate of about fifteen per cent of the cover price; this accounts for $3.90. Perhaps $1.80 goes to the costs of paper, printing, and binding, a dollar to marketing, and $1.70 to distribution. The remaining $4.60 must pay for rent, editors, a sales force, and any write-offs of unearned author advances. Bookstores return about thirty-five per cent of the hardcovers they buy, and publishers write off the cost of producing those books."

38. Ibid, "Burdened with rent and electricity and other costs, bricks-and-mortar stores are unlikely to offer prices that can compete with those of online venders."

39. Ibid, citing editor and publisher Jason Epstein: "When I went to work for Random House, ten editors ran it. […] We didn't need eighteen layers of executives. Digitization makes that possible again, and inevitable".

So, following the same logic that the legislature accepted with regard to pirates, copyright holders would be in better position now than in the past to exploit the markets for copyright works, as they would not have to bear the higher costs that their predecessors had to bear and thus they could offer their products for lower prices.

Thus, at the time of the enactment of the anti-circumvention norms the "virtually costless" reproduction of copyright works could have led to three different scenarios, depending on how copyright holders would have reacted to the technological advancements. If copyright holders took full advantage of the possibilities offered by technological advancements and lowered the price of their products, the profit margin for commercial pirates would be reduced and thus they would be discouraged from engaging in unauthorised copying. On the other hand, if copyright holders retained the same price despite the reduction in the production costs, commercial pirates could benefit from "easy and costless" copying and be induced into piracy because of the greater profit margin they would enjoy as a result of their reduced costs for reproduction. Finally, if both took equal advantage of the new technologies the situation would not change from the past, since the profit margin of the pirates would remain the same. Moreover, even if the advent of technology actually created a greater profit margin for unauthorised activities and induced commercial piracy, it does not follow that the demand for pirate works would increase at a similar pace, as the demand for a work is influenced by divergent factors.

Besides, assuming that reduced costs induced more people to engage in piracy, pirates would also compete among themselves, driving some out of the market. In any case, even if pirate works substitute the sale or rental of authorised works, authorised and unauthorised works can never be perfect substitutes because consumers take into consideration other factors such as the need to compensate the author. The quantity of pirate works is not a crucial factor as such, given that there were pirate works in the market before the introduction of the networked digital environment.

In sum, piracy still threatened the interests of copyright holders in the networked digital environment, however, this threat was not a novel one and its characteristics did not change with the advent of technology.

2.2 TPMs and anti-circumvention were unable to stop commercial piracy

Even if large scale unauthorised reproduction and dissemination of copyright works would actually increase in the networked digital environment, TPMs would be unlikely to deter commercial pirates. This was in fact pointed out by the European Commission in the 1988 Green Paper with regard to the Digital

Audio Tape (DAT) recorder, a digital recording and playback device developed by Sony in 1987. The recording industry viewed the DAT recorder as a potential problem in relation to home copying and the Commission proposed the use of TPMs as a deterrent. It stated clearly, though, that TPMs would "not prevent the determined pirate from producing illegitimate copies".[40] However, a decade later the legislature did not provide any reasons in the legislative documents preceding the adoption of the Information Society Directive or the DMCA justifying why TPMs would deter large scale pirates.

Commercially organised piracy had thrived in the past when the reproduction of works was subject to numerous limitations. Expensive production costs, long printing schedules and limited markets for copyright works had not deterred pirates from engaging in the infringement of others' copyrights. Copyright holders and the legislature repeatedly claimed that for every lock there is a key and it would be naïve to claim that the organised pirates would not be able to find it. At a minimum, digital copy protection of non-interactive works is subject to the analogue hole.[41] Almost-perfect copies of music and audiovisual works can be made by tapping into the analogue output of a player and once redigitised into an unprotected form, duplicated indefinitely. Likewise, if text based content can be printed or displayed, it can be scanned and distributed in unprotected formats.[42] Thus, TPMs are not able to stop professional operations involved in the unauthorized mass duplication of media.

Furthermore, large scale reproduction and distribution of copyright works was already illegal under copyright law at the time of the enactment of the anti-circumvention provisions. People who engaged in such activities were determined to break the law and thus a separate legal obligation to respect copy and access controls embedded in copyright works was unlikely to stop them from engaging into piracy. Nor was it likely that the legal prohibitions on circumvention would deter circumventors who cooperated with pirates. Regardless of the adoption of anti-circumvention norms, circumventors who wilfully cooperated with pirates would be liable under the secondary liability doctrine for copyright infringement

40. 1998 Green Paper, p. 85, para 2.9.7.

41. For efforts of copyright owners to use technology, perhaps backed by legal requirements, to "plug the analogue hole" and prevent such copying of copyrighted works" see Motion Picture Association of America, Content Protection Status Report, p. 9 available at http://judiciary.senate.gov/special/content_protection.pdf.

42. As the Second Circuit noted in *Corley*, a user could play a film on a CSS-protected DVD and "record portions of the video images and sounds [...] by pointing a camera, a camcorder, or microphone at a monitor, as it displays the DVD movie. *Universal City Studios, Inc. v Corley*, 273 F. 3d 429 (2d Cir. 2001).

or under unfair competition laws. Thus, TPMs and anti-circumvention were not the appropriate tools in the fight against commercially organised piracy.

2.3 New technologies did not have a negative impact on the detection of copyright infringements and the enforcement of copyright law

According to the legislative history of the relevant acts, the alleged difficulties in detecting copyright violations and enforcing copyright law due to the "international" and intangible nature of the violations in the networked digital environment prompted the use of TPMs and their legal protection.[43] This claim contains a logical contradiction, though; if assumed correct, it does not explain why the detection of circumventors, who could also be situated in any country in the world and could also use the Internet, and the enforcement of the anti-circumvention provisions, would be more successful than the detection of copyright violators and the enforcement of copyright law.

This contradiction is particularly obvious in the Software Directive. The protection of TPMs applied to computer programs was introduced concurrently with the protection of computer programs as literary works under copyright law at an EU level.[44] The legislative history of the Directive does not support the contention that copyright law did not provide adequate protection for computer programs, so that the use of technology was necessary to safeguard the efficient enforcement of copyright law. On the contrary, the Commission argued that "copyright [could] provide the solution of ensuring adequate protection against misappropriation and, in particular, against unauthorised reproduction" and rejected contract law as the means of protecting computer programs.[45]

43. The NII Report predicted that the "the difficulty of detection and enforcement will cause copyright holders to look to technology, as well as the law, for protection of their works". NII Report, p. 230. According to the Initial Proposal of the Software Directive "the ease with which unauthorized copies of programs can be transferred electronically from one host computer to another, across national borders and without trace" prompted Union action in order to ensure that copyright holders "bring successful actions against infringers". Software Directive Initial Proposal, Article 6(1). See also the InfoSoc Explanatory Memorandum (p.7) stating that "as regards the new network environment, unauthorised postings of computer programs, phonograms, photographs, videoclips, or bootleg recordings of live concerts on websites even now make copyright material unlawfully available to millions of consumers throughout the world".

44. By that time computer programs were protected under copyright law in France, Germany, Spain, the UK, Denmark, Italy, the Netherlands, Portugal and Ireland.

45. Explanatory Memorandum of the Software Directive Initial Proposal, p. 4, paras. 3.6 and 3.7., where it is also claimed that "[p]rotection by copyright allows a clear balance to be achieved between too little protection and over-protection".

Nonetheless, it is not the first time that copyright holders complained about the difficulties of detection of infringers and enforcement of copyright law. In 1903 music publishers were highly worried with the difficulties in bringing actions against pirates and their inabilities to recover damages.[46] In 1905 a meeting of the Music Publishers' Association noted that "an immense number of copies of piratical works have been seized and plates destroyed, but unfortunately fresh offenders spring up in one neighbourhood as soon as they are stopped in another".[47]

Similar concerns have been uttered just before the digital revolution took place. A 1984 survey requested by the Commission found that "in many instances the courts have tended to treat pirates very leniently" "the police take an interest in piracy only when it can be shown that the pirates also engaged in other criminal activities" and "customs authorities have to date been very reluctant to become involved in controlling imports of pirate good products".[48]

According to this survey the distribution network of pirate products was sophisticated and complex and had a variety of outlets.[49] Pirate products were distributed via wholesalers and established retail outlets, as well as street traders, stalls in fairs, local markets, petrol stations, corner shops and sales by travelling agents out of the back of their van. Off-line distribution of copyright works, hence, required effective search and seizure procedures for taking legal action against and proving pirate activity, enabling copyright holders to enter the premises of the presumed infringer, search for evidence of pirate activity and seize that evidence.[50]

Nor were copyright infringements of a strictly national nature in the past.[51] Even in the early nineteenth century the British book trade was facing threats to its market from France, Belgium, Germany and the US.[52] At the end of the twentieth century the Commission was stating that "the cross-frontier nature of the [piracy] traffic emerges clearly both as between Member States and non Member States"[53]

46. Alexander, above note 19, p. 637 with further reference to Parliamentary Papers (1904) LXXIX, p. 25.

47. Ibid. with further reference to MPA Minute Book, 5 April 1906.

48. Indicatively see G. Davies, *Piracy of Phonograms*, A study requested by the Commission of the European Communities (1986), p. 100.

49. Ibid, p. 32.

50. Ibid.

51. For the history of copyright's internationalisation see C. Seville, *The Internationalisation of Copyright Law* (2006).

52. Ibid, p. 41-42.

53. 1988 Green Paper, p. 20.

and "a considerable proportion of pirate goods sold in the Member States have been imported from countries both from within and without the Community."[54] Book piracy in developing countries was considered a serious problem, especially in India, Pakistan, the Middle East, Southeast Asia, Latin America and Africa[55], whereas piracy of sound recordings and audiovisual works was viewed as a serious problem, addressed in numerous conferences and working groups within international organizations.[56] According to Gillian Davies, the Associate-Director General of the International Federation of Phonogram and Videogram Producers, "[p]irates do not discriminate between the national repertoire of their own country of origin and the repertoire of other countries; they seek to earn easy money from all successful recordings, whatever their origin".[57] Hence, copyright enforcement was more complicated as a result of international piracy, which required customs cooperation at the international level.

Detection and enforcement in the off-line environment called for time-consuming administrative procedures that required close international cooperation, international initiatives such as customs seizure and search and seizure proceedings administered by foreign authorities, which may not have been willing to cooperate or secure the disposal of infringing equipment and equipment used to produce them.

2.4 Unauthorised reproduction for private use was permitted under copyright law

As mentioned above, large scale piracy did not begin with the Internet or digitization of works. With the exception of the 1988 Green Paper,[58] though, legislative documents do not specify whether piracy refers solely to commercial organ-

54. 1988 Green Paper, p. 87. See also Davies, above note 48, p. 30, where she argues "[o]f all the pirate products sold on home markets in the EEC, a very large proportion is imported".

55. Ibid, p. 21.

56. Piracy has been on the agenda of the Executive Committee of the Berne Convention, the Intergovenrmental Committees of the Universal Copyright Convention and of the Rome Convention (seventh ordinary session October 1979) and was the subject of a WIPO Worldwide Forum on Piracy of Sound and Audio-Visual recordings organised in Geneva in 25 to 27 March 1981.. Geneva, WIPO, 1981 (No. 640) the WIPO Worldwide Forum on the Piracy of Broadcasters and the Printed Word, Geneva, March 1983 (PF/11/S/2).

57. Indicatively see Davies, above note 48, p.101.

58. In the 1988 Green Paper piracy is defined as "the unauthorized reproduction of works protected by copyright or allied rights for commercial purposes as well as all subsequent commercial dealing in such reproductions", p. 18, para. 2.1.1.

ised activities, or also encompasses unlicensed activities pursued by end users.[59] The scale tilts to the latter definition as the claim was brought forward that the advent of digital technology along with the possibilities provided by the Internet would change the person of the infringer of the reproduction and distribution rights from that of an organised pirate to the consumer of copyright works.[60] However, at the time of the adoption of the Information Society Directive, the Software Directive and the DMCA the reproduction of copyright works was permitted under specific conditions in many countries worldwide.[61]

At an international level Article 9(2) of the Berne Convention leaves signatory states with the discretion to introduce exceptions to the right of reproduction of copyright works.[62] This exception was used as a basis so that many States would allow copying in the private sphere. In the EU, with the exception of Ireland, Luxemburg and the UK, Members States explicitly permitted home copying in their national legislation. Austria[63], Belgium[64], Denmark[65],

59. For the debate regarding the use of the word "piracy" to describe any unlicensed activity see in favour Hughes, above note 19, p. 1069 ff; *contra* J. Litman, *Digital Copyright*, (2001) p. 85-86.

60. 1998 (b) House Report, p. 9, 10, 25, stating "The digital environment now allows users of electronic media to send and retrieve perfect reproductions of copyrighted material easily and nearly instantaneously, to or from locations around the world."

61. For a discussion of private copying from a worldwide perspective in the analogue world see G. Davies & M. Hung, *Music and Video Private Copying, An International Survey of the Problem and the Law* (1993); J. Spoor, W. Cornish and P. Nolan, *Copies in Copyright* (1980).

62. According to Article 9 (2) of the Berne Convention "it shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author."

63. Article 42 of Austrian Federal Act on Copyright in Works of Literature and Art and on Related Rights provided for a royalty on blank tapes for private use and permitted the reproduction of isolated copies of a work for personal use. It also permitted reproduction of works for a third person, but the reproduction of cinematographic works must have been gratis and the reproduction of works of literature and music must have been made by longhand or typewriter. Federal Law on Copyright in Works of Literature and Art on Related Rights of 1936 as amended by Law 1980, No. 321 of 2 July 1980.

64. Law on Copyright of 22 March 1886. The law provided a royalty on both recording media and equipment.

65. The making of an individual copy of a disseminated work for private use is permitted under Danish law, with the restriction that such a copy, once made, may not lawfully be used for any other purposes. Article 11 of Act 158 on Copyright and Literary and Artistic works of 31 May 1961 as amended on 21 March 1975 (Act 174), 8 June 1977 (Act 240), 21 May

Finland[66], France[67], Germany[68], Greece[69], Italy[70], the Netherlands[71],

1985 and 14 May 1992 (Act 338). Denmark introduced provisions for a royalty on private copying in its Law 338 of 14 May 1992, which amended the 1961 Copyright law.

66. Article 11 of the Finnish Copyright Statute provided that anyone could reproduce in a few copies, a disseminated work for his private use and such copies may not be used for other purposed. Article 26 (a) established a royalty on blank audio and video tapes or any other media suitable for recording. Law 404 of 8 June 1984 as amended by law 442 of 8 June 1984 law 34 of 11 January 1991.

67. The making of copies and reproductions of works which were strictly reserved for the private use of the copyists and not intended for collective use was permitted under Article 41 of French Law on Literary and Artistic Property (Law no. 57-298 of 11 March 1957 as amended by Law no. 85-860 of 3 July 1985, official journal of 4 July 1985, p. 7489). According to Article 31 right owners were entitled to receive a royalty for private copying.

68. In Germany the making of single copies of a work for personal use is permitted regardless of whether the copy is made by the user or by a third party. However if the work is reproduced in a sound or visual recording, the copying is only permitted if the third party makes the copy gratuitously. Such a copy may not be distributed nor be used for any sort of public performance. See Article 53 of the German copyright law on copyright and related rights of 9 September1965, as amended by law no.33 of 27 June 1985/ Bundesgesetzblatt no. 33 of 27 June 1985, page 1137.The Federal Republic of Germany was the first country to enact and enforce provisions relating to a royalty for private copying in 1965. Article 54 of the German Copyright law provided that where the nature of a work made it probable that it would be reproduced by the recording of broadcasts on video or audio recording media or by the transfer from one audio or video recording medium to another, the author of the work was entitled to payment of equitable remuneration, which was due on appliances and recording media.

69. Article 18 (1) of the Greek law on Intellectual Property, Neighbouring Rights and Cultural Issues permitted the reproduction of published works for private use without the permission of without remuneration. Law 2121/1993, published in FEK A' 25/4-3-1993. Article 18 (3) provided for a royalty for private copying imposed on audio and visual recording devices, photocopying machines and computers.

70. In Italy the reproduction of individual works for the personal use of readers was permitted if the copying was done by hand or by a non-commercial medium of reproduction. See Article 68 of Law for the Protection of Copyright and Other Rights Connected with the Exercise thereof, No. 633 of 22 April 1941, as amended bylaw 406 of 29 July 1981. Law No.93 of 5 February 1992 entitled Measures in Favour of the Phonographic Industry' Gazzetta Ufficiale on 15 February 1992 provided for the imposition of a royalty on private copying on blank audio and video tapes and audio recording equipment.

71. Article 16 (b) of the Dutch Copyright law provided for the making of a limited number of copies of protected works for the sole purpose of the personal practice, study or use of the person who makes the copies or who orders them to be made. Dutch Copyright Law of 23 September 1912 as amended (several times since its enactment) by Law of 30 May 1990 amending Copyright Statute of 1912, Statute Book 199, Volume 305. Article 16(c) provided that authors or their assignees were entitled to receive compensation when their

Portugal[72], Spain[73] and Sweden[74] introduced levy systems to provide remuneration for the act of home copying.[75]

Home copying was also permitted in the US, although it has been a controversial issue for a long time.[76] Under the Copyright Act of 1971[77] home copying of sound recordings was permitted, as the legislative history of that act explicitly stated that home taping for private use was not considered infringing activity.[78]

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works were reproduced on a recording medium for private use or study. The remuneration was due on blank tapes.

72. Article 81 (b) of the Portuguese Code of Copyright and Related Rights permitted the reproduction of works without authorisation of the right owner when this was exclusively for private use and provided that it did not harm the normal exploitation of the work nor caused unjustified prejudice to the authors' legitimate interests and provided that the reproduction was not used for any purposes of public communication or commercialisation. Law 45/85 if 17 September 1985 as amended by Law 114/91 of 3 September 1991, published in Diario da Republica, 1 Serie.A, No,. 202.3.9.1991. Article 82 provided for a private copying royalty on the sale of hardware used to fix and reproduce works and on blank tapes.

73. According to Article 31 of Spanish IP Law published works could be reproduced without authorisation when reproduction was made for private use of the copiers and the copy was not used for either collective or gainful purposes. Ley de Propriedad Intelectual No. 22/87 of 11 November 1987, Boletin Official del Estado no. 27 of 17 November 1987 as amended by Ley 20/1992 of July 7, published in Boletin Official del Estado No. 168 of 14 July 1987. Article 25 (1) provided for a personal use royalty.

74. The 1960 Swedish Copyright law as amended up to 1986 permitted the making of not-for-profit private copies of published works for personal use only. Law 729 of 30 December 1960 on Copyright in Literary and Artistic Works. The Law Concerning the Tax on Certain Cassette Tapes of June 24 1982 provided for a tax on blank audio cassettes and blank and pre-recorded video cassettes. Swedish Code of Statutes SFS 1982: 691, Amendment of 25 March 1984.

75. For a discussion of blank levy legislation in European Member States see: J. Reinbothe, "Compensation for Private Taping Under Sec. 53 (5) of the German Copyright Act", 12 *Int'L Rev. Indus. Prop. & Copyright L.* 35 (1981); A. Lucas, "Copyright and the New Technologies in French Law", 2 *E.I.P.R.* 42 (1987).

76. "The music industry has long been fearful of the negative effect home taping of its products would have on the growth of the industry."; "The copyright law implications of private audio recording for non-commercial use have been the subject of longstanding debate". 1998 Senate Report, p. 33 and 51.

77. Sound Recordings Act of 1971, Pub. L. No. 92-140, 85 Stat. 391 (1971), codified as 17 U,S,C, para 101-102 (a) (7), 106 (1), 106 (3)-(4), 116, 401-02, 412, 501-04 (Supp. IV 1980).

78. "Specifically, it is not the intention of the Committee to restrain the home recording, from broadcast or from tapes or records, of recorded performances, where home recording is for

However, in the Copyright Act of 1976, which superseded the 1971 Amendment, there was no mention in the Act or in its legislative history of whether home copying constituted an infringing activity. The 1976 Copyright Act accorded statutory recognition for the first time to the jurisprudence developed doctrine of fair use, which allows limited use of copyright material without acquiring permission of the copyright holder under a four factor balancing test. For two decades after 1976 there was a wide debate among academics, the recording industry and electronics manufacturers over whether home copying constituted fair use. The US Supreme Court was asked to decide upon this issue in the *Sony Betamax* case, where a safe harbour from copyright challenges for technologies suitable for substantial non-infringing uses was established.[79] The Court held that private, non-commercial copying for time shifting purposes came within the fair use exception to the exclusive right of reproduction. The *Sony Betamax* ruling was statutorily confirmed in 1992, when the Audio Home Recording Act was enacted, which permitted the making of private, non commercial copies by consumers using digital or analogue audio recording devices.[80] More specifically, private non-commercial copies of music recordings were explicitly permitted under Section 1008 of the AHRA, whereas home copying of other works could fall under the fair use defence.

Hence, the introduction of anti-circumvention provisions was not necessary for tackling infringements of copyright law by consumers who reproduce copyright works, as the making of not-for-profit private copies of published works for personal use was permitted in many jurisdictions.

2.5 Interim conclusion

The claim that novel threats for copyright infringement in the digital networked environment made the use and legal protection of TPMs indispensable was unsubstantiated, as neither novel problems of inducing and enforcing copyright law appeared, nor were TPMs a suitable tool to deal with them. It appears that the legislature chose to refer to piracy that would devastate the interests of copyright holders and avoided to distinguish between large scale commercial reproductions and reproductions for private use, which was permitted at the time, to avoid the longstanding debate of home copying and, thus, regulate it indirectly.

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the private use and with no purpose of reproducing or otherwise capitalizing commercially on it" H.R. REP. No. 487, 92d Cong. 1st Sess. 7.

79. *Universal City Studios Inc. v. Sony Corporation of America,* 464 US, 417 (1984).

80. The Audio Home Recording Act of 1992 (AHRA) added chapter 10, entitled "Digital Audio Recording Devices and Media," to title 17. Pub. L. No. 102-563, 106 Stat. 4237.

Owners of copyright works had long claimed that private copying constituted infringement, while user groups and electronics manufacturers had long denied those claims. As mentioned above, in Europe, private copying was explicitly permitted in the majority of Member States, which was balanced by a royalty system to compensate copyright holders.[81] The debate around harmonisation of the levy schemes within the EU is complex and highly controversial.[82] In the US it was contested whether home taping for private use was an infringing activity since the enactment of the 1976 Copyright Act. The enactment of the DMCA was preceded by the Court of Appeals and Supreme Court decisions in the *Betamax* case, by repeated failed legislative attempts to resolve the issue of home taping,[83] by attempts by the recording industry to persuade the electronics industry voluntarily to install within their products devices, which would prevent unauthorized copying, by the rejection of an *a priori* prevention system, i.e. the "copycode", and

81. Today almost all EU Member States, except Cyprus, Ireland, Luxembourg, Malta and the UK, have adopted systems of fair compensations for private uses of copyright works based on a private copying levy.

82. At an EU level, the Council published a Recommendation in favour of the introduction of authors' rights to remuneration for sound and audiovisual private copying of their works. The Commission seemed ambivalent in its 1988 Green Paper but in the 1991 follow up to the Green Paper the Commission argued in favour of a new legislation on home copying at the EU level. (Follow up to Green Paper: Working Program of the Commission in the field of Copyright and Neighbouring Rights, COM (90) 584 final, p. 11-12). At the same time the Commission announced its intention to present a proposal for a Directive on private copying in which it intended to propose a limited harmonization of the levy schemes, but this attempt failed due to its complexity. For a discussion on the underlying issues regarding the adoption of a Directive on home copying as well as an analysis of the Draft Directive which was never published see L.R. Stasio, 'Remuneration for Home Copying: A Controversial Directive Remains Elusive', 19 *B. C. Int'l & Comp. L. Rev.* 233 (1996). Today Member States may provide for a private copying exception according to art. 5 (2) (b) Information Society Directive, provided that rightholders receive a "fair compensation", as it has been interpreted by the CJEU in Case C-467/08, *Padawan SL v SGAE*, [2010] ECR-I 000.

83. In 1981 Senator DeConcini introduced legislation as a response to the Court of Appeals Decision in the *Betamax* case to ensure that consumers had the right to tape copyright material for their own use. In 1983 Senator Mathias introduced legislation to create a royalty system for home taping. In 1987 Senator Gore and representative Waxman introduced bill S.506 and H.R. 1384 respectively, which required digital audio recording equipment to contain a copyguard system prior to distribution in the US. In April 1990 Senator DeConsini introduced a bill to require the installation of the Serial Copy Management System in all digital audio tape recorders imported onto or manufactured in the US. 1998 Senate Report, p. 30-31.

by a compromise reached in June 1991 among the recording industry, recording artists, songwriters, music publishers, the consumer electronics industry and consumer groups, regarding the home taping dispute, which was reflected in the adoption of the Audio Home Recording Act.[84]

So, instead of engaging in the debate regarding the legality of copying for non-profit purposes, copyright holders complained about the infringement of their rights by pirates. Reference to "piracy" could work for the benefit of copyright holders in two ways; firstly, it could gain the sympathy of the public, as copyright piracy is presented as the ethically equivalent to attacking ships on the high seas, kidnapping and murdering the people on them.[85] Secondly, the term "piracy" does not specify whether it refers to "copying unauthorised by the right holders" or "copying prohibited by law", thus creating confusion about whether the "pirate activities" actually infringe copyright law.[86] This may explain why the 1998 Green Paper specifically differentiates between piracy and home copying, whereas in the following legislative material the distinction is blurred.

The concerns hidden behind the claims of widespread, unprecedented infringement of copyright law and the inability of copyright holders to enforce their rights in the networked digital environment concealed the actual concerns of copyright holders, regarding the extent that not-for-profit reproduction would reach and the opportunity to take advantage of the potentials that the advent of technology was providing them, as copyright holders would be able for the first time to control private enjoyment of their works. The use of TPMs and the adoption of the anti-circumvention regulation was, thus, a matter of altering the existing *status quo*, rather than enforcing their copyrights in the digital networked environment. Thus, the question arises whether the advent of technology called for a change in the legal regime so as to restrict home copying.

84. The AHRA provided for a right for consumers to make analogue or digital audio recordings of music for their private, non commercial use, it introduced a royalty payment system that provided compensation for the digital home recordings of copyright protected music and it required the obligatory incorporation to Digital Audio Tape recorders of a TPM, named Serial Copy Management System, that prohibited the digital serial copying of copyright music and prohibited the circumvention of this TPM.

85. R. Posner, "Misappropriation: A Dirge", 40 *Hous. L. Rev.* 621 (2003), 622.

86. For an investigation of the piracy narrative at the international level see D. Halbert, "Intellectual Property Piracy: The Narrative Construction of Deviance", 10 *International Journal for the Semiotics of Law* 55 (1997), 57.

3. Change in the nature of not-for-profit copying

In the legislative documents leading to the adoption of the Information Society Directive and the DMCA the argument was presented that due to the ease and speed of reproduction and dissemination of copyright works in the digital networked environment along with the optimisation of the quality of the copies made by the public, a single unauthorised uploading of a work in the Internet could have devastating effects for the market of the work, unlike most single reproductions and distributions in the analogue or print environment.[87] In the Explanatory Memorandum of the Proposal of the Information Society Directive it was stated that "with the latest developments, users will now be able to record their own CDs in perfect quality or even to copy text, sound or films onto a blank CD an unlimited number of times. This will give copying for private purposes, currently allowed in the majority of Member States, a completely new dimension".[88] Likewise, in the House Report preceding the adoption of the DMCA it was stated that"[t]he digital environment now allows users of electronic media to send and retrieve perfect reproductions of copyrighted material easily and almost simultaneously, to or from locations around the world. With this evolution in technology the law must adapt in order to make digital networks safe places to disseminate and exploit copyrighted works."[89]

Up to the middle of the twentieth century the majority of copying of copyright works occurred in a relatively limited number of places, undertaken by a limited number of people predominantly for profit.[90] Large scale pirates would then disseminate the copies to end users through sophisticated distribution networks.[91] The introduction of the easy-to-use, inexpensive, coin-operated photocopiers in the 1960s provided the public, along with office workers, library staff, govern-

87. InfoSoc Explanatory Memorandum, p. 11; NII Report, p. 11; Lehman, above note 35, p. 103, 104.

88. InfoSoc Explanatory Memorandum, p. 5, para 4.

89. 1998(b) House Report, p. 9.

90. J. Litman, *Digital Copyright*, (2001) ("Our copyright laws have, until now, focused primarily on the relationships among those who write works of authorship and disseminate those works to the public."); J. C. Ginsburg, "Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace", 95 *Colum. L. Rev.* 1466, 1488 (1995); T. Wu, "When Code isn't law", 89 *Va. L. Rev.* 679, 713-14 ("Copyright owners have traditionally avoided targeting end users of copyrighted works. [...] One is pressed to find any example of copyright law being enforced against individuals for home copying (as opposed to commercial activity) prior to 1990").

91. See above section 2.3.

ment employees and students, with the ability to make cheap and quick copies themselves.[92] Likewise, the availability in the market of consumer electronics of easy to operate, inexpensive magnetic tape reproduction equipment from 1964 and video recorders from the early 1980s enabled consumers to make copies of audio and visual works either for their personal use, or for use by family and friends.[93] The introduction of these technologies raised concerns on behalf of copyright holders and their supporters regarding the harm that the new technologies would have on authors' rights that initiated the home copying debate.

However, the legislature and the judiciary in the EU and the US were reluctant to admit that such copying had a negative impact on the exploitation of copyright works. Indeed, there were many voices that argued that photocopying did not cause significant damage to the financial interests of copyright holders, as it was mostly excerpts from journals that were photocopied and the photocopying practices mainly substituted manual note taking, typing or handwriting a copy, instead of posing a threat to the market for copyright works.

For example, in 1965, Dan Lacy, Managing Director of the American Book Publishers Council, testified at a House of Representatives committee that "[m]ost of this photocopying, at least at present, probably consists of excerpts and probably mostly of journal articles. Most of it at present is probably undertaken in lieu of manual note taking, typing, or handwriting a copy, and in lieu of library loan rather than in lieu of buying a copy".[94] According to a 1962 report "no significant damage [occurred] to the copyright holders in the scientific and technical fields although duplication of this material [was] widespread and [was] growing rapidly".[95] In 1967 another report, which examined the potential pernicious effects of modern, institutionalized photocopying of copyright works, particularly journal articles, characterised wholesale copying by libraries as "a non-violent form of civil disobedience" in the name of fair use.[96] In 1973 the issue of

92. For the history of photocopying see: L. G. Wisemand, *Making Copies: The Impact of Photocopying on Copyright Law in Australia*, Thesis submitted for the degree of Doctor of Philosophy at the University of Queensland, TC Beirne School of Law (January 2009), p. 10-15; M. Sawyer, "The Photocopying Machine: How did it begin?", *72 Law Library Journal* 91, (1979), 98.

93. Davies & Hung, above note 61, p. 1ff.

94. Hearings before Subcommittee No. 3, Committee on the Judiciary, H. of Reps., 89th Cong., 1st Sess., on H.R. 4347, H.R. 5680, «Copyright Law Revision,» Part 1, p. 120.

95. George Fry & Associates, *Survey of Copyrighted Material Reproduction Practices in Scientific and Technical Fields*, 1962.

96. J. Sophar & B. Heilprin, The determination of legal facts and economic guideposts with respect to the dissemination of scientific and educational information as it is affected

whether the making of unauthorised articles infringed the publishers' copyrights in journals was decided in *Williams & Willkins Company v the United States*.[97] The court held that "this record fails to show that plaintiff (or any other medical publisher) has been substantially harmed by the photocopying practices of NIH and NLM, it does show affirmatively that medical science will be hurt if such photocopying is stopped" and held that the specific photocopying practices of the involved agencies was not an unfair use of the copyright materials.

As regards audiovisual copying devices, the Commission argued in its 1988 Green Paper that ordinary sales of copyright works were not affected to a substantial extent by home copying. It noted that "[t]he extent to which the *decline in sales* of the vinyl disc and the absence of growth in the world sound recording market from 1981 to 1985 can be *attributed* to home copying is *far from clear*. Many factors other than home copying were certainty present which could account for the results. Even if it is accepted that home sound and video recording is an increasingly common practice, as the figures on sales of recording equipment and blank tape confirm, questions remain as to *whether the recordings made are of protected works* and, if so, whether they have a negative impact on the normal exploitation of those works. Since home copying is by its nature a private act, a clear picture is difficult to draw [...] Since a *significant proportion of those who copy at home do so from sources they have already purchased*, it seems reasonable to expect that sales of pre-recorded material would not necessarily increase dramatically, even if home copying of recorded sources were totally prevented." [98]

In the US the Supreme Court based its holding in *Sony Betamax* on the District Court's findings that "time-shifting", namely the practice of recording a broadcasted programme to watch it once at a later time, actually enlarged the television viewing audience[99] and did not impair the commercial value of copyrights in the broadcasted programs, nor did it create any likelihood of future harm.[100]

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by copyright. A status report by Gerald J. Sophar, principal investigator, and Laurence B. Heilprin, co-investigator, Committee to Investigate Copyright Problems Affecting Communication in Science and Education Washington U.S. Office of Education, Bureau of Research (1967), p. 24.

97. *Williams & Willkins Company v the United States*, 487 F.2d 1345 (1973).

98. 1988 Green Paper, p. 113 (emphasis added).

99. "Moreover, the court found that the purpose of [time shifting] served the public interest in increasing access to television programming". *Sony Betamax*, above note 79, p. 425.

100. "Sony's survey indicated that over 80% of the interviewees watched at least as much television as they had before owning a Betamax. Respondents offered no evidence of decreased television viewing by Betamax owners". *Sony Betamax*, above note 79, p. 424.

Indeed, private copying did not have a significant negative effect on the markets for copyright works, as rightholders were compensated for the work or the broadcast of the work from which the copy was made and the unauthorised copies could be distributed only to a limited circle of people. Copying in the analogue off-line world was affordable but costly and sometimes time-consuming, the distribution of the unauthorised copies was subject to real world limitations and the distributor could not retain the unauthorised copy for her personal use. Even in the cases of taping from broadcasts and photocopying from libraries, the copiers were people that could legally access and read or watch the original works they copied, albeit with time and space limitations, thus questioning whether they would have purchased the work they copied.

The question subsequently arises whether there is a substantial prejudicial effect on the commercial exploitation of copyright works in the networked digital environment in comparison to the past. What changed with the advent of digitization and the Internet was that technology expanded the large scale of not-for-profit unauthorised reproduction and distribution of copyright works.

Instead of a user purchasing a copyright work, borrowing a book from the library or watching a TV broadcast and making copies for her personal use or for a circle of family and friends, the digital networked environment allows the perpetual reproduction of unauthorised copies of works to a significantly larger number of people. Moreover, file-sharing services have enlarged the number of consumers who can enjoy an unauthorised copy of a copyright work globally to people with no personal connection to each other. In contrast to circulation of unauthorised works off-line, the copyright holders do not receive any revenues not even for the copy from which the copy was made. Although large scale unauthorised reproduction and dissemination of copyright works can lead to increased revenues for authors of works, as it will be discussed bellow the business model of the exploitation of copyright works needs to change for authors to benefit from alternative sources of funding.[101] Indeed, even supporters of file-sharing do not contest that the advent of technology has allowed consumers to copy copyright works on an unprecedented scale at minimal cost thus disrupting some traditional business models in the creative industries.[102]

Hence, the internationalisation achieved via the Internet and the perfection in the quality of digital copies are crucial because they extend the circle of peo-

101. File-sharing, for example, has influenced the markets for concerts, electronics and communication infrastructure. (See F. Oberholzer-Gee & K. Strumpf, "File-Sharing and Copyright", Harvard Business School Working Paper 09-132, available at: http://www.hbs.edu/research/pdf/09-132.pdf).

102. Indicatively see Oberholzer-Gee & Strumpf, supra note 101, p. 1,2.

ple who can enjoy an unauthorised reproduction of a work in comparison to the past. In the off-line, analogue world the deterioration in quality every time the work was copied resulted in limited number of unauthorised copies made by an authorised work, which were only disseminated to a limited number of people, namely people whom the copier would know.

Furthermore, the "costless" reproduction achieved via the new technologies does lead to a market failure, as the consumer may get the work for free which is less than the copyright holder or the commercial pirate offers it for.[103] There is no need for inducement to engage in piracy, as the copyist-circulator does not act to gain profit. Moreover, there are greater difficulties of detection and infringement because the copiers are the consumers, who can be located everywhere and it is impossible to take legal action against every violator and ineffective to pursue selective enforcement. Private enforcement would be an inappropriate marketing strategy, since copyright owners would turn against their clients, while it raises many issues of privacy and due process.[104]

Whether copyright holders actually anticipated the development that the distribution and dissemination of works through the Internet would have, especially after the emergence of file sharing technologies, or whether they exaggerated these threats to promote their interests in the digital networked environment, we do not know. However, digital reproduction of works and their dissemination online lead to higher degree of substitutability with original copyright works in comparison to the past and can disrupt traditional business models in the content industries. The differences from private enjoyment of works in the past is that previously a person could loan, resell or make an unauthorised copy of work for a specific group of people inside a circle of family, friends, or at least acquaint-

103. Still, as mentioned above, unauthorised reproductions of works and originals are not perfect substitutes, and thus, copyright holders can compete with free, if they alter their business model to make their offering more attractive. See D. J. Bryce, J. F. Dyer & N. W. Hatch, "Competing Against Free", *Harvard Business Review, The Magazine,* (June 2011). There have been successful business models that are built on offering free content, such as bottled water or bundled public domain materials. See C. Anderson, *Free: The Future of A Radical Price*, (Hyperion, 2009), P. Yu, "P2P and the Future of Private Copying", 76 *U. Colo. Rev*. 653, 716 (2005).

104. There is a rich literature detailing the difficulties of suits against individuals as well as the backlash effect that such enforcement efforts can have. Indicatively see B. Depoorter, A. Van Hiel, S. Vanneste, "Copyright Backlash", 84 *S. Cal. L. Rev*. 1251, K. Groennings, "Costs and Benefits of the Recording Industry's Litigation Against Individuals", 20 *Berkeley Tech. L. J.* 571, (2005), M. A. Lemley, R. A. Reese, "Reducing Digital Copyright Infringement Without Restricting Innovation", 56 *Stan. L. Rev*. 1345.

ances, whereas via the Internet one can keep the copy of the work for her private enjoyment and disseminate to a huge circle of people unknown to her.

This however does not signify the end for copyright or authorship rights, as technology altered the market for copyright works and provided the potential for the creation of new models for the exploitation of copyright works. This has happened repeatedly in the past. Following the invention of the printing press, the development of player pianos[105] and perforated rolls of music,[106] the invention of photography and of the photocopier, the development of the technology that made it possible to retransmit television programs by cable or by microwave systems,[107] the development of the audio tape recorder and video tape recorder,[108] the law of copyright has developed in response to significant changes in technology.

In the 1920s music companies feared that the introduction of radio would undermine the market for records, whereas now the industry has come to see radio as an important tool to promote songs and boost record sales.[109] In the case of photocopying, commentators had argued that it had opened up new secondary markets for works, such as photocopied tables of contents to be distributed by researchers[110] and it had enhanced the copyright holders' ability to price discriminate.[111] Likewise, the Commission anticipated in its 1988 Green Paper that "[t]he digital cassette recorder will undoubtedly open up new markets in the data storage and audio recording fields."[112] With regard to the VCR, after the movie

105. *Sony v. Universal Symposium (Panel 3): A New World Order?* 34 *Sw. U.L. Rev.* 211, 218 (2004).

106. Indicatively see the issues that arose in *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908) and the enactment of the U.S. Copyright Act of 1909.

107. Indicatively see *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390 (1968); *Teleprompter Corp. v. Columbia Broadcasting System, Inc., 415 U.S. 394* (1974); *Eastern Microwave, Inc. v. Doubleday Sports, Inc.*, 691 F 2d 125, 129 (CA2 1982) and the enactment of the provisions set forth in 17 U.S.C. § 111 (d) (2) (B) and § 111 (d) (5) (1982 ed.).

108. See Public Law 98-450, 98 Stat. 1727.

109. R. H. Coase, "Payola in Radio and Television Broadcasting", 22(2) *Journal of Law & Economics* 269 (1979).

110. L. Weinberg, "The Photocopying Revolution and the Copyright Crisis" 38 *The Public Interest* 99 (1975), arguing that "the new markets encouraged the shopping of copies rather than the original work".

111. J. Liebowitz, "Copyright law, Photocopying, and Price Discrimination" Research In Law And Economics (1986); J. Liebowitz, "Copyright and Indirect Appropriability: Photocopying of Journals" 93 *Journal of Political Economy 945 (1985).*

112. 1988 Green Paper, p. 118.

studios' lost the battle against home taping in *Sony Betamax*, they realised that selling and renting videotapes and DVDs presented a major business opportunity.

In that regard, the networked digital environment constituted a whole new market by itself. According to the EU and US legislature, the further spread of technology, the emergence of new distribution channels, the dissemination of information through "on-demand" delivery services over interactive digital networks as well as the convergence of previously distinct categories of works and of the audio-visual, telecommunications and information technology sector led to creation of a new market for the exploitation of copyright works in the digital networked environment. TPMs and anti-circumvention offered new possibilities to copyright holders to alter the ways of exploitation of their works and establish new more profitable models to secure revenues.

4. Establishment of new models for the exploitation of works

In its 1995 Green Paper the Commission encouraged the production of new mechanisms, which would facilitate supervision of the use of protected works and supported the establishment of a "pay-per-use" model; it claimed that "[d]igital technology could make home copying into a fully-fledged form of exploitation. [...] Rights management should be rendered easier, allowing individual negotiation on the basis of exclusive rights to continue."[113] Likewise, according to the US House Report the DMCA "intended to ensure a thriving electronic marketplace for copyrighted works on the Internet" and addressed the problems "posed by possible circumvention of technologies [...] which will be used to protect works in the digital environment and to secure on-line licensing systems".[114]

Allegedly, the potentials of the new technology could be realised only if the authors of creative works were protected from the challenges that new technology posed, as otherwise they would not place their works on the Internet.[115] The Commission expected that "[w]ithout an adequate and effective copyright framework, content creation for the new multimedia environment will be discouraged or defeated by piracy, penalizing authors, performers and producers of protected material."[116] According to the 1998 Senate Report "[c]reators and other owners of intellectual property [would] not [have been] willing to put their interests at risk if appropriate systems-both in the US and internationally- [were] not in

113. 1995 Green Paper, p. 28.

114. 1998(a) House Report, p. 10.

115. InfoSoc Explanatory Memorandum, p. 6-7, 1998 Senate Report, p. 2, 9-10, 65-66.

116. InfoSoc Explanatory Memorandum, p. 7.

place to permit them to set and enforce the terms and conditions under which their works [would be] made available in the NII environment".[117]

The situation was presented as if the then existing market players had to retain their *status quo* in the networked digital environment or else creativity and authorship would be hindered. However, this position ignored the new potentials that the advent of technology offered for new market players to enter into the market. As affordable copyright works can boost the market for electronics, such as e-book readers and mp3-players, companies like Amazon and Apple acted as intermediaries making copyright works available to the public.[118] Moreover, the wide availability of copyright works effectively for free may raise legitimate demand through positive demand-side externalities, sampling, and sharing. In any case, there are alternative ways to fund authors' creative efforts other than the sale of embodiments of their works. As music becomes available effectively for free, the interest in music groups is likely to increase, leading to a rise of the price of concerts, so that artists who earn income from concerts might not be hurt by a decline in music sales.[119] Similarly, authors may be able to substitute their income from books through speaking tours if many more readers are more familiar with their writings.[120] Indeed, studies conducted *a posteriori* support the contention that the advent of technology did not discourage the production of copyright works. The publication of new books rose by 66% over the 2002-2007 period, and worldwide feature film production increased by more than 30% from 2003 to 2009.[121]

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117. 1998 Senate Report, p. 66. See also p. 65: "We must make sure that our copyright laws protect the intellectual property rights of creative works available online in ways that promote the use of the Internet, both by content providers and users. The future growth of computer networks like the Internet and of digital, electronic communications requires it. Otherwise, owners of intellectual property will be unwilling to put their material online. If there is no content worth reading online, the growth of this medium will be stifled, and public accessibility will be retarded."

118. For example, Amazon's encore program publishes books by self-published authors whose work attracts good reviews on Amazon.com, offering royalties up to 70% to authors who sold electronic rights directly to Amazon, provided they agreed to prices of between $2.99 and $9.99. See http://phx.corporate-ir.net/phoenix.zhtml?ID=1287891&p=irol-newsArticle&c=176060&highlight=

119. A. Krueger, "The Economics of Real Superstars: The Market for Concerts in the Material World", *Journal of Labor Economics* 23(1), p. 1 (2007), J. H. Mortimer, C. Nosko & A. Sorensen, "Supply Responses to Digital Distribution: Recorded Music and Live Performances", NBER Working Paper No. w16507. Available at SSRN: http://ssrn.com/abstract=1699607.

120. Oberholzer-Gee & Strumpf, supra note 101, p. 5.

121. Ibid, p. 1-2.

Furthermore, the exploitation of the Internet as a means of dissemination of copyright works was not a choice that copyright holders had; instead it was the best way to promote their legitimate interests. Authors of creative works were offered the potential to use the advent of technology to lower the cost of production and dissemination of their works and exploit the markets in which they were active in order to drive out of the market large scale commercial pirates.[122] Moreover, as the traditional methods of exploitation of works were challenged by the change in nature of not-for-profit copying and dissemination of works, copyright holders had to resort to new models of exploitation of their works. Already in 1998 the Commission was expecting that the convergence of previously distinct categories of works and distribution methods as well as the dissemination of information through "on-demand" delivery services over interactive digital networks would replace over time the traditional methods of exploitation of copyright works, like buying or renting physical copies of copyright works.[123] For these reasons, no incentive was needed for copyright holders to use the advent of technology to promote their works; on the contrary, the legislature should have focused its attention on the new models that fostered creativity and innovation and disseminated works and information to the public, even if that meant that the interests of established market actors would be hurt.

5. Conclusion

Three main justifications can be traced in the legislative history of the acts that introduced the EU and US anti-circumvention norms. Firstly, it has been claimed that the ease of copying and the new models of dissemination of copyright works and the difficulty in detection and enforcement of copyright law would facilitate the infringement of copyright. Secondly, the advent of technology was expected to alter copying for private purposes, which was allowed at the time in the US and in the majority of the EU Member States. Thirdly, it was claimed that the new technological achievements could potentially lead to new desired financial models for the exploitation of works. Hence, TPMs and anti-circumvention were presented as a means to protect authors, publishers and performers from allegedly novel threats, as a means to compensate them for the harm they would allegedly endure and finally as a means to encourage them to exploit the potential offered by the new technologies. In reality, though, TPMs and anti-circumvention were a means to establish new models for the exploitation of copyright works, as the traditional ways of exploitation of copyright works were challenged in the networked online environment.

122. See above under 2.1.

123. InfoSoc Explanatory Memorandum, p. 6. See also P. B. Hugenholtz, above note 8, p. 85.

Although the role of TPMs does not alter according to the subject matter they protect, the legislature relied on divergent justifications for the adoption of anti-circumvention norms in the EU Directives and the US Acts. The 1991 Software Directive, which was the first EU instrument to include an anti-circumvention provision, failed to provide any justifications regarding the need for legislation on the matter. At that time the protection of TPMs from circumvention was uncontroversial,[124] probably because legislature and commentators had not yet realised the wider implications of the use of TPMs exploitation of copyright works which were safeguarded by copyright. When enacting the Information Society Directive and the DMCA the legislature emphasized mainly the violation of the authors' interests and the threats for authorship and creation and tried to justify resorting to means of exploitation of copyright works other than traditional copyright law as an equilibrium of justice that would be reached because of the harm that copyright holders had to endure because of the advent of technology. As mentioned above, though, the claims for easier copyright infringement were not accurate. In reality, the various anti-circumvention provisions have as their common objective to safeguard a model of exploitation of works, despite the different articulation of the justifications of anti-circumvention in the different instruments.

124. See J. Verstrynge, 'Protecting Intellectual Property Rights within the New Pan-European Framework: Computer Software' in Lehmand & Tapper (Eds.) *A Handbook of European Software Law*, (1993), Part I, p. 10, who after a thorough analysis of Articles 1, 2, 4 and 5 stated that the remaining Articles of the Directive were "for the most part uncontroversial".

Digital copyright and internet freedom: Two enemies to be reconciled

Enrico Bonadio

1. Introduction

This article explores the relationship between copyright and freedom of speech in the digital environment. In particular, the author looks at the well known phenomenon of file sharing on the Internet, which often involves the exchange of information protected by copyright. The author also explores how a possible conflict between copyright and freedom of expression emerges and may be settled in the Internet environment (also in light of the European Convention on Human Rights). After briefly highlighting the constitutional dimension of these conflicting rights and introducing the phenomenon of file sharing, the author turns his attention to the debate surrounding a particular sanction used in certain jurisdictions to punish unauthorized on line sharing of copyrighted material, i.e. the disconnection of Internet access.

The author also analyzes the increasingly important role played by private agreements between copyright holders and Internet Service Providers (ISPs), i.e. a strategy of compelled voluntary collaboration currently pursued by certain copyright holders. This new strategy confirms that public law is not anymore the only vehicle through which copyright owners enforce their exclusive rights in the Internet context.

Finally, a set of proposals aiming at identifying possible areas of freedom for unauthorized file sharers are analyzed.

2. The constitutional dimension of the two conflicting rights

Both freedom of speech and copyright have a constitutional dimension.

Freedom of expression is strongly protected by many countries' constitutions. For example, in the US free speech is protected by the First Amendment to the Constitution as well as by many states' constitutions. Freedom of expression is also protected in the European Charter of Fundamental Rights (Article 11), the European Convention on Human Rights (Article 10), the International Covenant on Civil and Political Rights (Article 19) and the Universal Declaration of Human Rights (Article 19). The importance of protecting free speech has also been

stressed several times by the European Court of Human Rights, the European Court of Justice and the US Supreme Court.

Also intellectual property rights (IPRs), and particularly copyright, are constitutionally protected in some countries (yet only a few industrialized countries' constitutions expressly protect copyright). For example, Section 1(8) US Constitution states that "the Congress shall have the power to [...] promote the Progress of Science and useful Arts, by securing for Limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries". In Europe three national constitutions expressly define copyright as fundamental right[1]; in most other European states the constitutional nature of copyright is merely inferred by constitutional courts in their decisions[2].

Furthermore, copyright and IPRs in general are recognised as human rights in several international treaties, including the Universal Declaration of Human Rights[3] and the European Charter of Fundamental Rights[4].

It is often said that copyright is constitutionally protected because it turns out to be the "engine of free expression", as it was stated by the US Supreme Court in *Harper & Row*[5]. Indeed, by granting authors exclusive rights for the commercial exploitation of works, copyright gives an important incentive for the creation and diffusion of music, literature, art, movies, etc.[6].

Yet, copyright is also capable of stifling freedom of expression. Indeed, copyright confers upon its owner exclusive rights, including the right to prevent copying or even access the whole or a substantial part of a protected work. For example, by relying on technology protection measures, right owners can prevent people from accessing scientific articles published in online academic journals. In such a manner, users can be prevented from accessing existing information, which in turn

1. See the Swedish Constitution (Article 19, par. 2), the Portuguese Constitution (Article 42) and Spanish Constitution (Article 20).
2. As far as the constitutional nature of IPRs is concerned, see Cristophe Geiger, The Constitutional Dimension of Intellectual Property, in Paul Torremans (ed.), Intellectual Property and Human Rights, Walters Kluwer, 2007, pp. 101-131.
3. Article 27.2 of the Universal Declaration of Human Rights states that "Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author."
4. Article 17.2 of the European Charter of Fundamental Rights simply states that intellectual property shall be protected.
5. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985).
6. On the debate about copyright's philosophical nature, see Spinello R. & Bottis M., A defense of intellectual property rights, Edward Elgar Publishing, 2009.

might negatively affect the ability of forming people's own opinion and expressing it. Thus, copyright can be used to restrict the free use of existing works and as a result it has the potential to limit the flow of information necessary to form and communicate personal opinions. In other words, the creation of subsequent works ("down-stream" creations) often relies on the possibility of accessing and studying previous works ("up-stream" creations). If access to existing works is hindered, opportunities of coming up with new works are also likely to be reduced, which in turn may jeopardize the progress of our society's cultural life.

The fact that copyright has the potential of both enhancing and stifling freedom of expression has been labeled by Neil Netanel as the "copyright's paradox" [7]: indeed, copyright stimulates some speech ("up-stream" speech) while abridging other speech ("down-stream" speech)[8]. As will be shown later, in the digital environment it appears that copyright protection is more prone to stifling free speech rather than stimulating it.

3. Internet access as human right

The right to free speech is a fundamental right enshrined in several international instruments.

In the current digital age people express their opinion and ideas *via* the Internet. It is in the web where people, organizations, artists, musicians, etc. find opportunities and chances to form, modify, tailor and express their ideas. Thus, gaining access to Internet has become an important prerequisite for people and organizations to acquire the knowledge necessary to form and express their opinions and creativity. Access to, and use of, Internet strongly enhances freedom of speech.

It is therefore no surprise that there has recently been a push by the United Nations to make Internet access a human right. The Greek Constitution has already adopted this view (Art. 5A on access to information) in 2001. The right to Internet connection – also known as right to broadband – has been increasingly perceived as acquiring the same relevance as the right to other public goods, such as water, air, healthcare, education, etc. Internet has become vital in everyday life (e.g. for connecting families and friends, banking, shopping, earning a living, etc.) and positively affects the ability of people to communicate, work, manage finances, learn, and generally participate in the collective life of our society[9].

7. Neil Weinstock Netanel, *Copyright's Paradox*, OUP (2008). See also generally Spinello Richard and Maria Bottis, A Defense of Intellectual Property Rights, Edward Elgar Publishing, 2009.

8. *Id.*, p. 34.

9. Annemarie Bridy, Graduated Response and the Turn to Private Ordering in Online Copyright Enforcement, Oregon Law Review 2010 (available at SSRN: http://ssrn.com/abstract=1565038, p. 48).

Finland has been the one of the first countries to introduce at constitutional level a legal right to Internet access[10], and also Estonia recently passed a law stating Internet access as a fundamental human right of its citizens. Moreover, as will be shown later, in a decision of June 2009 the French Constitutional Court basically confirmed that the right to Internet access is a fundamental right[11]. Also the Constitutional Chamber of the Supreme Court of Costa Rica recently declared Internet access as essential for the exercise of fundamental rights[12].

At EU level, Article 3-*bis* Directive 140/2009 is relevant[13]. This provision attaches great importance to the right to Internet access, and expressly makes reference to the fundamental rights and freedom of natural persons enshrined in the European Convention on Human Rights (ECHR).

10. As from the 1st of July 2010, all citizens of Finland have the right to have a broadband Internet connection of at least 1 Megabit per second. And the promise was made to upgrade every citizen to a 100Mbps connection in five years time.

11. See below at paragraph 6.

12. Supreme Court of Costa Rica, 20-7-2010.

13. Precisely, Article *3-bis* Directive 140/2009 amending Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services, Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and Directive 2002/20/EC on the authorization of electronic communications networks and service. This provision states that "Measures taken by Member States regarding end-users access' to, or use of, services and applications through electronic communications networks shall respect the fundamental rights and freedoms of natural persons, as guaranteed by the European Convention for the Protection of Human Rights and Fundamental Freedoms and general principles of Community law. Any of these measures regarding end-users' access to, or use of, services and applications through electronic communications networks liable to restrict those fundamental rights or freedoms may only be imposed if they are appropriate, proportionate and necessary within a democratic society, and their implementation shall be subject to adequate procedural safeguards in conformity with the European Convention for the Protection of Human Rights and Fundamental Freedoms and with general principles of Community law, including effective judicial protection and due process. Accordingly, these measures may only be taken with due respect for the principle of the presumption of innocence and the right to privacy. A prior, fair and impartial procedure shall be guaranteed, including the right to be heard of the person or persons concerned, subject to the need for appropriate conditions and procedural arrangements in duly substantiated cases of urgency in conformity with the European Convention for the Protection of Human Rights and Fundamental Freedoms. The right to effective and timely judicial review shall be guaranteed".

4. File sharing, copyright enforcement and the role of Internet Service Providers

One of the tools massively used to exchange information on line is file sharing. This technology refers to the sharing of computer data or space on a network. It allows multiple users to access the same file (containing data, audio and/or video) stored in a central server, giving the user the ability to read, modify, print or copy it.

And what about "peer-to-peer" (P2P) file sharing? Peer-to-peer technology enables the sharing of files by a direct exchange between end-users' computers. P2P networking means that the files are not stored on a central server. Instead, certain software which can be installed in individuals' computers work as a server for shared files. This permits each computer equipped with the software in question to act as a mini-server from which other P2P users can download files. P2P's popularity derives from the fact that it is user-friendly and convenient. Such technology has empowered informal networks of file sharers to make files available to each other, around the world. Thus, P2P file sharing enables people around the globe to exchange information over the Internet by using machines connected through networks, which in turn allows a cheap and worldwide sharing of digitized information.

As is known, these technologies often turn out to clash with copyright. Indeed, when they are used to share files containing copyright protected material, such activities are usually considered copyright infringement, and particularly a violation of the "communication to the public" and "making available" rights, which are reserved to copyright owners. Such rights are now protected by most countries as a result of implementing Article 8 of the WIPO Copyright Treaty and Articles 10 and 14 of the WIPO Performances and Phonograms Treaty. These provisions state that copyright holders enjoy the exclusive right to authorize any communication to the public of their works, including the making available to the public in such a way that members of the public may access these works from a place and at a time individually chosen by them. File sharing technologies – which allow the making available of copyright protected works to the public - have often been deemed by courts to fall within the above provisions[14].

Copyright owners have regularly enforced their exclusive rights by taking legal action against those who uploaded, downloaded and generally shared copyright

14. See also Michael Schlesinger, Legal issues in peer-to-peer file sharing, focusing on the making available right, in Alain Strowel (ed.), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 43-70, at p. 45.

protected material with other peers, especially music and movies files. Such actions have often been successful.

In addition to taking action against individual files sharers ("primary infringers"), right owners often chase "secondary infringers", i.e. those companies or organizations which permit or encourage primary and direct infringement by individual file sharers, or build up the technical means which make said direct infringement possible. These are called Internet Service Providers (ISPs) and – to the eyes of copyright owners - they often act as gatekeeper and enable individuals' file sharing of copyrighted protected material.

Liability is therefore not limited to people who personally infringe copyright, i.e. who upload and make available the files in question. As it happens with other kinds of torts, liable is also the person who encourages, facilitates, helps or anyhow benefits from carrying out an unlawful act. Copyright makes no exception to this rule. Indeed, several legislations consider liable for copyright infringement whatsoever person or organization connected to primary infringements, being them music halls (which broadcast music from the radio), copy shops (which allow the copying of protected material) or ISPs which offer users the technical means to share and make available infringing files[15].

However, both EU (see Articles 12-14 Directive 2000/31) and US legislations (see Section 512 of the 1998 Digital Millennium Copyright Act) have created an exemption for ISPs and other Internet intermediaries, by shielding them from liability for copyright infringement committed by others, provided certain conditions are met[16].

15. Allen N. Dixon, Liability of users and third parties for copyright infringements on the Internet: overview of international developments, in Alain Strowel (ed.), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 12-42, at p. 12.

16. The US Digital Millennium Copyright Act (DMCA) is particularly important. It implements the 1996 WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty and outlaws the unauthorized on line reproduction and distribution of copyrighted material.

    Section 512 exemption is commonly known as the "safe harbour" provision, as it gives ISPs a shield from copyright infringement. By exempting Internet intermediaries from liability, such provision aims at finding a balance between the conflicting interests of copyright owners and Internet users. For such exemption to apply ISPs must *inter alia* adopt and reasonably implement a policy of addressing and terminating subscription and accounts of users who are held to be "repeat infringers" (on this point see below at paragraph 6).

    Viacom Int'l Inc., et al., v. YouTube, Inc., et al., Nos. 07-Civ-2103 (LLS), 07-Civ-3582 (LLS), a decision of June 2010 from the US District Court for the Southern District of New York confirmed the availability of the Section 512 exemption in a case of video sharing. The entertainment company Viacom took action against YouTube and its corporate parent

5. Repositioning file sharing: not only copying music and movies

Copyright owners have taken a large number of legal actions in many countries against companies, ISPs or even individuals providing or using file sharing network services. Many legal actions – especially those actions involving the unauthorized sharing of music or movies files – are well known and have already been commented[17].

Yet, file sharing is not limited to the exchange and copying of music or movie files. People also use these technologies in order to exchange information, ideas and opinions as well as to critic other people's beliefs and in general to convey messages. File sharing is often used as a tool for finding works which would otherwise be unavailable, finding out new genres, carrying out personalized compilations as well as for posting creative remixes, sequels and new interpretations of existing works (including parody)[18]. It therefore provides far more opportunities than in the off line world for artists and authors to reach, analyze and further develop a great number of existing works.

Google for copyright infringement requesting more than $1 billion in damages. The plaintiff claimed that the popular video-sharing website YouTube was engaging in massive intentional copyright violation for making available 160,000 unauthorized clips of Viacom's entertainment programmes. The Court granted summary judgment for Google and basically held that mere and general knowledge of copyright infringement, no matter how widespread and clear, was not sufficient for YouTube not to benefit from Section 512 exemption.

17. See *inter alia, A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (Ninth Circuit, 2001); *MGM Studios Inc v Grokster Ltd*, 545 US 913 (US Supreme Court 2005); *IO Group Inc. v Veoh Networks Inc.* (U.S. District Court of California, 2008); *Universal Music v Veoh* (California Central District Court, 2009); *Viacom Int'l Inc., et al., v. YouTube, Inc., et al.*, Nos. 07-Civ-2103 (LLS), 07-Civ-3582 (LLS) (US District Court New York 2009); *Arista v. Lime Wire* (US District Court New York, 2010); *Polydor v. Brown* [2005] EWHC 3191 (Ch); *Brein v Mininova*, Rb Utrecht 26 August 2009, LJN BJ6008, 250077/HA ZA 08-1124; *Pirate Bay*, B 13301-06, Stockholm District Court, Division 5, Unit 52, Verdict B [2009]; *Universal Music Australia Pty Ltd v. Sharman License Holdings Ltd* [2005] FCA 1242; *Roadshow Films Pty Ltd v. iiNET Limited* (Federal Court of Australia 2010); *SGAE (Sociedad General de Autores y Editores) v. Jesus Guerra*, Case N. 261/09, Barcelona Commercial Court N. 7, March 2010; *Telecinco v. YouTube* (Madrid Commercial Court, September 2010).

18. Neil Weinstock Netanel, Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing, The University of Texas School of Law, Law and Economics Working Paper No 009, December 2009, p. 3 (available on the Internet at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=468180).

Several universities - especially in the US - use file sharing technologies to make the sharing of class notes easy, class assignments and other forms of content and it is believed that such networks have enhanced educational and research capabilities[19]. Viewed from this social and cultural perspective, file sharing can be considered as an activity that fosters a number of values underpinning the very protection of free speech. This is particularly true when it comes to P2P file sharing which – as shown above - enables the sharing of files by a direct exchange between end-users' computers. Indeed, its decentralized feature (as opposed to centralized systems) permits users to create and disseminate countless kinds of resources, in manners which have never been possible earlier: in this case, the potential exchange of information and ideas is maximised.

File sharing networks have thus become necessary components of many global virtual communities where for example information and cultural artefacts are shared and discussed in chat rooms[20] or other virtual spaces including social networks. For several communities (e.g. academia, defense sector, etc.) file sharing has opened new scenarios and has become an important tool of cultural, scientific and technical collaboration. This is the main feature of the so-called "Web 2.0" networks, also known as User Generated Content (UGC) services, which are generally associated with Internet applications that make easy interactive information sharing, interoperability and user-centred design.

In a nutshell, file sharing and generally, Internet technologies – by linking together communities of users, artists and creators (i.e. communities of people who are not just interested in copying music and movie files) - have the potential of dropping individuals' reliance on traditional mass media for information and entertainment and thus maximizing the exchange of ideas and opinions with a wider range of people[21].

Having said that, it seems that copyright owners are also keen on enforcing their exclusive rights against the above communities. The following case is self-explaining. In 2003 the company Diebold Electronic Systems – producer of an electronic voting machines' software - started sending cease-and-desist letters to US University students who had engaged in posting and circulating on the Internet

19. Jason Putter, Copyright Infringement v. Academic Freedom on the Internet: Dealing with Infringing Use of Peer-To-Peer Technology on Campus Networks, J. L. & Pol'y 419 (2006), pp. 419-469, at. pp. 421 (note 5) and 425.

20. Robert Danay, Copyright vs. Free Expression: The Case of Peer-to-Peer File-Sharing of Music in the United Kingdom, 8 Yale Journal of Law & Technology 32 (2005) (available on the Internet at http://ssrn.com/abstract=847905, p. 20).

21. Netanel, above note 7, p. 9.

Diebold's internal communications[22]. In these communications (which consisted of both email messages and internal memorandums) various problems and flaws of Diebold's software were highlighted. The files were circulated amongst students also by means of P2P file sharing technologies (and posted in various websites) and included thousands of e-mails highlighting bugs in Diebold's software and warnings that its computer network was poorly protected against hackers [23]. Warning letters were also sent by Diebold to ISPs which hosted the internal documents revealing flaws in Diebold's e-voting machines.

In the cease-and-desist letters Diebold invoked copyright infringement pursuant to the DMCA (it claimed that the files in question contained copyright protected material) and requested the documents to be removed. One ISP involved, Online Policy Group (OPG), refused to take them down invoking the right to free speech.

Two students and the ISP OPG took action against Diebold alleging *inter alia* that the former's claim of copyright infringement was based on knowing material misrepresentation. The three plaintiffs sought a judicial declaration that the publication of the above communications was lawful and requested to enjoin Diebold from threatening or bringing any action for copyright infringement.

The California district court found that Diebold knowingly misrepresented that online commentators, including the above college students, had violated the company's copyrights. It was held that "No reasonable copyright holder could have believed that the portions of the email archive discussing possible technical problems with Diebold's voting machines were protected by copyright". The court added that Diebold tried to use copyright provisions "as a sword to suppress publication of embarrassing content rather than as a shield to protect its intellectual property" [24].

This case shows that file sharing networks and Internet technologies in general can be used to foster freedom of speech, stimulate critical thinking as well as exert leverage on companies, government officials and politicians – and that copyright provisions may maliciously be invoked to stifle and chill these potentialities. These potentialities might be chilled also when copyright owners do not actually enforce their exclusive rights: this happens when speakers, artists or au-

22. Generally speaking, in that period US copyright owners in the creative content industries were very active in protecting their IPRs. Either they sent letters to hundreds of colleges and universities, requesting them to take action to prevent P2P infringement on campus networks, or they sent notices to universities detailing specific cases of unlawful file sharing on their networks. See Putter, above note 18, pp. 431-432.

23. See *New York Times* of 3 November 2003.

24. *OPG v. Diebold*, 337 F. Supp. 2d 1195, N.D. Cal. 2004.

thors – being aware of the existence of copyright provisions allowing right owners to enforce their exclusive rights - prefer to engage in self-censorship rather than running the risk of being sued and paying lots of money as compensation.

We have seen that file sharing is not limited to music and movie works, but it also entails the exchange of other kind of information.

In any case, it should be noted that file sharing of music files also contributes to the marketplace of ideas. It has been said that such exchange is increasingly perceived as a new form of "interest-based social interaction"[25]. Even the passive sharing of songs with unknown people sitting in front of their PC at the other corner of the globe is to be considered an important form of cultural exchange. Those websites permitting to share music, videos or other material and allowing people to leave comments regarding such material (e.g. YouTube) are pertinent examples. These Internet fora are comparable to big rooms where persons face-to-face exchange opinions, ideas and information[26]. P2P file sharing systems – by permitting that – may constitute a relevant part of several persons' "sense of community, identity and therefore self-fulfillment"[27]. Sharing music files – coupled with the possibility of exchanging comments and points of view regarding songs – contributes to the evolution of music and boosts the cultural development of a given community. No doubt people who are exposed to more music are better prepared to offer their new ideas and solutions into the artistic community.

Musical and in general artistic works are thus stimulated if there is massive exposure to (and creative appropriation of) previous works[28] – and such exposure is particularly favored by the use of file sharing technologies. Any author needs access to previous works in order to create new music [29] – and without such access the creation of new music (and generally of new artistic forms) is hindered. It has been argued that the speech and art of previous authors and creators are the "raw material" of subsequent artists and authors[30]. Take the example of hip-

25. Daniel Gervais, The Price of Social Norms: Towards a Liability Regime for File-Sharing, Journal of Intellectual Property Law, 12.1 (2003), pp. 39-74, at. p. 41.

26. Netanel, above note 7, p. 74.

27. Danay, above note 19, p. 20.

28. Also classical composers like Beethoven and Mozart regularly took inspiration from already existing segments, motifs and themes.

29. See also Wendy J. Gordon, Copyright Norms and the Problem of Private Censorship, in Jonathan Griffiths – Uma Suthersanen (edited by), Copyright and Free Speech – Comparative and International Analyses, OUP (2005), pp. 67-96, at p. 67.

30. Netanel, above note 7, pp. 58-59.

hop or jazz music. It has been pointed out that these music genres developed and became successful as a consequence of the re-interpretation of previous works[31].

It could therefore be said that file sharing is another "engine of free speech". People who employ this technology and use existing copyrighted works to create derivative works and thus express their opinion are no less deserving of protection and no less innovative than the author of the previous work[32].

Yet, one might stress that unauthorized file sharing is not "speech" and thus cannot be invoked as a tool for exercising freedom of expression.

The reply would be easy, however. Indeed, it could be argued that music, movies and other artistic works do constitute "speech", and that access to such existing speech and information – which is greatly enhanced by file sharing technology - is no less important to freedom of expression than is the making of the speech itself[33]. Indeed, the US Supreme Court has constantly affirmed that freedom of expression policy serves both "speakers" and "listeners"[34]. US policy in the telecommunication sector confirms the above, as US legislation has always guaranteed cheap access to programs, information and opinions throughout public libraries and free over-the-air television and it has done so exactly with a view to boost freedom of speech[35].

File sharing is instrumental to the system of free expression also because it strongly reduces the traditional copyright-supported media power of content

31. Id., pp. 19-22; Lea Shaver – Caterina Sganga, The Right to Take Part in Cultural Life: on Copyright and Human Rights, Wisconsin International Law Journal, pp. 637-662, at p. 645.

32. Netanel, above note 7, p. 29. It has also been noted that users who integrate copyrighted works in their own creations (especially those who do that for non-commercial purposes) and who upload these works on the Internet must rely on an easy and efficient permission mechanism. This is necessary to strike a balance between the rights of content creators and the need to take into consideration new forms of expression. See the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions, 24 May 2011, p. 12, available at http://ec.europa.eu/internal_market/copyright/docs/ipr_strategy/COM_2011_287_en.pdf (last accessed on 3 June 2013). Copyright protection therefore should not hinder up-stream creations devloped and communicated through the Internet. As Professor Ian Hargreaves recently put it, copyright laws have begun to act as "a regulatory barrier to the creation of certain kinds of new internet-based businesses": See Digital Opportunity – A Review of Intellectual Property and Growth, An Independent Report, May 2011, available at http://www.ipo.gov.uk/ipreview-finalreport.pdf, p. 3. Last access June 10, 2013.

33. Netanel, above note 7, p. 29.

34. See for example *Red Lion Broad. Co. v. FCC,* 395 U.S. 367, 390 (1969).

35. Netanel, above note 7, p. 47.

supply and distribution. Thus, minor artists, creators and authors who are not associated to major labels, studios or publishers have the potential to access and reach a larger market of information, contents and ideas, and carry out creative appropriations and remixes of existing works: which in turn strengthens the cultural life and creativity of our society.

6. Disconnecting Internet access of file sharers under French, UK and US law

We have seen that the right to Internet connection has become more and more important, having acquired the same weight as the right to other public goods, such as water, air, healthcare, education, etc. Internet allows people to use useful technologies (including file sharing networks) which boost and strengthen freedom of speech and generally artistic and cultural activities.

Having said that, a few national legislations provide that Internet connection of persistent file sharers shall be terminated provided certain conditions are met. The author will briefly look at the recent French and UK laws, as well as at the US provision.

The decision of terminating users' Internet access is very sensitive. In addition to eliminating a tool which has become vital in everyday life, it might negatively affect the entire family of the single alleged infringer, as a family usually relies on just one Internet subscription.

The French scenario

France has recently taken in serious consideration the phenomenon of on line copyright infringement and of unauthorized file sharing in particular. In May 2009 the first version of the so-called Hadopi law was adopted. This law aims at controlling and regulating Internet access as a means to encourage compliance with copyright provisions. It was lobbied by the French president Nicolas Sarkozy, who believed that a strong legislative action to react against online infringement of copyright was badly needed.

This law has also created an *ad hoc* administrative agency, called Hadopi (Haute autorité de diffusion des oeuvres et de protection des droits sur internet), which has been given the task to control that "internet subscribers screen their Internet connections in order to prevent the exchange of copyrighted material without prior agreement from the copyright holders" (Art. L. 336-3 French Intellectual Property Code).

The law states that individual subscribers must ensure that their accounts are not accessed and used to reproduce or make available artistic works without the au-

thorization of the copyright holder. It provides the so-called "three-strikes" rule, also labelled as "graduated response": if subscribers fail to properly supervise their account within the year following the receipt of the first recommendation (and after a second recommendation has been sent to him), the administrative agency could - after a hearing - either suspend Internet access for any time between two months and a year (during which the subscriber is enjoined from entering into a service agreement with any other Internet service provider) or order subscribers to implement security measures aimed at preventing other unauthorized downloads or uploads, with penalty fees for non-compliance.

Thus, one of the main features of this first version of the Hadopi law is the preeminent role of an administrative agency entrusted with the power to impose sanctions, including the disconnection of Internet access. Why has the first version of the Hadopi law provided that such a sanction be decided by an administrative body? It should be noted that judicial proceedings are usually expensive and slow: that might be a reason why a speeder and cheaper "extra-judicial" approach was initially chosen as opposed to a standard court proceedings[36].

This law was scrutinised by the French Constitutional Court, which in June 2009 found a part of it unconstitutional. As terminating individuals' Internet access affects individuals' right to free expression (which is a fundamental right), the French Constitutional Court held that any decision involving Internet disconnection should be taken by a court after a careful balancing of the two interests at stake, i.e. copyright protection and freedom of speech. As the Hadopi law gave an administrative agency the power to terminate individuals' Internet access, the Court held such grant of authority as unconstitutional. And it specified that French Parliament was not at liberty to vest an administrative authority with such power in light of Article 11 of the Declaration of the Rights of Man and the Citizen of 1789[37].

The Constitutional Court's finding that freedom of speech entails access to online communications services was also interesting. In particular, when commenting on the right enshrined in the above Article 11 of the Declaration of the Rights of Man and the Citizen, the court stressed that "in the current state of the means of communication and given the generalized development of public online communication services and the importance of the latter for the participation in de-

36. See also Alain Strowel, Introduction: peer-to-peer file sharing and secondary liability in copyright law, in Alain Strowel (ed.), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 1-11, at p. 10.

37. This provision states that "the free communication of ideas and opinions is one of the most precious rights of man. Every citizen may thus speak, write and publish freely, except when such freedom is misused in cases determined by Law".

mocracy and the expression of ideas and opinions, this right implies freedom to access such services" (paragraph 12). Such finding not only clearly recognizes the importance of the right to have Internet access in the present era, but also impliedly affirms its fundamental nature.

The French Constitutional Court also dealt with the following aspect of the Hadopi law, i.e. the fact that the burden of proof was placed on Internet subscribers. That meant that - in order to be successful in the procedure – Internet subscribers had to prove that they were not liable for the alleged on-line infringement. In other words, subscribers should have proved that they properly secured their Internet access or that a third party was in fact responsible for the alleged infringement. According to the court, this boiled down in a presumption of guilt on Internet subscribers and was a violation of the constitutional principle of presumption of innocence[38].

On September 2009 the French parliament passed another bill (informally known as Hadopi 2), which was intended to remedy the enforcement gap left by the Constitutional Court's decision. The most important difference between the first version of the law and Hadopi 2 is that sanctions against the alleged infringer will be decided by a court and not by the administrative agency (as indirectly recommended by the Constitutional Court). The entire process is still speeded up by the Hadopi-driven administrative procedure, however.

The British scenario

Also the UK has recently issued a law specifically aimed at fighting on line copyright infringements including unauthorized file sharing. It is the Digital Economy Act of April 2010.

A proposed code of practice which implements said Digital Economy Act has been adopted by Ofcom in June 2010[39]. It requires ISPs to send notifications to their subscribers to inform them of allegations that their accounts have been used for copyright infringement, e.g. unauthorized file sharing. It also proposes a Hadopi-like three stages process for ISPs to inform subscribers of copyright in-

38. See Article 9 of the Declaration of the Rights of Man and the Citizen of 1789, which states that "as all persons are held innocent until they shall have been declared guilty, if arrest shall be deemed indispensable, all harshness not essential to the securing of the prisoner's person shall be severely repressed by law".

39. The Ofcom is the UK independent telecommunications regulator and has been entrusted by the Digital Economy Act with the task to draw up and enforce a code of practice implementing the new provisions (the Code is available on the Internet at http://stakeholders.ofcom.org.uk/binaries/consultations/copyright-infringement/summary/condoc.pdf). Last access June 10, 2013.

fringements and provides that subscribers which have received two notifications within a year (and have not stopped infringing copyright) may be included in a list requested by a copyright owner. This would be useful to copyright holders, who will then be able to take legal action against the alleged infringers.

The most controversial provision of the Digital Economy Act is Section 17(1), which grants powers to the Secretary of State to disconnect people or slow their connections if they ignore warnings in case of alleged infringement. This provision states that "The Secretary of State may by regulations make provision about the granting by a court of a blocking injunction in respect of a location on the Internet which the court is satisfied has been, is being or is likely to be used for or in connection with an activity that infringes copyright"[40].

Thus, the UK Digital Economy Act also provides – at least in principle – disconnection of Internet in case of on line copyright infringement. Yet, it also takes for granted that such disconnection is to be decided by a judicial authority. The UK Parliament – in doing so – might have taken into consideration the above decision from the French Constitutional Court. Indeed Section 17(5) of the Digital Economy Act states that "in determining whether to grant an injunction, the court must take account of [...] (e) the importance of freedom of expression"[41].

On the other hand, the presence of the words "likely to be used" in Section 17(1) has been perceived by the first commentators of the Act as worrying and risky. Don Foster, the Liberal Democrats' spokesman for culture, media and sport, stressed that such a clause is too wide-ranging, as it would entail that a website

40. However, according to the Ofcom draft code "The Secretary of State has not indicated his intention to make use of these provisions at this time and this consultation is not concerned with this aspect of the DEA [Digital Economy Act]".

41. Article 17(5)-(d) of the Act also states that courts – when granting injunctions preventing access to Internet – should take into consideration "whether the injunction would be likely to have a disproportionate effect on any person's legitimate interests".

Concerns as to the consequences of Internet disconnection as a result of a "graduated response" have also been expressed in the Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression of 16 May 2011 (Rapporteur Frank La Rue), p. 14, UN doc. A/HRC/17/27, available at http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf (last accessed on 10 June 2013). In this report it is even argued that disconnecting Internet access, regardless of the justification provided, including on grounds of IPRs infringement, is disproportionate and therefore a violation of article 19(3) of the International Covenant on Civil and Political Rights (see p. 21 of the Report).

containing suspected files could be blocked on its assumed intentions rather than its actions[42].

Also in light of the above concerns, the UK government requested Ofcom to review Section 17 of the Digital Economy Act (which in the meantime resisted a judicial review claim brought by two of the country's largest ISPs). In particular Ofcom are currently assessing whether enabling courts to shut down websites dedicated to copyright infringement would work in practice.

The US scenario

What about the US? Does the DMCA make reference to Internet disconnection in case of on line copyright infringement?

It does. Precisely, the DMCA makes reference to such sanction when dealing with the "safe harbour" exemption. Indeed, this exemption applies to ISPs provided they *inter alia* have adopted and reasonably implemented a "policy that provides for the termination in appropriate circumstances of subscribers and account holders of the service provider's system or network who are repeat infringers" (Section 512(i)(1)(A) DMCA).

This provision does not clarify who should finally decide to impose such sanction, however[43]. The ISP which has adopted the policy in question? A judicial body? Thus far US courts have not given guidelines on that issue and on the meaning of the term "repeat infringers" in particular.

An interpretation of this term has been given by David Nimmer: one may not be considered an infringer unless he has been found as such by a court[44]. Indeed, when the US Congress wanted to refer to individuals who were not proven infringers, it used the terms "claimed infringers" or "alleged infringers". On the contrary in Section 512 – unlike in other DMCA provisions - the expression "repeat infringers" is used. This term should therefore refer to those against whom the infringement has been adjudicated, and not against whom it is merely al-

42. See The Guardian of 8 April 2010.

43. What is clear is the purpose of this provision, i.e. to prevent future infringements by users. When enacting the DMCA, the US Congress noted that "those who repeatedly or flagrantly abuse their access to the Internet through disrespect for the intellectual property rights of others should know that there is a realistic threat of losing that access" (H.R. Rep. No. 105-551, pt. 2, at 61, 1998).

44. Or unless an ISP has actual knowledge that an infringement has been committed. See David Nimmer, Repeat Infringers, Journal of the Copyright Society of the USA (2005), Vol. 52 Part 2, pp. 167-224, pp. 179-184.

leged[45]. This interpretation appears to be in line with the second version of the Hadopi law and with the Digital Economy Act, which – as shown above – require Internet disconnection to be decided by a judicial authority.

7. The EU perspective: the debate at the European Parliament on on-line copyright infringement and Internet disconnection and other relevant issues

The issue of on-line copyright infringement and Internet disconnection has also been debated at the European Parliament during the negotiations which led to the adoption of the so-called "Telecom Package". Such reform package was first presented by the former EU Commissioner Viviane Reading to the EU Parliament in 2007, with a view to changing the EU telecoms rules and particularly completing the internal market in the EU telecommunications industry.

During these negotiations two positions emerged.

On the one hand, the EU Council and the entertainment industry promoted a "three-strikes" rule managed by an administrative authority, a proposal very similar to the first version of the Hadopi law.

On the other hand, the European Parliament and several advocacy groups promoting digital rights and freedom of expression lobbied a less strict and harsh solution, i.e. they claimed that Internet disconnection should be decided exclusively by courts and not by administrative bodies. Such groups expressly made reference to the ruling of the French Constitutional Court which – as shown above - stressed the importance of involving courts when it comes to deciding the termination of Internet access.

In particular, the European Parliament promoted the so-called "amendment 138", which had been embraced twice by a huge majority in the plenary assembly (88% of EU Parliament)[46]. This amendment sought to prevent EU member

45. *Id.*, p. 183.

A recent Bill – presented by Sen. Patrick Leahy and known as Protect IP Act 2011 – also deals with on-line copyright infringement including file sharing. It envisages the institution of a blacklist of websites ("dedicated to" or "primarily designed" for copyright infringing activities) which can be seized by the US Government. The bill would basically prevent US Internet users from getting access to any website the government believes is clearly infringing copyright and any other website which tries to mirror the infringer's contents. The first commentators of the bill already stressed that this bill raises serious First Amendment concerns.

46. See *e.g.* European Parliament legislative resolution of 24 September 2008 on the proposal for a directive of the European Parliament and of the Council amending Directive 2002/21/

countries from adopting legislations allowing Internet disconnection of persistent file sharers without a previous authorisation of a court. It read as follows:

> "*Applying the principle that no restriction may be imposed on the fundamental rights and freedoms of end-users, without a prior ruling by the judicial authorities, notably in accordance with Article 11 of the Charter of Fundamental Rights of the European Union on freedom of expression and information, save when public security is threatened in which case the ruling may be subsequent*".

Yet, such initial position of the European Parliament was last abandoned. On October 2009 a Parliament delegation - led by MEPs Catherine Trautmann and Alejo Vidal-Quadras - accepted to renounce to the above amendment and instead to work on a new amendment presented by the EU Council. The latter amendment is different from "amendment 138": indeed, it no longer requires that only judicial authorities be allowed to cut-off Internet access of persistent file sharers. It just says that any measures aimed at disconnecting Internet access may only be adopted "as a result of a prior, fair and impartial procedure". The word "judicial" has been removed from the key sentence of the amendment. That means that the right to judicial review is guaranteed on appeal, but the first instance ruling can still be issued by a non-judicial authority. Such amendment brought about by the Telecom Package has been inserted into the EC Directive 2002/21 on a common regulatory framework for electronic communications networks and services (see the new Article 1, paragraph 3(a)[47].

This outcome has been criticised by several groups advocating freedom of speech on the Internet, as they believe that – also in view of the French Constitutional Court decision – it is important that disconnection of Internet access is to be decided exclusively by a judicial authority, and not by an administrative body[48]. It is thought that reserving to courts the power to issue such a harsh sanction would

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EC on a common regulatory framework for electronic communications networks and services, Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and Directive 2002/20/EC on the authorisation of electronic communications networks and services (COM(2007)0697 – C6-0427/2007 – 2007/0247(COD)), Brussels, 24 September 2008.

47. See also above note 12.

48. *Pro* freedom of expression groups take this critical view even though the new Article 1, paragraph 3(a) Directive 2002/21 (inserted as a result of the adoption of the Telecom Package) takes the pain to specify that any measures liable to restrict fundamental rights or freedoms may only be imposed if it is appropriate, proportionate and necessary within a democratic society, and shall be subject to adequate procedural safeguards in conformity with the European Convention for the Protection of Human Rights and Fundamental Freedoms (see above note 11).

guarantee a stronger protection of the right to Internet access and accordingly of freedom of speech[49].

After the adoption of the Telecom Package, the European Parliament went on debating issues related to the online infringement of intellectual property rights. Indeed a resolution was approved on 22 September 2010[50], stressing that unauthorised uploading of copyrighted material on the Internet is a clear infringement of IPRs prohibited by both the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT)[51].

Yet this resolution does not mention what has been highlighted earlier, i.e. that file sharing also involves the exchange of information useful to form and express people's opinion. The Socialist group in the European Parliament had proposed amendments to the previous draft of the resolution (the Gallo Report) with a view to stressing the above. Such amendments (which were not accepted) mainly regarded the recognition of "non-commercial file sharing for personal use" and an alternative remuneration scheme to compensate this use (private copying): the aim was to distinguish between counterfeiting of goods and the less dangerous on line IPRs infringements.

Instead, the resolution in question made no substantial difference between counterfeiting and unauthorised file sharing, leading to believe that the two activities are identical and should be treated in the same way and be subject to the same

It has also been said that the European Parliament was betrayed by their delegates, the MEPs Catherine Trautmann and Alejo Vidal-Quadras, as they accepted to unilaterally renounce to the old amendment 138 apparently in contradiction with the mandate given by their colleagues representing the EU Parliament. See the web-pages of the advocacy group La Quadrature du Net at http://www.laquadrature.net/en/amendment-138-the-parliament-betrayed-by-its-negotiators. Last access June 10, 2013.

49. The issue was also debated during the negotiations which led to the Anti-Counterfeiting Trade Agreement (ACTA), an international agreement signed by a group of (mainly) industrialized countries on 15 November 2010 and that establish new international standards on IPRs. See Annemarie Bridy, ACTA and the Specter of Graduated Response, June 2010, p. 5 (available on the Internet at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1619006). Yet, the final version of the ACTA does not refer to the disconnection of Internet access as a possible sanction for deterring on-line copyright infringement.

50. See European Parliament Resolution of 22 September 2010 on enforcement of intellectual property rights in the internal market (2009/2178(INI)). This resolution takes origin from a report drafted by the MEP Marielle Gallo, which was firstly voted on June 2010 by the Legal Affairs Committee of the EU Parliament (so-called "Gallo Report").

51. Recital L of the resolution.

sanctions[52]: the risk is that ordinary citizens sharing online copyrighted material (including people sharing files merely with a view to enjoying and commenting existing works, without any lucrative purpose) can be treated like criminal organizations devoted to counterfeiting[53].

The tension between copyright protection in the Internet environment and free speech has also been stressed by Advocate General Pedro Cruz Villalon in its opinion in *Scarlet v Sabam* (C-70/10, opinion released on 14 April 2011). In this case the ECJ had been requested to clarify whether a national court can order ISPs to introduce a mechanism for filtering and stopping electronic communication to protect IPRs: this system is able to identify the sharing of files and to block of such files, either at the point at which they are required or at the point at which they are transferred. The AG held that the introduction of such a system restricts free speech contrary to the Charter of Fundamental Rights. The AG added that neither the blocking system (which might have been triggered without any possibility for the individuals concerned to oppose it) nor the filtering scheme (which was introduced on a permanent and systematic basis) envisaged appropriate guarantees and safeguards.

8. The role of private agreements between copyright holders and ISPs

Decisions ordering the disconnection of Internet access of file sharers should be taken exclusively by courts.

In recent years, however, copyright owners have entered into a number of agreements with ISPs, obliging the latter to adopt graduated response regimes which envisage the possibility of terminating Internet access of unauthorized file sharers. It therefore seems that suing file sharers in court is not anymore the main solution pursued by right holders to combat on line copyright infringement. Instead a strategy of compelled voluntary collaboration with ISPs seems now to be more popular. This confirms that public law is not anymore the only vehicle through which graduated response regimes and decisions on Internet disconnection can be taken[54]. Indeed, private law mechanisms driven by market forces are more and more used by copyright owners to pursue enforcement measures.

52. See for example paragraph 45 of the resolution.

53. These concerns do not seem to be adequately addressed by a mere reference (contained in paragraph 5 of the resolution) that any measure to enforce IPRs must respect the fundamental rights enshrined in the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights.

54. Bridy, above note 9, p. 10.

Such agreements are becoming popular, especially in the US. Annemarie Bridy brought interesting examples of collaboration agreements entered into in the US between copyright owners and ISPs (according to which ISPs undertake to forward notices of infringement to their subscribers). It seems that in some cases leading ISPs have suspended Internet access of persistent file sharers without any court order or other finding of an infringement[55]. The same reportedly occurs in other countries, including Ireland where a graduate response regime has become a common rule for over 40% of Irish Internet subscribers as a result of a settlement agreement between major films distributors and the most important Irish ISP (Eircom): this regime does not envisage the involvement of any court and said ISP is the only "judge" who decides whether the subscriber deserves or not to have its Internet connection terminated[56].

The "transformation" of ISPs into copyright' enforcement agents is probably a consequence of a *do ut des* strategy. There are signals that ISPs act as entertainment industry enforcement agents in exchange for them acquiring the right to transmit copyright holders' programs over their Internet networks[57]. Right holders and ISPs' interests are therefore becoming more and more convergent and aligned[58].

It has been argued that these agreements may represent a first step in the context of a "more complete private ordering of the project of online copyright infringement"[59]. They also seem to be encouraged at international level, particularly by the recently-approved Anti-Counterfeiting Trade Agreement (ACTA)[60]. Article 2(18)(3) of this treaty promotes "cooperative efforts within the business community to effectively address [...] copyright or related rights infringement [...]". Commentators do not rule out that this provision could be interpreted as requiring states to set up regimes encouraging ISPs to enforce copyrights on be-

55. Id., pp. 7-10. With reference to these agreements see also Michael P. Murtagh, The FCC, the DMCA, and Why Takedown Notices Are Not Enough, Hastings Law Journal, vol. 61 (2009), pp. 246 *et sq*.

56. Bridy, above note 9, pp. 14-15. This outcome is worrying as previous case law of the Irish High Court had clarified that ISPs should not be considered liable for their customers downloads nor did Irish law envisage any provision mentioning a "three strikes" rule.

57. Bridy, above note 9, pp. 22-23 (pointing out that the ISP Verizon reached an agreement with the company Disney to forward infringement notices to users, in exchange for receiving the right to transmit Disney's programs).

58. Murtagh, above note 55, p. 257.

59. Bridy, above note 9, p. 6.

60. See above, note 49.

half of right owners, and particularly to take decisions affecting Internet connectivity of unauthorized file sharers[61].

The private agreements in question seem to penalize too much file sharers. Let's take for example the US scenario.

These agreements usually provide that ISPs merely forward to alleged infringers the so-called "DMCA take down notices". These notices are envisaged by Section 512(c) DMCA and are basically information - from the right holder to the user - saying that the former has a good faith belief that the latter has violated its copyright. Several agreements between copyright holders and ISPs provide that – after forwarding to users these notices on behalf of right owners and should other alleged violations occur – ISPs are entitled to suspend and even terminate users' Internet connection.

These contractual provisions are risky for users insofar as the collaboration between right holders and ISPs – and a possible final decision suspending or terminating users' Internet access – is exclusively based on DMCA take down notices. Indeed, such notices are not always precise and reliable, as they reflect just the right holders' point of view, i.e. what they claim it is an infringement of their copyright. They do not require ISPs to find out whether a copyright infringement has really occurred. It has been argued that take down notices are "flawed, easy to generate, often meritless, and an inadequate substitute for a full trial on the merits"[62]; in fact they are issued unilaterally by right holders without the involvement of neutral adjudicators such as a court or a panel of arbitrators, and therefore without a strong proof of actual infringement.

9. Article 10 European Convention on Human Rights and file sharing

Are copyright arguments against unauthorized file sharers is in line with the European Convention on Human Rights (ECHR)?

The starting point is Article 10(1) ECHR: "Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and

61. See the Internet website of the advocacy group *La Quadrature du Net* at www.laquadrature.net/en/final-version-of-acta-must-be-rejected-as-a-whole. It should however be noted that Article 2(18)(3) ACTA also provides that the cooperative efforts in question should take place "while preserving legitimate competition and consistent with each Party's law, preserving fundamental principles such as freedom of expression, fair process, and privacy". On this issue see also Bridy, above note 48, p. 6.

62. Murtagh, above note 55, p. 257.

impart information and ideas without interference by public authority and regardless of frontiers [...]".

We have seen that file sharing - by giving users the possibility of exchanging information, ideas and reflections - has the potential to promote and boost freedom of speech.

However, the right to free speech cannot be considered in a vacuum, but it should be balanced with other rights. That is why Article 10(2) ECHR states that "the exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and are necessary in a democratic society [...] for the protection of the reputation or the rights of others".

This provision tells us that freedom of speech can be lawfully restricted if the restriction is *inter alia* "necessary in a democratic society".

The European Court of Human Rights has never overtly faced the conflict between copyright and freedom of speech. Rather, such conflict has been specifically analysed by the European Commission of Human Rights[63]. In particular, in an important decision of 1997 the latter stated that in principle copyright protection constitutes a significant limitation to freedom of speech[64]. Yet it added that copyright protection can lawfully restrict freedom of speech as long as the requirements of Article 10(2) ECHR are met.

This said, it is important to verify whether enforcing copyright against unauthorized file sharers – which is capable of restricting freedom of expression – can be considered "necessary in a democratic society". If it cannot be considered as such (and provided the other conditions of Article 10(2) are met), the enforcement activity in question could be deemed contrary to Article 10 ECHR.

An interesting paper by Robert Danay which mainly focuses on music file sharing[65], highlights this question.

Danay argues that – in order to determine if restricting music file sharing is necessary in a democratic society – we should verify whether such restriction is really useful to meet copyright's purposes. Which are the objectives pursued by copyright legislation?[66] (i) The securing of a reward for the authors and (ii) the promo-

63. Protocol 11 of the European Convention on Human Rights, which came into force in 1998, abolished the Commission.

64. European Commission of Human Rights, *France 2 c. France*, 15-1-1997, n. 30262/96.

65. Danay, above note 20.

66. See Spinello & Bottis, note 6.

tion and encouragement of creativity. This said, the next question to be answered is the following: is the restriction of freedom of speech (brought about by enforcing copyright against file sharers) useful to meet the above copyright's purposes? Danay believes that in most cases it might not be useful. He then concludes that in most cases restricting freedom of expression by enforcing copyright against music file sharers is not necessary in a democratic society and accordingly not in conformity with Article 10 ECHR.

How does Danay reach this conclusion?

He argues first of all that file sharing does not seem to really affect music sales. This assertion seems to have its merits. Indeed, file sharing can even augment music sales, as such phenomenon has the potential to bring artists' music (especially minor artists' music, who represent the majority) in direct contact with potential consumers[67]. Moreover, statistics about the traffic of file sharing networks can turn out to be useful to copyright owners: e.g. they can reveal the world areas where new artists are most famous, even before the release of their works, so that right owners can better target their overall sale strategies[68]. It follows that, as long as file sharing is capable of increasing right holders' business opportunities, copyright restrictions *vis-à-vis* such phenomenon do not secure rewards for authors nor promote the diffusion of music.

Even if it is assumed that file sharing does negatively affect music sales (for example, in terms of less CDs sales), overall the remuneration received by copyright holders would not be diminished. In fact, Danay's argument goes, file sharing network is capable of boosting and promoting related activities such as advertising and merchandising (e.g. it might encourage the sale of posters, t-shirts, etc. of the artists in question) as well as public appearances, which remain the primary resources of revenue for copyright holders. This would entail again that copyright restrictions *vis-à-vis* file sharing do not secure rewards for authors nor promote the diffusion of music. Again, the conclusion would be that restricting freedom of expression by enforcing copyright against file sharers is not necessary in a democratic society.

67. For example, the song Crazy from the artist Gnarls Barkley was available as an illegal download since Autumn 2005, but it was so popular that – when it became available for legal downloads in 2006 – the song went at the top of the charts. See Robert Clark, Sharing out online liability: sharing files, sharing risks and targeting ISPs, in Alain Strowel (edited by), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 196-228, p. 196.

68. See The Economist, 19 July 2008, p. 18.

Danay finally argues that – even if we take for granted that file sharing negatively affects music sales – nonetheless the availability of alternative systems of compensation which do not impose sanctions as tough as the ones provided in case of copyright infringement (e.g. private copying levies) would still guarantee a reward for all copyright holders. Such alternative systems – which should replace an enforcement system based exclusively on the prohibition of unauthorized uses - would still compensate copyright owners for the use of their works by the file sharer, without however imposing harsh sanctions against the latter and chilling his freedom of expression. That is another reason why Danay believes that enforcing copyright against file sharers - and the subsequent restriction of freedom of speech - cannot be considered necessary in a democratic society.

10. Recommendations to reconcile copyright holders' interests with freedom of speech concerns in the digital environment

How to reconcile copyright holders' interests with the right to free speech of file sharers'users?

Two sets of recommendations are here highlighted.

(i) The first set relates to the thorny issue of who should decide Internet disconnection of unauthorized file sharers. (ii) The second group of proposals aims at identifying possible areas of freedom for unauthorized file sharers.

(i) Enforcing copyright against file sharers – especially if this involves disconnection of users' Internet access – might jeopardize their right to free speech.

First of all, as also suggested by the French Constitutional Court, any decision regarding Internet disconnection should be taken exclusively by a judicial body. Indeed, terminating users' Internet access affects individuals' right to free expression and we deem it fair that such an encroachment of a fundamental right be sanctioned by a court (rather, e.g., than an administrative agency).

Moreover, should we accept such an important decision be taken by ISPs in their role as copyright owners' agents? In other terms: should we accept that a private cooperation agreement between right holders and an ISP let the latter act as copyright "policeman" and terminate alleged infringers' Internet connection, by solely relying on DMCA take down notices (or other similar notices) from right owners?

The author does believe that such private cooperation agreements giving ISPs the power to terminate users' Internet access could be accepted provided these users have been adjudicated to commit copyright infringement by a judicial body.

When it comes to deciding to encroach a fundamental right such as the right to Internet, private contractual negotiations cannot replace judges. Public law here should retain its exclusive competence. We cannot run the risk of letting market forces deal with such a sensitive issue, also in view of the fact that DMCA take down notices (or other similar notices) – on which these agreements often rely – might be flawed and can lead to blame users in good faith and not liable of any actual infringement[69].

(ii) Would it be possible to adopt a more libertarian approach, i.e. to guarantee people (especially authors and artists) more freedom to share copyrighted material on the Internet?

Several proposals have been put forward to guarantee file sharers some areas of freedom and are all based on a "compensation right" approach. These solutions should substitute the traditional copyright paradigm exclusively based on the unconditional enjoyment of hollow exclusive rights[70]. They basically aim at saving the benefits of file sharing technologies while at the same time guaranteeing authors' compensation[71]: a kind of solution which might be labeled – by using Lawrence Lessig's words [72] - as "compensation without control". It is believed that transforming copyright from a proprietary right to a compensation right would better serve freedom of expression[73].

A specific proposal has been put forward by Neil Netanel, and it is based on the so-called Noncommercial Use Levy (NUL)[74]. Such levy would be imposed on the sale of any consumer product or service whose value is substantially enhanced by P2P file sharing, the amount being determined by an *ad hoc* Copyright Of-

69. For cases of flawed take down notices see Murtagh, above note 55, pp. 254-255.

70. Jane C. Ginsburg, Copyright control v. compensation: the prospects for exclusive rights after Grokster and Kazaa, in Alain Strowel (Edited by), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 110-123, at p. 123. See also Philipp Wittgenstein, Die digitale Agenda der WIPO-Vertrage: Umsetzung in den USA und der EU unter besonderer Berucksichtigung der Musikindustries, Stampfli (2000), p. 162; Artur-Axel Wandtke, Copyright und virtueller Markt in der Informationsgesellschaft, Gewerblicher Rechtsschultz und Urheberrecht (GRUR) 1 (2002), p. 7.

71. Alexander Peukert, A bipolar copyright system for the digital network enviroment, in Alain Strowel (editor), Peer-to-Peer File Sharing and Secondary Liability in Copyright Law, Edward Elgar (2009), pp. 148-195, at p. 154.

72. Lawrence Lessig, The Future of Ideas: the Fate of the Commons in a Connected World, Random House (2001), pp. 201-202 (Lessig speaks about "compensation without control" when dealing with cable industry).

73. Netanel, above note 7, p. 208.

74. Netanel, above note 18.

fice Court. These products or services could include consumer electronic devices (e.g. MP3 players, CD burners and digital video recorders) used to copy, store, send or perform shared and downloaded files. The levy should be paid by the providers of these products and services, and the distribution of the proceeds to copyright holders should be carried out taking into consideration the popularity of the works and the actual use of the contents as measured by technology tracking and monitoring such use. As a consequence of the payment of this levy, users could freely copy and circulate any works the right holder has made available on the Internet. Of course the use of the works should not be a commercial one. As Netanel points out, this system would give users and creators more freedom to explore, transform and adapt existing works (in such a way boosting freedom of expression), while at the same time rewarding copyright holders and thus maintaining the main essence and purpose of copyright[75].

The proposal from Netanel has its merits. Generally speaking, several commentators stress that copyright holders in the Internet age will be soon rewarded by mainly using levies and taxes[76]. It is believed that either the exclusive rights traditionally granted by copyright are not easily enforceable in the Internet world or their enforcement would jeopardize the free exchange of information on the Internet. That is why levy-based proposals might soon become reality in the Internet environment.

A regime of government compensation to right holders paid out of general tax revenues (with subsequent freedom to share and copy copyrighted material available on line) has also been proposed[77]. Generally speaking, recommendations to substitute IPRs regimes with systems of government compensation have been debated for a long time. Such proposal would not be very different from the above NUL, except that right holders would be paid from a body funded by general tax revenues rather than by levies imposed on certain products and services.

Some commentators have also proposed compulsory licences to authorize and regulate the P2P distribution of copyright protected works on the Internet. As is known, compulsory licenses are usually granted by governments, or governmental bodies, and oblige IPRs owners to licence the protected asset to third parties willing to use it. Lawrence Lessig believes that the US Congress should empower file sharing by recognizing a system of compulsory licencing similar to that used

75. *Id.*, p. 6.

76. Peukert, above note 70, p. 154.

77. Netanel, above note 18, pp. 80-81.

in cable retransmission, and the amount of the relevant fees would not be set by right holders, but by policy makers keen on striking a fair balance[78].

In principle, compulsory licencing schemes – by permitting users to access and share works on the Internet - would aim at favoring the circulation of copyrighted works on the Internet and thus boosting freedom of speech. Yet, other commentators are skeptical about the feasibility of implementing such a system, as they believe that compulsory licences have proved to be unsuccessful in implementing public policy goals[79]. This opinion is buttressed by the fact that so far no compulsory licences have been granted to authorize the P2P distribution of copyrighted works on the Internet.

All the above proposals have common features and purposes, i.e. they all aim at making the digital environment and particularly the Internet a virtual place where public debate, artistic creativity and cultural diversity should co-exist with commercial transactions[80]. Therefore such recommendations do not tend to wipe out copyright (which is still an "engine to free speech"[81]), but try to strike a balance between the latter and the right to freely access copyrighted works available on the Internet, which is ancillary to the fundamental right to free speech.

78. Lessig, above note 72, p. 255.

79. Michael Botein–Edward Samuels, Compulsory Licences in Peer-to-Peer File Sharing: a Workable Solution? 30 Southern Illinois University Law Journal 69 (2005), pp. 69-83, at p. 69.

80. Deborah Tussey, From Fan Sites to File Sharing: Personal Use in Cyberspace, Vol. 35 Georgia Law Review (2001), pp. 1129-1193, at p. 1132.

81. As stressed by the US Supreme Court in *Harper & Row Publishers, Inc. v. Nation Enters*. 471 US 535 (1985), at 558. The Court continues: "First Amendment protections are already embodied in copyright law", distinction between copyrightable expression and uncopyrightable facts and idies and the latitude afforded by fair use. Id. at 560.

Legal issues in using musical content from itunes and youtube for music information retrieval

Dimitra Karydi, Ioannis Karydis & Ioannis Deliyannis

1. Introduction

Music Information Retrieval (MIR) is comparatively a new research field with almost a decade of intense activity (Karydis et al., 2006). Nevertheless, its results influence a variety of people ranging from music scholars to ordinary music lovers. MIR research has, so far, provided means to implement data-mining algorithms from different perspectives: by extracting valuable information from musical corpuses of some to tens of millions of songs, as well as methods to define similarity and identify such similar songs in the aforementioned corpuses (Schnitzer, 2012). The significance and application of MIR methods affects a broad spectrum of activities ranging from the management of personal musical collections to web-based services to audio content organisation in interactive multimedia or virtual environments (Karydis et al., 2011).

One of the key requirements of MIR in order to provide for its methods is musical content access. The need for such access is twofold: (a) to analyse content and identify pertinent features the methods will rely on and (b) to test developed methodologies. The need is further intensified by the fact that music, being an artistic form of expression, does not always abide by a set of deterministic rules that researchers could rely on in order to avoid the necessity for access to content in order to draw research conclusions.

In legal terms, musical data, such as sound recordings and sheet music are the products of creative endeavour and as such are protected by copyright law. Accordingly, their reproduction, performance and distribution, to name a few, are rights that remain exclusively with their owners (Berne Convention, 1971). It is thus obvious that the function of MIR on the musical content is subject to the application of copyright law provisions and accordingly MIR researchers require relevant legal knowledge in order to confirm whether their research actions require the rights' owner permission so to be lawful.

Nevertheless, there exist two prominent, of many, cases where access to copyrighted musical content is widely possible. In this work, we examine the cases of iTunes (Apple Inc., 2012) & YouTube (YouTube, 2012) web-services that of-

fer such content. Our aim is thus, the up-to-date information of MIR researchers concerning the legal implications, according to the U.K. and U.S. Copyright law, of using the musical content found therein.

The rest of the paper is organised as follows. Section 2 provides background information on music information retrieval as well as on pertinent areas of the copyright and music copyright law. Section 3 describes traditional and contemporary methodologies on obtaining musical data, while Section 4 details legal issues concerning the processing and dissemination of processed musical content for music information retrieval research. Finally the work is concluded in Section 5.

2. Background Information

In this section we present background information related music information retrieval requirements as well as an introduction to copyright law related to the theme of our work.

2.1. Music Information Retrieval Research

MIR, despite being a comparatively new field, has expanded its span of interest/activities to a great extend over the last decade. The topics covered by Music Information Retrieval Evaluation eXchange (MIREX) (MIREX, 2012) annual competition represent a widely accepted key part of the MIR breadth, including both Information Retrieval and Data mining tasks on everything music.

Despite the peculiarities and complexity of the each MIR research activity, almost all can be analysed to an abstraction level where some processes are common to all tasks. This is necessary in order to establish subtasks/actions that are to be examined according to copyright law criteria, especially when such legislation deals with only generic low-level processes.

Accordingly, we assume that one of the key generic processes taking place during most of the complex MIR research activities is partitioned to two entities, (a) the input data and (b) the induced result of a processing stage, as shown in the flow diagram of Figure 1.

Figure 1. An abstract model of an MIR process

Thus, access to musical corpuses in order to apply methods and assess results is one of the cornerstones of MIR research. Although a variety of types of musical corpuses/data exist, in this work we are solely concerned with one of the most

commonly used, the acoustic recordings of a musical performance in digitised format.

As musical data are in a format that, in most cases, is not suitable for the methodologies to act upon, another very common generic activity of the complex MIR research processes is the transformation of musical data between formats as a pre-processing step (Figure 2). Although format conversions can be of many types, in this work we are assuming a conversion wherein data are transformed to a format that does not necessary serve the same function (e.g. audition of sounds) as the original, but adheres to the requirements of the MIR methodology to be applied on. The restoration to the original format from the conversed, may be (a) impossible, (b) partial, introducing distortion with respect to the original and (c) complete, leading to the exact original musical datum.

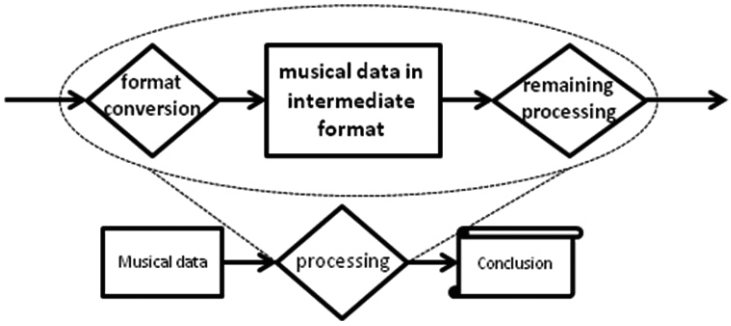

Figure 2. The analysis of the MIR processing stage in order to include a common intermediate format conversion of the musical data

Format conversion is of great interest to MIR research as it leads to an intermediate representation of a specific recording that, given different methodologies of same input type, can act as a common reference point in order to fairly assess the methodologies' conclusions. Thus, the exchange of this reference set of data between MIR researchers functions as a means to compare methods and promote research in the field.

2.2. Copyright & Music Copyright

Copyright Basics

Copyright is a property right ascertained to the author of an original work, such as a literary work or a musical work, which deprives others from engaging in certain uses of that very work, for a defined period of time, without the author's consent. Accordingly, authors are granted a bundle of rights, namely economic and moral rights where moral rights refer to the special personal link between

the author and its work while economic rights are linked to the economic use of the work (Swack 1988; Dworkin 1995; Stamatoudi 1997; Spinello & Bottis 2009). In general terms, the author of the work is the first owner of the copyright in it, although there are provisions in various legislations prescribing differently (*see* U.K. Copyright law, U.S. Copyright law). It has to be stressed that copyright is not vested in ideas but only on their original way of expression (Article 2(1), Berne Convention for the Protection of Literary and Artistic Works, 1886, Paris Act 1971).

Under the United Kingdom's (U.K.) *Copyright, Designs and Patents Act 1988 (CDPA 1988),* for a work to enjoy copyright protection, it has to fall within one of the eight categories of copyrightable subject matters prescribed by the Act. If this is not the case, then copyright protection is not afforded to the creation. Moreover, the work has to be original, meaning that it has to be the result of the creator's skill, labour and judgment (*Walter v. Lane* AC 359 (1900); *Cramp v. Smythson* AC 329 (1944)] without being copied from another work [University of London Press v University Tutorial Press 2 Ch 601 (1916)]. Thus, having created an original work, the copyright owner has the right to prevent others from doing any of the restricted acts specified in the U.K. Copyright Act (Section 16, CDPA). In an effort to draw a balance between the free flow of information and the stimulus needed to induce creators in intellectual endeavors, the U.K. legislation comprises of "fair dealing" provisions allowing certain uses of a copyrighted work, without the copyright owner's authorisation, which otherwise would be deemed infringing (Chapter III, CDPA).

The United States (U.S.) Copyright Act (Copyright Act, 1976. Publ. L. No 94-553, 90 Stat. 254, codified in 17 U.S.C), requires for a creation to be an original work of authorship fixed on a tangible object in order to be protected under copyright law (Section 102, 17 U.S.C). Apparently, contrary to the U.K. law, the U.S. legislation does not have a close list of subject matters within which an original creation has to fall in order to be copyrightable. However, there has to be a more than *de minimis* expression for copyright to subsist in the work (Mary LaFrance 2008). For instance copyright protection is not afforded to slogans or titles. Here, original is a work created independently and one reflecting a modicum of creativity [*Feist Publications, Inc. v Rural Tel. Serv. Co.*, 499 U.S. 340, 345, (1991)]. Accordingly, the owner of the work is entitled to certain exclusive rights with regard to the use of his work (Section 106, 17 U.S.C), such as the right to reproduce the copyrighted work in copies or phonorecords and to authorise the so doing [Section 106(1), 17 U.S.C]. Likewise the "fair dealing" exceptions, the U.S. Copyright Act, under the "fair use" defence, warrants certain uses, albeit infringing, of a copyrighted work without the copyright owner's authorisation (Section 107, 17 U.S.C).

Music copyright

With regard to music, the U.K. Copyright Act affords protection in a musical work, namely "a work consisting of music, exclusive of any words or action intended to be sung, spoken or performed with the music" [Section 3(1), CDPA]. Apparently, lyrics are protected separately by the CDPA as a literary work. For copyright to subsist in a musical work, the latter need to be the outcome of the author's skill, labour and judgment while not being copied by another work. Moreover, it has to be recorded or written down, for instance in scores [Section 3(2), CDPA]. Sound recordings, being the specific recorded versions of musical compositions, are separately protected [Section 1(1)(b), CDPA]. Where the musical composition is recorded, copyright protection is afforded to the recording itself providing that this is not a mere copy of a previous one [Section 5A(2), CDPA].

The owner of a musical work and the owner of a sound recording, by virtue of the copyright law, are entitled to do or authorise others to do the following acts [Section 16(1) – (2), CDPA]: 1) copy the work, 2) issue copies of the work to the public, 3) rent or lend copies of the works to the public, 4) perform, show or play the work in public, 5) communicate the work to the public, and only for the musical work 6) make an adaptation of the work or do any of the above in relation to an adaptation .

According to the U.S. legislation, copyright protection is provided to "musical works, including any accompanying words" [Section 102(a)(2), 17 U.S.C], meaning the music as well as the lyrics. In order to enjoy copyright protection, a musical work has to meet the requisite level of originality, namely being an independent creation and one demonstrating a spark of creativity, while it has to be recorded either on sheet music or on audible media [Section 102(a), 17 U.S.C; Mary LaFrance 2008]. The audio recording of a musical work is separately protected as a sound recording [Section 101 & 102(a)(7), 17 U.S.C]. The latter is original by virtue of the creative decisions made by the performers, sound engineers and producers while the fixation requirement is by definition fulfilled (M.W. Carroll 2003).

In particular, the owner of the musical work has the right to do or authorise others to do the following acts (Section 106, 17 U.S.C): 1) reproduce the copyrighted work in copies or phonorecords, 2) prepare derivative works based upon the copyrighted work, 3) distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending, 4) perform the copyrighted work publicly and 5) display the copyrighted work publicly. As regards to sound recordings, the owner has the rights under 1,

2, 3 and 6) the right to perform the copyrighted work publicly by means of a digital audio transmission and to authorise others in so doing.

In view of the avove, under both the U.K. and U.S. legislation, a musical work and a sound recording enjoy separate copyright protection vested in their respective owners. Accordingly, copying a sound recording results in the copying of the underlying musical work, meaning that authorisation may be needed. Different sound recordings of the same copyrighted musical work enjoy separate copyright protection. Notwithstanding certain special provisions, under both Copyright Acts the first owner of the copyright in the musical work is the author of the composition while the producer is the owner of the copyright in the sound recording (Section 11, CDPA; Section 201, 17 U.S.C).

3. Obtaining Musical Data

As discussed in Section 2.1, musical content access is an essential requirement for MIR research. Thus, this Section details legislation issues of some up-to-date techniques of acquiring musical data, by MIR researchers, for the purposes of applying MIR research methodologies on these data.

3.1. The Traditional Way – Purchase of CDs

Purchasing a sound recording of a musical work in the form of a CD constitutes a lawful way of acquiring the copyrighted material in contrast to infringing activities such as peer – to – peer file sharing. The purchaser of a CD may engage only in uses of the work, expressly or impliedly, permitted by the terms of sale and the relevant legislation. It is common practice that the purchase of CDs is accompanied by very clear terms prohibiting any copying of the sound recording (Flint et al., 2006). If this is the case, copying a sound recording at home constitutes an infringement of the copyright in the recording, albeit taking legal action against such activities is not quite realistic due to their volume.

3.2. The Contemporary Way – Purchase via iTunes

Purchasing music, in digital form, via the iTunes Store constitutes nowadays one of the most popular lawful ways of obtaining musical data, such as a specific recording of a song. There is a vast variety of songs available online to the user through an easy, quick and cost effective process.

iTunes Products, such as songs and movies, are sold according to the Terms and Conditions of the iTunes Store Service. In particular, when purchasing an iTunes Product, one agrees that will use it only for personal, non – commercial activities [(i), "Usage Rules"]. Moreover, he is authorised to use it on five iTunes–authorised devices at any time [(ii), "Usage Rules"], store it on compatible devices

under certain conditions [(iii), "Usage Rules"] and burn an audio playlist up to seven times [(iv), "Usage Rules"]. iTunes Products may include security technology (Digital Rights Management) limiting their use, which, purchasers are not allowed to circumvent. Products that do not contain such technology limitations, namely iTunes Plus Products, may be copied, stored and burnt on a reasonable level always for personal, non - commercial uses [(vi), "Usage Rules"].

Copyrights on the products are in no occasion conveyed to the purchaser by means of the sale and it is Apple and/or its licensors who reserve all rights. Thus, purchasing a song through iTunes Store is a lawful way of acquiring it although any further use of it is subject to the aforementioned Terms and Conditions and to copyright rules.

3.3. Using Streaming Services

The Case of YouTube

When accessing the streaming content service of YouTube, one impliedly accepts the YouTube Terms of Service, ToS [YouTube, 2012]. In order to protect copyrighted materials, such as photos or music, which are available on its site, YouTube has several provisions in its ToS indicating under what conditions one may access and use the service (for the definition of "service" *see* 1.1, ToS) and its content, where content refers mostly to copyrighted materials (for the definition of "content" *see* 1.4, ToS).

In particular, a user who uploads her original work maintains all her ownership rights in her work (7.2, ToS), while he grants to each YouTube user "a worldwide, non-exclusive, royalty-free licence to access the former's Content through the Service, and to use, reproduce, distribute, prepare derivative works of, display and perform such Content to the extent permitted by the functionality of the Service and under these Terms" (8.1.B, ToS). At the same time, each user agrees not to "copy, reproduce, distribute, transmit, broadcast, display, sell, license, or otherwise exploit any content for any other purposes without the prior written consent of YouTube or the respective licensors of the content" (5.1.M, ToS). Moreover, where no functionality offered by YouTube exists, no distribution of any part or parts of content in any medium is permitted without YouTube's prior written authorisation (5.1.A, ToS). Finally, the uses of content must be of personal, non – commercial nature and for streaming (5.1. L, ToS). Put simply, a YouTube user may enjoy a piece of music that received by means of streaming transmission but may not make a copy on a computer and distribute it without YouTube's or its licensors' prior (written) consent.

When it comes to YouTube for developers, the API Service provides for highly documented computer programming methodologies in order for developers to access specific YouTube functionality and content. Thus, by using such methods, registered users may directly access full-size streaming musical video content outside the usual environment of YouTube content provision, a web-page interface. Moreover, the streaming protocol utilised by YouTube in such cases is the quite common and with publicly available documentation RTSP (IETF, 2012), increasing thus the ease of customised access to content provided.

According to the Terms of Service specifically addressed to the developers, using APIs (API ToS), any copyright in the available YouTube audiovisual content should be respected, meaning that a developer may not engage, without due permission, in acts infringing the copyright owner's exclusive rights or encourage such acts (II. 12, API ToS). For instance, a developer is not allowed to induce or create functionality for users "to store copies of YouTube audiovisual content" (II. 11, API ToS) or "to sell, lease, lend, convey, redistribute, or sublicense to any third party all or any portion of the YouTube API or API Data" (II. 4, API ToS). The commercial exploitation of any YouTube audiovisual content by means of sale is also prohibited unless YouTube's prior written approval is obtained (I. 2, API ToS).

Apparently, obtaining musical data in YouTube involves, in the context of this work, mainly the possibility for a user to enjoy listening to a sound recording of a musical composition at home while any other use, such as broadcasting this sound recording, may fall within the infringing acts prohibited by copyright law unless YouTube's or its licensors' prior (written) approval is obtained.

The Case of iTunes Affiliate API

Similarly to the YouTube API, iTunes Affiliate API offers documented programming methods in order to access content of the service. In this case, the content provided is a 30-second preview for the full-size content available at the paid service. The common file type of the data provided by the service, m4a, is designed to be easily streamed through computer networks, to arbitrary clients supporting the file format.

The main target of this service is to provide affiliates the possibility of using certain promotional content, such as previews of songs and music videos, in order to promote the content itself. Among several conditions, which apply in such case, when the "Promo Content" comprises of songs, it may only be streamed and not downloaded, saved, cached, or synchronised with video. Apparently, the "Promo Content" option goes along with specific rules of usage.

4. Legal Issues of Using Obtained Music

As described in Section 2.1, after having access to musical content, in most cases, MIR research methods include a pre-processing step that extracts information from musical data that is itself oriented towards the methodologies to be subsequently applied in order to draw a conclusion. This pre-processing conversion aims in selecting features of the musical datum that describe a characteristic to be examined, and is thus commonly titled as "feature extraction". Research on what features to extract has received great attention (Jensen, 2010) as their capability to correctly represent the original content is highly associated with the performance of the methodologies using them. Following the extraction of the selected features, the remaining processing, towards the conclusion, is usually done mainly on the extracted features.

In this Section, we examine the legal implications of (a) the processing leading to the extracted aforementioned features as well as of (b) the dissemination of such features between MIR researchers in order to establish a fair comparison of different approaches dealing with the same problem.

4.1. Musical Processing

While obtaining musical data through lawful means is one thing, engaging in several uses of these data is another. Up to now it is clear that purchasing a song embedded on a CD or via iTunes as much as using YouTube or iTunes streaming services comes with certain terms and conditions of usage, which based on copyright law provisions, aim at protecting the copyright owners' exclusive rights.

The above technological process of feature extraction can be viewed as a non copyright-infringing activity in light of the following considerations. Under the U.K. law, such activities executed by MIR researchers, could potentially fall within the right of the copyright owner to make an adaptation of the musical work and authorise the so doing [Sections 16(1)(e) & 16(2), CDPA], where adaptation of a musical work means "an arrangement or transcription of a work" [Section 21(3)(b), CDPA]. However, the copyright holder of a sound recording does not enjoy such a right. Such activities are unlikely to be considered as an adaptation of the copyrighted musical work or sound recording, be it embedded on a CD or an mp3, so to require the copyright owner's authorisation. It is also unlikely to be considered as infringing of any of the other rights ascertained to the copyright owner assuming they only lead to theoretical conclusions.

Under the U.S. legislation, the copyright owner has the right to make or authorise the making of derivative works [Section 106(2), 17 U.S.C]. According to its definition, broadly construed, a derivative work is one resulting from re-

casting, transforming or adapting an underlying copyrighted work [Section 101, 17 U.S.C]. Unfortunately, the requisite amount of modification indicating that a copyrighted work has been "recast, transformed or adapted", so to result in a derivative work, is under debate (Mary LaFrance 2008). In case a derivative work is based on an underlying copyrighted work, authorisation of the copyright owner of the latter work need to be obtained. As regards to sound recordings, the adaptation right is specifically defined, meaning that the corresponding authorisation need not be attained but for the reasons of preparing a derivative work "in which the actual sounds fixed in the sound recording are rearranged, remixed, or otherwise altered in sequence or quality" [Section 114(b), 17 U.S.C]. It is not likely that feature extraction activities would be deemed to result in derivative works, therefore, no interference with the aforementioned right in the musical work and the sound recording or with any of the other rights afforded by the U.S. Copyright Act could be noticed.

These considerations are made with regard to the relevant copyright law provisions. However, when using musical data obtained through YouTube or iTunes, it is also the respective terms and conditions of use that should be carefully taken into account. For instance, clauses 5.1.L & 5.1.M of the YouTube ToS provide for much debate on whether MIR processes, such as feature extraction, can be deemed infringing.

4.2. Feature Content Dissemination

In this case, the degree of reversibility of the content to be disseminated is the key characteristic of the legal issues that arise following such dissemination. As described in Section 2.1, feature extraction reversibility to the original format ranges in all possibilities from impossible, to partial, to complete.

In case the applying MIR processes result in the dissemination of features without making possible any reversibility to the original format of the musical data, following the considerations of Section 4.1, conducting such activities has low likelihood of being deemed as infringing copyright law under both legislations. The same practice is already exercised in many cases, the most prominent of which is the Million Song Dataset (Bertin-Mahieux, 2011).

Where the MIR processes result in the dissemination of features which provide for the possibility of retracing the initial song, it is more likely that such activities interfere with some of the exclusive rights ascertained to the copyright owner of the musical work and the sound recording. For instance, the outcome of the process is likely to allow, due to the possibility of reversibility, the making of copies of the songs which constitutes an infringement of the reproduction right of the copyright owner of the musical work and the sound recording if there is no au-

thorisation [Section 16(1)(a), CDPA Section 106(1), 17 U.S.C]. Therefore, prior consent from the corresponding copyright owners may be required for MIRS to engage in such activities.

5. Conclusion

In this work we investigate the legal implications of obtaining and processing musical content from two prominent sources of online content distribution, namely iTunes and YouTube. In addition, we explore the legitimacy of disseminating processed musical content for the purposes of establishing a commonly used fair comparison dataset of processed musical content. All such actions are examined for the sole purpose of advancing music information retrieval research.

It is the opinion of the authors and as a common sense practice, that all music information retrieval researchers, when in doubt about the legitimacy of any activity they engage in, with regard to copyrighted materials, should bear in mind that the fundamental principle points at the need to obtain the copyright owner's authorisation.

As a final remark, it should be noted that some infringing uses of copyrighted materials, such as musical compositions and sound recordings, might be warranted, under certain conditions, within the exceptions and limitations of "fair dealing" and "fair use". However, these doctrines emerge as a defence whenever infringement has taken place where each case is examined on its own merits and no a priori justification is certain. Due to limited space, this paper focuses on the application of the primary rules of copyright law with regard to MIR researchers, leaving an open window for future examination of the application of the aforementioned doctrines on MIR research activities.

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Remix: aberration or evolution?

Krystallenia Kolotourou

"Technology means you can now do amazing things easily, but you couldn't easily do them legally"

Lawrence Lessig

1. The Remix legal framework

Remix as a concept is not new. The Berne Convention provides that "Translations, adaptations, arrangements of music and other alterations of a literary or artistic work shall be protected as original works without prejudice to the copyright in the original work"[1]. The Greek Copyright Law 2121/1993 Art. 2 provides: "The term work shall, in addition, designate translations, adaptations, arrangements and other alterations of works or of expressions of folklore, as well as collections of works or collections of expressions of folklore or of simple facts and data, such as encyclopedias and anthologies, provided the selection or the arrangement of their contents is original. Protection afforded to the works listed in this paragraph shall in no way prejudice rights in the preexisting works, which were used as the object of the alterations or the collections"[2]. Both the Berne Convention and the Greek law protect the arrangements of music and the adaptations, the remix. Technically, the remix is referred to as an adaptation of a musical work by altering its lyrics or melody.

Obviously, a precondition of a remixed work is a preexisting work. This means that it is not important if the preexisting work is original or not[3], if it is protected by copyright or not[4]. Furthermore, it is irrelevant whether the preexisting work has been published or not, given that the work is protected since its creation. There is no need for it to be published or communicated to the public in order

1. Art. 2 par. 3 of the Berne Convention for the Protection of Literary and Artistic Works.
2. Art. 2 of the Greek Law 2121/1993.
3. I. Stamatoudi in L. Kotsiris/I. Stamatoudi, Commentary to the Greek Copyright law, Sakkoulas Athens-Thessaloniki 2009, p. 56. In Greek.
4. Besides, under the Greek Law the alterations of expressions of folklore are protected as derivative works, even though folklore expressions are not protected as such.

to be protected by copyright. However, it is essential that the work has left the private sphere and has been "incorporated" into a tangible support. The protection of a remixed work is independent from the value and the destination of the work[5].

Originality is the key component for the copyright protection. The remix of the past work must contain elements of creative style so that the remixed work will be characterized by individuality and originality[6]. On the contrary, a remixed work that does not present originality is not a derivative work, but a simple reproduction of the preexisting work[7]. Besides, for this reason, it is admitted that modifications to the past work must be significant; otherwise the work is not considered as derivative.

It could be argued that in case of a remix, a higher level of originality should be required. The remixed work would then be really derivative and would not only exploit the notoriety of the past work. However, there is the danger of subjective judgments, thus this thesis should be rejected.

Moreover, if the remixed work presents the necessary originality but its nature differs essentially from the nature of the preexisting work, the remix won't be considered as derivative work, but as an autonomous original work, as the past work had merely been the source of inspiration[8]. The dilemma whether a work is derivative or original is more complex when we refer to additions to an incomplete work. For instance, the musical work "Requiem" remained unfinished, because of the author's death, Wolfgang Amadeus Mozart and finally, one of his students Franz Sussmayr, completed it. In this kind of cases, the most appropriate solution is to consider the contributions by third persons as derivative - remixed works. Nevertheless, if the contributions cannot be distinguished, then the work should be considered original and new as a whole.

Furthermore, the remix artist should obtain all the necessary permissions from all the copyright holders so that the remixed work is legal. The Greek Law requires that the protection of the derivative works is provided without prejudice to the copyright in the original work. The intent is obviously to protect the authors of the past works and recognize their cultural contribution. Besides, for the same reason, the law requires not only permissions to create a remix but also another permission to allow the remix's economic exploitation.

5. L. Kotsiris, Intellectual Property, 4th ed., Sakkoulas, Athens-Thessaloniki, 2005, p. 83. In Greek.
6. G. Koumantos, Intellectual Property, 8th ed., A. Sakkoulas, 2002, p. 137. In Greek.
7. M. - T. Marinos, Intellectual Property, 2nd ed., A. Sakkoulas, 2004, p. 94. In Greek.
8. G. Koumantos, Intellectual Property, 8th ed., Ant. Sakkoulas, Athens 2002, p. 136. In Greek.

The licences should be restricted and concrete according to the duration, the breadth and purpose, otherwise their interpretation should be according to good faith, professional ethics and the purpose of the contract.

Once all requirements are satisfied, the remix goes its own way and is entitled to its own separate copyright. The remix artist has all the rights as first creator has, both moral and economic rights. Moreover, for every new act of exploitation, a reward must be paid to the author of the preexisting work. Usually, in practice, this reward has already been agreed upon the granting of the licence.

The remix is also an author's economic right. In the third article of Law 2121/1993, it is expressly provided that the author has the exclusive right to allow or prohibit an adaptation of his work. Particular interest presents the fact that the Greek Law does not contain any similar provision concerning the performers. However, this right could sufficiently be covered by the right of reproduction[9].

2. Remix as an evolution

Nowadays, rapidly changing technology is transforming traditional methods of communication and expression. Moreover, digital technology and the Internet have made it possible for everyone to mix and mash others' works with little difficulty and no authorization. Consequently, the concept of remix has evolved over time. After all, it's part of the natural evolution of all things digital. Before concentrating on remix culture, it is important to point out whether the ringtones constitute a remix. At the same time, as this phenomenon is not limited to music, we will refer to "remixed" films, the up-to date case of 3D movies and the classic one of sequels.

Firstly, regarding the ringtones, the crucial question is whether a ringtone (or realtone or ring back tone) constitute a remix. This is an important issue if we think how profitable the mobile market is. A ringtone is the sound made by a telephone to indicate an incoming call or text. In our view, the transformation that the original musical work sustains, is not significant enough to make us accept an adaptation to the original sound recording. Thus, a ringtone is not a remix and

9. Besides, the same argument was used concerning the provision of the right of modification for the performers, included in the Basic Proposal for WPPT. Eventually the provision was deleted on the basis that the need for protection was sufficiently covered by the right of reproduction. O. Morgan, International Protection of Performers' Rights, Hart Publishing, Oxford and Portland, Oregon, 2002, p. 171.

therefore, its maker is not an author according to copyright law. However, a ringtone and usually its low quality could infringe the author's moral right[10].

Apart from the profitable market of ringtones, the film industry faces the evolution of ''remix''. The crucial question is whether a 3-D version of a movie is a new work or not. The legal effects are important, as for instance the duration of the copyright protection for the film will extend and new licenses will be required[11]. As there is no need to go into details, it suffices to remind that the adaptations must be significant in order to constitute a derivative work. The 3-D techniques are not, in our view, so important as to consider that we are in the presence of a new work - a derivative one.

The issue concerning the sequel of a film is a whole different story. In brief, the sequel is an alteration of the past work that borrows the plot - the story and the principle characters to the sequel. In our opinion, the sequel is not a new original work, but a derivative one, and therefore, the creators must get the permissions of the rightholders in order to proceed to the production of a sequel. That was also, the decision of a French court concerning the sequel of the film "Alien" where the judges pointed out that permissions must be sought and this even before the creation of the sequel[12].

However, the primordial influence of the evolution of remix is in the sector of the music industry. Specifically, sampling and mashups are art forms that stir the waters of mainstream musical landscape and consequently of copyright. Sampling is the process of taking a small portion of a sound recording and digitally manipulating it as a part of a new recording[13]. In contrast, mashups contain no original content, but they are the combination of preexisting copyrighted songs[14].

Over time, the use of sampling has become more and more creative. At the same time, sampling violates the author's moral and economic rights. In 2004, DJ Danger Mouse digitally sampled vocals from ''The Black Album'' by Jay-Z and laid

10. P-Y. Gautier, Propriété littéraire et artistique, 6th ed. PUF 2007, p. 105.

11. For instance, this is the case that has arisen concerning the 3-D version of Titanic, where a painting of Pablo Picasso appears again in the film. So, the Artists Rights Society has asked to be paid again, given that the 3-D movie is a new work and, as such, is not covered by the previous agreement.

12. CA Paris, 4e ch. A, 12 May 2004, *Roger et Lazid Iaichouchene c/ Ste Twentieth century Fox Film Corporation*, Comm. Com. Electr. Jan. 2005, p. 28, obs. Ch. Caron.

13. R. M. Vrana, The Remix Artist's Catch-22: A proposal of compulsory licensing for transformative, Sampling-Based Music, 68 Wash & Lee L. Rev. 811 (2011), p. 811.

14. Emily Harper, Music Mashups: Testing the Limits of Copyright Law as Remix Culture Takes Society by Storm, Hofstra Law Review 39/2010, p. 408.

those vocals over music sampled from the Beatle's "White Album". His album entitled - for obvious reasons - "The Grey Album" generated enthusiasm but drew the displeased attention of the record companies who owned the Beatle's catalogue (for copyright and for the sound recordings). The response to the cease-and-desist letters that followed the distribution of the Grey Album, was the "Grey Tuesday", which encompassed a twenty-four-hour period during which the public could download the album free of charge. The response of the public was massive and over 100.000 copies were downloaded that day[15].

Even though sampling is a transformative means of creation, it infringes the authors' rights. Since it is a derivative work, prior authorization is required in order to create and exploit a sample. In a United States sampling case, Bridgeport Music Inc. v. Dimension Films, the Court formulated a bright-line rule, that any sampling, regardless of how minute, constituted copyright infringement[16].

However, sampling is part of a compositional technique, as mashups, and its special effects are not always dependent upon the identification of the original source of the samples employed[17]. So, when the original sound recording has been so transformed that is no longer recognised even by an individual familiar with this kind of music, it is arguable whether we are in presence of a derivative work, that needs prior permission and clearance for the rights, or in presence of an original new work. Nevertheless, such an admission would run the risk of legalizing copyright infringements, as the sample artists would bury their samples within the new musical work so that they cannot be noticed. By contrast, in the US case of Newton v. Diamond, the Court held that the sample was minimal, that the two records weren't substantially similar and also that the public would not recognize any appropriation of Newton's composition, concluding that no infringement had taken place[18].

In practice, the artists and their record companies either refuse to grant permissions, or the costs are very high and thus discourage artists from sampling. The fact that the legal cases on sampling are few is not indicative, as it is due only to the fact that it is in the interest of the involved parties to settle out of court.

15. Ronald S. Rosen, Music and Copyright, Oxford University Press New York, 2008, p. 569.
16. Joshua Crum, The Day the Digital Music Died, Brigham Young University Law Review 943/2008, p. 957.
17. Paul Theberge, Technology, Creative Practice and Copyright in Music and Copyright, 2nd ed., edited by Simon Frith and Lee Marshall, Edinburgh University Press, Edinburgh 2004, p. 151.
18. Richard Salmon, Sampling and Sound Recording Reproduction - Fair Use or Infringement, Entertainment Law Review 21/2010, p. 174.

3. Remix as an aberration?

Remix may infringe the author's moral right[19]. The integrity of the work is at risk when it comes for a remix. Artists are hesitant, even sometimes opposed to the fact that their works are being remixed. At the same time, remix culture supporters consider that the copyright protection of remix is keeping them from being creative. So, could remix be seen as aberration?

Remix without the author's permission violates his moral right and more specifically the right to prohibit any distortion, mutilation or other modification of his work. The author's and artist's moral right could obstruct the use of a preexisting musical work to a new one. In France, for instance, it is admitted that any modification or alteration of the work infringes the author's moral right[20]. The author does not have to justify the alteration and its importance, otherwise the moral right would be weakened. Furthermore, in an interesting case in France that was dealing with a medley, mostly known as "*pot-pourri*", French judges had the opportunity to point out that the production of a medley is subject to prior permissions of the authors[21].

The issue whether an author of lyrics or music can object to a remix based on his moral right of integrity after having fully transferred its economic right to adaptation to the producer of phonograms, is of major importance. In such a case, as the Greek moral right is inalienable, the majority of scholars estimate that the appropriate solution is to examine the concrete circumstances under which the exercise of the moral right takes place. If the exercise is not justified, then it could be condemned as abusive[22]. Moreover, article 16 of the Greek Law provides that «the granting of consent by an author for an action or an omission which would otherwise constitute an infringement of his moral right shall be deemed to be a form of exercise of his moral right, and shall be binding upon him». According to this article, the consent provided by the author should mean that he couldn't later raise objections regarding the adaptation of his work. The solution, however,

19. For an analysis in both continental and common law of moral rights see R. Spinello and M. Bottis, A defense of intellectual property rights, 2009.

20. Cass. 1re civ., 5 Dec. 2006, RIDA 1/2007, p. 359; See P-Y. Gautier, Propriété littéraire et artistique, 6th ed. PUF 2007, p. 265 («En matière musicale, aucune altération ne doit être portée à la musique").

21. CA Paris, 4e ch. 13 Feb. 2009, RLDI 2009/46, n° 1510, L. Raynard, L'exploitation d'un medley musical non autorisée par l'auteur d'une des œuvres le composant porte atteinte à son droit moral, RLDI 2009/49, p. 10.

22. I. Stamatoudi in L. Kotsiris/I. Stamatoudi, Commentary to the Greek Copyright law, Sakkoulas, Athens-Thessaloniki 2009, p. 111. In Greek.

provided in a French famous case was different. The authors of the musical work "*On va s'aimer*» had signed a contract where there was an explicit clause that the assignees were entitled to exploit, and authorize third parties to exploit, the song in whole or in part even for advertising purposes, to amend the song, and to replace the original lyrics even by parody lyrics. The tune of the song was used in a television advertisement to promote a chain of low-cost restaurants called *Flunch*. The authors of the original song sued, amongst others, the owner of the exploitation rights and the restaurant, claiming that using their song for advertising purposes and amending the lyrics infringed their moral right of respect. The French Superior Court decided finally that the remix of the lyrics of the song denatured substantially the musical work and that since no permission was given by the authors and as this remix caused infringement in their moral right, this remix was illegal[23].

Moreover, the conflict between moral right and remix is founded on litigations between the co-authors of a musical work, when one of them is not fond of remix while the other has already given his permission for adaptation. Greek courts have not dealt yet with this situation. However, French courts have already declared that the consensus of co-authors in order to remix the work is essential. In the case that a co-author has not been asked to grant his permission, he has the right to act against the others based on an infringement to his moral right[24]. Although the appropriate solution seems to be the one analyzed above, as the opposite solution would result in depriving the authors from their right to act for the defense of their own contribution, it is evident that these conflicts could obstruct the creativity of new remixed works. This leads us to the criticism of copyright law by remix culture supporters.

The remix culture has become a trend of our era. There are many that argue that there is nothing new under the sun and that every new work is just imitation or derivative. The remix culture fans support that past works should be available so people can generate new works[25]. They claim that the authors refuse to grant licenses so that new artists could sample and remix preexisting songs, which

23. Cass. 1re civ., 2 Apr. 2009, n° 08-10.194, F-D, Sté Universal Music France c/ Barbelivien: JurisData n° 2009-047839.

24. Cass. 1re ch. civ., 15 Feb. 2005, Ste Publicis Koufra c/ Ste Productions et Editions Musicales Charles Talar, RIDA 2005 n° 3, p. 415 ; A. Maffre-Baugé, Quand l'arrangement de l' oeuvre musicale derange le co-auteur de celle-ci, RLDI July 2007, p. 6 and TGI Paris, ref., 16 May 2007, RLDI 2007/28, n° 913, obs. L. Costes.

25. K. Matthew Dames, How 'Remix Rebels' Confuse Core Copyright, Information Today, September 2011, p. 24.

leads to non-creativity or illegal musical works. In overall, they think copyright protection as a barrier for creating, remixing and sharing cultural goods.

This misconception about copyright law is certainly due to the ignorance of the basic dichotomy of expression and idea. Copyright law does not protect the ideas, but the original works that are fixed in a tangible medium of expression. Since the ideas are not protected, anyone can be inspired by past works or make an idea evolve in his own way.

Furthermore, no permission is required when the past works have entered the public domain. The duration of author's economic rights is specific and limited in time. Thus, after the expiration of the copyright protection, the new creators can alterate and remix the past works without permissions, without nevertheless causing any prejudice to the author's moral right.

Thirdly, there are exceptions that allow people to use even protected works in limited portions without obtaining permission or without requiring them to pay a license fee. Contrary to the fair use of American Copyright Act, which is a broad exception, the European Directive 2001/29/EC for the Information Society provides also exceptions that could allow some measure of flexibility regarding to remix, such as the quotation exception that allows quotations "for purposes such as criticism or review" (art. 5 (3)(d)). One of the most used exceptions is the exception for the purposes of caricature, parody or pastiche provided in the art. 5(3)(k) of the European Directive. Nevertheless, on a european level the exceptions are limited and their interpretation must be strict, as the CJEU has reminded in the Infopaq case[26].

Specifically for the exception of parody, the Greek Copyright Law does not expressly provide it, although it is admitted that parody is a pinciple protected and established by the Greek Constitutional Law.

Furthermore, it was proposed in an official report in the United Kingdom to establish another exception for creative, transformative or derivative works, within the parameters of the Berne Three Step Test[27]. This idea was reproduced also in the Green Paper on Copyright in the Knowledge Economy regarding the user-created content, adopted by the European Commission the 16th of July, 2008. Towards this approach and in response to the Green Paper, an amendment along the same lines was proposed by scholars in France but only

26. CJEU 4 ch., 16 July 2009, case C-5/08, *Infopaq International A/S c/ Danske Dagblades Forening*, Propr. Intell. 2009, p. 379, obs. V-L. Benabou.

27. Gowers Review of Intellectual Property, Dec. 2006, accessible to: http://www.official-documents.gov.uk/document/other/0118404830/0118404830.pdf (recommendation n° 11).

for the works whose author has died. The amendment proposed was that the rightholder cannot prohibit the works created from a pre-existing work, whose author has died, with the reserve of the respect of the work's spirit, and this without prejudice to the right of parody, and with the condition of equitable remuneration[28].

However this kind of exception could become the «Pandora's Box»[29] and involves high risk, as it could generate a legal insecurity and protect illegalities as derivative works. It is important to acknowledge that remix nowadays may be easy, but there are protective laws for the past works and everyone should respect them. Remix may be the modern phenomenon of our times, but the remix culture should respect the preexisting works.

4. Conclusion

The remix already known and protected by copyright law is subject to a particular technological landscape. The challenge for copyright law is to find the appropriate level of protection, which will promote rather than stifle creativity, recognizing the need to protect original works without inhibiting the creation of new or transformative ones. In other words, the struggle is to find the right system that will fairly compensate the artists while still encourage innovation. A solution could be sought in the Creative Commons Licensing system that provides greater access to copyrighted material. The importance of remix is also significant for another reason. Remix is not restricted to the limits of music, but affects other sectors as well. For instance, sampling in art is relevant with the "appropriation art" phenomenon, which stretches copyright law to its very borders. Copyright law will certainly find the way to embrace the evolution of remix and not let the remix become aberration.

28. C. Geiger, F. Macrez, A. Bouvel, S. Carre, T. Hassler and J. Schmidt, Quelles limites au droit d' auteur dans la société d'information? Réponse au Livre vert sur le «droit d'auteur dans l' économie de la connaissance», Propriétés Intellectuelles, July 2009, p. 231.

29. Id.

A Rawlsian perspective on copyright and justice in Italy

Migle Laukyte

1. Introduction

John Rawls expounded in his 1971 *Theory of Justice* a view of society offering a model through which to "provide an assignment of fundamental rights and duties, and determine the division of advantages from social cooperation" (Rawls 1971, 58). What I set out to do in this paper is to consider how this idea of justice applies to that sphere of social arrangements which falls under the rubric of copyright law.

One might ask, why is it important to talk about justice and copyright? I answer this question by noting that the range of endeavors which can be turned into intellectual property keeps expanding: this raises the stakes for those who stand to benefit from the use, creation, and management of such property, and an important component of the schemes by which these activities are governed lies in its fairness. Which in turn prompts the question, why is the fairness of a distributive scheme important? To which I reply that fairness is not just an abstract ideal to be valued for its own sake but is an attribute we apply to arrangements having real-world consequences: an unfair system of rights and duties can invariably be observed to either attract or result from a political system of socioeconomic inequalities through which the interests of a powerful few can prevail over other, quite likely more legitimate—because broader—interests.

My focus in this paper will be on the system of rights and duties existing under Italian copyright law, and I will accordingly look at how this law has a role in either maintaining inequalities or creating them anew, thus holding back the project for a just society. The discussion will be two-pronged, for on the one hand I will be looking at the copyright law currently in force in Italy—the current framework under which the results of our creative endeavors are distributed in society, especially as concerns the question of who can benefit from copyrighted content and under what conditions—and on the other hand I consider how the current system can be improved so as to make it more even-handed from the standpoint of those for whom copyright constraints preclude access to works of authorship, an analysis I take up drawing on Rawls's difference principle, under

which social inequalities are legitimate only if they work out to the benefit for the least advantaged.

So on the one hand we have a descriptive account and on the other a normative one, very much in the spirit of Bentham's distinction between law as it is and law as it ought to be. A comparative assessment of this sort—looking at the law currently on the books next to a prescriptive account of the same law—can help us block out a vision of law by working from its empirical reality, thus putting forward a legal ideal without lapsing over into the imaginary.

I organize my discussion by first introducing Rawls's idea of justice, in Section 2, with a focus on his difference principle. Then, in Section 3, I consider why it is important to look at copyright law from the standpoint of social justice. With that done, we can enter into a comparative analysis that looks at the empirical and the ideal in matters of copyright law. Thus, in Section 4, I consider Italian copyright law, and then, in Section 5, I take up the question of how this body of law would have to be amended when viewed in light of Rawls's difference principle. I frame the discussion by looking in particular at the exemptions and limitations restricting the rights of copyright holders, asking what exemptions and limitations would Italian copyright law have to include in order to count as a fair arrangement for the allocation of rights to works of authorship? Finally, I close the discussion with a brief discussion.

2. Rawlsian Justice and the Difference Principle

The purpose of a theory of justice such as Rawls' envisions it in the conception he calls justice as fairness is, in its most literal sense, to lay out principles that we would choose for ourselves as free and equal citizens in a democratic society. Thus the subject of justice, or what the principles of justice apply to, is society itself, what Rawls terms the basic structure: the principles apply to the basic structure of society understood as the set of institutions forming our social environment and providing the basis on which we can interact as members of that environment. An institution is understood by Rawls as "a public system of rules which defines offices and positions with their rights and duties, powers and immunities, and the like. These rules specify certain forms of action as permissible, others as forbidden; and they provide for certain penalties and defenses [...] when violations occur" (Rawls 1971, 55). What it means for this system of rules to be public is that the rules issue from an agreement, this in two important senses: first, everyone understands that there needs to be an agreed, common set of rules by which to govern relations among members of society—there needs to be a "common basis for determining mutual expectations" (Rawls 1971, 56), for otherwise it would prove quite impossible for citizens to engage with one

another or interact—and, second, by way of a corollary, I understand that I and everyone else must follow the rules once they are agreed to, and I also know that everyone else understands as much, such that we can all rely on one another to follow the same rules once we agree to be bound by them.

This is the basic condition for what Rawls calls a well-ordered society: it is a society, or polity, governed by rules that people set themselves and are willing to follow (the rules are in this sense effective); it is also a just society in that these rules are the outcome of an agreement (they are in this sense public) and they express a shared conception of justice, or "a public understanding as to what is just and unjust" (Rawls 1971, 56).

Now, this conception of justice could conceivably take any content compatible with a conception of citizens as free and equal persons, but as mentioned a moment ago Rawls sets out a specific conception of justice (justice as fairness) which he offers as the one making the best fit with that conception of citizens. These citizens he envisions as making a contract (this is accordingly a contract theory of justice) and the principles they agree to in that contract situation will count as the principles articulating their conception of justice (and in this sense the theory is also a procedural theory, in that the content of justice will depend on whatever outcome their deliberation will lead to). The procedure (such as it is framed in Rawls's theory) yields two principles each corresponding to one of the two attributes of citizens as free and equal: we thus have a principle of liberty, under which "each person has an equal claim to a fully adequate scheme of equal basic rights and liberties" (Rawls 1996, 5), and a principle of equality, under which "social and economic inequalities are to be arranged so that they are both (*a*) to the greatest benefit of the least advantaged [...] and (*b*) attached to offices and positions open to all under conditions of fair equality of opportunity" (Rawls 1971, 302).

What these principles govern is the distribution of what Rawls calls primary goods, understood as all-purpose goods we *must* have, as members of society, whatever else we seek to achieve. These goods include "basic rights and liberties covered by the first principle of justice, freedom of movement, and free choice of occupation protected by fair equality of opportunity of the first part of the second principle, and income and wealth and the social bases of self-respect" (Rawls 1996, 76).

Intellectual property, and copyright in particular, comes into play in two respects as follows in the framework of this theory: first, as a body of rules and related practices, intellectual property counts as an institution; second, as a form of property, intellectual property is a resource that can conceivably be included in the range of items governed by distributive principles or other principles of

justice. It is thus legitimate to apply Rawls's principles of justice to intellectual property, which may fall within the scope of the first principle, governing the basic liberties, since among these is the right to hold property (and intellectual property is a form of property), but it is in particular the second principle that comes to bear here—the principle which addresses socioeconomic inequalities by governing the distribution of goods broadly—because in this scheme, intellectual property (however intangible it may be) bears economic value and can accordingly be classed as an item of material wealth in a way that the rights and freedoms governed by the first principle of justice cannot.

Now, this second principle of justice is importantly shaped by the difference principle, stating that "social and economic inequalities [...] are to be adjusted so that [...] they are to the greatest benefit of the least advantaged members of society" (Rawls 1996, 6–7). There are two aspects to this principle in the framework of Rawls's theory as an egalitarian and liberal conception of justice: the first of these I would call its "human" aspect and the second its straightforwardly *distributive* aspect. The human aspect simply means that a just society will secure for every one of its members the minimal conditions necessary to live fully as moral agents, an idea that Rawls implements through his list of primary goods (goods that everyone must have, regardless of whatever else they want), and that Martha Nussbaum implements through her list of capabilities (the abilities everyone needs in order to flourish as a human being: see Nussbaum 2006). The distributive aspect, for its part, simply means that "while the distribution of wealth and income need not be equal, it must be to everyone's advantage" (Rawls 1971, 61), meaning that the well-off cannot gain an even greater access to resources (the basis of material wellbeing and human flourishing) while others, the worst-off, find it even more difficult to access those same resources (this is roughly speaking, the problem of the widening income gap). On the reverse side, the difference principle states that "injustice [...] is simply inequalities that are not to the benefit of all" (Rawls 1971, 62).

Like the two principles of justice, the difference principle applies to intellectual property as both an institution and body of rules (see Rawls 2001, 48) and as property, and so as something amenable to regulation under a distributive arrangement. So what I will do in this paper is look at that part of intellectual property which is copyright law—the copyright law currently in force in Italy—to see how it might be improved in light of Rawls's difference principle. But before we proceed, I should devote a few words to the role that intellectual property and copyright themselves play in society and why we should care about the justice of these arrangements.

3. Justice and copyright: What is at stake?

The question one is led to ask now is, What is so important about copyright as to warrant a discussion about its justice? I answer this question by pointing out the relation that copyright, and intellectual property at large, bears to human culture, innovation, and development. Indeed, as a branch of law essentially concerned with our creative endeavors, and more broadly with "the regulation and promotion of cultural expression" (Gingerich 2012, 41), copyright is bound to play a role in shaping our use and creation of culture, and the point about culture, at least on a certain idealized version of it, is to "seek to do away with classes, to make the best that has been thought and known in the world prevail everywhere, to make men live in an atmosphere where they may use ideas, and use them freely (Arnold 1993 [1869], 79). And so we can appreciate here an inherent tension in copyright such as it relates to its object, namely, our creative endeavors as collected in that great repository of human growth which is culture. For if we agree that the ostensible, overarching purpose of copyright is to promote culture, and if culture resists division into classes—it does so as the great portal of human knowledge—then we have to ask how it is that the chosen technique by which copyright promotes that goal consists in setting up privileges enabling some (the copyright holder) to control the way creative works (culture at large) is to be accessed by those seeking to consume it. I cannot say that there is a better way to promote culture than through the incentives which copyright provides through the monopolies it affords to copyright holders, but at least we can bring into focus what the problem is: it is a problem of interests in potential conflict, and wherever interests conflict, there we have a problem of justice.

Another way to arrive at the same point is by considering copyright through the lens of constitutional provisions: the United States constitution, for example, has been interpreted to say that intellectual property "rights must be justified by bringing benefits to all of us" (Boldrin and Levine 2010, 9), while the Italian constitution provides that "art and science are freely exercised, and so is their teaching" (Art. 33, my translation). So, again, we have two ideas—that of an arrangement of rights benefiting everyone, and that of art and science (or culture) as activities not subject to any restriction—which appear to stand in contrast to the idea of copyright as a privilege having the potential to cut into such across-the-board benefit and to undermine the free exercise of culture. Copyright, in other words, appears to contradict the understanding or its own object (the culture emerging out of our intellectual endeavors) as part of the commons, broadly understood as the complex of those resources which are held in common: "Any disturbance of the commons means that a condition requiring enough and as good be left for others cannot be strictly satisfied" (Drahos 1996, 49–50).

At this point we can cast the problem in Rawlsian terms: as was mentioned a moment ago, there is a problem of justice wherever one person's welfare may come into conflict with another's, or wherever potentially conflicting interests are at stake. Where copyright is concerned, these interests are of two sorts: there is the interest of the copyright holder in profiting from a work of authorship, and there is a collective interest in making such works widely available. The distinction and potential source of conflict here is that between private interests and public ones, a dichotomy on top of which we can place, with Rawls, that between the Lockean "liberties of the moderns," giving primacy to personal rights and property, and Rousseau's "liberties of the ancients," which instead accord primacy to the conditions necessary for participation in public life (Constant 1988 [1819]). At issue, then, are the deeper conflicts which characterize social coexistence, and "the deeper the conflict, the higher the level of abstraction to which we must ascend to get a clear and uncluttered view of its roots" (Rawls 1996, 46). It is for this reason that we can turn to a theory of justice in the effort to shed light on the problem of justice in copyright law. And once we identify the specific interests at play (those of the copyright holder on the one hand and the public at large on the other), we can bring the difference principle to bear and ask: Do the rights accorded to copyright holders work out to everyone's benefit, and in particular to the benefit of the least advantaged, meaning those on whom copyright places a burden preventing access to works of authorship.

Nor is the justice of copyright and intellectual property a marginal question taken up for academic discussion only. Let one example stand for all: the Geneva Declaration on the Future of the World Intellectual Property Organization (2004) imputes to the intellectual property regimes a "global crisis in the governance of knowledge, technology and culture." The list of complaints is impressive: it is claimed that:

- Morally repugnant inequality of access to education, knowledge and technology undermines development and social cohesion;
- Anticompetitive practices in the knowledge economy impose enormous costs on consumers and retard innovation;
- Authors, artists and inventors face mounting barriers to follow-on innovation;
- Concentrated ownership and control of knowledge, technology, biological resources and culture harm development, diversity and democratic institutions;
- Technological measures designed to enforce intellectual property rights in digital environments threaten core exceptions in copyright laws for disabled

persons, libraries, educators, authors and consumers, and undermine privacy and freedom;

- Key mechanisms to compensate and support creative individuals and communities are unfair to both creative persons and consumers;
- Private interests misappropriate social and public goods, and lock up the public domain.

The perceived problems of justice are thus very real and warrant careful consideration. And although in what follows I will focus on the copyright regime of a single country, Italy, I do not forget that that Italy is a Member State of the European Union. So in the next part (Section 4) I look at Italian (and EU) copyright law so as to see how the foregoing charges might apply, focusing in particular on the question of private interests versus public goods. Then (in Section 5) I will put forward a general framework seeking to address these issues by envisioning a copyright regime informed by Rawls's difference principle.

Two comments by way of a disclaimer are as follows, before we dive into this discussion. The first is that I will not address the whole menu of problems which can be imputed to Italian copyright law but will rather focus on a single aspect as a testing ground for this application of Rawls's theory of justice. More to the point, I will key in on the exemptions and limitations that Italian copyright law places on the rights accorded to copyright holders, and I choose this item because it clearly brings out the way the interests of copyright holders diverge from the basic interest in gaining access to copyrighted content (the previously mentioned private/public dichotomy). And the second comment is that I look at copyright law as but one of several different legal frameworks conspiring as forces having the ability to alter the social equilibrium: I should not want to give the impression that I am ascribing to copyright alone the combined work of different provisions in different areas of the law.

4. Italian copyright law: The current model

The main chunk of Italian copyright law was drafted in 1941 and has since be updated on different occasions, especially in transposing European directives concerning different aspects of copyright, and with a view to keeping the pace with scientific and technological advancements. Of course, it has not been easy to update this rather dated body of rules: the main problem has been—and still is—to achieve coherence between the rules covering traditional media (books, music, and so on) and the rules for new media (as in the example of databases and computer programs), a coherence intended to make sure that the different

parties involved could look to an analogous set of protections under the new regime as they could under the old.

The effect of transposing EU directives has generally been to reframe Italian copyright law in such a way as to further restrict access to copyrighted material. Exemplary in this regard is Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society(Glorioso and Scalas 2005). An example is the quoting of copyrighted content for academic or other noncommercial purposes, such as criticism and review. Under Art. 5.3 (d), the directive restricted the Italian law by removing a rule that allowed researchers to quote such material even for commercial purposes. At the same time, Italy implemented a shorter list of exceptions and limitations than that of EU Copyright Directive. The Italian law, for example, does not ensure the free incidental inclusion of a work in other material (Art. 5.3 (i) of the EU directive) or the use of copyrighted material for the purpose of advertising the public exhibition or sale of artistic works (5.3 (j)). Even more, however, the Italian copyright law leaves out the so-called panorama-freedom exclusion, under which sculptures, architecture, and other works of art in public view can be freely reproduced in photographs, paintings, video recordings, and the like, even if their authors are still alive or if 70 years have not yet elapsed since their death, and even if the reproduction if not for personal use. This is why Italian authorities have asked the Italian Wikipedia website to remove such reproductions from the website, with the result that the Italian Wikipedia no longer carries any images of contemporary artists whose works are in public view (Spinelli 2007). But even though the exemptions and limitations to the rights of copyright holders could be more robust, there is at least a formal recognition that there should be wide public access to the outcomes of intellectual creation. The idea is written into the Italian Constitution, with its principled statement in support of "the development of culture and of scientific and technological research" (Art. 9, my translation), and can also be found in the Universal Declaration of Human Rights, which under Art. 27 recognizes the need to balance private and public interests, providing on the one hand that "everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author," while conceding, on the other hand, that "everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits."

This need to balance private and public interests is reflected in the Italian copyright law, and there are several examples of this. One of them lies in the law's treatment of news articles: the rule under Art. 65 of the Italian copyright law is that, on the one hand, these can be freely reproduced (so long as the author is

acknowledged), but on the other hand authors can reserve the right to prevent their articles from being reproduced. The same rationale seems to underlie the rule under Art. 68 that photocopies can be made for personal use so long as no more than 15% of the work in question is being reproduced. Also in the same spirit, Art. 70 states that audio and visual material can be used in the classroom, under the fair-use doctrine, only so long as the resolution is low or the material is otherwise damaged.

Another problem with Italian copyright law—and indeed with copyright law as a general proposition—is that of the economic, political, and cultural pressures under which it is forged: the question of the "special interests" that exert their influence in the shaping of copyright law. One example is Law No. 248 of 2000 (amending the Italian copyright law). This law, the outcome of negotiations between CRUI (the Italian Association of Public and Private Universities) and SIAE (the Italian copyright agency), requires public universities to pay a set yearly fee for paper reproductions made in their libraries within the 15% rule, regardless of the yearly volume of reproductions—in effect a royalty placing a tax on what was hitherto a well-established copyright exemption.

Another example lies in the law's failure to distinguish academic from nonacademic work—two types of publishing governed by different dynamics yet subject to the same rules. The problem is that academic authors typically hand over all their rights to publishers. This creates a predicament for academic authors and libraries alike, as well as for the research-consuming public. Authors advance their academic curricula by publishing but often bear the costs of publication themselves, a loss they often try to make up for by including their writings as required readings in their syllabi. Universities pay academic authors salaries for teaching and research, and on top of that bear the cost of providing access to academic research (buying books and subscribing to scholarly journals), even when the research being acquired is produced by their own faculty. The public (mainly students) similarly bears a double cost, for on the one hand it pays the taxes and fees that support universities, and at the same time it can only look to such access to research as the universities can provide through their (tax funded) acquisitions budgets. Academic publishers have their own disadvantage, namely, that academic literature does not have any non-institutional market (it cannot hope to sell very well among the general public), and it is for this reason that they must raise prices, but they do so largely at the expense of academic libraries, students, and researchers. At which point we ask: How can this system be changed so as to distribute the benefit of research more evenly among those who use and produce it? Or how should we frame the public interest—appearing to coincide with the interest of the least advantaged—in reshaping the system by which research is used and produced?

The problems I have pointed out as concerns Italian copyright law would appear to bring out a general pattern in the national system of copyright protection, namely, that lawmakers tend to shape such protection by a reliance on economic benchmarks rather than on considerations of social welfare. As Sun (2012) remarks, there is a certain ideology at work which accords primacy to economic growth as the primary avenue toward social advancement, or the betterment of social institutions and society at large. What follows is a model on which all creative and intellectual work tends to be protected and exclusive: copyright protection winds up being used mainly for profit (the primacy of private interests), with little regard for its usefulness in the broader context of society (the subservice of the public interest). In the outcome, this model supports "the ability of certain actors to accumulate cultural capital and exercise disproportionate power over the field of culture that prevents other citizens from participating in the give and take of cultural life" (Gingerich 2012, 21).

How to reverse course and head toward a copyright regime more in keeping with what the public interest demands? One option is to change paradigm and embrace elements of what Lawrence Lessig calls a sharing economy, meaning an economy in which—unlike what happens in the commercial economy, where "money or 'price' is a central term of the ordinary, or normal, exchange" (Lessig 2008, 118)—knowledge and content are created and accessed without relying on a monetary system of exchange. Wikipedia is offered as a paradigmatic example, and authors (or content creators) appear to be warming up to the idea of sharing their work online, in contexts where price does not offer itself as a benchmark against which to judge the value of content, for this is rather a function of how much that content is accessed within a community of users (Aliprandi 2007), a phenomenon of accreditation by popular online demand where content is said "go viral" when such demand surges exponentially. Trends of this sort hope offer a glimmer of hope by showing that content sharing and creation based on a system of nonmonetary rewards is at least possible.

But we cannot take up such a model just now, for that is an entirely different discussion. What we can do, heartened by the possibility of change as just indicated, is stick to the copyright regime and point out ways to improve it from within. This is what I will be doing in the next section, where I explore what copyright law would look like if it were guided by Rawls's difference principle, under which socioeconomic inequalities pass muster only if their effect is to benefit the least advantaged. I explain how this principle would apply, pointing out that the distance between current copyright law and the model copyright law I propose is not so great: a lot can be done with only a few tweaks designed to address several of the problems previously discussed.

5. Copyright law: A revised model

The view has been advanced, in the fringes of the free culture movement, among anti-copyright advocates, that because copyright essentially resolves itself into a "massive propertization" (Drahos 1996, 178) of culture, we should do away with copyright entirely, "the only socially responsible thing to do" (Boldrin and Levine 2010). As I indicated a moment ago, I do not feel that this is the best way to go, this because, among other reasons, we can get rid of copyright only if we can get rid of the market system as a whole.

So the question is why it matters that fairness should figure as a central concern in our design of copyright (and of intellectual property at large, for that matter). Two reasons suggest themselves, both of them bound up with Rawls's theory of justice. The first of these was briefly mentioned in Section 2, and it relates to the idea of human flourishing. The point can be briefly stated thus: if we agree that intellectual property law can be understood as broadly concerned with the proprietary and distributive aspects of those intangible goods which result from our endeavors to create, innovate, and express, then we can also agree that these goods are essential "tools" or resources which human beings need to develop in a distinctively human fashion, in keeping with what Rawls would call a conception of the good, on the understanding that what makes us human (or, stated otherwise, what makes us moral agents) is a capacity to lead a life in keeping with such a conception (in Rawls's own words, a capacity of citizens "to become full persons, that is, adequately to develop and exercise fully their moral powers and to pursue the determinate conceptions of the good they come to form" [Rawls 1996, 77]); and if we accept these premises, then we will also have to accept that intellectual property law controls resources inherently connected with our being human. This is one reason why we should care about the way intellectual property is accessed and distributed, and why we should think about the conditions under which it is justified for some people to have greater access to such essential goods than to others. This is where the difference principle comes into play.

So now we can ask: How would the difference principle inform a design of copyright law alternative to its current instantiation as a proprietary scheme primarily based on monetary incentives? We shape this conception in two stages: first, we identify primary goods; then, we work out a distributive scheme. The first stage is actually quite straightforward: primary goods are intellectual property itself understood as a complex of resources necessary to flourish as a human being (Sun 2012). So we just add intellectual property to Rawls's list of primary goods.

Of course, not every item of intellectual property can individually count as a primary good, but intellectual property as a whole does, at least if we consider it

as a reservoir of knowledge and cultural resources. And if we need a guideline by which to recognize something as a primary good in the realm of intellectual property—a guideline for what a "primary intellectual resource" is—we might take up and elaborate on the suggestion in Drahos (1996) that information, or content, at large counts as a primary good in this sense so long as (*a*) it serves a useful public purpose, (*b*) it is put to use to generate further useful content or knowledge, and (*c*) such use does not unduly undermine another's legitimate interest in exploiting the same resources. These three conditions in combination are meant to forestall a free-for-all situation in which intellectual property suddenly morphs into a grab bag of goods that anyone can take as they please for whatever purpose, without regard to the basic principles of fair competition. Clearly, it is a vague notion that we introduce by speaking of another's legitimate interest, but the point it that, even as we loosen access to intellectual resources, we still want to strike a balance between private and public interest: a balance that does not tilt too much in favor of private interest, to be sure, but a balance nonetheless.

With these criteria we have begun to move into the second stage of our construction, and so, having blocked out in broad strokes a conception of "primary intellectual resources," we can begin to work out a distributive scheme for these resources. It is here that we bring to bear the difference principle, which in this implementation would read thus: Access to intellectual resources ought to be adjusted to that it works out to the greatest benefit of the least advantaged consumers of such resources. Or, started otherwise, any distribution of intellectual resources is just if it improves the position of those least capable of affording access to such resources.

Now, this too is quite a broad statement, so let us see if we can qualify it a little further. The first question that needs to be addressed is, Who are these least advantaged consumers of intellectual resources? Sun (2012, 430) suggests that we look to "the economically poor, the politically marginalized, and the culturally weak." This is fair enough, but not everyone who loses out under the proprietary regime of current copyright law fits this description. An example is university libraries, which may not be poor or marginalized in any ordinary sense but which nonetheless might be underfunded, lacking the financial resources needed to provide adequate access to a broad range of intellectual content. These libraries as was pointed out in the last section, may find themselves in the ironic position of having to pay twice for such content: first by providing a stipend for their faculty so that they can teach and conduct research, and then by paying journal subscriptions to publishers in order to access that very research. So it takes a judgment call to identify the least well-off for the purposes of the difference principle. As Rawls himself comments, "the least advantaged members of society are given by

description and not by a rigid designator" (Rawls 1996, 7 fn. 5). I cannot offer any cut-and-dried rule that would help us identify the least advantaged, because, as was suggested a moment ago, the judgment is context-dependent, but I can offer this rough guideline: whenever a distributive situation arises involving access to intellectual resources, we should try to identify the least advantaged by a comparative assessment in which we ask two questions. First, which of the parties involved (author, publisher, consumer, library, and so on) stands to lose most under a given distributive criterion? And second, which of these parties starts out form a position of scarcest means by which to access and produce content? If, when we answer these two questions, we find that they identify the same party, we can tweak our distributive criterion accordingly. If instead they identify two different parties, we can tweak our distributive criterion so as to favor the party identified as having the scarcest means and wherewithal, because that is in keeping with the spirit of the difference principle as an equal-opportunity standard, and surely the availability of means figures as a central component of what it means to have opportunities comparable to those of others.

Having addressed this question, we must ask: How do we go about tweaking a distributive criterion so that it contributes to the benefit of the least advantaged so identified? This, too, is not a question that can be answered by way of a comprehensive rule, because different distributive problems call for different solutions, even under the umbrella of the difference principle. But the guiding principle within that distributive principle should still be that of opening up access to intellectual content in such a way as to serve a public interest without unduly undercutting the legitimate private interests of content makers. So, to begin with, turning to the specific case of Italian copyright law, I would suggest that we implement into it all the twenty exemptions and limitations set forth in the aforementioned European Copyright Directive. Next, I would open the market to copyright-management intermediaries (rather than rentrusting this function to a single copyright agency, as is the case in Italy). Then I would set up institutional open archives, in contrast to the current trend; cut the duration of author's and neighbouring rights, or at least differentiate these rights according to the creations they apply to; and monitor abandoned and orphaned works (those protected by copyright but whose rights-holders cannot be traked down), so that these works cease to remain unused.

6. Closing remarks

I should like to close this discussion by stressing that I do not take an inimical view of copyright and intellectual property as the issue of a society bent on solving all matters of public interest solely by recourse to a market system incapable of solving problems where there is no profit to be had. That is, I do not ask, as

Merges does (2011, 103), "whether [intellectual property] rights have a place in a society that aspires to a fair distribution of wealth." I am rather inclined to think that our current copyright regime, for all its failures and shortcomings, does still have a place in society and can be made to function in an effective and fair manner if we only redesign it slightly so that it equally serves *both* of the basic interests it was originally meant to serve, meaning the legitimate interest of content creators in making a living off the content they create, and the broad interest of the public in gaining access to such content (see also Spinello R., Bottis M., 2009). It is only through such access that even more content can be created and inventions made, all for the overarching purpose of advancing the welfare of society as a whole. It is for this reason that I have turned primarily to Rawls in sketching out a model conception of copyright law capable of serving both of these interests: however abstract Rawls's theory of justice may be—issuing from an ideal contract among parties having no knowledge of the world into which their agreement is to take effect—he is still concerned to offer an account of justice suited to the familiar context of a liberal democratic society shaped by the longstanding institutions that inform our collective understanding of what it means to live among equals. Similarly, I have not sought to build from scratch a system for promoting innovation and cultural advancement by designing into it incentives foreign to those we have already devised. Rather, my concern has been to offer a way to set on a straight course an existing arrangement that I believe has taken a departure from its original conception, a departure that has skewed the system in favor of private interests and away from public ones. To be sure, no solution or suggestion can be rejected just because it strikes us as too unusual, or too unlike the idea of copyright as we know it, but I believe it is a mistake to toss that idea aside in the effort to construct a fair system of access to intellectual resources: much better to work with what we have, refashioning that idea by bringing new ideas into it.

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The reproduction of copyright works for the benefit of blind and deaf-mute

Irini A. Stamatoudi

Introduction

Although the issue of exceptions and limitations in the EU seemed to have been settled after the enactment of the Information Society Directive (2001/29), this was not entirely so for a variety of reasons. The harmonization achieved was only a partial harmonization and it was the result of the compromise that led to an acceptable solution. First, the issue of exceptions was never truly harmonized since EU Member States could pick and chose from the list found in the Directive. Second, even if all Member States had all chosen the same exceptions (which was highly unlikely anyway), they could still differentiate in the manner implementing them: a) they could choose whether or not to make full use of the scope of each exception as this exception was enshrined in the Directive, b) they could filter or not the scope of each exception through the three-step test (there is, of course, a strong argument that the exceptions found in the EU Directive have already been filtered before their inclusion in it), and c) they could choose whether to make their exceptions obligatory or voluntary. The exception concerning impaired people (found in article 5(3)(b) of the Directive) is a characteristic example in this respect. EU Member States could choose whether or not to adopt this exception, to what extend to adopt it and whether or not to render it obligatory (if it was considered not to be obligatory in the first place).

I. General scope of the exception

The copyright exception for blind and deaf-mute was introduced into the Greek Copyright Act (as article 28A of Law 2121/1993)[1] for the first time in 2002 by article 81 of Law 3057/2002, which implemented into Greek copyright law the EU Directive 2001/29.[2] Until then, no such exception had existed in Greek law

1. Law 2121/1993 on Copyright, Related Rights and Cultural Matters (Official Gazette A 25 1993), http://web.opi.gr/portal/page/portal/opi/info.html/law2121.html, last access June 10, 2013.
2. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ of the European Community L 167/10, 22.6.2001.

although there had been instances where publishers were asked, out of their own good will and not in compliance with some legal provision, to provide works to people with disabilities for free. This practice continued sporadically, especially in Universities, even after the introduction of the relevant provision in Greek law and in any case before the introduction of the Ministerial Decision implementing this provision (2007).

According to article 28A (of the Greek Copyright Act)[3] "The reproduction of the work is allowed for the benefit of blind and deaf-mute, for uses of a non-commercial nature, directly related to the disability and to the extent required by the specific disability. The conditions of application of this provision as well as the application of this provision to other categories of persons with disabilities may be determined by resolution of the Minister of Culture".

Article 28A sets out the general framework of the exception incorporating the three criteria found in article 5 paragraph 3 b of Directive 2001/29.[4] In other words, the exception applies only to uses for the benefit of people with a disability. These uses should be a) of a non-commercial nature, b) directly related to the disability and c) to the extent required by the specific disability. Yet, the exception could not yet operate without the issuing of the resolution provided in the law. This resolution was enacted almost four years later (in 2007) in the form of a Ministerial Decision.

The exception in Greek copyright law for people with disabilities is rather limited compared to the one found in the EU Directive. The Greek provision makes express reference to blind and deaf-mute but it also allows the application of the provision to other categories of persons with disabilities. However, it only works as an exception to the reproduction right and not to the distribution right, the right of communication to the public or the right of making available to the public. This legislative solution was found under the circumstances appropriate since it was feared that any other solution would be too wide and would impinge on the rights of authors and rightholders. It was also perhaps taken into account that authors and publishers may come to agreements out of their own free will or consent to uses of their works by disabled people without the need of a statutory exception.

3. Entitled "Reproduction for the Benefit of Blind and Deaf-Mute" of Chapter IV on Limitations on the Economic Right of the Greek Copyright Law 2121/1993.

4. Article 5(3): "Member States may provide for exceptions or limitations to the rights provided for in Articles 2 and 3 in the following cases: [...] (b) uses, for the benefit of people with a disability, which are directly related to the disability and of a non-commercial nature, to the extent required by the specific disability".

Article 28A provides for the general framework of the exception. However, in order for the exception to become operative and in compliance with Recital 43[5] of the EU Directive, which provides that Member States adopt all necessary measures to facilitate access to works by persons suffering from a disability, in 2007 a Ministerial Decision by the then Minister of Culture was enacted.[6]

The Ministerial Decision defines the exact scope of the exception, sets out its conditions of application and most importantly, makes the exception obligatory. In other words, the exception cannot be contracted out in agreements between the publisher and the author.

Up to then, there was no express provision in the law, case law or literature as to whether limitations in Greek law are obligatory or not with the exception of those expressly provided as such in the European Union Directives and implemented as such into Greek law. Views on this issue were divided not only in Greece but also abroad.[7] The Ministerial Decision put an end to the discussion with regard to the particular exception in conformity with the public interests served by it.

II. Beneficiaries and works subject to the exception

The Ministerial Decision is neither limited nor too extensive when compared to the EU Directive. Beneficiaries are blind people, but also people with defective or impaired vision that cannot be improved with the use of corrective lenses to a degree satisfactory for reading. It also covers deaf-mute, but also, in general, people who, because of a disability, are unable to read a printed text in a conventional way or perceive the content of a work via their physical senses.

Dyslexic people or people with other disabilities are not covered.

Not all copyright works are covered by the exception. The exception only applies to literary works in as much as they cannot be perceived in their existing form by the beneficiaries. It does not apply to the source code of computer programs since at the time of its drafting, no justifying reason was found as to why a per-

5. Recital 43: "It is in any case important for the Member States to adopt all necessary measures to facilitate access to works by persons suffering from a disability which constitutes an obstacle to the use of the works themselves, and to pay particular attention to accessible formats".

6. YPPO/DIOIK/98546 Reproduction of Copyrighted Work for the Benefit of the Blind and the Deaf-Mute and Extension of the Arrangement to other Categories of People with Disabilities (Official Gazette: B 2065/24.10.2007). For an English version of the Ministerial Decision see <http://web.opi.gr/opifiles/tyfloi/ya_98546_en.pdf>, last access June 10, 2013.

7. See I. Stamatoudi, Can copyright limitations be limited by contract? in ATRIP Congress (Association of Teachers and Researchers in Intellectual Property), Munich, 19 July 2008.

son with disability needs to have access to the source code of a computer program and how this could facilitate her needs.

Beneficiaries cannot reproduce or adapt the works into appropriate formats themselves; only competent bodies can do it for them. According to the law, competent bodies are any non-profit organization, association, union or other pertinent organisation whose main mission is to provide specialised services related to the education and training of the beneficiaries. Thus, any kind of school for the beneficiaries provided for in the Ministerial Decision qualifies, as well as associations for the Blind such as The Lighthouse for the Blind of Greece, a non-profit association subsidised and overseen by the Ministry of Health and Prevention.[8] Tertiary education establishments, such as Universities, Polytechnics, Institutes of Technology and so on, are also included.

In case of doubt whether a body is entitled to reproduce works for the beneficiaries, the Hellenic Copyright Organisation (HCO), which is the Greek Copyright Office supervised by the Ministry of Culture and Tourism, makes the final decision; HCO maintains a list of all competent bodies in this respect.

Works can be reproduced in any form responding to the needs of the beneficiaries and always to the extent required by their disability. Some of these forms are provided for in the Ministerial Decision, such as Braille, Moon, Daisy or talking books. Forms have also been left open in order for the provision to be flexible to evolution be it technological or other.

III. Rightholders' obligations

Publishers must provide the work. Publishers need to provide the work within thirty (30) days from the date of the competent body's request. If there is a cost for the copy provided, beneficiaries need to cover this cost, which, in any case, cannot exceed the reproduction cost of the copy. So, the issue of cost cannot be used as a pretext by the publisher to avoid providing the work or create an obstacle to the beneficiary to gain access to the work.

Publishers are obliged to deliver the work in electronic form on condition that the work is kept in electronic form. This means that if a publisher does not have a work in electronic form, the publisher may provide it in some other form; it is up to the beneficiaries to change the format at their own expense respecting the rights of the authors and rightholders including authors' moral rights.

8. It was founded in 1946. It aims to support blind individuals, reduce the impact from the loss of sight and raise public and State awareness on the problems that they face.

The Ministerial Decision provides for an indicative list of electronic forms as well as an indicative list of means of delivery from the publisher to the competent body.[9]

Publishers need to deliver all textbooks of primary and secondary education as well as mandatory textbooks of tertiary education. They also need to deliver any other work, up to 10% of their annual publishing output excluding from such percentage any textbooks of primary, secondary or tertiary education.

In case publishers fail to comply with their obligations under the Ministerial Decision, the percentage of the works of their annual publishing production they are supposed to provide doubles.[10]

IV. Competent bodies' obligations

When the Ministerial Decision was drafted, fears were expressed that it might work as a vehicle for abusing the rights of authors and of rightholders. There were also fears that works provided to beneficiaries would leak to non-beneficiaries, especially by the use of electronic means including the Internet, and create a new source of piracy. This was so because certain formats of literary works used by disabled people compared to conventional formats had nothing different apart from an enlargement of their fonts. This meant that these works could easily be read or used by anyone irrespective of the existence of any disability.

These fears were dissolved by the introduction of a number of requirements and safeguards. Competent bodies have to purchase one copy of the work they intend to reproduce, irrespective of the number of copies to be reproduced. They should not use reproduced copies for purposes other than those specified in the Ministerial Decision.[11] If competent bodies use third parties to reproduce the works competent bodies incur the principal's liability for any copyright infringements committed by these third parties. In any case, when one infringes, one incurs the sanctions provided for in the Greek Copyright Act.

Competent bodies also have to notify the publisher of the number of copies of the work they reproduced and of the form of such reproduction. They also need to inform HCO and the Association of Book Publishers so that they update their

9. E.g. extensible mark–up language, hypertext mark–up language, Microsoft word, American Standard Code for Information Interchange–ASCII, Portable Document Format–PDF. Delivery can take place by post, courier, e-mail, file transfer protocol–ftp or in any other form of electronic delivery (Article 6 paragraph 3 of the Ministerial Decision).

10. Article 6 paragraph 2 of the Ministerial Decision.

11. Article 7 paragraph 6 of the Ministerial Decision: "[..]Any person making use of such a file for purposes other than those provided for in article 1 hereof shall be liable pursuant to articles 65 et seq. of Law 2121/1993". Translation by the author.

records in respect of the titles of works in electronic form held by each competent body and the particular form in which the works have been reproduced. This allows some control to be exercised over the reproduction and the use of works; it is helpful in terms of the collection of statistical data; and allows the system to be effective in that the same work is not reproduced twice if already available.

In case competent bodies change their purpose or dissolute, they need to destroy all electronic files in their possession and report such destruction both to HCO and to the Association of Book Publishers.

What is also of interest is that it is the competent bodies that examine whether a beneficiary qualifies as such. In other words, it is the competent body which bears the responsibility for the application of the Ministerial Decision within its purpose.

Additional safeguards are also provided for the protection of authors and rightholders.

Only legally published works can be reproduced. Works that have not been published do not fall within the statutory exception. The reproduction cannot be for direct or indirect commercial uses and it always has to be directly related to the disability.

The exception does not apply to works that are already on the market in forms specifically designed for the needs of beneficiaries. This means that publishers can decide whether it is to their benefit to exploit a work themselves in this respect by putting it on the market and making it commercially available. However, publishers cannot invoke such intention to avoid providing the work. The law is clear that the work should already be on the market for publishers to avoid such obligation. What is of interest is whether e-books or works that are available in electronic formats, which can be easily transformed in format or else manipulated by the use of simple software tools available on the operating software found in computers, fall within the category of works that publishers need to provide to beneficiaries. Such a case would be, for example, where the change in format would only consist in the enlarging of fonts and the change of colors or brightness on the screen. Although such a case has not emerged so far in Greece, it would be fair to say that, if a work meets the needs of a beneficiary as it is or in the form it may take by the simple use of her computer's operating system, then this beneficiary cannot and should not invoke the exception.

There are additional safeguards: Once the work is reproduced in the appropriate format, the reproduced copy has to mention the name of the author, the publisher and the date of first publication, provided such information is included in the work. This information should also appear on the physical carrier of the copy as

well as the wording that the copy has been reproduced pursuant to article 28A of Law 2121/1993 and the Ministerial Decision and that any further reproduction in forms other than those defined in the Ministerial Decision constitute copyright infringement and incur the sanctions provided for in the Greek Copyright Act.

Lastly, the competent body has to respect author's rights while reproducing or using work within the boundaries of the exception. The work cannot be changed or altered (basically in the sense of infringing the right of integrity as this right is set out in the Greek Copyright Act for authors)[12] without the author's and the publisher's authorisation in relation to each one's respective rights. This provision, of course, is not intended for changes relating to layout and pagination, which are dictated by the need to convert the form of the work in order to serve the needs of the beneficiaries.

In order to avoid delays in cases of non compliance with the Ministerial Decision, a speedy court procedure has been provided for, that is the procedure for injunctions found in the Greek Civil Procedure Code.[13]

Conclusion

The Ministerial Decision has been in force since the end of 2007.[14]

It tried to strike a balance between the actual needs of the impaired people and the legitimate rights of authors and publishers concerning the protection and exploitation of their copyrights. This was done within the limits set by the original provision found in the Greek Copyright Act, which, at the time of its drafting (namely when Greek law implemented the EU Directive), did not make full use of the potential provided by the relevant EU Directive.

Although at the outset of its drafting reservations were expressed as to whether it would work in practice and views were expressed in favour of maintaining the situation on a voluntary basis as the case was until before the enactment of the Ministerial Decision, the Decision has proven itself effective and served to the full the functions that it was originally set to serve without upsetting the market. It also clarified the legal nature of the exception by making it obligatory and

12. Article 4 (1)(c) of Law 2121/1993: "The moral rights shall confer upon the author notably the following rights: [...] c) to prohibit any distortion, mutilation or other modification of his work and any offence to the author due to the circumstances of the presentation of the work in public [...]".

13. Articles 682seq. of the Greek Civil Procedure Code.

14. Numbers are updated until June 2012.

stressing the important public policy reasons behind it. This was another issue, which was left open in the original copyright provision.

Today there are approximately 27.000 blind people in Greece. Just over a thousand of them are young people aged up to 18 years old. People with defective or impaired vision at a disability rate of 67% or more are approximately 80.000. However, only a small number of them, making use of this Ministerial Decision, study in tertiary education. Panteion University (a Greek University specialized on political sciences) alone has served approximately 50-100 people within the scope of the Ministerial Decision. 15 people have been served by the University of Macedonia in Thessaloniki and 30 people by The Lighthouse for the Blind of Greece (an Association for the Blind in Greece). These are only some rough estimates produced so far which originate from institutions that have put in place the means and personnel to serve these people. In an informal inquiry, the institutions making use of the Ministerial Decision informed HCO that the help provided to people with disabilities -although the number in need of educational facilities is small- is immense; the Ministerial Decision has considerably facilitated the library and education services offered to them.

Unfortunately, we have no precise numbers for deaf-mute or people with similar disabilities affecting their reading of a work. We, however, estimate that these numbers are similar to the ones for the blind.

At this stage, I should point out that it is up to the disabled person to ask from the University or Institution to provide the book or other work needed and not for the University or Institution to take the initiative by itself. So, works are requested only when there is real need for them, whilst duplicates are avoided: each institution knows exactly the works it requested and reproduced and keeps records in this respect. In this sense, the system is also cost effective.

Many Greek publishers have welcomed the Ministerial Decision; they thought that it did not place a considerable burden on them and it was indeed a social measure, which did not impinge on copyright's protective core. So far, there were no instances where publishers denied providing a book or expressed dissent. Fears for leaks of the reproduced works on the market and even more on the international market are rather limited since the number of impaired people in Greece is rather low and the Greek language is a barrier in itself for leaks of works abroad.

In a world where copyright becomes more and more stringent, in order to be able to recuperate the damage caused to the rights of authors and rightholders by piracy as well as serve the needs of competitive economies, exceptions can play -now more than ever- a considerably important balancing role between the rights

of authors/rightholders and those of society. This becomes even more relevant in our days given the discussions at the World Intellectual Property Organization (WIPO) regarding the adoption of an international instrument concerning the rights of the visually impaired persons. At the time of writing this, lobbying is still in progress and it is still not clear whether the flow in WIPO will be towards a draft Treaty or a Recommendation although it is very likely that the first option (that of a Treaty) will prevail.[15]

In any event, what is important is that each State puts in place a system it considers appropriate under the circumstances to serve in a balanced and controlled manner the needs of visually impaired people as well as of people with related disabilities. And that should be irrespective of any international obligation or recommendation.

15. <http://www.wipo.int/portal/index.html.en>.

Ethical considerations regarding the protection of intellectual property in Albania

Edlira Tartari

Introduction

Intellectual property law has always aimed to protect the private rights of the different authors. Recently, however, we are witnesses of the rise of another way of thinking which has challenged the priority of the absoluteness of the rights of the author, the character of which is being now the theme of a vast discussion. Too many other interests, chiefly of ethical and moral character, come now to play, and, despite the protectionist ideas still existing, make it the centre of new developments of the property rights in the world.

Since 1705, Christian Thomasius (1655-1728) had underlined the differences between law, moral and politics. In his writing *Fundamenta juris naturae et gentium*, he states that *honestum* is the moral (do to yourself what you would like other people do to you), *justum* is the just, the law (do not do to the other what you do not like to be done to you) and finally *decorum,* or the policy, (do to the other what you would want the others do to you). Later, Immanuel Kant in his *Metaphysics and Customs* and *The Perpetual Peace,* states that morality means to abide the laws which ask people that given acts to be understood. In his book *The Doctrine of the pure law* (1960) Hans Kelsen writes that the distinction between *law* and *morality* cannot be grounded on the kind of behaviour a man is obliged by the norms of both systems, which means that the same behaviour may be object of law and/or moral norms. According him, it is not true that morality refers to inner while law the exterior aspects of a phenomenon.

Anyway, after the dictatorships, in Europe now is developed a self-consciousness way of thinking which we may call "the era of the rights" (R. Dvorkin has labelled it the era where the rights are being considered seriously). Since 1990 we realize that new constitutional concepts are developed, the public law is draining in favour of *lex mercatoria*, a law which is more commercial than state one. The law is imposed by the human beings therefore the first demand for a just law is to respect the human rights. Consequently, justice demands that the legal norms be first considered axiologically.

But which would be the real situation of the protection of the intellectual property in Albania nowadays?

Concerning the protection of Intellectual Property in Albania there are two principal laws: Law of 28 April 2005, n° 9380 "On copyright and other related rights with it" (which is amended by two other laws of 2008 and 2009) and law of 7 July 2008, n° 9947 about the Industrial Property (now is being prepared a new law).

My intention is to discuss these two Albanian laws just having especial concern the moral and ethical considerations of these laws.

A brief history about the development of intellectual property law in Albania

Albania was the latest of the ex-communist countries that entered on the road of economic transformation. It was one of the poorest, most isolated, most repressive and most inscrutable country in Europe. There are now 20 years that Albania is undergoing a long transformation from a communist, centrally planned economy to a liberal free market economy. The picture of the Albanian economic situation that emerged in the early 1990 was dramatic. But during these years our country has implemented many economic, politic, legal and institutional reforms and the progress has been made on many fronts.

The ongoing changes in the economy are characterized by growing services in this sector and in 2003, Albania adopted specific legislation about the protection of competition and its market was open to the foreign investments. Consequently, the level of protection of investor's rights increased and Albania's Foundation of economic freedom undertook the protection of property rights. These changes also concerned intellectual property too, including the copyright and related rights and the industrial property.

The concept of intellectual property in Albania is a new born concept because during the communist era the private property was constitutionally abolished and was substituted by the concept of "personal property". It's for this reason that the intellectual creations couldn't be private property. The authors of intellectual works were obliged to cede their "rights" only to the State under provisions and rules established by the State only and against royalties fixed by the State. According to these rules the payment to the author was given only one time, when the creation was published for the first time. For further editions no royalty was foreseen. If the work was published, interpreted and executed abroad, the authors were paid by the Government 20% of the sum collected. The rest of the money was handled by the State. For the publication of works not only the authorization of the authors but also that of the publishing of authorities

was needed which applied strict ideological control. It was forbidden to publish a book even with the authorization of the author, or, by himself, that has not received official clearance.

But the decentralisation of economy and especially the constitutionally recognition of the private property in the beginning of the years 1990, inevitably made obligatory the change of the legislation for the authors and inventors too. On 19th May, 1992 the Parliament of the Republic of Albania passed the Law nr. 7564 "On Copyright", which may be considered as the first law on Copyrights. This Law has had different amendments in order to adapt it as much as possible to the needs of a situation which was changing continuously and to update it with international modern standards of intellectual property rights.

Since 1991, Albania has adhered in many international Convents and Treaties regarding the protection of intellectual property rights. Albania is a member of WIPO (since June 30, 1992), when it ratified the Convention established the World Intellectual Property Organisation. On March 6, 1994 Albania signed one of the major international copyright treaties: the Berne Convention for the Protection of Literary and Artistic Works (Paris-text of 1971) and in 2000 its protocol - the TRIPS Agreement (1994). In 1995 Albania adopted the Paris Convention for the protection of Industrial Property(1883); in 2000, the Rome Convention for the Protection of Performers, Phonograph Producers and Broadcasters(1961) and on August 6, 2005 it signed and ratified the WIPO Copyright Treaty(1996) e.tc. Besides these Convents and Treaties Albania has signed and ratified the most important directives of EU on the protection of intellectual property rights and related rights.

In April 2005 the parliament passed the Law Nr. 9380 on "Copyright and other rights relating with it" which abolished all previous parliament and government acts since 1992. This Law has provided various administrative measures to make possible the respect of copyright and to penalize any potential infringement of copyrights. It offers better specifications on author's rights for collective works and requires all parties to certify their contracts with the Albanian Copyright Office which is established since April 2007 and according to the law nr. 9380 is a specialised institution in the field of intellectual property of artistic, literary and scientific works. The establishment of this institution was the result of an urgent need to fight the widespread intellectual piracy in the country.

The other branch of intellectual property is Industrial Property. In Albania industrial property developed early in the beginning of the twentieth century. Albanians merchants were very sensitive to keep their products safe from counterfeiters and the first registration certificate of the trademark is dated in April, 16, 1920. But during the Communist system, having abolished the private owner-

ship and private business, the only owner of the industrial property remained the State. The only competent organ for registering the national trademarks and patents was the Chamber of Commerce and Industry, an institution under the Ministry of Public Affair. In 1957, this Institute completed the formalities and respective documentation for the registration of foreign trademarks in Albania on the basis of the legal provisions in force, especially Decree no.2490 dt.22 July 1957 (amended by two other decrees, N.3530 and nr.4254 dt.11 April 1967 "On Marks of Production and Trade".

After the fall of the communist's regime, the changes in all legislation made imperative the change of the legislation on the industrial property too. So, on 22 March 1993 the Office of Patents under the Committee of Science and Technology was created. It involved the registration and the protection of Patents for Inventions, Trademarks, Industrial Designs and the Certificates of Origin. A new industrial property law was entered into force on July 8, 1994, the Law no. 7819 "On Industrial Property" which aimed to provide for the grant and protection of industrial property rights concerning: inventions and utility models; trademarks and service marks; industrial designs; geographical indications. In 2006 was created the General Directorate of Patents and Trademarks as a specialised institution under the Ministry of Economy, Trade and Energy.

On 28 April 2005 L. n. 9380 about copyright and related rights was approved while on 7th July 2008 law n° 9947 "on industrial property rights came into effect. These instruments were a successful achievement in the field of the acquaintance, the management and the protection of the rights arising from the intellectual property and had a vigorous influence in the stabilisation and the functioning of the market economy, the conservation and the consolidation of the rules about the faire concurrence e.tc. The principal aim of these laws is, of course, the approximation of the Albanian law in the field of intellectual property rights to the law of the EC countries, the EC Directives, the European Convention about the Patents, the TRIPS Agreements e.tc. These laws attempt to harmonise the Albanian law with the ratified international conventions in the field of intellectual property.

In the Official Gazette of the Republic of Albania, No. 163 of 8 December 2010, Decision n° 760, dated 1st September 2010 of the Council of Ministers about the approval of the national strategy regarding intellectual and industrial property for the period 2010-2015 was published. According to this decision, the Albanian government intent to guarantee and develop in Albania a contemporary system for the protection of intellectual properties consolidating the socio-economic system and guaranteeing to the subjects equal possibilities to participate in this process. The strategic priorities include the reduction of piracy in the field of in-

tellectual property, the improvement of the means aiming the protection of intellectual properties e.tc., while as strategic purposes we find; the fulfilment of the legal framework, the development and the consolidation of the entities involved in the field of intellectual property, the consolidation of the cooperation and collaboration of the national entities with the regional and international ones, and the increase of awareness (knowledge) of people in Albania about the intellectual rights. However, on 22nd November 2001, the Ambassador the European Community in Tirana, Mr. Ettore Sequi, explicitly stated: "regarding copyright and the protection of industrial property we observe a poor progress concerning the approach of the law with the European Community law. Albania must still fulfil the obligations undertaken with the Association-Stabilisation Agreement".

In an interview of 5th December 2011, Dr. Zh. Peto, professor at Law, Faculty of Tirana, states that a new law about copyright and related rights is ready to be approved and are drafted two new articles to be added to the Criminal Law in order to fight more efficiently the piracy in the field of intellectual property. The law amendments aim a full approach of the Albanian law in the field of intellectual property with the Acquis Communautaire and the international ratified instruments in the this field and the cancellation of the existing deficiencies, providing a better and efficient protection to the owners of the rights of intellectual properties. Further, these amendments will create the ground for a control of the internal market concerning the intellectual rights because up to now there has existed a "law *vaccum*" and nobody was charged to supervise and control the application of the law in the internal market.

In 2010 Albania joined the EPO (European Patent Office). But, despite these encouraging reforms there is still much work to be done, especially regarding the level of piracy and counterfeiting which are widespread and the people aren't so conscious to take into consideration the norms of the law. Another major problem is the absence of the law about the protection of some important elements of intellectual property such as moral rights and personality rights.

The key question now is the drafting of the new laws having presents the moral and ethical questions. I feel that the claims of Prof. Joseph Stiglitz and Prof. John Sulston, both Nobel Laureates in 2001 and 2002 respectively, in Economic and Physiology/Medicine, that Intellectual Property Regime stifles science and innovation, must be taken into consideration. According to Stiglitz, intellectual property is a public good with two attributes: non-rivalrous competition and non-excludability. This means that it is difficult to prevent others from enjoying its benefits while intellectual property regimes are worse that exclusion because they create monopoly power over knowledge that often is abused. The social returns from innovation do not accord with the private returns associated with the pat-

ent system. The person who secures the patent wins a long-term monopoly creating a gap between private and social returns. He states that developed countries are separated from developing countries by the disparity in access to knowledge and IP is making it harder to close the gap. He suggests, therefore, that IP regimes be tailored to specific countries and sectors. No one believes that the patent system should be entirely abandoned, but the question is whether other tools, such as prizes or government funding, could be used to promote access to knowledge and spur innovation in areas where there are well-defined objectives such as a cure of malaria. Further, Sulston too, states that science can be driven by need of curiosity, which requires a substantial degree of openness and trust among players. However, research direction is controlled by governments and investors which funnel science into profitable areas. The consequence of this trend is the neglect of research on the deceases of the poor and the production of unnecessary drugs sold through high-pressure marketing. On the other part, counterfeiting has become a major issue. Sulston, therefore, suggests return to the old practice of splitting research and development from production and is critical the privatisation of science. "The world should concentrate on the survival and thriving of humanity and the exploration of universe" states Sulston.

Without fully approving this attitude, I seize the opportunity of this conference to expose my personal point of view. First of all, ethics and law are not the same. The former is broader and usually is composed by unwritten norms. As David B. Resnik states, ethics may be defined as a method, procedure, or perspective for deciding how to act and for analyzing complex problems and issues. How to act in the case of life-saving drugs, is it fair to prevent other companies from manufacturing the same without the additional cost of research and development? The system does not allow this and the immediate consequence, therefore, would be the exclusion from the market of those who cannot afford the cost of the product, in this case a life-saving drug. The incentivizing mechanism for innovation establishes a direct link between the incentive to innovate and the price of the innovated product.

Nowadays there is an immediate need to regulate IP laws on new legal provisions regarding banking credits to inventors, in order to give greater opportunities to everyone to develop Intellectual Property rights. The law must acknowledge the owner's right over the innovation, but at the same time it must leave ample space for moderation and further development. Article 27 of the Universal Declaration of Human Rights approved by the General Assembly of the United States (Resolution n° 217 A (III) of 10th December 1948, recites:

1. Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

If we want to fully apply this provision of the Declaration, we have to enact laws which would respect both the above two paragraphs of this Article.

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Free licensing as a means to revise copyright

Elli Velissaropoulos

1. Introduction: Copyright law as a social contract

Prior to any copyright legislation, the need to control printed editions of books had appeared during the XVI century. The system which was found in some countries consisted of monopolies granted to booksellers by public authorities in order to control their trade. This system was later replaced with the first copyright legislations during the XVIII century (for instance, the United Kingdom's Statute of Anne of 1710, the United States' Copyright Act of 1790 and the French revolutionary decree of 1793).

Copyright law is an instrument devised to strike a balance between the rights of the authors and the interests of the public, as well as those of publishers. It aims at preserving the author's freedom of creation towards the monarch, but also at contributing to the enrichment of the public domain to a social advantage. In that sense, copyright has always encompassed a social function (Geiger, 2006).

Nowadays, this balance between the author's and society's interests is expressed in Article 27 of the Universal Declaration of Human Rights which provides that:

> 1. Everyone has the right to participate freely in the cultural life of the Community, to enjoy the arts and share in scientific advancement and its benefits;
>
> 2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

In other words, this article provides for the freedom of access to culture, but at the same time preserves the authors' rights.

Copyright law derives from different conceptions depending on the legislations. Firstly, it is influenced by romanticism, which dictates that a work is the emanation of the author. As a result, the right of the creator over his or her work is a natural right. This approach is present in France, where the author is in the centre of the protection copyright establishes. Secondly, following Locke's theory on property, copyright is seen as a reward of the author's labour. As any kind of property, the author owns his or her work and should be remunerated for its

creation. Following this approach, any investment should be rewarded, that is the investment of intermediaries in the dissemination of one's work too. Thirdly, copyright is the means to allow the promotion of creativity. This utilitarian approach can be found in the Copyright Clause of Article 1, Section 8, Clause 8 of the United States Constitution, in which it is stated that: "Congress shall have the power to promote the progress of science and useful arts". Copyright is created in order to allow the dissemination of works as a social requirement. It must encourage authors to publish their work in order to enrich the cultural heritage.

In this paper, copyright is seen as a social contract, by which society grants the author an exclusive right for a limited period after which the work falls into the public domain. Apart from the duration of copyright, after which the work is rendered to the society, the most effective way to secure the public's interests is made by providing exceptions and limitations to the author's exclusive rights. As intellectual property rights are themselves exceptions to the general principle of freedom, exceptions and limitations to copyright are meant to strike a fair balance between the author's interests and those of the collectivity. These exceptions and limitations secure this exceptional nature of intellectual property rights. As a result, some uses of one's work are exempted from requiring any authorization because a fundamental freedom is at stake. For instance, the exceptions about caricature or parody, present in several national laws, respond to the acknowledgement of freedom of expression.

Nowadays, new information and communication technologies have changed the way copyright is perceived by legislators and the public opinion. As copying and distributing a work without authorization has been facilitated by new technologies, laws have been passed in several countries in order to fight against online infringement. This new understanding of copyright has resulted in a higher protection of the authors and intermediaries, notwithstanding the society's claims for a wider dissemination of knowledge. Copyright law has evolved in its scope and term of protection. At the European Union (EU) level, for instance, one may consider the 2001/29/EC Directive of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society. The most striking illustration about this directive is the legal protection against circumvention of Technical Protection Measures (TPM) it provides, prejudicing the exercise of traditional private exemptions, such as private copying. TPMs' mechanisms do not benefit authors *per se*, but economic right-owners in general, since they are entitled to chose whether to use them or not. Another example are the various directives expending copyright's and neighbouring rights' terms of protection (directive 93/98/EEC of 29 October 1993, replaced by the directive 2006/116/EC of 12 December 2006, recently amended by the directive 2011/77/EU of 27 September 2011). Thus, the balance tends to lean more

on the authors', but especially on economic intermediaries' interests, since the strong interest of protecting investment has emerged. As copyright laws are more and more restrictive, their result is to hinder creativity. This consequence had already been well explained by the UNESCO, in its Third Medium-Term Plan (1990-1995), adopted in November 1989, §195: "Creation can be encouraged or discouraged, depending on the status assigned to creators by society. Copyright, whose position has been complicated by the development of new technologies, is a decisive factor. The production policies of commercial distribution of works of the mind are determined primarily, and much more strictly than before by market principles. Accordingly, legal standards are being drafted or revised in order to adjust classical copyright laws to the new economic imperatives".

Meanwhile, the digital environment sets up a new deal and intermediaries are no longer necessitated in order to disseminate the work. It is the so-called phenomenon of "online disintermediation" [Carroll, 2006]. The internet is used as a means to disseminate knowledge and foster creativity. The information society leads to several problems as regards the protection of intellectual property. Besides pirates, known for being against copyright monopolies, other movements are emerging, which use intellectual property, especially copyright law, to re-appropriate it in the public's interest. It is in this context that appeared the free culture movement. This movement uses free licences applied to literary and artistic works, not only to create a new type of works: the free cultural works - defined in short as "works or expressions which can be freely studied, applied, copied and/or modified, by anyone, for any purpose" [www.freedomdefined.org/accessed 26/05/2012] - but also to revise the foundations of copyright by using it in a subversive way. Confronted with this digital phenomenon, many academics, but also public entities try to find legal means to acknowledge the validity of this kind of practice in order to allow the wide dissemination of works for the general benefit of society. Free culture invites us to revise the current copyright regime.

This paper is going to present the emergence of free culture movement in the literary and artistic field by focusing specifically on two free licences and the creation of free cultural works they lead to. After that it is going to study the legal uncertainties of this private ordering practice and the eventual solutions that have been proposed in order to resolve this problem with other legal means.

2. The emergence of free licensing

Free culture is a social movement which emerged in the field of computer programs with the free software movement and expended to all fields of literary and artistic works. Different communities fall within the free culture movement, two of which are going to be studied in this paper: the Creative Commons organiza-

tion and the Copyleft Attitude. These communities have created several free licences in order to promote the free creation and flow of information.

2.1 Principles Governing the Free Culture Movement

The first to use the expression of Free Culture is Professor Lawrence Lessig, founder of the Creative Commons organization, in his book which develops on "an effect of the Internet beyond the Internet itself: an effect upon how culture is made" [2004, p.10].

Distinguishing between "commercial culture" and "non-commercial culture", he observes that the latter was traditionally free, because the law initially did not regulate it. This freedom consisted in a "building upon the past". As the law started to expand its scope on "non-commercial culture", it led society to a "permission culture" where there is less and less content left free. Professor Lessig fears that the war against pirates is going to have an impact on this "right to build freely upon the past". As a result, he considers the right thing to do is "to revolt against the extreme claims made today on behalf of 'intellectual property'" [Lessig, 2004, pp.10-13].

Rather than revolting against intellectual property itself, free licences use copyright in a subversive way in order to stimulate its revisal. The re-emergence of free culture is inevitable today, because it is the main effect of the digitalization of the world's culture via practices that are proper to the Internet [Moreau, 2009]. Free licences establish a different manner of exercising intellectual property in a way to enhance free culture, by sharing and reusing works. The idea behind them is to create a commons in which everyone is entitled to use and distribute works and create upon them, as long as they grant the same freedoms to others. This final requirement constitutes the so-called "copyleft" (the share-alike requirement in a Creative Commons' language), as opposed to copyright which entitles the author to the *exclusive* use of her work. Thus, copyleft has a viral effect by imposing the preservation of the above-mentioned freedoms for the modified versions of the original work. In this scheme, contributors, may they be authors or only users, are peers. This illustrates well the fact that, under the free culture movement, reciprocity is a requirement for equity. Consequently, copyleft is the key element of free licensing.

As a result of the participative web (Web 2.0), any user is *a priori* invited to use, distribute and transform the work, without discrimination. Thus, the line between professionals and amateurs has become too thin and may cause some difficulties in drawing solutions (see *infra* 3.2). Free licences can be licensing models for user-generated content, but they are not limited to it. User-created content is defined as the "content made publicly available over the Internet, which re-

flects a certain amount of creative effort, and which is created outside of professional routines and practices" [OECD, 2007, p.4], while free licensing, following a specific ideology, permits the creation of free cultural works which are under free culture licences or which are in the public domain. Even though many licences are mentioned as free, only those which allow the free use, distribution and transformation of the work, combined with an obligation to grant the same freedoms to subsequent authors are considered as free in the present paper, because they are the only ones that preserve the work from any future misappropriation.

Free culture underlines different principles that Richard Stallman had applied to the free software movement: the principles of liberty, equality and fraternity. This movement had even discussed to have free software recognized as a heritage of humanity by UNESCO, since the organization and the free software community share the same values:

- Freedom, as one can copy, modify and distribute the software,
- Equality, as each user enjoys the same freedoms in a non discriminatory way and
- Fraternity, as this culture is about sharing and collaborating.

The same principles can be applied in creative works under free licences in general. The most common characteristic of free culture resides in the fact that its members join a community whose aim is the sharing of information. While it can be understandable that a community-type of organization is legitimate in the creation of software, because it has been traditionally collective or collaborative work, the existence of communities is more peculiar regarding the creation of other works in the literary and artistic field. Indeed, a plurality of authors in a novel or a painting is less frequently observed. However, in the information society, free licences organize the establishment of a community, by allowing a user to contribute to the creation of the evolving free cultural work. The user thereby joins a community of contributors to the creation of the work. He becomes an author if his contribution is original.

The motivation of free licensing mainly relies on the wide dissemination of knowledge and the augmentation of the cultural heritage. This consideration is also shared by public institutions. The creation of a fifth community freedom, that is the freedom of knowledge had been considered by the European Commission in its Green Paper of 2007 on the "European Research Area: New Perspectives". This freedom eventually applied in general would imply an effective knowledge-sharing by the free movement of works - a common objective with free culture.

2.2 Free Licensing Used for the Creation of Creative Works

The first free licence appeared in the field of software, after Richard Stallman revolted against the proprietarization of the source code in the 1980s. The feasibility of his GNU project on open source software depended on a licence: the General Public License (GPL) which granted four fundamental freedoms:

- The freedom to execute the software,
- The freedom to study the software and adapt it to one's own needs,
- The freedom to distribute copies of the software,
- The freedom to improve it and make public the modifications, so everyone can benefit from them.

The GPL continues to be the most famous free licence in the field of computer programs. However, several years after the elaboration of this licence, new movements arose whose attempt was to promote free licensing in the field of creative works, that is in literary and artistic works in their traditional understanding. Two movements will be studied: the Creative Commons (CC) and the Copyleft Attitude and their respective licences which may (or may not) be considered free. Works created under a free licence are called free cultural works. The existence of these works is depending on a proprietary regime, that is the current copyright regime, and rely on contractual organization.

The Creative Commons organization and its CC Attribution-ShareAlike licence

The American Creative Commons organization was founded in 2001. It was created in order to address the public at large as regards non functional works. It proposes different licensing schemes, based on the assumption that authors want to grant more or less access to their works. As a result, CC appears as a new type of intermediary [Carroll, 2006]. Following the freedoms they provide for, six permutations can be created: the "Attribution" (CC BY), "Attribution-NoDerivs" (CC BY-ND), "Attribution-NonCommercial-NoDerivs" (CC BY-NC-ND), "Attribution-NonCommercial" (CC BY-NC), "Attribution-NonCommercial-ShareAlike" (CC BY-NC-SA) and "Attribution-ShareAlike" (CC BY-SA). This leads to a number of licences, some of which do not even follow any ethical consideration and raises the issue of their compatibility. The compatibility issue is present for CC licences between them, but also compatibility with licences from other movements. Among the proposed CC licences, only one can truly be considered free in a copyleft understanding: the CC BY-SA. As the concept of free licensing is, according to Stallman, freedom "as in free speech and not as in free beer", this

means that freedom applies to the use and building upon the work only and not to the price. Therefore the CC BY-NC-SA is excluded of a free licensing *stricto sensu* understanding.

However, even if the CC BY-SA licence responds to the requirements to be considered free, it is difficult to admit such a qualification because, taken as a whole, the CC project seems inconsistent with free licensing ideology. Niva Elkin Koren [2006, p.16] points out that "avoiding commitment to a shared notion of freedom leaves the licensing platform with a single principle that is shared by all licensing schemes, that is letting authors govern their works". If CC's ambition was truly to create an alternative for copyright's exercise in a manner to enhance free culture, it would have created licenses which all share a free ideology. Not only does this licence not refer to any free ideology, but also it only contains a disclaimer according to which CC can not be held liable for any prejudice committed under this licence. Therefore, it only seems fair to exclude the CC BY-SA licence from the free culture movement, especially when considering that authors who are willing to share the movement's ideology can chose to put their works under other free licences, such as the Free Art Licence.

The copyleft attitude and its free art licence

The Free Art Licence (FAL) was created by the Copyleft Attitude in July 2000. The latter consisted of a group of artists, lawyers and computer engineers, who gathered in order to create a licence which provided for the same requirements as the GNU GPL. The goal of the Copyleft Attitude was to consecrate the copyleft principle for artistic practices (see for instance Moreau's *peinture de peintres* at www.antoinemoreau.org / last accessed 25/05/2012). The creators of the FAL felt that art is by excellence the exercise of freedom [Moreau 2005]. The FAL grants the freedoms to copy, distribute and transform the creative work. Whereas the GNU GPL focuses on a project relating to software, the FAL is focusing on the evolution of the work in question as time passes by. In this context, next to ethical considerations, free licensing follows artistic considerations too. Copyleft is used as an experiment of a work's evolution by its continuous transmission to different contributors.

This licence has the intrinsic specificity to contribute to the increased production of literary and artistic works, as well as authors. Indeed, a copy of the original work is made and a notice of the authors' names is kept, in order to enable the creation of subsequent works without losing track of the previous ones.

Finally, this practice illustrate one fundamental principle underlying free cultural works: a principle of movement, that is the ever-changing evolution of the work and of the composition of its creators. Thus, the essential issue is to protect

the work against misappropriation, because it must remain free for future users. This is the reason why the freedoms granted by the licence must be maintained, that is copyleft is the key element for free licences.

3. Discussions on the acknowledgement of free cultural works

Because free culture's private ordering is a fragile phenomenon, several discussions are made acknowledging a need to palliate to copyright's excessive scope hindering creation. Indeed, as Barbara A. Ringer [1974, p.5] had pointed out, "like any other law, copyright is a pragmatic response to certain felt needs of society and, like any other law, must change in scope and direction as these needs change". Resuming, the law must follow sociological changes and in this context it could take into account free culture's claims.

3.1 The Uncertainties Raised by Free Licensing

Two problems will be discussed concerning uncertainties free licences cause. The first is the legal uncertainty. Free licences can be considered valid, as long as the author has given a free and informed consent by putting his or her works under this kind of licence. Even though their validity can be discussed in the light of contract law, it is under copyright that these licences seem to be more problematic, especially regarding moral rights. The second is the issue of licensing compatibility since too many licences consider themselves free, but prove not to be. This proliferation of licences can actually block the process of creation of a free cultural work.

The Uncertainty of Free Licences' Validity Regarding Moral Rights

The issue of moral rights is raised only under legislations where these rights exist. However, what is curious is that in legislations which do not provide such rights, free licensing is used as a means to palliate this lack by establishing some sort of moral rights. This phenomenon can be observed in the U.S.A. where free licences appeared for the first time. Indeed, in the U.S.A. moral rights do not exist, except for those provided in the Visual Artists Rights Act (VARA) of 1990 which applies to visual works defined very narrowly. Nevertheless, as CC licences apply to all kind of works, one can observe the contractual constitution of moral rights by means of free licensing. For instance, even the most permissive licences, such as the CC BY-SA licence and the FAL, provide for an attribution right. Initially, among several CC licences, some did not provide for a right to be credited. As their popularity was very low, these licences have been abolished and replaced by licences which all provide for a right to be named. Thus, they have created a moral right that is to be attributed. Secondly, one can also consider there is an implicit recognition of a right of integrity. Indeed, since authors grant

the freedom to transform the licensed work, it seems they are at the same time recognizing themselves a right to oppose to such modifications, similar to a right of integrity. In other words, in cases where copyright does not provide enough protection for authors, free licensing uses copyright law to recognize to the authors a more protective regime.

Conversely, in Europe, free licences can work as restrictive means depending on the legislation. This is specifically true for the French *droit d'auteur*, which is traditionally perceived as a natural right. As a consequence, moral rights are imprescriptible and inalienable. They include the right of disclosure or divulgation of the work, the right of attribution or paternity, the right of integrity of the work and finally the right of repentance or withdrawal. It is in this situation that free licensing raises the issue of its validity with copyright legislations.

The right of disclosure of the initial author is not subject to any difficulty as he or she is the one to decide whether the work is going to be communicated to the public under a free licence or not. Such a right is problematic regarding the subsequent authors, since they are free to disclose the transformed version of work, but they are also subject to a copyleft requirement, that is they must maintain the freedoms granted by the initial licence. Nevertheless, the copyleft requirement could be considered more as a contractual obligation whose validity is at stake, rather than a moral right issue.

The right of repentance is also raising difficulties, as exercising such a right is subject to compensating the co-contracting party. As the particularity of free licensing is to invite every user to modify and distribute the free work, even though the contributors' and authors' names are kept in a notice, contacting and compensating all of them can prove to be impossible. It is even more impracticable when the notice includes, for example, nicknames and is often not precise enough to identify and contact the creators.

Finally, the most problematic issue is raised by the right of integrity. Indeed, if moral rights are inalienable, then waiving them in a licence by allowing all modifications of the work is not valid. Under French copyright law, the adaptation of a work can only be made with the original author's consent, on a case-by-case analysis. The only way to admit such a practice is to consider that the author has given a free and informed consent to grant such a right. Because free licensing is a practice between authors and users - who may become authors themselves - it may be argued that moral rights and all violations of copyright law in general must be regarded in a less restrictive way. In other words, because of the specific authors/users relationship in the digital environment, one can argue that a free licence establishes a peer relationship between the co-contractors based on reciprocity. Since reciprocity is fundamental in free licensing, moral rights could be

waived in this situation because the authors' interests are not in danger. Moreover, if the free licence is infringed, the authors are placed back into their initial position, that is they fully regain their rights and can invoke the violation of the right of integrity alongside with the violation of economic rights. In other words, the infringement mechanism that was found for free licences counterbalances their impact on moral rights and might justify their validity.

Uncertainty regarding licensing compatibility

What is mentioned as a free culture movement, actually includes various movements which all organize their communities with different free licences. Considering that in one single movement several licences can be created (see for instance the CC organization) and that each one of them can be subject to various versions, a proliferation of free licences is present online. This situation is also aggravated by the issue of the language they are written in. Indeed, many licences have been translated in order to comply with national legislations. Rather than helping the coordination of the different licences, translating them gives rise to new interpretative problems, as words used in the U.S.A. can have different meanings in other countries (see for instance the use of the notion of "copyright" whose translation in French as "*droit d'auteur*" is not correct, because they point out different realities). Thus, the creation of a work can be blocked for compatibility reasons. It happens every time a creator uses different works under different free licences in order to create a derivative one, or in other words every time the creator wants to mashup works under different free licences.

Licensing compatibility in the free culture movement is, however, a fundamental element of its survival. Since its objective is to let people freely build upon previous works, they have to be able to create free cultural works every time the works they use respond to the free licences' requirements. For example, if a user wanted to incorporate one free cultural work under a FAL to another which is under a CC BY-SA, if the licences were incompatible, then the whole purpose of free culture would fail. As a response, several movements specifically mention what licences are considered compatible with the ones they have created. The FAL, for instance, provides that a licence is compatible as long as "it gives the right to copy, distribute, and modify copies of the work including for commercial purposes and without any other restrictions than those required by the respect of the other compatibility criteria; it ensures proper attribution of the work to its authors and access to previous versions of the work when possible; it recognizes the Free Art License as compatible (reciprocity); it requires that changes made to the work be subject to the same license of to a license which also meets these compatibility criteria" [www.artlibre.org / last accessed 25/05/2012]. As a result, since both licences grant the same freedoms, the FAL could be compat-

ible with the CC BY-SA, but only if the latter was reciprocal. One the other side, the CC organization claims that its licences are compatible only with CC licences or latter versions of them that provide for the same elements and with licences that it has established as compatible. However, to this date, it has not approved any licenses for compatibility, thereby contributing to the complexity of the free licensing system.

3.2 In search of free cultural works' legitimacy

Because free licensing is a private-ordering mechanism, it faces limits regarding its effectiveness. Different solutions can be invoked outside any contractual organization: those which are already provided by some national laws and those which are currently under discussion.

The inefficiency of the existing national flexibilities

Observing that intellectual property is going through a crisis, Professor Geiger [2006] attempts to demonstrate that constitutionalising intellectual property can be a relevant remedy in order to "secure a just balance of the interests involved". According to him, copyright law fulfils a certain social function. Nevertheless, as he points out, "the social dimension of the law is progressively disappearing in favour of a strictly individualist, even egotistic conception" [2006, p.381]. Confronted by the tendency of copyright's overprotection, he argues that using fundamental rights, especially the freedom of expression (as provided in article 10 of the Convention for the Protection of Human Rights and Fundamental Freedoms) can be a useful tool to rebalance the interests of right holders with those of the public. To make his point, he mentions some European case-laws [2006, pp. 389-397], in one of which artistic freedom - as one component of the freedom of expression - prevailed over copyright. In this case, the German Federal Constitutional Court (29 June 2000, Germania 3) had to decide on unauthorized extracts from two works of Bertholt Brecht, which had been used in Heiner Müller's "Germania 3 Gespenster am toten Mann". Even if they were too long to be considered lawful quotations, the Court ruled in favour of the freedom of creation, in the light of article 5(3) of the German Basic Law on artistic freedom, as long as the quotation is "used as a tool or vehicle of an artistic opinion expressed by the author", and it causes only "a small financial loss for the claimants". However, fundamental rights have their limits because they are broad concepts and judges are not eased using them. Consequently, in practice they are not often invoked and there is a need to find intrinsic solutions, rather than rely on external instruments of copyright [Geiger, 2006].

In the common law countries, some uses may be considered as "fair" and not require prior authorization by the right-owner. Nevertheless, they are also of little

help in the situation of free licensing. Indeed, in the United Kingdom, sections 29 and 30 of the CDPA 1998 concerning fair dealing allow only four narrow limitations in which it can be invoked: research and private study, criticism, review and news reporting. Not only such situations can not lead to the consecration of the creation of free cultural works *per se*, but the way this defence is interpreted shows there is definitely no room for the use of a copyrighted work for literary or artistic purposes. One case which permits the use of a work following these considerations can be found in the new section 29.21 of the Canadian Copyright Act, which allows the non-commercial use of a publicly available work in order to create a new one. It is the so-called "mash-up clause". Still, too many issues are raised about the non-commercial context requirement and its definition and scope, which lead to the inefficiency of this defence. In the U.S.A., the fair use doctrine (Copyright Act of 1974, 17 U.S.C. §107) is also of little help, even if it is a broader defence. It can be invoked in situations such as parody and satire. All purposes of the use can be invoked as long as they are fair. However, there are several factors to be considered in order to legitimately invoke fair use, like the purpose and character of the use (commercial or non-commercial nature of the use), the nature of the copyrighted work, the amount and substantiality of the portion of the original work and finally the effect on the market of such use regarding the original work.

Finally, some flexibilities may also be present in civil law countries. For instance, article 24 of the German Copyright Act states that "an independent work created by free use of the work of another person may be published and exploited without the consent of the author of the used work". Under this article, a work of another person may be subject to a free use giving rise to an independent work. Such a free use does not require the original author's consent. However, free use seems also narrowly interpreted by the judges. In the case the German Federal Court of March 11, 1993, about an independent work called "Die hysterischen Abenteuer von Isterix" which related adventures of two modern characters similar to Asterix and Obelix, the court ruled there was no free use of the work because the borrowing of the original work was too obvious and there were substantial similarities. The court also noted the independent work was neither a parody nor a critic of the original work, but just a mere transformation of the original characters for the purpose of amusement. Concluding, in countries whose legislations allow fair dealing, fair use and free use defences, derivative works may be created only if they are in accordance with the purposes these laws have been drafted for, that is criticism, parody, comment. Free works which do not fall within these categories are not likely to be regularized. One solution for those countries could be to reduce copyright's scope and provide for an open ended defence, similar to the U.S.A. fair use defence, but with modified standards.

The academics' and institutions' proposals

Contracts do not give enough legal certainty. Because contract law as well as copyright have not been harmonized in the EU level, in some cases the licence can be valid or one obligation at stake can be considered as invalid, while in other cases the whole licence can be void. Because national laws differ and free licences are, by nature, international, the discussions on the creation of free works are focusing on a solution outside of any private ordering's scope. One thesis, supported by Clément-Fontaine [2008] is specific to free works. It consists in the consecration of a legal status of free works. According to her, free works could be consecrated as a form of collective property, similar to the public domain or the UNESCO's common heritage of mankind. The rule in a collective property is the common enjoyment of the work. In that sense, members of the community are the owners of the work collectively, but none of them can own any specific part of it.

Other academic proposals are made in a general manner, concerning the freedom of creation of derivative works that would impact free cultural works' status. One of them consists in reintroducing formalities in copyright law [Dussolier, 2011] in order to expand the public domain and therefore allow the use of more creative content. A content or work would fall into the public domain when a creator neglected to accomplish the required formalities or chose to leave his or her work to the commons. This proposition would have the advantage of being an opt-in mechanism, as opposed to free licensing which opts-out of the exclusive nature of copyright. Nonetheless, regarding the prohibition contained in article 5 of the Berne Convention, introducing formalities to copyright would be violating international obligations and is, for the moment, an unlikely solution.

Finally, another proposal would be to draw up an exception that would allow the use and adaptation of a work for creative and non-professional purposes. This alternative must comply with article 9(2) of the Berne Convention and its three-step test, that is it must be provided in a special case which does not conflict with the normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author. It would also require a reviewal of the 2001/29/EC Directive which provided for a closed list of exceptions to exclusive rights.

Following the OECD initiative on "Participative Web and User-Created Content [2006], the European Commission recognized in its Green Paper "Copyright in the Knowledge Economy" [2008] that consumers are frequently becoming creators of content themselves. It reminds of user-created content's definition and considers the possibility of establishing an exception for "creative, transformative or derivative works" by amending the 2001/29/EC Directive on the har-

monisation of certain aspects of copyright and related rights in the information society. In its following communication of 2009, the Commission concludes "it is too early to regulate UGC", mostly because it is too unclear whether such an exception would include both amateurs and professionals and how a distinction between the two can be made in this context [2009, p.9]. Nevertheless, as many scholars point out [Geiger et al., 2009], an exception driven by creative considerations, could be established following the spirit of recent jurisprudence and of neighbouring exceptions (see for instance the caricature, parody and pastiche exception of article 5 §3 (k) of the 2001/29/EC Directive). However, they also warn that such an exception could make moral rights biased, since freedom of creation can reveal to be too strong to be limited by any author's right. They therefore suggest that an exception for the purpose of freedom of creation must be limited and precise. Moreover, it must be enacted only after the author's death and be subject to equitable remuneration. Among the different solutions that have been proposed, this one currently seems to be the most likely as it conforms to the existing legal regimes, not only of civil law countries, but also of the european copyright law in general.

4. Conclusion: revising copyright as a social contract

Concluding, free licensing is a means to palliate what is believed to be for the public opinion, copyright's excessive protection towards authors and more accurately economic right-holders. By putting his or her work under a free licence - that is a licence which grants the freedoms to copy, distribute and transform the work and which ensures that these freedoms are preserved in the modified versions - an author puts his or her work into the commons. These commons, which are to distinguished from the public domain, are constituted by the so-called free works, or free cultural works. The movement which characterizes free licensing - meaning a movement in the transformation of the work and movement in the number of authors - follows cultural considerations for society's welfare and rebalances the interests at stake in favour of the latter. The practice of free licensing is chosen by the authors themselves and is exercised directly by them. Free culture licences *per se* can therefore be considered a lawful practice whose purpose is to shake up the current copyright regime. However, several issues are raised. Besides free licences incompatibilities among them, they also may infringe copyright legislations, specially in the light of moral rights. To resolve this problem, besides the reliance on fundamental rights on a case-by-case analysis by the jurisprudence and among other proposals, the most efficient solution would be to consecrate on an exception which would allow the building on the past in specific circumstances that would preserve the author's rights.

Nonetheless, before relying on any of the several proposals to acknowledge free works in the legal framework, it seems fundamental to understand the message free culture is trying to convey. Indeed, as Niva Elkin Koren [2006, p. 9] has duly argued, this movement does not "call, at least not in this initial stage, for a copyright reform. Rather, it advocates exercising rights in a way that would reflect their 'original meaning' ". In that sense, it is not the existence of a copyright regime that is put into question, but its current exercise. By using copyright in a subversive way with the help of new technologies, free culture aims at changing our societal norms, which will eventually end up reforming our copyright law in a more fair and equitable way. Rather than focusing on the specific issue of free cultural works and free licensing, copyright must be rethought as a social contract and replaced in its initial context. It must be kept in mind that this context is one of freedom of expression and creation in which copyright is only an exception to this general rule. It aims at securing the authors' and intermediaries' interests, but only as long as the public eventually benefits from the work. Therefore, there is a need to revise the social contract of copyright by operating a rebalancing of interests. As copyright's function is to provide enough incentive to authors to keep on creating in the prospect of social welfare, copyright law must be rethought in general and not only in the context of the information society.

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Copyright policy in art-related websites

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1. Introduction

The world of the Web has changed as a number of new software applications make it easy to accomplish sophisticated tasks with little technical know-how. People who previously accessed the Web solely for shopping or research purposes now sign on for the experience of creating and sharing information. They are crafting both content and connections with other users in a new Web that links people to people, as well as to information (Kroski, 2007). Web 2.0 is the "second generation of the world wide web", in which collaboration and user produced content are the keys to successful online platforms and social media (O'Reilly, 2005). Its advent has enabled a host of new services and possibilities on the Internet. Among many new possibilities, users can easily upload online content that can be accessed, viewed and downloaded by other users. This has resulted in a vast growth of User-Generated Content (UGC) (George & Scerri, 2007). These technologies have revolutionized media by enabling individuals to reach a global audience and facilitate communication on an unprecedented scale (Sawyer, 2009).

Web 2.0 introduced a technological change that affected –among others– the field of art. Many artists and photographers are generous with their work, making it freely available through reputable websites. Creation and dissemination of artworks have undergone significant change due to rise of Web 2.0 applications. Within this context online artist communities emerged giving the opportunity to both amateurs and professionals to create their own portfolio. In an environment where technology meets creativity, the absence of physical barriers makes the artworks widely accessible to others, and interaction between artists easier. As far as moderation is concerned, each registered user has both rights and responsibilities according to the websites' particular policy.

User-generated content (UGC) exists in a large variety of forms (such as photographs, videos, podcasts, articles and blogs) allowing artists to express their creativity and register their comments on anything imaginable (George & Scerri, 2007). However, the increasing growth of these communities makes artists'

rights a matter of great importance. Sharing, participation and collaborative production have led to a shift in the mindset of some artists who choose to waive some of the exclusive rights granted to them automatically by copyright law. In addition, the shift from one-to-many to many-to-many dissemination modes means that the amateur's creation is no longer private. The production of User-Generated Content provoked difficulties as far as safeguarding copyright is concerned, due to the problems with licensing on such a scale where moral rights infringements can occur with a few clicks of the mouse (Fang, 2011).

The aim of this paper is to examine the terms of use and policy of art-related websites like deviantart.com, flickr.com, photobucket.com in order to note the extent to which user's work is protected. Copyright infringement is a serious offense and although these websites have restrictions in submissions, they do not seem capable to provide adequate protection. In addition, we are interested in alternatives; more liberal terms of license that have arisen, such as Creative Commons licenses that have become popular among the new generation of artists. Finally, the paper attempts to discuss possible solutions for the way forward.

2. Art-related online communities

2.1. DeviantArt

The DeviantArt (DA) network is one of the largest online communities showcasing various forms of user-generated artwork. It was first launched on August 7, 2000 by Scott Jarkoff, Matthew Stephens and Angelo Sotira, amongst others. Today it has over 22 million registered artists and 224 million pieces of art (Freitas, 2009). All deviants on DeviantArt are referred by their chosen username, which is preceded by a user symbol. Another designation used to characterize a member is a devious type. A devious type is chosen by the member and changed in his profile (member, photographer, senior member, etc). The information that is always shown is the nickname, devious type, since when someone becomes a deviant, and posts art and online or offline status.

Since its first launch in 2000, the DA community developed a structure that is similar to the existing art market. DA is a highly interactive and dynamic community where each member has a website to exhibit artwork through the "gallery" feature. Members can explore each other's pages and leave comments on the artwork. Each artist can add other artists' works to his own profile under the feature "favorites", and build a network by adding other members to the watchers list (Buter et al., 2011). It combines several facilities to provide not only an art-related website but also a community of artists and friends (Freitas, 2009).

In addition, it provides an art portfolio, the support to several types of artists and art, several means of communication within them, shopping features and allows anyone to see the website as any registered user would. All artworks are organized according to a comprehensive category structure that is established by the website. Main categories available are Digital Art, Traditional Art, Photography, Artisan Crafts, Literature, Film & Animation, Flash, Designs & Interfaces, Customization, Cartoons & Comics, Manga & Anime, Anthro, Fan Art, Resources & Stock Images, Community Projects, Contests, Design Challenges, Journals.

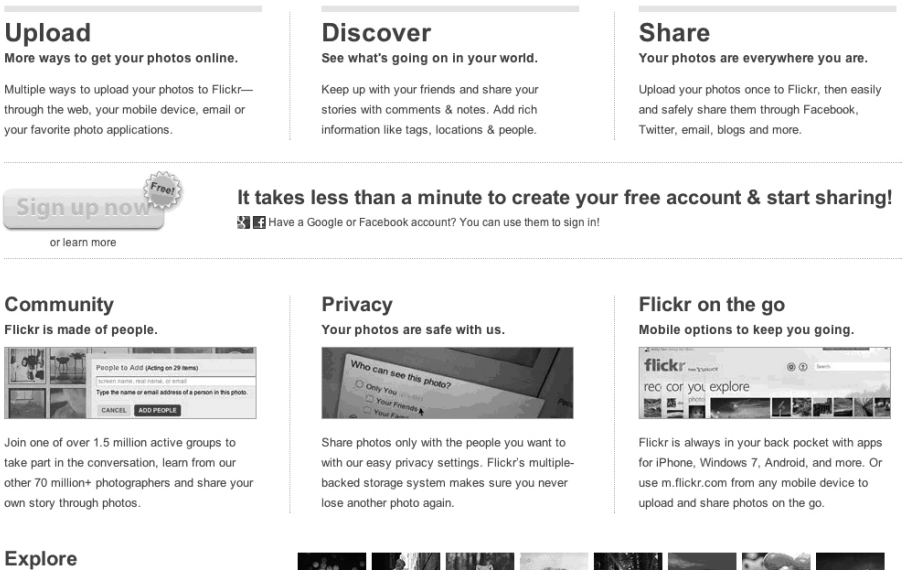
Picture 1: DA homepage

DA deviates from the norm, as its context, the line that separates the amateur and the professional, is irrelevant (Salah, 2010). In order to become a DA member, one does not need to have a background or education in arts. Every user has a personal webpage containing user profile information, the Gallery containing the user's art, the Favorites, Journal, list of friends, recent work, recent watchers, users' comments, and the user decides on the profile elements visibility or what will become available to others (Buter et al., 2011). Deviations are photos, images, text or video files that the user uploads to show the user's art to others. Prints refer to deviations that are for sale (Freitas, 2009). Art found on DA is diverse, like paintings, graffiti, body painting, make up, tattoos, photography, flash animations, films, skins for applications, wallpapers, typography, tutorials on several topics.

DA works like a blog-software, presenting each member with an individual website (Salah, 2010). The users can adopt more than one identity or even have more than one profile, and display their works belonging to different genres through different user names. It is a mean of art worldwide divulgation, as well as a platform of socialization that joins people interested in art. Artists provide art and pay for subscriptions and in return have a common place for a diversity of artists to share their art. Searching in DA does not require registration. This can create problems as far as copyright is concerned; on the other hand, people are able to know better the site and choose if they would like to engage in the community.

2.2. Flickr

Flickr is an image hosting and video hosting website, web services suite, and online community that was acquired by Yahoo! in 2005. The website was created and launched by Ludicorp in February 2004 with the original intent of an online gaming tool (Graham, 2006). The idea soon changed because of the gravitation towards Web 2.0 and the website became a user collaboration based "photo and video sharing community" (Namestnik, 2011). Flickr has helped converge digital photography further into the "new media generation" with its evolution onto the internet aided by globalization to harness the power of the audience to develop a photo sharing website and promote photography (Burgess, 2009, p. 122). Digital photography, combined with a global network, means that users may, theoritically, interact with anyone around the world who has access to the internet.



Picture 2: Flickr homepage

Flickr allows users to upload their personal photos to be stored online. Unlike other online photo tools, Flickr makes these photos publicly viewable and easily discoverable by default. This design decision, along with the emphasis on tagging, has allowed the site to expand quite rapidly (Marlow et al., 2006). In addition to being a popular website for users to share and embed personal photographs, the service is widely used by bloggers to host images that they embed in blogs and social media. Yahoo reported in June 2011 that Flickr had a total of 51 million registered members. Photos and videos can be accessed on Flickr without the need to register an account, but an account must be created in order to up-

load content onto the website. Registering an account also allows users to create a profile page containing photos and videos that the user has uploaded (Seneviratne et al., 2009). The central functionality of Flickr is to allow users to upload photos (by email, through the Web, from a mobile phone) and push them out.

Flickr is an interactive visual media website that relies heavily on participation from users to upload, share, and communicate both internally and externally within the website (Namestnik, 2011). Navigation in it is by browsing, jumping from photo to photo, from photo to photographer, to contacts, to favorites, to groups and so forth. Users can set up groups, which consist of a pool of photos, a discussion area and member listing. It also has elements of a Social Networking site, through profiling, partly direct self-profiling but also derived from the display of online activity such as through the photos displayed, favorites and group memberships.

2.3. Photobucket

Photobucket is an image hosting, video hosting, slideshow creation and photo sharing website. It was founded in 2003 and it was acquired by Fox Interactive Media in 2007. Photobucket is usually used for personal photographic albums, remote storage of avatars displayed on internet forums and storage of videos. Photobucket's image hosting is often used for eBay, MySpace and Facebook accounts or other blogs, and message boards. The heart of Photobucket's service is digital image storage (Kang, Bederson, Suh, 2007). Photobucket supports FTP uploads, but it is mentioned on the website that the user must be a Pro account holder. Users can also display their photos on other Web sites by including a direct link, which refers back to the original images stored on Photobucket's servers.

Picture 3: Photobucket homepage

Users may keep their albums private, allow password-protected guest access, or open them to the public. Whether one has a basic or a pro account, one can choose to make the account public or private. Anyone can view pictures posted in a public account, which is the default setting on all user accounts. If one has a public account and labels a photo with a tag, anyone searching Photobucket for that tag can see that image. It also offers free users unlimited total photo storage for non-commercial use. Free users may also upload up to 500 videos, each limited to 500MB and 10 minutes. Premium accounts also have unlimited storage, except in cases Photobucket deems abusive.

A Photobucket user is able to search billions of images and videos, posted by other users, upload and store images and videos for free, link one's images and videos on blogs, social networking sites, etc, and send links to individual images, videos or entire albums over instant messenger, email, or the Web (Seneviratne & Hernandez, 2010). Users can add labels to photos called tags and help categorize photos, which comes in handy when searching for pictures of a specific person or event. The photo tagging function makes Photobucket except for a photo storage site also a social networking site. Photo tags make it easy for users to connect with one another through simple searches.

3. Copyright aspects

3.1. Fair use

The production of User-Generated content might include use of pre-existing work. Within this context, applying copyright becomes complicated. According to Gervais (2009, pp. 857-860) a proper taxonomy of UGC is of great importance at this point:

1. User-Authored Content: It refers to content created from scratch by the user. In this case no implications come up.
2. User-Derived Content: It is considered one of the most complicated ones because of the normative analysis of the underlying right. However, if the derivation and possibly also the reproduction of the pre-existing content is a fair use, then the matter is of less importance.
3. User-Copied Content: It is quite simple. Copying constitutes infringement, and when the user merely copies pre-existing content, it is illegal.
4. Peer-to-Peer as UGC: Unauthorized peer-to-peer (P2P) file sharing is generally illegal.

Fair use[1] allows the use of otherwise protected material in criticism, comment, parody, news reporting, and similar uses in the public interest (Burk & Cohen, 2001). This arrangement preserves proprietary rights in creative works while accommodating the public interest in open dialogue, deliberation, and the advance of knowledge. Copyright laws give copyright owners the right to prohibit others from copying a work or creating a derivative work. Fair use can be understood as an exception to this rule, as in certain cases a user can legally copy a work or make a derivative work, even if the copyright owner objects (Felten, 2003).

Fair use is at times ambivalent, as it gives people the right to use copyrighted materials in their own work as long as it meets two criteria: (a) The work is "highly transformative." In other words, the artist, teacher, student, etc modifies the content significantly from the original work; (b) the reproduction of the work does a greater social good than it would otherwise harm the original creator (McCallum, 2012). An example that could be used is the reproduction of a work for educational reasons, though even in that case it is not always legal. Under the law, judges should make case-by-case decisions based on four factors: the nature of the use; the nature of the original work; the portion of the original work used; the effect of the use on the market. The law does not dictate exactly how these factors should be evaluated or even how the factors should be weighted against one another (Felten, 2003).

3.2. Creative Commons Licenses

The trend towards more liberal licensing of digital content is witnessed most clearly in the popularity of Creative Commons (CC) Licenses. Creative Commons is a non-profit organization that has been striving to provide simple, uniform, and understandable licenses that content creators can use to issue their content under (Cheliotis et al., 2007). These licenses provide a solution to the problem of copyright on the Web, while ensuring that the culture of reusing existing works to foster creativity is not hindered. There are many online tools in photo sharing sites that generate CC license information associated with their content in machine-readable form. This information is generally included in the metadata of the content.

CC licenses provide a standard way for artists to declare their works "some rights reserved" (instead of "all rights"). If the source one is quoting has a CC license or public domain dedication, one may have extra rights to use the content. Content

1. Analysis here follows the anglosaxon copyright system. For a comparison with the continental *droit d' auteur* system, see Spinello R. & Bottis M., A defense of intellectual property rights, 2009.

creators can decide what rights they want to give to their audience. The choices are listed below as they appear on Creative Commons' website:

- **Attribution (CC BY)**: all uses of the original work are permitted as long as they credit the creator for the original creation. This is the most accommodating of licenses offered.
- **Attribution-NoDerivs (CC BY-ND)**: redistribution, commercial and non-commercial, is allowed as long as it is passed along unchanged and in whole, with credit to the creator.
- **Attribution-NonCommercial-ShareAlike (CC BY-NC-SA)**: allows others remix, tweak, and build upon the original work non-commercially, as long as they credit the creator and license their new creations under the identical terms.
- **Attribution-ShareAlike (CC BY-SA)**: same as the first one, with the additional constraint that any derivative works will also have to be licensed under the same license.
- **Attribution-NonCommercial (CC BY-NC)**: same as BY-NC-SA, but although their new works must also acknowledge the creator and be non-commercial, they do not have to license their derivative works on the same terms.
- **Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**: This license is the most restrictive of our six main licenses, only allowing others to download original works and share them with others as long as they credit the creator. The users cannot change them in any way or use them commercially.

Creative Commons licenses are a collection of open licenses that define the spectrum of possible licensing between full copyright–"all rights reserved"–and the public domain–"no rights reserved" (Botterbusch & Parker, 2008). Generally, the spirit of CC is to offer options rather than dictate a specific licensing approach. This 'design feature' of CC adds to the value of studying the use of the licenses, as very large numbers of people appear to make licensing decisions across a well-defined spectrum of options (Cheliotis et al., 2007).

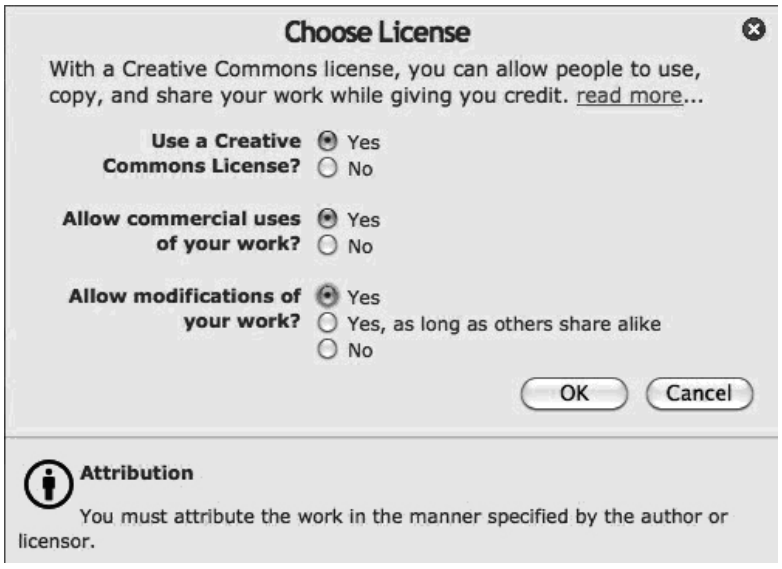
4. Websites' Copyright Policy

4.1. Deviant Art

In DA, the user is free to block a maximum of 100 users of seeing their page for any reason. If for some reason a user needs to block more than 100 users, she should contact the help desk. The user cannot delete DA accounts but only his data. The user can also hide unwanted comments from his profile page and report any user or art that she thinks violates the community established rules and policies. Some important points of its copyright policy are (deviantART):

1. When a submission infringes upon the copyrights of another artist, creative person or company, it will be immediately deleted. This is a legal requirement, fulfilled immediately, without an advance warning or an opportunity to 'fix it'. Any copyright owner following the procedures in this Copyright Policy can require deviantART to remove her copyrighted content.
2. Repeatedly posted infringing content leads to account suspension and serious offenders will have their account banned and deactivated. If one is found deliberately misrepresenting the copyrighted work of another as your own your account will be immediately banned and deactivated.
3. 'Fair Use' is the notion that some public and private uses of copyrighted works should not require the permission of a copyright owner. These circumstances are very limited, complex to analyze under the law and require the help of expert advice from a lawyer. We recommend you talk to your own lawyer if you want to know more about fair use as it applies to the work you are doing. If it turns out that it is not fair use, you may be liable for very serious money damages.
4. deviantART does not claim ownership rights in users' Content. For the sole purpose of enabling dA to make one's content available through the Service, he grants to deviantART a non-exclusive, royalty-free license to reproduce, distribute, re-format, store, prepare derivative works based on, and publicly display and perform Your Content.

Relatively to work protection users have the option to CC-license their works.



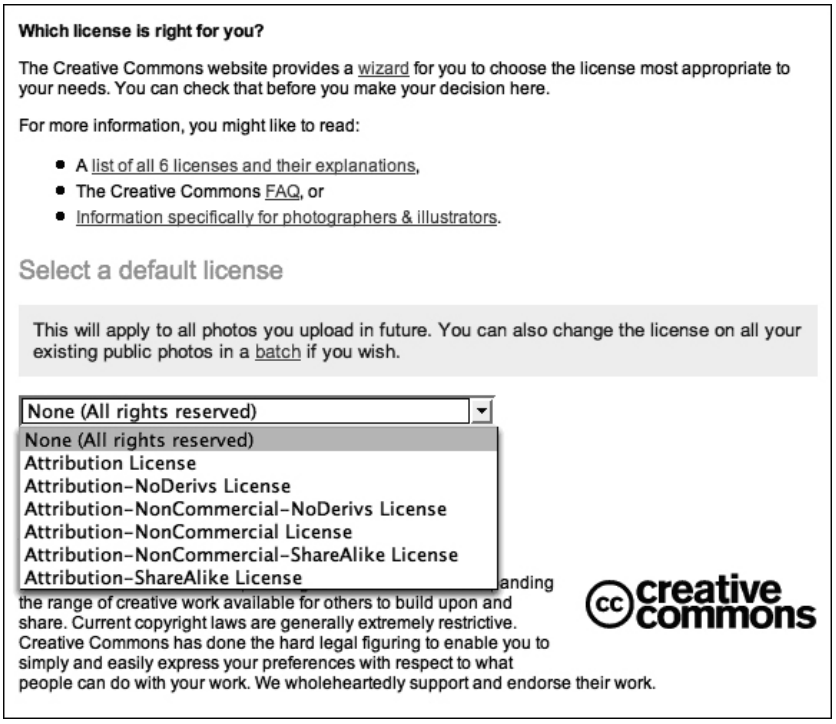
Picture 4: deviantART CC License choice

An indicative example of CC License use is the case of user "SpiritShadowx" who clarifies below cc licensing as far as his work is concerned:

> "*I thought since people keep downloading my comics I would clear up what the license means.*
>
> *Comedy is free, open source and available for everyone. You cannot truly limit anything in this world, and that is something I do not wish to do. If you download these comics for personal or non-profit use such as showing to friends, sticking on a website, and much more like that, then you are free to do so without a lawsuit. You can take the jokes off and make your own comics. You can use the same drawing style, heck as long as you made it, it's not mine to limit.*
>
> *What you cannot do*
>
> *The only two things I will limit (and take lawful action if deemed necessary) is re-branding my own work as yours (removing the watermark and replacing it with yours, making small alternations, e.tc.) or selling my work for commercial purposes. All of these are considered theft, and I will not stand for that kind of action. That's it*".

4.2. Flickr

Most images on Flickr are not copyright-free and are published with all right reserved. However, a considerable number of images have been offered under a Creative Commons license. Flickr does not claim to have the copyright of the images users contribute to the system, but only a license to publish and use them to promote the platform (Seneviratne et al., 2009). The latter means that Flickr can choose users' photos to publish on the homepage, which also promotes the individual author's popularity (Marlow et al., 2006). Each user keeps the rights to their work and may decide, for each picture, the type of license they wish to publish the image with. As default, they are published under copyright, but the users may choose to contribute images under a Creative Commons license by selecting the options in the interface. Some people share works under a relatively free license.



Picture 5: Flickr's CC License choice

Flickr's copyright and intellectual property policy as described on the website:

1. Yahoo! respects the intellectual property of authors and creators and asks users to do the same. Yahoo! may in accordance with its Terms of Service and in appropriate circumstances and at its discretion, disable and/or terminate without notice the accounts of users who may be infringing the intellectual property rights of others.

2. Yahoo! has no obligation to monitor User Content. Yahoo! may reject, recategorise or delete any User Content that is available via the Yahoo! Services that violates the Terms or is otherwise objectionable. You must evaluate, and bear all risks associated with, the use of any User Content, including any reliance on the accuracy, completeness, or usefulness of any User Content.

3. User retains copyright and any other rights that already hold in submitted User Content, or make available through, the Yahoo! Services. When Content is made available on publicly accessible areas (described below) of the Yahoo! Services, user gives to Yahoo! the following license(s):

For photos, graphics, audio or video submitted on publicly accessible areas of the Yahoo! Services, user gives to Yahoo! the worldwide, royalty-free and non-exclusive license to use, distribute, reproduce, adapt, publish, translate, create derivative works from, publicly perform and publicly display the User Content on the Yahoo! Services:

a. for the purposes for which that User Content was submitted; and

b. for the purpose of promoting the Yahoo! property to which the User Content was submitted or the Yahoo! Services anywhere on the Yahoo! network or in connection with any distribution or syndication arrangement with other organisations or individuals or their sites.

This license exists only for as long as the User Content is included on the Yahoo! Services and will end at the time of its removal from the Yahoo! Services.

4.3. Photobucket

Photobucket.com is another website that allows its users to upload photos and even videos through a variety of methods. The website is primarily used for hosting photos, and has the functionality to reuse images in the website and build scrapbooks, slideshows and even remix images from other users through a very easy to use interface (Seneviratne & Hernandez, 2010). The terms of use of the website allows Photobucket and other users to reuse such content under a limited license, Digital Millenium Copyright Act (DMCA) (Burk & Cohen, 2001), but does not specify whether it allows CC licenses.

Photobucket's Privacy Policy:

- Public Postings. Photographs and videos submitted for use on public areas on Photobucket are considered public information and may be copied or further distributed by others in accordance with the Terms of Use. Any personal or PII for display in public areas, may be seen by other people who visit the Site. If geotags are included in your postings, those will be viewable, too, but we offer you the ability to disable this information in the Account Settings of your account. Alternatively, if the option exists, you might want to disable the location settings on your camera or phone.
- Photobucket terminates the accounts of Members who repeatedly infringe the rights of others in the community or commit illegal acts or violate these Terms. If user does any of these things, they may deny, restrict or suspend access to all or any part of the Site or Photobucket Services or terminate the Membership at any time, without warning for any or no reason, with or without prior notice or explanation, and without liability - and even take legal action if needed.

- Photobucket respects the intellectual property rights of others and expects its users to do the same. In accordance with the Digital Millennium Copyright Act ("DMCA"), the text of which may be found on the U.S. Copyright Office website at http://www.copyright.gov/legislation/dmca.pdf, Photobucket will respond expeditiously to notices of alleged infringement that are reported to Photobucket's Designated Copyright Agent, identified in the sample notice below.
- User retains all rights to any submitted Content, post or display on or while using Photobucket. This means that user owns ALL the Content the user posts. If Content is made public, the user grants PB – as well as other users - a worldwide, non-exclusive, royalty-free license to copy, distribute, publicly perform (e.g., stream it), publicly display (e.g., post it elsewhere), reproduce and create derivative works from it (meaning things based on it), anywhere, whether in print or any kind of electronic version that exists now or later developed, for any purpose, including a commercial purpose.

The last paragraph is quite confusing for users, as it does not make things clear. It has been drawing criticism from a growing number of artists over its practices regarding copyrighted material (Bailey, 2008). There has even been a petition (Petition Online) by artists in order to limit the problem. The two elements at issue are the image printing service and the second one the takedown system because it is considered nearly impossible to locate and request take down of all of the works infringed. The letter does not only depict the problems, but also suggests solutions.

5. Conclusions

It seems that the above content websites do not offer users flexible control over content. Backup functionality is rarely included; terms of service seem absolvent, and deletion policies inconsistent. While the websites emphasize that users retain their own copyright, they do not consider users' content beyond their servers. Online service providers do not give clear answers as to how to share users' public content. In addition, most websites renounce any responsibility to service reliability and claim the right to terminate accounts and content at their will (Organisciak, Reed & Hibbert, 2010).

DeviantArt is an online artist community and this is its main difference. As far as copyright is concerned, the website has CC licensing built into their User Interface. Furthermore, it has a mechanism to share works of art within the website, and give automatic attribution to the original source licenses for all photos (Freitas, 2009). The statement "some rights reserved" will appear under each photo with a link to a page explaining what those rights are.

Flickr was one of the early adopters of CC licenses. When photos are uploaded to the site, the default restriction given is "all rights reserved". However, users are given the option to choose from one of the six available CC licenses. Once a user selects one of the CC the information exposed by Flickr seems to assume that all the photos uploaded are owned by the uploader. If the user wishes to let other people reuse the photos, one can display an appropriate CC license that grants the rights to others. However, if one used a CC licensed photo from somebody else in an image that one is uploading to Flickr, there is no in-built support to display the proper attribution to the original owner of the component photo (Seneviratne & Hernandez, 2010).

Photobucket.com is primarily used for hosting photos, and has the functionality to reuse images in the website and build scrapbooks, slideshows and even remix images from other users through a very easy to use interface (Kang, Bederson, Suh, 2007). The terms of use of the website allows Photobucket and other users to reuse such content under a limited license. Unlike Flickr, it does not specify whether it allows CC licenses (Seneviratne & Hernandez, 2010), and problems have occurred because of the unclear copyright protection policy.

This is a problem that affects art creation negatively, while artworks may appear without the permission of the creator. In addition, the competition to the artist's authentic work is not fair and usually the output product is subordinate and may lead to damage to the artist's reputation. Except for harm to the artist's reputation, similar practices also damage the website's reputation. These are some of the reasons why further actions are necessary.

Users must be extremely careful before they decide to upload any personal work, access and evaluate the copyright policy. They should always try adding their own watermark and making sure to note that the work is copyrighted. Moreover, technologically apt users can subvert the priorities of the service and build their own tools to fill in the gaps (Bailey, 2008). The remixer should be the one to make sure that the proper attribution is given every time one uses other's work. On the other hand, as artists suggest, websites should arrange all accounts to be private by default, provide the technical affordances to make it easier for people to automatically give the proper attribution when remixing images (Petition Online), as well as apply new methods to prevent reposting of infringing works.

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Copyright in computer programming languages

Yin Harn Lee

Introduction

The issue of whether programming languages are or ought to be protected by copyright has become much more salient of late. This very question was addressed for the first time by the CJEU in the recent case of *SAS Institute Inc. v. World Programming Ltd* ('*SAS v. WPL*').[1] Its decision, handed down in early May, has had an immediate, international impact: counsel on both sides in the ongoing *Oracle America, Inc. v. Google Inc.* litigation in the US have been ordered to provide submissions on it in the context of whether the vocabulary and grammar of a computer language, as distinct from programs written in that language, be protected by copyright.[2]

Prior to this, although the issue had garnered some degree of academic comment,[3] in practice, it had yet to result in any sort of protracted legal controversy, at least in Europe;[4] the software industry appeared to have operated under

1. Case C-406/10.
2. Request for Further Phase One Briefing *re* Copyrightability of SSO, *Oracle America, Inc. v. Google Inc.* (3 May 2012); Google's May 10, 2012 Copyright Liability Trial Brief, *Oracle America, Inc. v. Google Inc.* (10 May 2012); Oracle's May 10, 2012 Brief Responding to Court's Questions on Copyrightability (10 May 2012).
3. Following the implementation of the Software Directive, which expressly mentions programming languages, many textbooks on copyright now contain at least some small discussion on the copyright status of programming languages. For examples from the UK, see H. Laddie et al., *The Modern Law of Copyright and Designs* (3rd ed., LexisNexis Butterworth, 2008), para. 34.19; D. Bainbridge, *Legal Protection of Computer Software* (5th ed., Tottel Publishing, 2008).
4. In Europe, the only pre-*SAS* case to deal directly with copyright in programming languages appears to be *Navitaire Inc. v. Easyjet Airline* [2005] ECDR 17, a decision of the UK High Court. In the US, the issue has been canvassed in somewhat larger number of cases: see *Lotus Development Corp v. Paperback Software International* 740 F.Supp. 37 (D.Mass 1990); the *Sun Microsystems Inc. v. Microsoft Corp* litigation, which was commenced in 1997 and settled in 2001; and the ongoing *Oracle America Inc. v. Google Inc.* litigation. The question of whether copyright subsists in programming languages was raised in each of these cases, and has been discussed most extensively in the *Oracle v. Google* litigation, though in none of these cases was it directly at issue. For the position in Australia, see *Data Access v. Powerflex Services* [1999] HCA 49; (1997) 75 FCR 108; (1996) 63 FCR 336.

the general assumption that any programming language could freely be used by anyone.[5] The validity and prevalence of this assumption must now be doubted, however; while it remains true that no attempts have thus far been made to restrict the use of general-purpose programming languages such as C++ and Java,[6] the assertion of copyright in its programming language by the claimant in *SAS v. WPL* may be indicative of a general shift towards a more proprietorial attitude on the part of software developers who have successfully created and marketed programming languages designed for specific purposes and, perhaps more importantly, specific platforms.

Although the decision of the CJEU in *SAS v. WPL* has has provided some clarification as to the relationship between programming languages and the scope of the protection conferred on computer programs by the Software Directive,[7] it leaves open the wider question of their status under the law of copyright generally. This, however, is only to be expected, given the circumscribed nature of the questions referred to the CJEU. The aim of this paper, then, is to examine the legal and policy considerations surrounding the issue of copyright protection for programming languages, and to draw out the arguments for and against the conferment of such protection. Part I sets out a definition of the term 'programming language' for the purpose of this paper, and identifies the specific uses which software developers in a similar position to the claimant in *SAS v. WPL* are seeking the right to control. Part II discusses the decision of the CJEU in *SAS v. WPL* and its implications on the copyright status of programming languages. Part III considers whether programming languages are capable of fulfilling the statutory prerequisites for copyright protection, including whether a programming language can be said to be a 'work' that is the product of its author's 'own intellectual creation', as well as the meaning of 'infringement' in this context.

5. See R.H. Stern, 'Copyright in Computer Programming Languages' (1991) 17 *Rutgers Computer & Technology Law Journal* 321, 322 – 323, 346 (noting the existence of this shared assumption).

6. cf the *Sun Microsystems Inc. v. Microsoft Corp* litigation, where counsel for Sun Microsystems, in the course of argument, asserted that Sun Microsystems was indeed claiming copyright in the Java programming language: see the transcript of the proceedings, excerpted in M.P. Doerr, 'Java: An Innovation in Software Development and a Dilemma in Copyright Law' (1999) 7 *Journal of Intellectual Property Law* 127, 157 – 159. A general-purpose programming language refers to a language designed to be used for writing programs in a wide variety of application domains, and which for this reason does not include language constructs designed to be used within a specific application domain.

7. Formerly Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, now consolidated as Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs.

Part IV examines the potential consequences of conferring copyright protection on programming languages, including its possible effects on software users, competing software firms, and the progress of technological development as a whole. The paper concludes that there are sound legal and policy grounds which render doubtful the possibility of copyright protection for programming languages.

Part I. Delimiting the scope of the debate

Defining 'programming language'

The term 'programming language' may be taken to refer to a formal language used to express computer programs, and which consists of: (i) a set of vocabulary elements; (ii) a set of syntax rules for combining vocabulary elements into statements; and (iii) a set of semantics, or the assignment of meaning to statements that properly combine vocabulary elements in accordance with syntax rules.[8] This definition is certainly wide enough to encompass languages in which computer programs are written, the best-known of which include BASIC, Fortran, C++ and Java.

Some authors have argued that the term 'programming language' should also extend to so-called 'command languages', namely the keystrokes, input formats and command words (e.g. the commands 'Print', 'Move' and 'Copy' in a spreadsheet program) used for interacting with a computer program. Stern, in particular, argues that these sets of keystrokes and command words fulfil all three elements in the definition of a programming language: the set of all permissible command words comprises its vocabulary, the sequence in which they must be input is its syntax, and the instructions that use the prescribed vocabulary in accordance with the relevant syntax rules have an assigned meaning.[9] The approach taken by Karjala leads to a similar outcome: he argues that '[a]ll [user] interfaces are

8. Stern (n. 5), 327. Other authors have made use of similar definitions which refer essentially to the same elements: see P. Samuelson, T. Vinje and W. Cornish, 'Does Copyright Protection under the EU Software Directive Extend to Computer Program Behaviour, Languages and Interfaces?' (2012) 34(3) EIPR 158, 162 (stating that programming languages consist of 'a vocabulary, a set of semantics and a syntax'); D. Hunter, 'Mind Your Language: Copyright in Computer Languages in Australia' (1998) 20(3) EIPR 98, 98 (stating that computer languages, like human languages, possess 'a set of words which denote certain things', as well as a grammar or syntax 'which define the way in which these words may correctly be connected to form proper sentences'); M.A. Hamilton and T. Sabety, 'Computer Science Concepts in Copyright Cases: The Path to a Coherent Law' (1997) 10(2) *Harvard Journal of Law & Technology* 239, 265 (describing computer languages as being composed of 'a set of grammar rules and a set of symbols').

9. Stern (n. 5), 328 – 330.

essentially programming languages', being sets of rules that give semantic meaning to groups of symbols and their syntax and permit a computer to function in the desired manner; based on this reasoning, no functional distinction can be drawn between command languages and programming languages as such.[10] Other authors, however, take the opposing view. Bainbridge, for instance, points out that while a command language does enable a user to interact with a computer program, this interaction does not result in the creation of a separate, discernible program; for this reason, he concludes that while a user command set may be termed a 'computer language', it cannot be appropriately characterised as a 'programming language'.[11] Lowry, meanwhile, states that '[t]here are two basic types of computer languages: programming languages and command languages',[12] thus indicating a conceptual distinction between the two, although both are to be considered as subsets of the wider category of computer languages. The Institute of Electrical and Electronics Engineers also appears to favour the view that programming languages and command languages should be treated as separate concepts. Its *Standard Glossary of Software Engineering Terminology* contains separate entries for each of these terms, with the former being defined as 'a language used to express computer programs'[13] and the latter as 'a language used to express commands to a computer system';[14] 'computer language', meanwhile, is defined as 'a language designed to enable humans to communicate with computers'.[15]

A consideration of the judicial approaches which have been taken in various jurisdictions is inconclusive. In *Navitaire Inc. v. Easyjet Airline* ('*Navitaire v. Easyjet*'),[16] the UK High Court held that a collection of user commands and its syntax amounted to a 'computer language', a concept which it appeared to equate with the term 'programming language' as used in the Software Directive. In contrast, the Massachusetts District Court in *Lotus Development Corp v. Paperback Software International* rejected as a 'word-game argument' the defendants' contention that the menu structure of the Lotus 1-2-3 spreadsheet program,

10. D.S. Karjala, 'Copyright Protection of Computer Software in the United States and Japan: Part 1' (1991) 13(6) EIPR 195, 199.

11. Bainbridge (n. 3), 71 – 72.

12. E.G. Lowry, 'Copyright Protection for Computer Languages: Creative Incentive or Technological Threat?' (1990) 39 *Emory Law Journal* 1293, 1298.

13. IEEE, *IEEE Standard Glossary of Software Engineering Terminology* (IEEE Std 610.12-1990, IEEE, 1990), 59.

14. IEEE (n. 13), 17.

15. IEEE (n. 13), 19.

16. (2005) ECDR 17; (2004) EWHC 1725 (Ch). Bainbridge considers the view taken by the court in this respect to be 'not beyond doubt': Bainbridge (n. 3), 71 – 72.

in particular the choice of user command terms and the structure and order of those terms, amounted to a 'language' that was not capable of being protected by copyright.[17] As a possible consequence of this, in a subsequent case which also involved the copying of the Lotus 1-2-3 menu command hierarchy, the argument that it might amount to an unprotectable language was not invoked; instead, the case was argued and decided on the basis that the menu command hierarchy, including the user command terms, constituted a user interface.[18]

In this regard, the argument can indeed be made that the command terms used to interact with a computer program would be more aptly characterised as part of its user interface rather than a programming language, particularly when they are considered as a mode of input that is complementary or alternative to the now-ubiquitous mouse or touchpad. Nevertheless, for the sake of comprehensiveness, command languages will be included within the scope of programming languages for the purposes of the present discussion.

The nature of the rights sought

In addition to the broad question of whether programming languages are or ought to be protected by copyright, one also has to address the more practical, related question of the acts which the holder of the copyright in such a work would be protected against. In other words, if copyright does indeed subsist in a programming language, what are the acts which the rightholder is exclusively entitled to carry out and, by the same token, to prevent third parties from carrying out, in respect of that language?

Scholars who have examined this question appear either to conclude or implicitly assume that the developer of a new programming language would have be predominantly interested in preventing unauthorised third parties from: *first*, creating new computer programs which are capable of interpreting and executing programs written in that language; and *second*, writing their own computer programs in that language.[19] The first scenario, as we will shortly see, mirrors precisely the facts which gave rise to the dispute in *SAS v. WPL*. The identification of the specific uses which would-be copyright owners of programming languages

17. 740 F.Supp. 37 (D.Mass 1990), 72.

18. *Lotus Development Corp v. Borland International Inc.,* 49 F.3d 807 (1st Cir. 1995) aff'd 516 US 233 (holding that the Lotus 1-2-3 menu command hierarchy was a 'method of operation' by which users were able to operate the program, and consequently that it could not be protected by copyright under §102(b) of the US Copyright Act of 1976).

19. D.E. Phillips, 'XML Schemas and Computer Language Copyright: Filling in the Blanks in Blank Esperanto' (2001) 9 *Journal of Intellectual Property Law* 63, 84; Stern (n. 5), 347 – 348; Doerr (n. 6), 133; Lowry (n. 12), 1339.

are seeking to control will prove to be pertinent to two aspects of the present analysis. The first relates to the legal question of whether such uses would amount to infringement in the event that programming languages are demonstrated to be works capable of being protected by copyright law. The second is whether the restriction of these uses in the manner sought would be a desirable outcome in the light of wider policy considerations.

Part II. SAS Institute Inc. v. World Programming Ltd

The claimant in this case, SAS Institute Inc. ('SAS Institute'), is the developer of an integrated set of computer programs, known as the SAS System, which enables users to carry out a wide range of data processing and analysis tasks, in particular statistical analysis. The core component of the SAS System, known as Base SAS, enables users to write and run their own application programs in order to manipulate data. These application programs are known as SAS scripts, and are written in a language which is peculiar to the SAS System ('the SAS Language'). Prior to the events giving rise to the present dispute, the customers of SAS Institute had no practical alternative to continuing to license the use of the necessary components in the SAS System in order to be able to run their existing SAS scripts; a customer who wished to change over to another developer's software would be faced with the necessity of having to rewrite its existing application programs in a different language.

The defendant in this case, World Programming Ltd ('WPL'), perceived that there would be a market demand for alternative software capable of interpreting and executing application programs written in the SAS Language. It therefore produced the 'World Programming System' ('the WPS'), which was designed to emulate the functionality of the SAS System as closely as possible in the sense that the same inputs would produce the same outputs, subject to only a few minor exceptions. This would enable users of the SAS System to run their existing SAS scripts on the WPS. There was no suggestion that, in doing so, WPL had access to the source code of the SAS System, or that WPL had copied any of the text or structural design of that source code. Nevertheless, SAS Institute contended that WPL had both committed a series of infringements of copyright and acted in breach of contract in creating the WPS and its accompanying documentation. For the purposes of the present discussion, the most relevant claim in this regard was that WPL had, in copying the manuals for the SAS System published by SAS Institute when creating the WPS, indirectly copied the programs comprising the SAS System, thereby infringing SAS Institute's copyright in the SAS System.[20]

20. The other principal claims raised by SAS Institute were that WPL had copied the manuals for the SAS System published by SAS Institute in creating the WPS; thereby infringing the copy-

SAS Institute's claim that the WPS infringed its copyrights in the SAS System raised some fundamental issues of copyright law, which were identified by the UK High Court. Of these issues, the one which is most relevant in present context related to the extent to which copyright in a computer program protects the programming language in which it is expressed. The SAS Language in which user scripts for the SAS System were written was held by the court to be a programming language, and it was common ground between the parties that the WPS reproduces certain elements of the SAS Language, and in particular that its parser reproduces keywords of the SAS Language. Counsel for SAS Institute argued that programming languages were not expressly excluded from the scope of the protection conferred by the Software Directive, pointing out to the court that recital 14 to the Directive only states that '*to the extent* that […] programming languages comprise ideas and principles, those ideas and principles are not protected under this Directive'.[21] On this basis, he submitted that there was no reason why the *expression* of ideas and principles in the form of a programming language should not be protected.[22] While the court acknowledged that recital 14 could be read in the manner contended for by counsel, it found the argument unpersuasive; instead, it relied upon the contrary view taken by a previous court in *Navitaire v. Easyjet*, where recitals 13 to 15 of the Software Directive were quoted in support of the principle that computer languages did not fall within the scope of protection afforded to computer programs. However, the court did concede that the point was not *acte clair*, and that a reference to the CJEU was necessary in order to determine it.[23]

The CJEU interpreted the question referred by the UK High Court in this regard as asking whether article 1(2) of the Software Directive 'must be interpreted as meaning that […] the programming language […] used in a computer program in order to exploit certain of its functions constitute a form of expression of that program and may, as such, by protected by copyright in computer programs for

right in those manuals; that WPL had used a version of the SAS System known as the 'Learning Edition' in breach of the terms of the license relating to that version and of the commitments made under that licence; and that WPL had infringed the copyright in the manuals for the SAS System by creating its own manual.

21. Now recital 11 to the consolidated version of the Software Directive (emphasis added).

22. This aspect of the Software Directive can be contrasted with the corresponding provision in the Japanese Copyright Act of 1970, art. 10(3) of which states expressly that 'the protection given by this Law to [program works] shall not extend to any *programming language* […] used for making such works' (emphasis added). See also D.S. Karjala, 'The Protection of Operating Software Under Japanese Copyright Law' (1988) 10 EIPR 359, 364 – 367.

23. The UK High Court referred, in addition, another eight questions which dealt with other aspects of SAS Institute's claims.

the purposes of that Directive'. Article 1(2) states simply that 'protection in accordance with this Directive shall apply to the expression in any form of a computer program'. The CJEU answered this question in the negative. In doing so, it referred to its own earlier ruling in *Bezpečnostní softwarová asociace v. Ministertvo kultury* ('*BSA*'),[24] where it had interpreted article 1(2) to mean that the object of the protection conferred by the Software Directive encompasses the forms of expression of a computer program (such as its source and object code) and the preparatory design work capable of leading, respectively, to the reproduction or the subsequent creation of such a program.[25] On this basis, the programming language used in a computer program to interpret and execute application programs written by users was held to be an element of the program by means of which users exploit certain functions of the program; consequently, it did not constitute a form of expression of that computer program for the purposes of article 1(2), and was therefore not protected under the Software Directive. Crucially, however, the CJEU did go on to state that the SAS Language might still be protected, as a work, by copyright under the Information Society Directive,[26] provided it is its author's own intellectual creation.[27] It now remains for the UK High Court to apply the judgment of the CJEU in determining whether, on the facts of the case, the SAS Language can indeed be protected as a copyright work.

Perhaps the most important aspect of the CJEU's decision is that, while it does not conclusively answer the question of whether programming languages may, as a general rule, be protected by copyright, it categorically denies the possibility of protecting such a language under the Software Directive as a part of the expression of the computer program in which it is used. In doing so, the CJEU has resolved an issue which has been identified in the literature on copyright protection for programming languages. Prior to the decision in *SAS v. WPL*, scholars had identified two distinct bases upon which such protection might be claimed: the programming language in question could either be regarded as a work in its own right and thus protected in itself; or, alternatively it could be protected as a non-literal expressive aspect of the computer program in which it was used.[28]

24. (2011) ECDR 3 (Case C-393/09).

25. (2011) ECDR 3, (35) – (37).

26. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

27. Case C-406/10, (45).

28. See e.g. Doerr (n. 6), 147 – 155; Lowry (n. 12), 1303 – 1306; Stern (n. 5), 324. The literal expression of a computer program, in this context, refers to the text of its code. The non-literal aspects of a computer program, at least as identified by courts in the US, include its ultimate function or purpose, its structure or architecture, program modules, organisational

In the latter scenario, a subsequent program which was written in, or otherwise made use of, the same programming language as that used in an earlier program would therefore be considered as having copied a part of the non-literal expression of that earlier program. In light of the CJEU's decision, however, this no longer forms a tenable basis upon which to argue that programming languages constitute subject matter that is capable of being protected by copyright. Rather, the remainder of this discussion will proceed on the first premise, namely that programming languages are to be treated as potential works in their own right, independent of any computer program in which they may happen to be used, and the question of whether they can and ought to be protected by copyright will be assessed on this basis.

Part III. Legal considerations

As stated earlier, the CJEU in *SAS v. WPL* left open the possibility that programming languages might, as works, be protected by copyright, provided they are the product of their author's own intellectual creation. However, as the following analysis will show, it is unlikely that this possibility will be realised. There are two grounds upon which this assertion is made. *First*, while the principal manifestations of a programming language, namely its specification and various implementations, will almost always be 'works' in the copyright sense, the copyright subsisting in them does not entitle their authors or other copyright owners to restrict other programmers from making use of that language in the ways described in Part I. *Second*, a programming language considered as a free-standing concept existing independently of any particular specification or implementation does not constitute a form of expression that can appropriately be characterised as a work. The view that a programming language may properly be regarded as a work on the sole basis that it is the product of its author's own intellectual creation will also be considered; however, it will be argued that such a conclusion is ultimately unsatisfactory.

The specification and implementations of a programming language

A *programming language specification* is a document which contains an explicit description of the programming language concerned, and is often written in a natural human language such as English. An example is the specification for the Java programming language, which exists both in the form of a printed refer-

or flow charts, algorithms and data structures, parameter lists, and macros: see *Computer Associates v. Altai* 982 F.2d 693 (2nd Cir. 1992) and *Gates Rubber v. Bando Chemical Industries* 9 F.3d 823 (10th Cir. 1993).

ence manual and as a freely downloadable electronic document.[29] This is one of the primary means through which the developer of a programming language explains to potential users the behaviour and characteristics of the language or, more simply put, teaches the language to potential users. A *programming language implementation*, on the other hand, is a computer program that is capable of parsing the language concerned or, in other words, interpreting and executing programs written in that language; it often takes the form of a compiler or an interpreter.[30] As an alternative or in addition to a specification, the developer of a programming language may also teach it to potential users through a *reference* or *model implementation*, in whose behaviour the syntax and semantics of the language are made explicit. For example, all versions of the Perl programming language up to Perl 5 use the reference implementation approach, as no specification for the lanaguage exists; however, Perl 6, a planned major revision of the language, is currently under development as a specification.[31]

In almost all cases, both the programming language specification and any and all of its implementations may uncontroversially be treated as 'works' for the purposes of copyright law, the former being a literary work in the general sense and the latter being a computer program or programs.[32] However, the copyright subsisting in these works will not normally be infringed by a user who writes a program in the language to which the specification and implementation relate, nor by a user who develops a subsequent implementation of that language, provided in the latter case that she has not copied the code used in an existing implementation.

29. J. Gosling et al, *The Java Language Specification* (3rd ed., Addison-Wesley, 2005). The online version is available at <http://docs.oracle.com/javase/specs/jls/se5.0/jls3.pdf> (accessed 30 May 2012).

30. A compiler is a computer program that translates programs expressed in a high-level programming language (such as the ones under discussion here) into machine language equivalents (which usually consist of a pattern of 0s and 1s) that can be recognised by the processing unit of a computer. In contrast, an interpreter is a computer program that executes programs expressed in a high-level programming language without first translating them into machine language, either directly or by first converting them into an intermediate form (such as bytecode) before execution.

31. L. Wall, 'Official Perl 6 Documentation' (*Perl6.org*) <http://perlcabal.org/syn/> accessed 31 May 2013.

32. Which are, of course, protected as literary works: see Software Directive, art. 1(1); Agreement on Trade-Related Aspects of Intellectual Property Rights ('TRIPS'), art. 10(1); WIPO Copyright Treaty, art. 4.

In *Infopaq International A/S v. Danske Dagblades Forening* ('*Infopaq*'),[33] the CJEU held that the scope of the reproduction right set out in the Information Society Directive encompasses the reproduction of an extract of a protected work, provided that the elements reproduced in the extract are the expression of the intellectual creation of their author.[34] The broader principle to be drawn from this decision is that infringement will have occurred where the alleged infringer has reproduced – or indeed, carried out any of the acts to which the rightholder is exclusively entitled in respect of – any part of a protected work which constitutes the expression of its author's intellectual creation. In the case of a programming language specification, the intellectual creativity of its author can be found in its linguistic expression, in particular the choice, sequence and combination of words;[35] any intellectual creativity which has gone into the design and development of the programming language described in the specification will not form part of the expression of the specification itself. For this reason, a programmer who makes use of the programming language described in a certain specification does not infringe the copyright subsisting in the specification itself, as she is not copying any part of the author's intellectual creation that has gone into the writing of the specification.[36]

In this regard, the distinction between a programming language specification and the language itself can be viewed through the lens of the idea-expression dichotomy: from this perspective, the language itself constitutes the 'idea' which is expressed through its specification, and the intellectual creativity that has gone into devising the idea is an entirely separate matter from the intellectual creativity that has gone into the crafting of its expression.[37] The predominantly US-based scholars who have written on this subject have also drawn comparisons between a programming language specification and an instructional work that

33. (2009) ECDR 16.

34. (2009) ECDR 16, (48).

35. This was the language used by the CJEU in *Infopaq* to describe the nature of the intellectual creativity employed by the author of a newspaper article: (2009) ECDR 16, (45).

36. The conceptual distinction between a specification and its implementation (in this case, the realisation of the specification through a computer program or a component of a program), in the context of server communication protocols, has been discussed by the Court of First Instance in *Microsoft Corp v. Commission of the European Communities* (2007) 5 CMLR 11 (Case T-201/04), (192) – (206). For a similar discussion in the context of interfaces, see B. Czarnota and R. Hart, *Legal Protection of Computer Programs in Europe: A Guide to the EC Directive* (Butterworths, 1991), 35 – 38.

37. The same point was made by the UK High Court in *SAS v. WPL*, though the English formulation of 'skill, labour and judgment' rather than the European formulation of 'author's own intellectual creation' was used: (2010) ECDR 15, (207).

teaches a reader how to accomplish a certain task or make a certain item, relying most notably on *Baker v. Selden*, a landmark Supreme Court decision that is usually seen as having entrenched the idea-expression dichotomy in US copyright law.[38] In *Baker v. Selden*, the Supreme Court held that the copyright subsisting in a book which described a new system of book-keeping did not extend to the system itself; in other words, while the author's individual manner of describing his system was protected by copyright, the system itself was not, and the author was not entitled to prevent third parties from making use of the system.[39] On this basis, it has been argued that a programming language specification is comparable to the book in *Baker v. Selden*, while the programming language itself is comparable to the book-keeping system described in the book; thus, the copyright subsisting in the former is in no way infringed by the use of the latter.[40]

The same reasoning is equally applicable to any implementation of a programming language. In this case, the relevant intellectual creativity that gives rise to a protectable manifests itself in the manner in which the computer program is put together, including the definition of the tasks to be performed by the program, the selection of the steps to be taken and the way in which those steps are expressed;[41] it does not lie in the design and development of the programming language that the program is capable of parsing. As pointed out earlier, the decision of the CJEU in *SAS v. WPL* confirms that the programming language used in a computer program is not a form of expression of that program; consequently, the use in a separate computer program of the same programming language as that

38. 101 US 99. The principal holding in this case has since been codified in §102(b) of the US Copyright Act of 1976.

39. 101 US 99, 102 – 104.

40. Phillips (n. 19), 97 – 100; Stern (n. 5), 347 – 354; Doerr (n. 6), 142 – 143; Lowry (n. 6), 1312 – 1313. Comparable cases dealing with instructional works in the UK include *Brigid Foley Ltd v. Ellot* (1982) RPC 433, 434 (no infringement of the words and numerals in a knitting guide by the production of knitted garments following the instructions); *Autospin (Oil Seals) Ltd v. Beehive Spinning* (1995) RPC 683, 701 (no infringement of the claimant's charts for calculating the dimension of oil seals by using them to make such oil seals). In this respect, an example frequently cited by the UK courts is to that the baking of a cake (or making of a pudding) in accordance with a recipe does not infringe the copyright subsisting in that recipe: see *J&S (Holdings) Ltd v. Wright Health Group Ltd* (1988) RPC 403, 414; *Autospin (Oil Seals) Ltd v. Beehive Spinning* (1995) RPC 683, 701; *Navitaire v. Easyjet* (2005) ECDR 17, (127).

41. European Commission, 'Proposal for a Council Directive on the Legal Protection of Computer Programs (Explanatory Memorandum)' COM(88) 816 final, pt 1, para. 2.2 – 2.4. This was subsequently cited in the Opinion of the Advocate General in *SAS v. WPL Id*.

used in an existing implementation does not infringe the copyright in that implementation, provided that its actual code has not been copied.

The programming language as a free-standing 'work'?

The right to control the specific uses described in Part I cannot therefore be asserted in the copyright subsisting either in the specification or any implementation of the programming language concerned. There remains the possibility of doing so by claiming a copyright in the programming language itself, as a free-standing work which exists independently of any particular specification or implementation. However, it is questionable whether something so abstract as this may appropriately be characterised as a 'work' for the purposes of copyright law.

'Work' is a concept that occupies a central position in modern copyright law.[42] The Berne Convention, for example, is expressed to be for the protection of the rights of authors in their literary and artistic works',[43] and provides that authors are to be given certain moral and economic rights in respect of such protected works.[44] For all its importance, however, the parameters of the term remain singularly ill-defined, both internationally and at the level of the European Union.[45] The Berne Convention does not contain a definition of the term 'literary and artistic works', but merely sets out an illustrative list of the subject matter that is included within its ambit.[46] While the various European Directives require Member States to confer certain exclusive rights for authors in respect of their 'works', again, none of them provide a definition for the term. For this reason, there re-

42. As a contrast, UK copyright legislation prior to the passing of the Copyright Act of 1911 tended to be subject-specific, with separate pieces of legislation that focused on specific types of creation, rather than a single copyright legislation regulating all types of works. See e.g. the Act for the Encouragement of the Arts of Designing, Engraving, and Etching Historical and Other Prints, by Vesting the Properties Thereof in the Inventors and Engravers, During the Time Therein Mentioned, 1735, 8 Geo. 2, c. 13 (Eng.); the Publication of Lectures Act, 1835, 5 & 6 Will. 4, c. 65 (Eng.); and the Sculpture Copyright Act, 1814, 54 Geo. 3, c. 56 (Eng.). See B. Sherman, 'What is a Copyright Work?' (2011) 12 *Theoretical Inquiries in Law* 99, 99 – 103.

43. Berne Convention, art. 1.

44. Berne Convention, art. 6*bis*; arts. 9 – 14.

45. Sherman (n. 42), 102 – 103; C. Handig, 'The Copyright Term "Work": European Harmonisation at an Unknown Level' (2009) 40(6) IIC 665; C. Handig, '*Infopaq International A/S v. Danske Dagblades Forening* (C-5/08): Is the Term "Work" of the CDPA 1988 in Line with the European Directives?' (2010) 32(2) EIPR 53. The proposed European Copyright Code drafted by the Wittem Group of academics, however, does contain a definition for the term 'work'.

46. Berne Convention, art. 2(1).

mains much scope for debate over the precise definition of 'work'. However, from the language of the various instruments dealing with copyright, it seems clear that a 'work' must necessarily be some form of expression, it being a well-established principle that copyright law only protects the expression of ideas, but not the ideas themselves.[47] It also seems fairly clear that the notion of a 'work' in the copyright sense is confined to expressions within the literary, artistic and scientific domains.[48]

It is the first of these two guidelines, the requirement that a 'work' must constitute some form of expression, that is particularly relevant to the present discussion. Can a programming language, considered as a free-standing notion existing independently of any single specification or implementation, be appropriately described as constituting a form of expression? The answer, it is submitted, is in the negative. A fundamental difference between a programming language in itself and the types of subject matter listed as examples of 'literary and artistic works' in the Berne Convention – including 'books, pamphlets and other writings', 'dramatic or dramatico-musical works', 'choreographic works and entertainments in dumb show', 'musical compositions with or without words', 'works of drawing, painting, architecture, sculpture, engraving and lithography' – is that the former exists at a much higher level of abstraction and, crucially, is capable of being concretised in the form of detailed expression in which the latter is manifested as a matter of course. To take an example, it is possible to view a literary work, such as a novel, through lenses of increasing specificity, beginning with the mere 'idea' which it contains – such as a general statement of its plot and central themes – and concluding with the actual words and sentences which make up the novel itself. For a programming language, however, there exists no equivalent to the literal words and sentences of a novel beyond its specification and any implementations; considered apart from these, it remains an abstract concept that cannot appropriately be regarded as a form of expression, although it may be described or used in various forms of expression which are themselves works.[49] Consequently, it does not constitute a 'work' for the purposes of copyright law; rather, as pointed out by the Advocate General in *SAS v. WPL*, it should be consid-

47. TRIPS, art. 9; WIPO Copyright Treaty, art. 2; Software Directive, art. 1(2). It is also reflected in the proposed European Copyright Code, art. 1.1(1).

48. Berne Convention, art. 2(1) ('every production in the literary, scientific and artistic domain'); proposed European Copyright Code, art. 1.1(1) ('any expression within the field of literature, art or science').

49. Stern (n. 5), 363 – 364 (arguing that a programming language 'is not a work of authorship. It is something that is embodied or used in one or another kind of work of authorship, such as in a book teaching the language or in a computer program using the language').

ered as a *means* which permits expression, in the form of computer programs, to be given.[50]

Programming languages were also described in the opinion of the Advocate General as 'devis[ing] specific methods to be used and facilitat[ing] the thinking necessary in order to write and formalise computer programs'.[51] Viewed from this perspective, a programming language has much less in common with the types of literary and artistic works mentioned in the Berne Convention, and is instead more akin to the 'ideas, procedures, methods of operation and mathematical concepts' which are expressly excluded from the scope of various international copyright treaties.[52] Essentially the same point has been raised by scholars in the US to argue against the protection of programming languages by copyright; programming languages, it is contended, constitute 'systems' for communication with computers, and 'systems' are expressly excluded from the scope of the protection conferred by the US Copyright Act of 1976.[53] Although neither the various European Directives on copyright nor the international copyright treaties to which Member States are party contain an express exclusion of 'systems', a similar reasoning applies. Programming languages are the 'building blocks' which permit expression to be given, but are not themselves expression;[54] for this reason, they do not constitute 'works' that are capable of being protected by copyright, but are instead methods which enable human-computer interaction. Thus, they should be considered as falling within those categories of subject matter that, by international consensus, are not appropriate subjects for copyright protection.

The programming language as the product of its author's own intellectual creation

This section will briefly consider the opposing argument that, in order to be considered as a 'work' for the purposes of copyright law, a programming language

50. Opinion of the Advocate General in *SAS v. WPL*, (71).

51. Opinion of the Advocate General in *SAS v. WPL*, (70).

52. TRIPS, art. 9(2); WIPO Copyright Treaty, art. 2. See also the proposed European Copyright Code, art. 1.1(3) of which excludes from the scope of protectable expressions facts, discoveries, news and data; ideas and theories; procedures, methods of operation, and mathematical concepts.

53. Phillips (n. 19), 74 – 78; Lowry (n. 12), 1309 – 1315. §102(b) of the US Copyright Act of 1976 expressly excludes from the scope of copyright protection 'any idea, procedure, process, system, method of operation, concept, principle, or discovery'.

54. Other scholars have also used the metaphor of a programming language as 'building blocks' for expression: see Samuelson, Vinje and Cornish (n. 8), 162; Lowry (n. 12), 1315.

needs only to fulfil the requirement of being its author's own intellectual creation. This is a plausible argument when considered in the light of a line of recent CJEU decisions which have emphasised the requirement of the author's own intellectual creation in discussing the copyright status of various types of works. In *Infopaq*, the CJEU held that copyright 'is liable to apply only in relation to a subject matter which is original in the sense that it is its author's own intellectual creation',[55] a point which was reiterated in the subsequent case of *Painer v. Standard Verlags GmbH* ('*Painer*').[56] As we have seen, the CJEU held in *SAS v. WPL* itself that the programming language and the format of data files used in a computer program 'might be protected, as works, by copyright under [the Information Society Directive] provided they are their author's own intellectual creation',[57] even though they were not protected under the Software Directive as a form of expression of the computer program to which they related; the same reasoning had previously been applied to a graphic user interface in the *BSA* case.[58] One reading of these decisions is that the current copyright system in Europe requires copyright protection to be conferred upon each and every 'intellectual creation'; applying this to the subject matter of the present discussion leads to the conclusion that a free-standing programming language, in itself, is capable of being protected as a work by copyright, provided it is the product of its author's own intellectual creation.

In construing the requirement of 'author's own intellectual creation', the CJEU has consistently emphasised the importance of the author's ability to make choices; most recently, it has held in *Painer* that an intellectual creation is the author's own if the author was able to express his creative abilities in the production of the work by making free and creative choices.[59] Theoretically, at least, the process of designing a new programming language affords to its developer considerable scope for making free and creative choices, including in selecting the appropriate keywords and devising the relevant syntax rules; indeed, this was taken into consideration in the wording of the actual question referred by the UK High Court to the CJEU, where the SAS Language was described as 'a programming language devised by the author of the [SAS System]' which was said to comprise 'keywords devised or selected by' and 'a syntax devised by' said author. If being an 'intellectual creation' is indeed the sole criterion for being regarded as a 'work', it follows that a programming language, taken by itself and considered

55. (2009) ECDR 16, (37).

56. (2012) ECDR 6 (Case C-145/10), (87).

57. Case C-406/10, (45).

58. (2011) ECDR 3, (45) – (46).

59. (2011) ECDR 3, (89). The element of 'choice' on the part of the author was also referred to in *Infopaq*: (2009) ECDR 16, (45).

independently of any particular specification or implementation, may logically be protected as such.

Such a conclusion, however, is far from satisfying. In the first place, although the process of developing a new programming language may indeed provide sufficient scope for the exercise of free and creative choices, in practice, many 'new' programming languages are in fact built upon predecessor languages.[60] The Java programming language, for example, is modelled upon the C and C++ programming languages, a fact that is explicitly referred to in its specification.[61] As a result, a programming language which is constructed in this manner cannot be said to be entirely the product of its author's *own* intellectual creation, in the sense that it does not originate wholly from that author's free and creative choices alone, but is instead partly derived from the intellectual creation of the author of the predecessor language or languages upon which it is based. In order to assert a copyright claim over such a language, therefore, it will first be necessary to disengage the aspects which have been copied from existing languages from those which have originated wholly from the mind of the present author. This is perhaps particularly evident in the case of command languages, where the functions provided by application programs of the same type will be largely similar, and there is little scope for variety in the range of command terms used for invoking them. Standard commands in a spreadsheet program, for instance, include terms such as 'Print', 'Copy' and 'Move'; while it is theoretically possible to substitute these terms with 'Publish', 'Duplicate' and 'Shift' respectively, the range of possible synonyms and near-synonyms is necessarily very limited.

Secondly, if programming languages, as free-standing, abstract notions existing independently of any associated specification or implementation, were to be regarded as a 'work' capable of being protected of copyright, this could lead to a fundamental divergence in approach between Member States where the relevant legislation requires a work to be fixed in a material form as a prerequisite for copyright protection, such as the UK and Ireland,[62] and Member States where no such legislative requirement is imposed.[63] Programming languages would be pro-

60. Doerr (n. 6), 141; Lowry (n. 12), 1306 – 1308.

61. Gosling et al. (n. 29), 1 – 2.

62. UK Copyright, Patents and Designs Act of 1988, s 3(2) ('copyright does not subsist in a literary, dramatic or musical work unless and until it is recorded, in writing or otherwise'); Irish Copyright and Related Rights Act of 2000, s 18(1) ('copyright shall not subsist in a literary, dramatic or musical work or an original database until that work is recorded in writing or otherwise by or with the consent of the author').

63. See also the arguments made in relation the US Copyright Act of 1976, which does contain a fixation requirement, that protecting programming languages by copyright would be to

tected by copyright in the latter jurisdictions, but not in the former – an outcome that could potentially result in a severe disruption of the functioning of the internal market, running completely counter to the stated purpose of the various European Directives that have, over the years, sought to harmonise certain aspects of copyright law across different Member States.

Thirdly, and perhaps most importantly, even if programming languages may arguably be protected as copyright works under the strict application of existing doctrinal rules, various policy considerations such as the need to foster competition and innovation in the software development industry militate strongly against the conferment of such protection. These will be elaborated upon in Part IV. The preferable approach, therefore, would be to read the line of CJEU decisions beginning with *Infopaq* in a disjunctive manner, such that it requires the adjudicator to determine, as an initial step, whether a particular subject matter is amounts to a 'work', before going on to consider whether it fulfils the criterion of 'author's own intellectual creation', rather than interpreting it to mean all 'intellectual creations' necessarily constitute 'works' that are capable of being protected by copyright. This was arguably the approach taken by the French Court de cassation in *Sté Senteur Mazal v. SA Beauté Prestige International*, a case involving copyright in a perfume, where it focused on the question of whether the fragrance of a perfume constituted 'a form of expression that benefits from the copyright protection intended for works of the mind', rather than going directly to the question of whether it was original in the sense that it bore the imprint of its author's personality, as the Cour d'Appel had previously done.[64] This construction of the language used by the CJEU allows for the application of the reasoning described in the previous section, that programming languages are the means which permit expression to be given, but are not themselves expression and hence not 'works'.

Part IV. Policy considerations

In addition to the legal and doctrinal considerations elaborated upon in Part III, what is perhaps more important in the context of the present debate are the policy considerations that militate against the protection by copyright of programming languages in themselves. Part IV explores these considerations from two differing perspectives. *First*, it will argue that there is no justification for protecting programming languages by copyright, as this would not significantly in-

allow for the protection of 'unfixed expressions': Phillips (n. 19), 78 – 81; Hamilton and Sabety (n. 8), 269 – 270 . cf. Doerr (n. 6), 139 – 141; Lowry (n. 12), 1308 – 1309.

64. *Sté Senteur Mazal v. SA Beauté Prestige International* (2008) 39(1) IIC 113; (2010) 41(2) IIC 234.

centivise the development of new programming languages. *Second*, it will demonstrate that such protection, rather than incentivising technological innovation, would instead stifle it, as software users and competing developers would be barred from making use of tools that are essential for the creation of new software products.

Copyright protection would not incentivise the creation of new programming languages

One of the major justifications which have traditionally been invoked in favour of protecting certain intellectual products by copyright is that such protection incentivises the creation of a socially optimal number of intellectual products. Without copyright, runs the argument, there would be little inducement for individuals or firms to invest time, money and effort in the creation of new works; instead, it would be in their self-interest to allow others to develop new works, and then to devote their energies towards producing imitations of these new works, thus saving themselves the costs of prototyping and initial creation.[65]

It is doubtful, however, whether such an inducement is necessary in the case of programming languages, based on the history of their development. As stated in the introduction to this paper, from the earliest days of computing until quite recently, the software industry appears to have operated on the assumption that programming languages were freely available for the use of any person; yet the development of new programming languages has continued apace.[66] Even in the present day, there have been relatively few overt attempts to assert copyright over programming languages, when compared with the sheer number of such languages that are available; in this respect, developers such as SAS Institute are in a minority. Some developers have even expressly dedicated their programming languages to the public domain.[67] All this indications point towards the conclusion that copyright protection is not a major incentive for the creation of new programming languages. Instead, factors such as competition within the industry

65. See generally E.C. Hettinger, 'Justifying Intellectual Property' (1989) *Philosophy & Public Affairs* 31, 47 – 48; W.M. Landes and R.A. Posner, 'An Economic Analysis of Copyright Law' (1989) 18 *Journal of Legal Studies* 325.

66. Lowry, 1343 – 1345 (pointing out that between 1976 and 1977 alone, there were over 150 freely available programming languages in existence).

67. The legal effect of dedicating one's copyright work to the public domain is doubtful. It has been argued, in the context of UK law, that such a dedication would amount at best to a bare licence: P. Johnson, '"Dedicating" Copyright to the Public Domain' (2008) 71(4) *Modern Law Review* 587. In Germany, it has been held that copyright does not cease by reason of abandonment, a position which would appear to be applicable, by extension, to any attempts at dedication: *Berlin Wall Pictures* (1997) 28 IIC 282.

and the need for technical solutions that are not provided by existing languages may prove to be the main drivers for such innovation.[68] Indeed, as many new programming languages are in fact built upon predecessor languages, copyright protection might well prove to be an impediment to innovation in this respect, as subsequent developers would no longer be free to make use of various aspects of existing languages in constructing new languages.

In any case, the developers of new programming languages will generally be sufficiently rewarded through the temporal and technological advantages of being the first movers in their particular market.[69] Their greater expertise in the language concerned places them in the best position to begin creating and marketing new application programs based on that language, at a time when their competitors are still familiarising themselves with the language and attempting to determine the best uses for it. This, it is submitted, constitutes sufficient incentive for the development of new programming languages, particularly when a technological need arises.

Copyright protection for programming languages would potentially inhibit technological development

The implications of conferring copyright protection upon programming languages, taken to their logical conclusion, are extreme: potentially, every single use of a protected programming language would require a licence from the owner of the copyright in that language.[70] Under these circumstances, software developers would be left with two practical options: either to obtain a licence, possibly upon onerous terms, from the owner of the copyright in an existing language; or to develop their own programming language. This would, in turn, have a negative effect upon innovation within the software industry, due to two related factors: the risk of creating a monopoly, and the imposition of restrictions upon interoperability.

68. Lowry, 1344 – 1345 (arguing that market competition provides better incentives to create new programming languages than copyright protection does).

69. This reflects, in part, another traditional justification for the grant of copyright, namely that copyright is awarded to creators because they deserve to benefit from the products of their creativity. See generally Hettinger (n. 65), 40 – 41; J. Hughes, 'The Philosophy of Intellectual Property' (1988) 77 *Georgia Law Journal* 287, 305 – 310; L.C. Becker, 'Deserving to Own Intellectual Property' (1992) 68 *Chicago-Kent Law Review* 609.

70. See also Hamilton and Sabety (n. 8), 270 – 272.

Risk of creating a monopoly

The conferment of copyright protection upon programming languages could potentially result in the grant of a *de facto* monopoly to developers of the most popular and most frequently used languages, allowing them to exert an unprecedented level of control over both programmers and programs which make use of those languages. This small number of developers would be free to charge exorbitant prices for programming language licences which other developers, lacking the expertise for creating their own languages, would have little alternative but to pay.[71] This is particularly the case where a developer or other user has invested heavily in a certain programming language; it would be 'locked in' to that language, as the users of the SAS System were prior to the advent of the WPS, and would be forced to continue licensing the use of that language even if a new, superior alternative were to become available, due to associated costs such as the expense of retraining employees in the new language and translating existing programs into the new language.[72]

Perhaps even more disturbingly, a developer who owns the copyright in a programming language would be in a position to impose restrictive terms upon its licensees. It could, for instance, limit the types of programs in which those languages to be used, thus shutting out any potential competitors. Developers that are not in a position to create their own programming languages would be in the unenviable position of having to select an existing language based not upon its technical merits, but solely upon the terms which the copyright owner is willing to offer.[73] At its most extreme, the copyright owner could terminate the licence of any venture which it perceives to be a threat, thereby reinforcing its monopoly not only in the market for programming languages, but in the market for other types of software products as well.[74] In this context, it should be noted that programming languages in themselves would not constitute computer programs or parts of programs under the hypothetical legal paradigm that would allow them to be protected as copyright works, particularly in the light of the CJEU's decision in *SAS v. WPL*; consequently, the licensees of these languages would not be entitled even to the limited range of permitted uses available to 'lawful acquirers' and licensees of computer programs under the Software Directive.[75]

71. Lowry (n. 12), 1341.

72. Samuelson, Vinje and Cornish (n. 8), 162 – 163; Lowry (n. 12), 1341.

73. Hamilton and Sabety (n. 8), 272.

74. Hamilton and Sabety (n. 8), 271 – 272.

75. Software Directive, arts. 5 and 6.

Restrictions upon interoperability

If programming languages were to be protected by copyright, this would severely impede the ability of software developers to create products that are interoperable with existing programs. Such a developer would be compelled to pay the high licence fees and to comply with the potential onerous licensing terms imposed by the owner of the copyright in the language used in the existing program; again, the copyright owner might take advantage of its position to terminate the licence of a potential competitor, or even to decline to grant one in the first place. This is a probable outcome of *SAS v. WPL*, should the UK High Court hold that copyright subsists in the SAS Language.

The ability of software developers to engage in the independent creation of new products that are capable of interoperating with existing programs has been identified as being 'of key importance for competition, innovation and market entry' in the software market'.[76] It provided the impetus for the drafting and, ultimately, implementation of article 6 of the Software Directive, which allows for the decompilation of computer programs 'to obtain the information necessary to achieve the interoperability of an independently created computer program with other programs' under certain circumstances.[77] More recently, it was demonstrated in the case of *Microsoft Corp v. Commission of the European Communities*[78] that consumers will be deprived of innovative software products if competitors are unable to create software that is fully interoperable with that produced by the market leader.[79] The conferment of copyright protection upon programming languages would prove to be detrimental to the interests of consumers, as it would effectively prevent software developers from creating competing products that are interoperable with existing programs, ultimately 'locking' consumers into software products that are created by a single developer or a small group of developers. In these circumstances, the lack of competition within the market would leave these developers with little incentive to continue improving their products, thus leading to the stagnation of technological innovation.

76. European Commission, Commission Staff Working Paper on the Review of the EC Legal Framework in the Field of Copyright and Related Rights, SEC(2004) 995, para. 2.2.1.3

77. Software Directive, art. 6(1).

78. (2007) 5 CMLR 11 (Case T-201/04).

79. Samuelson, Vinje and Cornish (n. 8), 158.

Conclusion

This paper has demonstrated that there are sufficient reasons, both on legal and policy grounds, to hold that programming languages ought not to be protected as copyright works. While copyright does indeed subsist in the specification of a programming language as well as its implementations, it does not entitle the owner to control the use of that programming language in the manner sought by claimants in the same position as SAS Institute. In addition, it is difficult to argue that a programming language, considered as a free-standing concept existing independently of any particular specification or implementation, constitutes a form of expression that can appropriately be characterised as a 'work' in the copyright sense; instead, it would be preferable to regard it as a means through which expression is given. Perhaps more importantly, it cannot be demonstrated with any great certainty that copyright protection would provide an incentive for the creation of new programming languages. Indeed, the reverse appears to be the case, as the conferment of such protection would have the potential to undermine competition and innovation within the software industry in Europe. It is to be hoped that the UK High Court will bear these considerations in mind in its determination of this aspect of *SAS v. WPL*.

2. Patents

Of TRIPS and traps: the interpretative jurisdiction of the Court of Justice of the EU over patent law

Angelos Dimopoulos & Petroula Vantsiouri

1. Introduction

The Court of Justice of the European Union (CJEU) has always played a key role in the development of common rules in the field of intellectual property (IP) law. Since the establishment of the common market, the Court has systematically expanded the reach of EU law in the field of IP, despite the lack of an explicit power-conferring provision in primary EU law. Initially, the Court found that national rules on IP have a great impact on the exercise of the free movement of goods and competition rules. Exercising judicial activism, the Court formulated the theory of core rights. It held that rules concerning the existence of IP rights could not infringe EU rules, while the exercise of these rights may in certain circumstances do, so that the exercise of IP rights can be the subject of EU rules.[1] Later on, it was the Court which ruled that EU rules can also interfere with the core substance of IP rights, so that regulation of IP rights concerning not only their exercise but also their existence can be adopted at EU level, especially by means of harmonisation.[2] As a direct consequence of the jurisprudential recognition of EU competence to regulate in the field of IP, whenever it is necessary to attain the objectives of the internal market, the EU adopted significant pieces of legislation harmonising most aspects of IP law, from trademarks and designs to aspects of copyright and enforcement of IP rights.[3]

Of all IP rights the protection of patents is the least harmonised within the EU. Bearing in mind the existence of an extra-EU legal system on patent protection[4]

1. Case 24/67, *Parke Davis v. Probel* (1968) ECR 55; For an analysis of the existence v. exercise doctrine see U. Immenga and J. Mestmäcker, *EG- Wettbewerbsrecht: Kommentar*, Band II (Beck, 2007), at 15-43.
2. Case C-350/92, *Spain v. Council* (1995) ECR I-1985.
3. See Directive 89/104/EEC on the approximation of the Laws of the Member States Relating to Trade Marks, [1989] OJ L 40/1; Directive 2004/48/EC on the enforcement of intellectual property rights [2004] OJ L 157/45.
4. See the Patent Cooperation Treaty (1970) and the European Patent Convention (1973).

and the political complexities regarding patent protection in Europe,[5] the EU has been very cautious in developing common rules on patents. Rather than following its practice in other areas of IP law, all successful initiatives concerning patent regulation have been rather partial and incomplete.[6] Initiatives for complete harmonisation and the establishment of a common Union patent system have not been fruitful so far, even after the introduction of a specific legal basis on IP harmonisation under the Lisbon Treaty.[7] Following a similar path, the CJEU has been very self-restrained in the field of patent law. Although the Court continues examining whether patent protection is a restriction to free movement and competition law rules, when an issue of substantive protection of patents arose in the past, the Court carefully avoided setting any substantive rules concerning patent protection, paying deference to national law.

The limited role of the CJEU in the field of patent protection was confirmed in its jurisprudence regarding the application and implementation of international agreements on patent protection and in particular the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Although the TRIPS Agreement presents an annex to the World Trade Organisation (WTO) agreement, and is as such a matter of particular EU interest, the Court has been hesitant to apply and interpret the TRIPS patent provisions. In a series of cases concerning the TRIPS Agreement, as they were crystallised in *Merck Genericos*,[8] the CJEU clarified that the interpretation of the substantive patent provisions of the TRIPS Agreement lie outside its jurisdiction and Member States can decide according to national law whether to grant direct effect and how to interpret the TRIPS provisions on patents.

5. National interests with regard to official languages, translations and jurisdictional arrangements stopped the efforts towards a EU patent. For the failed initiatives for the establishment of an EU patent see below section 4.

6. For example, there are rules in the fields of medicinal products and plant protection products (Regulation 1768/92 on the creation of a supplementary protection certificate for medicinal products OJ 1992 L 182/1 and Regulation (EC) 1610/96 of the European Parliament and of the Council concerning the creation of a supplementary protection certificate for plant protection products OJ 1996 L 198/30), while the Biotechnology Directive regulates the patentability of biotechnological inventions (Directive 98/44/EC on the legal protection of biotechnological inventions OJ L 213/13).

7. Article 118 TFEU confers powers to the Union to create European intellectual property rights, aiming to provide "uniform protection of intellectual property rights throughout the Union". See indicatively Council Decision 2011/167/EU authorising enhanced cooperation in the area of the creation of unitary patent protection, OJ L76/53.

8. Case C-431/05, *Merck Genéricos Produtos Farmacêuticos* (2007) ECR I-7001.

However, after the entry into force of the Lisbon Treaty it is questionable whether *Merck Genericos* presents good law. Article 207 TFEU vests the EU with exclusive competence in all fields covered under the EU common commercial policy, including "the commercial aspects of intellectual property rights". As a result, the question arises whether EU exclusive competence under Article 207 TFEU requires the Court to interpret the patent provisions of the TRIPS Agreement and, if so, what are its implications for substantive patent protection in the EU. The relevance and topical character of these questions is confirmed, as they present the subject matter of a recent reference for a preliminary ruling. In *Daiichi Sankyo*[9] the Athens Court of First Instance asked the CJEU, if in cases where national patent law protected only the process of manufacture of a pharmaceutical product at the time of the filing of a patent application, whether after the entry into force of the TRIPS Agreement, the patent also protects the pharmaceutical product as such.

Within this framework, this article examines whether the CJEU has acquired a legal basis for extending its interpretative jurisdiction in the realm of patent law and the implications for patent protection in the EU. After revisiting the Court's jurisprudence on the direct effect and the interpretation of the TRIPS Agreement and in particular its patent provisions, the impact of EU exclusive competence on the CJEU's jurisdiction over TRIPS is explored, reviewing whether the Court can decide on matters of direct effect and interpretation of the patent provisions of the TRIPS Agreement. Finally, this article analyses the implications of a CJEU interpretative jurisdiction over TRIPS on the development of EU patent rules, concluding that the Court's jurisdiction over TRIPS presents an important step in the process of harmonisation of patent rules in the EU.

2. The jurisprudence of the Court of Justice over the TRIPS Agreement

The jurisprudence of the Court of Justice over the TRIPS Agreement has been the subject of a long and very controversial debate, which remains topical after almost forty years. Since the judgment in *International Fruit Company*[10], where the Court discussed for the first time the effects of the GATT agreement in the EU legal order and the extent of the Court's jurisdiction, the determination of the legal effects of the different WTO agreements in the Union legal order remains an open question. An examination of the legal effects of different WTO norms requires first an examination of how WTO law is perceived in the EU legal order; and secondly if the entirety of WTO law has effects in the EU legal order, giv-

9. Case C-414/11, *Daiichi Sankyo and Sanofi-Aventis Deutschland*, OJ C298/17, 08.10.2011.

10. Cases 22-24/72, *International Fruit Company* (1972) ECR 1219, paras. 7-8.

en that the WTO agreements were concluded jointly by the EU and its Member States. The latter question has been particularly important for the patent provisions of the TRIPS Agreement, which remains a field where few EU rules exist.

2.1. Direct effect and the WTO agreements

The WTO agreement, like any other international agreement concluded by the EU, [11] presents a benchmark for the assessment of the legality of EU and Member State legislation. Based on Article 216(2) TFEU, which provides that EU international agreements are binding on EU institutions and on Member States, the Court has been very eager to review the legality of EU and Member State acts on the basis of their compatibility with EU international agreements. Recognising international law norms as an important source of EU law,[12] the Court has extensively dealt with the application and interpretation of Union agreements, including the WTO agreement. The basic test for reviewing the legality of EU and Member State measures was formulated by the Court in *International Fruit Company*,[13] subjecting judicial review in light of Union agreements in a two-prong test. The first prong requires that an international agreement is binding on the EU, while the second prong requires that the provision of the international agreement has direct effect.[14]

Although both conditions have raised particular concerns as regards the legal effects of the WTO agreement, the lack of direct effect of WTO rules has been the focal point of attention. In a number of cases, the Court has firmly established that none of the WTO agreements or any WTO rule has direct effect, since "having regard to their nature and structure, the WTO agreements are not in principle among the rules in the light of which the Court is to review the legality of [Union or Member State] measures".[15] The failure of the WTO agreement, due to its nature and structure, to satisfy the conditions for direct effect, deprives, thus, individuals and Member States, of the possibility to rely on WTO norms so as to chal-

11. The terms EU international agreements and Union agreements will be used interchangeably, including mixed agreements that have the same status as pure Union agreements.

12. Case 181/73, Haegeman (1974) ECR 449.

13. *International Fruit Company*, see above note 10.

14. The direct effect of an international agreement is not required in cases of enforcement actions brought against Member States according to Article 258 TFEU. The EU has an interest in compliance with a Union agreement irrespective of whether it produces direct effect, since non-compliance triggers its international responsibility. Case C-61/94, *Commission v. Germany* (1996) ECR I-3989, para. 52; See Eeckhout P., *External relations of the European Union: legal and constitutional foundations* (OUP, 2011), at 300-302.

15. Case C-149/96, *Portugal v. Council* (1999) ECR I-8385, para. 47.

lenge the legality of national or Union law measures.[16] Given that individuals do not have access to the WTO dispute settlement mechanism, this denial of direct effect of the WTO agreement is particularly important, as it deprives individuals of the opportunity to raise claims based directly on WTO rules.

However, the Court has drawn specific exceptions, where WTO norms can still trigger judicial review of EU and Member States measures. WTO norms can be relied upon in order to review measures that are meant to execute a particular obligation undertaken under the WTO, [17] or if the Union act explicitly refers to specific provisions of the WTO agreements.[18] More importantly, judicial review is possible, as EU and national legislation has to be interpreted in consistency with the provisions of Union agreements. Mitigating the negative impact of the lack of direct effect of Union agreements, the Court has emphasized that the primacy of EU international agreements over provisions of secondary Union law and subsequently national law means that "such provisions must, as far as possible, be interpreted in a manner that is consistent with those agreements".[19] In that respect, the principle of consistent interpretation has presented an efficient method for reviewing the legality of national and secondary EU law in light of WTO rules, leading in many instances in results that do not differ in substance from those that would have been reached if the agreement had direct effect.[20]

2.2. TRIPS and EU competence before Lisbon

A key prerequisite for denying direct effect of and requiring consistent interpretation with WTO norms is that the latter are binding on the EU. This question has gained particular attention as regards the TRIPS Agreement. Considering that the WTO agreement was concluded jointly by the EU and its Member States as a mixed agreement,[21] the effects of the WTO agreement in the Union legal order depend on whether the EU and its Member States have a Union law obligation to

16. On the nature and structure of the WTO Agreement and its failure to satisfy the conditions for judicial review see indicatively P. Kuipjer & M. Bronckers, 'WTO Law in the European Court of Justice' (2005) 42 *CMLR* 1313; F. Snyder, 'The Gatekeepers: The European Courts and the WTO' (2003) 40 *CMLR* 313.

17. Case 69/89, *Nakajima All v. Council* (1991) ECR I-2069.

18. Case 70/87, *Fediol III* (1989) ECR 1805.

19. *Commission v. Germany*, see above note 15, para. 52; Case C-89/99, Schieving-Nijstad (2001) ECR I-5851. On the exceptions to direct effect see Eeckhout, see above note 15, at 355-365.

20. Kuipjer & Bronckers, see above note 16, at 1326, 1328-1329.

21. Council Decision 94/800/EC concerning the conclusion on behalf of the European Community, as regards matters within its competence, of the agreements reached in the Uruguay Round multilateral negotiations (1986-1994), OJ L 336/1, 22.12.1994.

implement and apply the agreement. As the Court has clearly stated, the implementation of a mixed agreement follows the division of powers between the EU and the Member States,[22] so that mixed agreements "have the same legal status in the [Union] legal order as purely [Union] agreements insofar as the provisions fall within the scope of [Union] competence".[23] Following this logic, the determination of EU competence over the TRIPS patent provisions has been crucial for the determination of their Union law effects.

More specifically, since the creation of the WTO the EU has struggled to determine its competence over the TRIPS Agreement and delimitate it from Member State powers. The existence of Community exclusive competence to conclude the TRIPS Agreement was originally the focus of the benchmark decision of the Court of Justice in Opinion 1/94.[24] In this much-discussed case, the Court ruled that the majority of TRIPS provisions were outside the scope of the Common Commercial Policy, and thus EC exclusive competence, as their primary purpose was not the regulation of trade but the harmonisation of IP rights protection.[25] Nevertheless, the Court did not preclude that the Community might have exercised its shared competence with regard to (parts of) the TRIPS Agreement.

Due to the unclear delineation of competence based on Opinion 1/94, the Intergovernmental Conference in Nice expanded the scope of the Common Commercial Policy to trade-related aspects of IP, creating, however, a complex system of rules. By adding paragraphs 5-7 to Article 133 EC Treaty, it established Community competence over "commercial aspects of IP protection", providing however numerous exceptions and complex procedural rules.[26] Despite the establishment of express powers over commercial aspects of IP, Article 133 EC Treaty did not confer exclusive competence to the EU,[27] thus keeping the ruling of Opinion

22. Opinion 1/78 (1978) ECR 2151, para. 36.

23. Case C-239/03, *Commission v. France (Etang de Berre)* (2004) ECR I-9325, para. 25.

24. Opinion 1/94 (WTO Agreement) (1994) ECR I-5267.

25. For a critical analysis of Opinion 1/94 see indicatively J Bourgeois, 'The EC in the WTO and Advisory Opinion 1/94: An Echternach Procession' (1995) 32 *CMLR* 763; P. Koutrakos, *EU International Relations Law* (Hart, 2006), at 46-48.

26. For a critical analysis of EU competence in the field of the Common Commercial Policy after the Nice Treaty see C. Hermann, 'Common Commercial Policy after Nice: Sisyphus would have done a better job' (2002) 39 *CMLR* 26; M. Cremona, 'Balancing Union and Member State interests: Opinion 1/2008, choice of legal basis and the common commercial policy under the Treaty of Lisbon' in (2010) 35 ELRev. 678.

27. Article 133(5)(4) EC Treaty provided that provided an express derogation from the exclusivity rule, and it grandfathered prior Member States agreements and reaffirmed also their right to conclude new agreements on commercial aspects of IP.

1/94 valid as regards the question of which parts of the TRIPS Agreement fell under the scope of exclusive EC competence.

2.3. TRIPS and the scope of EU law

Bearing in mind the lack of clarity regarding the exercise of Union competence over IP rights protection, the determination of the legal effects of TRIPS provisions has been based on the existence of Union rules in the fields where the TRIPS applies. In its landmark decisions in *Hermes*[28] and *Dior*,[29] the Court held that "where a provision can apply both to situations falling within the scope of national law and to situations falling within the scope of [Union] law, it is clearly in the [Union] interest that, in order to forestall future differences of interpretation, that provision should be interpreted uniformly, whatever the circumstances in which it is to apply."[30] Avoiding the difficult question of determining the exercise of its competence in the field of IP rights, the provisions of the TRIPS Agreement were considered to create Union law effects, to the extent that they fell within the scope of EU law and there were EU rules that could be affected by their application and interpretation.[31] The EU has a broad interest in the performance of the provisions of TRIPS that fall within the scope of EU law; hence their legal effects are determined by EU law, irrespective of whether their interpretation concerns in a given case the judicial review of EU law or national law provisions.[32]

Within this framework, the Court had the opportunity to interpret provisions of the TRIPS Agreements in a number of disputes concerning trademarks.[33] This was also true for procedural provisions, such as Article 50 TRIPS concerning the adoption of provisional measures for the protection of national trademarks, since

28. Case C-53/96, *Hermes International v. FHT Marketing* (1998) ECR I-3603.

29. Joined Cases C-300/98 and C-392/98, *Parfums Christian Dior SA v. Tuk Consultancy* (2000) ECR I-11307.

30. *Dior*, para. 32.

31. C. Hillion, 'Mixity and Coherence in EU External Relations: The significance of the 'Duty of Cooperation", in Hillion & Koutrakos (eds) *Mixed Agreements Revisited* (Hart, 2010), at 97.

32. M. Cremona, 'Defending the Community Interest: the Duties of Cooperation and Compliance' in M. Cremona and B. deWitte (eds) *EU Foreign Relations Law - Constitutional Fundamentals* (Hart, 2008), at 147-148, 152-153; P. Koutrakos, 'Interpretation of Mixed Agreements' in Hillion & Koutrakos (eds.) *Mixed Agreements Revisited* (Hart, 2010), at 123-125.

33. *Hermes*, see above note 28; *Dior*, see above note 29; Schieving-Nijstad, see above note 19; Case C-49/02, Heidelberger Bauchemie GmbH [2004] ECR I-6129. For a discussion of these cases see indicatively M. Karayigit, 'Why and To What Extent a Common Interpretative Position for Mixed Agreements?', (2006) 11 *EFA Rev*. 445.

that provision could affect the interpretation of the corresponding Union rule on Community trademarks.[34]

On the other hand, as the Court declared in *Dior*, in areas under the TRIPS where the EU had not legislated yet, Union law "neither requires nor forbids that the legal order of a Member State should accord to individuals the right to rely directly on the rule laid down by [...] TRIPS or that it should oblige the courts to apply that rule of their own motion".[35] In that respect, in areas where there are no Union rules (such as industrial designs under *Dior*), a specific TRIPS provisions was deemed to fall outside the scope of EU law, and hence the legal effects of that provision could be determined according to national law. The application of this rule in the field of patent law was confirmed and clarified in *Merck Genericos*[36], where the Court of Justice dealt with the interpretation of Article 33 TRIPS on the minimum term for patent protection. After considering that the Union had not yet exercised its powers in the sphere of patents and, hence, that sphere did not fall within the scope of EU law, the Court concluded that Member States remain principally competent and can choose whether or not to give direct effect to that provision and how to interpret it.[37]

As a result, the Court left to the discretion of Member States and their courts to decide whether to allow individuals to rely on the patent provisions of the TRIPS Agreement, and if so, how to interpret them. The Court's jurisprudence sparked a heated debate concerning its ramifications on coherence and unity in EU external relations, as well as on the effective protection of intellectual property rights. By excluding patent provisions from the scope of EU law, the Court deviated from previous jurisprudence where it had held that within the scope of Union law come the provisions of a mixed agreement that cover an area which is covered "in large measure" by EU legislation.[38] Moreover, even if patent provisions do not fall within the scope of Union law, the EU still has an interest in their uniform interpretation across the EU. Member States and Union institutions alike have an obligation for close cooperation, based on Article 4(3) TEU, in fulfilling the commitments undertaken by them under joint competence when they concluded the

34. *Hermes*, see above note 28, paras. 24-33.

35. *Dior*, see above note 29, para 49.

36. See above note 8.

37. *Merck Genericos*, see above note 8, paras. 46-48. For a critical reading of this case see R. Holdgaard, 'Case C–431/05, *Merck Genéricos — Produtos Farmacêuticos Lda* v. *Merck & Co. Inc. (M & Co.) and Merck Sharp & Dohme Lda (MSL)*, Judgment of the Court of Justice (Grand Chamber) of 11 September 2007, (2007) ECR I–7001', (2008) 45 *CMLR* 1233.

38. *Commission v. France*, see above note 23, paras. 29-30; Koutrakos, see above note 32, at 130-135.

WTO Agreement, including TRIPS[39] As AG Colomer suggested in his opinion in the *Merck* case, uniform interpretation is necessary, since it "would be extremely difficult for the national courts to adopt a different solution, even when ruling on provisions relating to areas in which the Member States remain competent [...] without running the risk of infringing their obligation to help ensure unity in the international representation of the [Union]".[40]

Despite the existence of a convincing argumentation from an EU external relations law perspective, the Court did not grant Union law effects to the patent provisions of the TRIPS Agreement. In order to understand the hesitation of the Court, it is important to highlight that the Court considers that patent protection does not fall within the scope of EU law. As a result, the lack of uniform legal effects and interpretation of the TRIPS patent provisions allow for different positions to be taken by different national courts and offer a different level of protection of patent rights throughout the EU. Although this may lead to distortion of competition in the internal market, the fact that harmonisation in the field of patents remains limited has prompted the Court to avoid imposing common rules and uniform standards on patent protection in the EU.[41]

3. The legal effects of the patent provisions of the TRIPS Agreement after Lisbon

Although the Court has avoided so far applying and interpreting substantive patent provisions, the entry into force of the Lisbon Treaty provides a new impetus for reconsidering the role of the Court of Justice in the field of patent law. The establishment of EU exclusive competence in the field of the Common Commercial Policy has a great impact on the determination of the legal effects of the patent provisions of the TRIPS Agreement, obliging the Court to determine whether, when and how to interpret the TRIPS patent provisions. In that respect, the pending case in *Daiichi Sankyo*[42] presents a unique opportunity for the Court to clarify these questions and acquire an active role in the interpretation of patent law in the EU.

39. See indicatively Hillion, above 31, at 94-97; C. Caddous, 'Effects of International Agreements in the EU Legal Order' in M. Cremona and B. deWitte (eds) *EU Foreign Relations Law-Constitutional Fundamentals* (Hart, 2008), at 292-293.

40. Opinion of AG Colomer, para. 82.

41. O. Swens and T. Engels, 'Community law, patent law and TRIPs: a complicated cocktail to mix' in (2008) *Pharmaceutical Law Insight* (March 2008).

42. See above note 9.

3.1. EU exclusive competence and the TRIPS Agreement

One of the most significant changes brought about by the Lisbon Treaty is that it introduces clear rules with regard to the scope of Union competence in the area of IP protection. Since the creation of the WTO, the EU has struggled to determine its scope of competence in this area and delimitate it from Member State powers. Notwithstanding the introduction of express competence over commercial aspects of IP with the Treaty of Nice, the exact scope and the nature of Union competence in the fields covered by the Common Commercial Policy was ambiguous. Addressing these criticisms, the Lisbon Treaty introduced new wording with regard to EU competence on IP, enhancing clarity and preciseness. A striking difference from Article 133 EC Treaty is that the Lisbon Treaty ends the distinction between trade in goods and trade in services and commercial aspects of IP. Former Articles 133(1) and 133(5)(1) EC Treaty are "merged", so that trade in services and commercial aspects of IP are no longer a different category from trade in goods.[43]

More importantly, since Opinion 1/2008, it is clearer that the term of commercial aspects of IP is meant to cover all fields to which the TRIPS Agreement applies.[44] Still, Article 207 TFEU, even after the Lisbon Treaty does not offer a definition of the term commercial aspects of IP. Nevertheless, it is widely suggested that the term should be interpreted by reference to the WTO and the TRIPS Agreement.[45] Similar to the term "trade in services", "commercial aspects of IP" should not be limited to any internal market definitions, but it should reflect the scope of IP protection expressed in the WTO Agreements.[46] Besides, the term "commercial aspects of IP" is dynamic, as it confers competence not only in the areas that were covered by the TRIPS as it stood at the time of its conclusion, but also to future developments.[47] The Lisbon Treaty did away Article 133(7) TEC, which granted the possibility to the Council to extend the scope of paragraphs

43. On the impact of the Lisbon Treaty on the scope of the Commercial Policy see A. Dimopoulos, 'The Common Commercial Policy after Lisbon: Establishing parallelism between internal and external economic policy' (2008) 4 *Croatian Yearbook of European Law and Policy* 102; M. Krajewski, 'The Reform of the Common Commercial Policy' in A. Biondi, P. Eeckhout & T. Ripley (eds) *European Union Law after the Treaty of Lisbon* (OUP, 2012).

44. Opinion 1/2008 [2009] ECR I-11129.

45. Cremona, see above note 28, at 683-684.

46. Opinion 1/2008, para. 119.

47. On the debate concerning the static or dynamic interpretation of the term in the pre-Lisbon context see indicatively C. Hermann, 'Common Commercial Policy after Nice: Sisyphus would have done a better job', (2002) 39 *CMLR* 7, at 18-19; H.G. Krenzler and C. Pitschas,

1-4 of Article 133 EC Treaty to the negotiation and conclusion of international agreements on IP in general. Therefore, in order to safeguard that the EU can conclude any future agreement on IP under the WTO or another international framework, a dynamic interpretation of commercial aspects of IP should be adopted.

The extensive scope of EU competence over all aspects of IP, including patent protection, is not affected by the fact that the EU has not legislated yet in that specific field apart from limited sectoral interventions.[48] Article 207(6) TFEU preserves the powers of Member States in fields excluded entirely from Union interference or from harmonisation by means of EU secondary legislation.[49] This provision precludes the Union from taking action in relation to third countries in fields where its competence in the internal market is limited, thus preserving the competences of Member States insofar as they have retained the power to regulate a specific issue in the internal market. However, this does not mean that the lack of exercise of Union internal competences poses a limitation on the existence or the exercise of external competence, even at the procedural level.[50] Considering that harmonisation in the field of patent protection is now explicitly allowed under the Treaty, the lack of common rules on patents does not present an impediment for the determination of EU external competence.

The most important novelty of the Lisbon Treaty with regard to IP is that it provides explicitly for the exclusive character of Union competence in the field. In contrast with the Nice Treaty which distinguished between trade in goods and trade in services and commercial aspects of IP, the Lisbon Treaty assimilates all fields of the Common Commercial Policy, in the sense that they all fall under EU *a priori* exclusive competence. More specifically, Article 3(1)e TFEU clearly stipulates that the CCP falls under the exclusive competence of the Union, while Article 2(1) TFEU integrates the principle that express powers are of *a priori* exclusive nature.[51]

'Progress or Stagnation? The Common Commercial Policy After Nice', (2001) 6 *EFA Rev.* 291, at 302.

48. See above note 6.

49. Article 207(6) TFEU provides that "the exercise of the competences conferred by this Article in the field of the common commercial policy shall not affect the delimitation of competences between the Union and the Member States, and shall not lead to harmonisation of legislative or regulatory provisions of the Member States insofar as the Treaties exclude such harmonisation".

50. W. Shan and S. Zhang, 'The Treaty of Lisbon: Half Way toward a Common Investment Policy' (2010) 21 EJIL 1049, 1064-1065.

51. Article 207 TFEU does not distinguish between the different fields of the Common Commercial Policy in terms of the nature of competence, nor does Article 3 TFEU limit its scope

As a result, the simplification and exclusive nature of EU competence over commercial aspects of IP presents a major step towards a uniform external representation in matters of IP law. A basic objective of the reform of the Common Commercial Policy was to grant competence to the Union to participate in the WTO and negotiate future amendments to WTO Agreements. Consequently, there is no doubt that that the entire scope of the TRIPS Agreement, as well as any future agreement on IP protection falls now under EU exclusive competence.

3.2. The impact of exclusivity on the legal effects of the TRIPS Agreement

The establishment of exclusive competence does not automatically mean that the EU can decide on the legal effects of the patent provisions of the TRIPS Agreement. The TRIPS Agreement remains an international agreement that was concluded as a mixed agreement, hence binding both the EU and its Member States internationally. More importantly, the impact of exclusive external competence under the Common Commercial Policy should not be broadly interpreted as affecting the exercise of Member State internal concurrent powers in the field of IP protection.[52] Even though the EU can adopt international agreements on a specific subject matter, this does not signify that the EU obtains exclusive powers to regulate in this field in the internal market, as exclusivity under the Common Commercial Policy is relevant only for relations with third countries.

Nevertheless, the existence of exclusive external competence brings the TRIPS Agreement, including its patent provisions, within the scope of Union law, and requires the EU to determine its legal effects. The determination of the legal effects of mixed agreement depends on whether their provisions fall within the scope of EU law. Turning now to the determination of the scope of EU law, the Court has repeatedly emphasised that the provisions of a mixed agreement, which cover an area that is covered "in large measure" by EU legislation, fall within the scope of Union law.[53] However, the discussion concerning the level

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to trade in goods. Besides, Article 207 TFEU does away with Article 133(5)(4) EC Treaty, which retained the right of the Member States to maintain and conclude agreements with third countries. See also J. Ceyssens, 'Towards a Common Foreign Investment Policy? – Foreign Investment in the European Constitution', (2005) 32 LIEI 259, at 286-287.

52. M. Cremona, 'A Constitutional Basis for Effective External Action? An assessment of the provisions on EU External Action in the Constitutional Treaty', EUI Working Paper 2006/30, at 32.

53. *Commission v. France (Etang de Berre)*, see above note 23, paras. 29-30; Merck Genericos, see above note 8, para 33; Case C-459/03, *Commission v. Ireland (Sellafield)* (2006) ECR I-4635, paras. 99-106.

of legislative activity that is of 'sufficient importance' to bring a provision of a mixed agreement within the scope of EU law is only important for provisions falling under shared competence.

Areas of EU exclusive competence fall within the scope of Union law, irrespective of whether the Union has legislated in this field.[54] The determination of the scope of Union law, and subsequently of the legal effects of a provision found in a mixed agreement, arises within the context of the obligation of Member States and Union institutions to perform mixed agreements under Article 216(2) TFEU.[55] Hence, given that the implementation of a mixed agreement follows the division of powers between the EU and the Member States, Member States have an obligation to perform the parts of a mixed agreement falling under EU exclusive competence. Member States shall not jeopardise the fulfilment of EU international obligations, and hence they are pre-empted from taking any action in a field of exclusive competence, irrespective of whether the EU has exercised its competence or whether national legislation actually conflicts with EU rules.[56]

Moreover, the fact that EU competence has become exclusive after the entry into force of the TRIPS Agreement does not negate the impact of exclusive competence on the determination of the legal effects of the TRIPS in the future. The fact that the TRIPS Agreement was concluded as a mixed agreement, binding on both the Member States and the EU, is still relevant for determining its international law effects, and more importantly the EU and Member State international responsibility.[57] Without prejudice to the international responsibility of Member States for violations of the TRIPS Agreements under the WTO, Articles 216(2) TFEU and 4(3) TEU create only internal, EU legal effects. [58] Hence, Member

54. Eeckhout, see above, note 14, at 285-286.

55. *Commission v. France (Etang de Berre)*, see above note 23; *Commission v. Ireland*, see above note 57, paras. 16, 18, 19.

56. R. Schütze, 'Supremacy Without Pre-Emption? The Very Slowly Emergent Doctrine of Community Pre-Emption' (2006) 43 *CMLR* 1023, at 1037-1038. Cremona, see above note 32, at 129.

57. On EU and Member State international responsibility for WTO law violations see indicatively P. Eeckhout, 'The EU and its Member States in the WTO- Issues of Responsibility' in L. Bartels & F. Ortino (eds), *Regional Trade Agreements and the WTO System* (OUP, 2006); F. Hoffmeister, 'Litigating against the European Union and Its Member States – Who Responds under the ILC's Draft Articles on International Responsibility of International Organizations?' in (2010) 21 EJIL 723.

58. Koutrakos, see above, note 25, p. 185; P. Kuijper & E. Paasivirta, 'Further Exploring International Responsibility: The European Community and the ILC's project on responsibility of international organizations', (2004) 1 *International Organizations Law Review* 111, at 134.

States incur Union law obligations as regards the fields of mixed agreements that fall under EU exclusive competence, which are dependent on the time EU competence becomes exclusive, rather than the time when an agreement was concluded.

Consequently, EU exclusive competence over the TRIPS Agreement means that the Court of Justice can no longer offer any discretion to Member States to determine the legal effects of the patent provisions of the TRIPS Agreement. The jurisprudence, which the Court developed in *Dior* and *Merck*, cannot be applied any longer in the field of the TRIPS Agreement, although it remains relevant for determining the legal effects of mixed agreements in other fields of shared competence. Hence, the Court of Justice has to decide whether the patent provisions of the TRIPS Agreement have direct effect, and, more importantly, how national laws have to be interpreted in order to secure their consistent interpretation with the TRIPS Agreement.

3.3. Determining the legal effects of the TRIPS patent provisions: The Daiichi Sankyo case

The re-determination of the legal effects of the patent provisions of the TRIPS Agreement does not only have doctrinal significance, but has significant practical implications. It presents a topical and pragmatic question, which can have wide consequences for the resolution of patent disputes in the future. In that respect, the *Daiichi Sankyo* case[59] presents a unique opportunity for the Court to clarify its jurisdiction over the TRIPS patent provisions and determine their specific legal effects.

In this case, the claimant Daiichi Sankyo Company Limited holds since 1986 a Greek national patent for a chemical compound that constitutes a new invention and is protected by a supplementary protection certificate for pharmaceutical patents, issued by the Greek Intellectual Property Organization (IPO) in 2006. However, under Greek patent law the European patents that protected pharmaceuticals and were issued based on applications filed before 7.10.1992 were considered void in Greece and for the same period patents were granted in Greece only for the method of production of pharmaceuticals and not for pharmaceuticals as such. [60] In particular, when Greece acceded to the EPC, it made

59. See above, note 9.

60. Article 167, para 2(a) (OJ EPO 1986, 200), provides that "European patents, in so far as they confer protection on chemical, pharmaceutical or food products, as such, shall, in accordance with the provisions applicable to national patents, be ineffective or revocable; this reservation shall not affect protection conferred by the patent in so far as it involves a process of manufacture or use of a chemical product or a process of manufacture of a pharma-

the reservation provided for in Article 167 (2)(a) according to which European patents are granted only for the method of production and not for pharmaceutical products as such.

The defendant, DEMO AVEEF, obtained a marketing authorisation from the Greek National Organisation of Pharmaceuticals to place in the Greek market a medicine that contains quantitatively and qualitatively the same active ingredients as Daiichi's patented chemical compound. DEMO AVEEF argued that placing its medicine in the Greek market does not infringe the claimant's patent and supplementary protection certificate, because their patent was issued in 1986 and, hence, according to Greek patent law at the time, it protects only the method of production of the pharmaceutical and not the product as such. However, the claimant argues that such an interpretation of national patent law would be in breach of the prohibition of discriminatory treatment of patent rights as regards fields of technology of Article 27(1) TRIPS, according to which "patents shall be available for any inventions, whether products or processes, in all fields of technology".

Within this context, the national court had to identify the scope of protection offered to pharmaceutical patents granted in Greece before 7.10.1992, the duration of which is stretching after the expiry of the reservation provided for in Article 167(2)(a) EPC. In other words, in cases where the patent was filed to protect the invention of a pharmaceutical, however because of the time of the filing of the application, it protected only the process of manufacture of the pharmaceutical, the question arises whether after the adoption of TRIPS, the patent also protects the pharmaceutical product as such, or whether it still protects only the process of manufacture of the pharmaceutical.

The national court referred the case to the Court of Justice, asking explicitly from the CJEU to identify the legal effects of the patent provisions of the TRIPS Agreement. In its first question, the national court asks if Member States can *still* decide according to national law whether Article 27 TRIPS has direct effect and how it should be interpreted.[61] Hence, the Court of Justice has the opportunity to declare that *Merck Genericos*[62] is not good law for determining the legal effects of

ceutical or food product". This reservation ceased to have effect after 7 October 1992 (OJ EPO 1992, 301).

61. "Does Article 27 of the TRIPS Agreement setting out the framework for patent protection fall within a field for which the Member States continue to have primary competence and, if so, can the Member States themselves accord direct effect to that provision, and can the national court apply it directly subject to the requirements laid down by national law?".

62. See above, note 8.

Article 27 TRIPS and, as a matter of fact, any other TRIPS provision as well as of the provisions of the Paris Convention incorporated by reference into TRIPs.[63]

By establishing its jurisdiction to decide upon the legal effects of Article 27 TRIPS, the Court will have to answer firstly whether this provision can have direct effect in the Union legal order. Bearing in mind the long-standing case law of the Court of Justice on the direct effect of WTO norms, including TRIPS provisions,[64] it is highly unlikely that the Court reverses its previous jurisprudence and declares Article 27 TRIPS directly applicable. Nevertheless, similar to *Hermes*, *Dior* and the rest of the trademark cases based on the TRIPS,[65] the Court can decide how national law can be interpreted consistently with the TRIPS Agreement.

The importance of the principle of consistent interpretation and the broad powers it confers to the Court in matters of patent law is clearly illustrated by the second question asked by the national court in *Daiichi Sankyo*. More specifically, the national court asks the CJEU to determine the temporal scope of patent protection under the TRIPS Agreement and to identify what is the extent and content of that protection.[66] Hence, if the Court exercises its jurisdiction, and in particular if it answers the second sub-question, it will interpret one of the core provisions of patent law, concerning patentability and the prohibition of discriminatory treatment of patent rights as regards fields of technology. As a result, by exercis-

63. Article 2(1) TRIPs incorporates articles 1-12 and 19 of the Paris Convention for the protection of industrial property. However, the Paris Convention did not set a harmonised supranational set of norms and principles. With the exception of compulsory licensing requirements, it was restricted to basic principles for securing readier access to the patent systems maintained by different contracting parties (principle of national treatment, principle of priority and principle of independence).

64. See above, notes 15 and 16.

65. See above, note 33.

66. "Under Articles 27 and 70 of the TRIPS Agreement, do patents covered by the reservation in Article 167(2) of the 1973 Munich Convention which were granted before 7 February 1992, that is to say, before the above agreement entered into force, and concerned the invention of pharmaceutical products, but which, because of the aforementioned reservation, were granted solely to protect their production process, fall within the protection for all patents pursuant to the provisions of the TRIPS Agreement and, if so, what is the extent and content of that protection, that is to say, have the pharmaceutical products themselves also been protected since the above agreement entered into force or does protection continue to apply to their production process only or must a distinction be made based on the content of the application for grant of a patent, that is to say, as to whether, by describing the invention and the relevant claims, protection was sought at the outset for the product or the production process or both?"

ing its jurisdiction and offering a uniform interpretation of the patent provisions of the TRIPS Agreement, which it is obliged to do according to the principle of consistent interpretation, the Court of Justice can become a new actor influencing the scope of substantive patent protection in the EU.

4. The implications of a CJEU interpretative jurisdiction over TRIPS on the development of EU patent rules

4.1. The lack of harmonisation of EU patent law

Considering the existence of EU patent law, the CJEU observed in *Merck Genericos* that 'as [Union] law now stands, there is none'.[67] Nevertheless, this does not signify that there are no uniform rules on patents in the EU. All 27 Member States have acceded to the EPC, which established the European Patent Organisation (EPO) and a system of law for granting patents for inventions.[68] Thus, national laws of EU Member States are *de facto* harmonised in the field of patentability and validity but only as regards the grant of patents.[69] Issues of validity and infringement[70] after the patent grant are matters for national law and national courts. So, any national court can declare European patents invalid or having been infringed, but national judgments are valid only in the territory of the country where the court sits.

But even in the fields covered by the EPC, uniformity is not always present. In many instances the EPO, its Board of Appeal and national authorities interpret the EPC and their implementing national patent law in diverging ways.[71] Al-

67. *Merck Genericos*, see above note 8, para. 40.

68. According to article 1 EPC "The EPO grants patents by a centralised procedure with uniform conditions, but once granted the patents become national and subject to the divergent national laws of EPO-Member States".

69. Articles 52-57 EPC.

70. Such issues are the determination of acts which constitute infringement, the effect of prosecution history on interpretation of the claims, remedies and infringement or bad faith enforcement, equitable defences, the coexistence of a European patent and a national patent for identical subject-matter, ownership and assignment, extension to patent term for regulatory approval. See V. Rodriguez, 'From National to Supranational Enforcement in the European Patent System' (2012) 34 *E.I.P.R.* 402.

71. The implications of such inconsistent interpretation have been apparent for more than two decades, when in the *Epilady* cases courts of five members states found that the patent was infringed and courts in four other Member States ruled otherwise. *Improver Copr. et al. v Raymond Industries Ltd, et. al.* (1990). IIC, 21, 561-571, 572-580; 582-585;586-589;589-591; 857-859; 860-868 (1992) IIC 23 391-394; 394-397; (1993) IIC, 24, 388-390; 803-804; 832-838; 838-845. For a discussion of these cases see H. Marshall, 'The Epilady Case and Is-

though national courts are forced into a legal comparative interpretation by taking each other's case law into practical consideration,[72] many national authorities remain hesitant to analyse each other's decisions and pursue a uniform interpretation, thus leading to contradictory outcomes and fragmentation.[73] In other cases, it is the differences in legal traditions and policy choices that lead to different results, despite acknowledgement of foreign contradicting decisions.[74] Finally, practicalities such as different evidence, experts or legal argumentation used in different jurisdictions may lead to contradictory decisions.[75]

The lack of uniform interpretation of patent law and the absence of a common European litigation scheme to deal with infringement and validity of patents

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sues at Stake', Enforcement of Intellectual Property Rights and Patent Litigation, EPO, script vol. 6, Munich, 2002, at 368-428. For a review of the different approaches between the EPO and national authorities see A. Howes, 'Disaster Pending? EPO v English Court of Appeal on Excluded Subject Matter', (2008) 08/07 WIPR, at 25-26.

72. For example, in the UK section 130(7) 1977 UK Patent Act (as amended) instructs judges in the UK to construe certain provisions "as nearly as practicable [to have] the same effects in the United Kingdom as the corresponding provisions of the European Patent Convention, the Community Patent Convention and the Patent Co-operation Treaty have in the territories to which those Conventions apply". In Germany, the German Federal Supreme Court held in *Walzenformgebungsmaschine (*BGH, Xa ZB 10/09, 15/04/2010), that German courts are required to consider decisions of the EPO and other national courts and where appropriate address the reasons leading to a diverging result in the earlier decisions.

73. See *Novartis AG and Cibavision AG v. Johnson & Johnson Medical Ltd and other* (2009/2010) (courts in France and the Netherlands found the patent valid, whereas courts in the UK and Germany found otherwise). In *Document Security System v. European Central Bank*, the patent was upheld in Germany, the Netherlands and Spain, while was invalidated in the United Kingdom([2008] EWCA Civ 192 [19 March 2008]), Austria, Belgium and France (Court of Appeal, Paris, France, 17 March 2010, Case No. 08/09140). In *Angiotech Pharmaceuticals v. Conor Medisystems, Inc.* the Dutch court invalidated the patent, (2007/101 BIE), whereas the UK House of Lords found otherwise ([2008] UKHL 49). In *Muller v. Hilti* the German courts decided that the European patent was not infringed, whereas the Swiss and French courts decided otherwise. See also Rodriguez, above note 70, at 403-404; S. Luginbuehl, *European Patent Law; Towards A Uniform Interpretation,* (Edward Elgar, 2011) at 3-6.

74. See the debate concerning the exclusion from patentability of computer programs 'as such' *Aerotel Ltd.* v. *Telco Holdings Ltd. and Macrossan's Application* (2006) EWCA Civ 1371; T0154/04 Duns Licensing Associates/Method of estimating product distribution (15 November 2006).

75. For example Lord Justice Jacob stated that "Coherence of the EPS requires that as far as possible different courts should try to follow each other […] Of course, this is not so if the cases turn on different points (e.g. different prior art) or different evidence", *Unlin Beheer BV b Berry Floor NV,* (2007) EWCA Civ 364; (2007) Bus. L. R. 1140 at 36.

has significant undesirable implications. Patentees and their competitors end up litigating the same case in several jurisdictions, under different procedural and evidentiary rules with uncertain timing of outcomes. This is not only costly for rightholders, even to a prohibitive extent for medium sized enterprises, but also for Member States, as multiple proceedings and conflicting decisions can arise. The inconsistencies regarding the interpretation of harmonised patent law and the differences among the national patent litigation systems lead to forum shopping, with the injustices that this may bring, and, more importantly, create legal uncertainty within the internal market, thus influencing business decisions relating to licensing, investments, production and marketing of patented products.

4.2. The prospects for a EU Patent with Unitary Effect and a Unified Patent Court

Given the economic significance of patents and the problems that arise from the current regime, it is not surprising that an EU patent system has been debated since the 1960s.[76] What is surprising is that all the proposed plans have foundered due to disagreements over translations and jurisdictional arrangements.[77] Of course, the lack of success in patent harmonisation may also be attributed to

76. In 1959 Hans vor der Groeben proposed to create a common system of patent law of the European Economic Community. Since then, many legislative initiatives have taken place: 1975 Convention for the European Patent for the Common Market (i.e. Community Patent Convention); Protocol on the Settlement of Litigation Concerning the Infringement and Validity of Community Patent, OJ 1989, L 401/34; Green Paper of 24 June 1997, "Promoting Innovation Trough Patents – Green Paper on the Community Patent and the Patent System in Europe", COM(1997) 314 final; Communication from the Commission of 5 February 1999, "Promoting Innovation Trough Patents – Follow-up to Green Paper on the Community Patent and the Patent System in Europe", COM(1999) 42 final; Proposal of 1 August 2000 for a Council Regulation on the Community Patent, COM(2000) 412 final, OJ 2000, C 337/278; Council doc. No.16133/09 Add. 1 of 27 November 2009, Proposal for a Council Regulation on the Community Patent – General Approach.

77. Indicatively see the comments of the Max Planck Institute for Intellectual Property, Competition and Tax Law on the 2009 Commission Proposal for the Establishment of a Unified Patent Judiciary, 40 *IIC* 81 (2009). O. Bossung,'Rückführung des europäischen Patentrechts in die Europäische Union" (1995) *GRUR Int.* 923; O. Bossung, "Unionspatent statt Gemeinschaftspatent - Entwicklung des europäischen Patents zu einem Patent der Europäischen Union", (2002) *GRUR Int.* 463; T. Jaeger, 'The EU Patent: Cui Bono et Quo Vadit?, (2010) 47 *CMLR* 63; H. Ullrich, 'National European and Community Patent Protection: Time for Reconsideration" in A. Ohly & D. Klippel (eds.) *Geistiges Eigentum und Gemeinfreiheit* (Mohr Siebeck, 2007), at 61; H. Ullrich, 'Patent Protection in Europe: Integrating Europe into the Community or the Community into Europe', (2002) 8 *Eur. L. J.* 433.

the success of the EPO in terms of sheer numbers of patent applications filed.[78] Nonetheless, as indicated above, a Union patent system which could deliver lower costs, legal uniformity, certainty, efficiency and elimination of forum-shopping is needed.

Currently renewed efforts have been made to establish a European Patent with Unitary Effect (EPUE) [79] and a single system for patent litigation as well as a Unified Patent Court.[80] Without engaging into a detailed analysis of the proposed system, which takes the form of enhanced cooperation in 25 out of 27 Member States, it is worth pointing out that in its current form the proposal does not guarantee the establishment of truly uniform rules.[81]

Firstly, important substantive issues are left outside of the scope of the proposed Unified Patent Protection. [82] The proposed Uniform Patent Protection Regulation (proposed UPP Regulation)[83] contains substantive rules on the unitary effect of

78. Only in 2011 there were 244,447 applications and 62,112 patents granted. EPO Annual Report 2011, available at http://www.epo.org/about-us/office/annual-report/2011/statistics-trends.html. Last access June 10, 2013.

79. Proposal for a Regulation of the European Parliament and the Council implementing enhanced cooperation in the area of the creation of unitary patent protection of 13 April 2011, COM (2011) 215 final, as revised by "Presidency compromise text", Council, Doc. 11831/11 (Presse 184, PR CO 45).

80. Draft agreement on a Unified Patent Court and draft Statute - Revised Presidency text, Document no 16741/11, Council of the European Union, Brussels, 11 November 2011, available at: http://register.consilium.europa.eu/pdf/en/11/st16/st16741.en11.pdf. Draft Agreement on the Creation of a Unified Patent Court – Guidance for future work, Doc. 17539/11 of 24 November 2011 (Henceforth Draft UPC Agreement).

81. For a description and critic of the processes that led to this initiative see T. Jaeger, 'All back to square one? An Assessment of the latest proposals for a patent and court for the internal market and possible alternatives', (2012) 43*IIC* (forthcoming); M. Lamping, 'Enhanced Cooperation – a proper approach to market integration in the field of unitary patent protection?'"(2011) 42 *IIC* 879, Luginbuehl, see above note 72, at 185-192.

82. For an elaborate analysis see H. Ullrich, 'Harmonizing Patent Law: The Untamable Union Patent', in M. Chr. Jannsens & G. Van Overwalle (eds.), *Harmonization of European IP Law. From European Rules to Belgian Law and Practice* (Bruylant, 2012).

83. Proposal for a Regulation implementing enhanced co-operation in the area of the creation of unitary patent protection of 13 April 2011, COM(2011) 215 final, as revised by a "Presidency compromise text" of 23 June 2011, see Council Doc. 11328/11 as agreed upon on 27 June 2011, see Council, Doc. 11831/11 (Presse 184, PR CO 45) (henceforth Proposed UPP Regulation).

the patent,[84] the definition of infringing acts,[85] the limitation to protection[86] and the principle of exhaustion.[87] However, it does not address the issues of prior user rights, or the unitary patent as an object of property (assignments, voluntary licenses)[88] as well as compulsory licenses and government use.[89] Different prior user rights under national law are important for process inventions and for balancing the patent system,[90] whereas 25 national laws determining the requirements for assignments and licenses, the effects on existing licenses, the admissibility of restricted licenses and the legal quality of such restrictions could impose a substantive burden on trade and competition.[91] Moreover, it would be practically impossible to obtain compulsory licenses covering the territory of enhanced cooperation, given that interested market actors would have to go through different national systems. Besides, any compulsory license granted under national law could be at odds with the proposed UPP regulation, since compulsory licenses affect the very essence of IP rights.

Secondly, in parallel to the EPUE, for which infringement, limitations and its exhaustion will be harmonised under the current scheme, there will be three other types of patents within the Union. These are the national patents, the "old" European patents granted by the EPO, for which the parties wish to keep a bundle of national patents,[92] and the European patents granted by the EPO, which do not have a unitary effect. The latter patents will consist of territorially fragmented national rights, which are harmonised as to the conditions of their grant, the substance and the scope of exclusivity they confer upon their owner.[93]

Thirdly, with Spain and Italy not participating in the enforced co-operation, the European Union is partitioned in three territories. Two Member States are ex-

84. Article 3, Proposed UPP Regulation.

85. Articles 6 and 7, Proposed UPP Regulation.

86. Article 8, Proposed UPP Regulation.

87. Article 9, Proposed UPP Regulation.

88. Article 10, Proposed UPP Regulation.

89. Recital 9a, Proposed UPP Regulation.

90. Different prior user rights contribute to lowering the social costs of the grant of an absolute exclusivity, whose purpose (i.e the stimulation of innovation) has already been accomplished by the prior user. See Ullrich, above note 82, fn. 111.

91. Ullrich, see above note 82, at 36-37.

92. See Article 58 (3) Draft UPC Agreement, which establishes an opt out route for European patents existing at the time of the entry into force of the Agreement.

93. Article 14f-14i Draft UPC Agreement subjects patents granted by the EPO to a uniform law of patent infringement.

cluded from the development of patent policy, thus not comprising the internal market as such. It only shifts the national borders and thus the effects of territorial segmentation remain. Although enhanced cooperation has been achieved in the past in other fields of EU law, the internal market has always been a field where legislative initiatives applied to the entire territory of the EU. Next to the issues of legality concerning the procedure of enhanced cooperation,[94] the lack of enhanced cooperation in the internal market can be explained by the fact that it creates an additional threat for economic, social and territorial cohesion in the internal market, it constitutes a barrier to or amount to discrimination in trade between Member States and may distort competition.

As a result, the proposals regarding the EPUE and the UPP are not able to achieve complete harmonisation in the field of patent law, at least it their current form. Besides, given the technical and political complexities surrounding this field, it is still unclear if and when legislation will actually be approved.[95]

4.3. The role of the CJEU in the harmonisation of patent law in the EU

The interpretative jurisdiction of the CJEU over the TRIPS agreement plays a crucial role for filling in the gaps that the creation of the EPUE introduces and ensuring common standards for different types of patent rights in the EU. While the political issues surrounding the establishment of a unified patent court are being debated, the TRIPS agreement and Article 207 TFEU provide the CJEU with the opportunity to establish uniform rules on patent protection in the EU. Although it cannot contribute to the reduction of litigation costs, at least initially, the CJEU's jurisdiction over TRIPS provisions can promote legal certainty, and the establishment of uniform and comprehensive patent protection in the EU that would be attractive to the industry and conducive to technological progress.

94. Lamping, see above note 81, at 884; Jaeger, see above note 81, at 4-6.

95. Supposedly, the only remaining obstacle is the decision of the seat of the Unified Patent Court (http://www.europarl.europa.eu/pdfs/news/expert/infopress/20111219IPR34540/20111219IPR34540_en.pdf) last access June 10, 2013. However, it appears that there are further open political matters (See indicatively the discussions at the UK House of Commons European Scrutiny Committee, available at http://www.publications.parliament.uk/pa/cm201012/cmselect/cmeuleg/uc1799ii/uc1799ii.htm last access June 10, 2013. Confideration of Swedish Enterprise Letter to Sweden's Prime Minister, 11 June 2012, available at https://docs.google.com/file/d/0B_U9nV8-MjxrSFBiemZmdEp1MkE/edit?pli=1 last access June 10, 2013). The 3169th meeting of the Council of the EU in Competitiveness configuration (Internal Market, Industry, Research and Space) held in Brussels on 31 May/1 June 2012 failed to end the process of drafting and implementing a unified European patent infrastructure. The final result was that the decision on the seat of the central division of the EU Unified Patent Court is said to be taken by the European Council at its meeting on June 28 and 29, 2012.

Indeed, the TRIPS Agreement standardises substantive patent law and procedures for its enforcement. It has been argued that "the result [for the patents provisions of the TRIPS Agreement] is impressive, in that the scope and coverage of the section are comprehensive, and makes TRIPS the most important multilateral statement in this field".[96] The TRIPS Agreement defines patents, albeit indirectly, it introduces a non-discrimination principle and sets a general restriction to the general principle of eligibility to be patented, as well as more "focused" exceptions.[97] Article 29 introduces the "person skilled in the art" test for the satisfaction of the disclosure requirement. More importantly, the agreement also delineates the rights conferred to product patents and process patents[98] and introduces a general exception[99] and a list of specific exceptions (compulsory licences)[100] to the exclusive rights of patent owners. It also provides a relative freedom to transfer or assign patent rights,[101] it requires that any decision to revoke or forfeit a patent must be subject to judicial review[102] and sets the minimum term of protection.[103]

Of course, the TRIPS Agreement is a minimum standards agreement that aims at harmonising the national laws of the WTO Members, yet without establishing uniform rules.[104] It has left many legal concepts undefined, which naturally leaves gaps to be filled by national legislation. Article 27(1), for example, states that "[p]atents shall be available for any inventions, whether products or processes, in all fields of technology, provided they are new, involve an inventive step and are capable of industrial application", without defining "novelty", or what constitutes an "invention". In that respect, WTO Members have latitude in determining the appropriate method of implementation, within TRIPS parameters.

Despite the broad flexibilities and minimum standards approach taken in the TRIPS agreement, it can contribute significantly to patent harmonization in the EU. First, although the TRIPS agreement is very broad as regards the subject mat-

96. D. Gervais, *The TRIPS Agreement, Drafting History and Analysis*, (Sweet & Maxwell, 2010), at 336-337.

97. Article 29, TRIPS.

98. Article 28, TRIPS. Article 38 TRIPS is also designed to allow the enforcement of process patents, or a process claim in a patent covering both a product and a process, in cases where direct evidence of the use of the patented process is not available.

99. Article 30, TRIPS.

100. Article 31, TRIPS.

101. Article 28, TRIPS.

102. Article 32, TRIPS.

103. Article 33, TRIPS.

104. Article 1(1), TRIPS.

ter of patent protection, it contains specific rules on prior users' rights and exceptions, including in particular compulsory licenses, which are subject matters left outside the scope of the UPP Regulation. As Article 1 TRIPS requires that WTO members "give effect" to its provisions, which signifies that a WTO member should take all reasonable measures to ensure consistency between domestic law and the agreement,[105] the CJEU can use its interpretative jurisdiction to establish common minimum rules with regard to the subject matters that were left outside the scope of harmonization in the context of the EPUE.

Secondly and more importantly, the jurisdiction of the CJEU to interpret TRIPS provisions uniformly across the EU can contribute to minimum harmonisation of different types of patent rights. More specifically, the Court's interpretative jurisdiction can result in the establishment of minimum, uniform standards of protection for EPUEs, national patents, as well as European patents granted by the EPO without unitary effects. As the Court held in *Hermes* and *Dior*, "where a provision can apply both to situations falling within the scope of national law and to situations falling within the scope of [Union] law, it is clearly in the [Union] interest that, in order to forestall future differences of interpretation, that provision should be interpreted uniformly, whatever the circumstances in which it is to apply."[106] Considering that the UPP Regulation will be part of Union law, the Court of Justice can employ the TRIPS agreement in order to determine the standards of protection under national and EPO-granted patents by reference to the standards of protection of EPUEs, so as to ensure uniform implementation of the TRIPS agreement in the EU.

In addition, the CJEU can mitigate the danger that arises from the existence of parallel adjudication regimes for patent protection. The establishment of the Unified Patent Court with jurisdiction over EPUEs, but not over the infringement of national or EPO-granted patents without unitary effect[107] may actually result in competition among jurisdictions. The Unified Patent Court and national courts will be aware that in reaction to their rulings, parties may switch to the patent system "run" by the court giving the more "desirable" rulings.[108] At a first glance such judicial competition cannot be remedied by the CJEU, as it will hold competence over matters related to the EPUEs,[109] but cannot review national laws on patent infringement given the lack of harmonising secondary legislation. Never-

105. Gervais, see above note 96, at 163.

106. See above, note 29.

107. Articles 3 and 15 Draft UPC Agreement.

108. Ullrich, see above, note 82.

109. Article 14b Draft UPC Agreement.

theless, by allowing the CJEU to determine whether national courts abide by the TRIPS when they adjudicate patent infringement cases, the CJEU can act as the single, ultimate judicial authority in the EU, ensuring coherence and consistency in the interpretation of the different regimes of patent infringement rules.

Consequently, the CJEU's interpretative jurisdiction over the TRIPS can constitute a significant tool in the process of establishing a complete and uniform framework for patent protection in the EU. Despite the minimum standards approach of the TRIPS agreement, the CJEU can use its interpretative jurisdiction in order to fill in the gaps that the recent initiatives left open and ensure coherence and consistency in the application of the different regimes of patent protection in the EU.

5. Conclusions

The road towards uniform patent protection in the EU is filled with traps. In the past two decades EU institutions and Member States have been unable to present a simple, efficient and appropriate legal framework providing sufficient and effective patent protection in the EU. The recent initiatives for the establishment of EPUEs and a Unified Patent Court merely reflect and multiply the legal complexities concerning patent protection in the EU.

In that respect, the first trap lies in the determination of the actors and sources of law relevant for patent protection in the EU. In addition to the existing (and proposed) layers of patent protection, it is necessary to consider the CJEU's interpretative jurisdiction over the patent provisions of the TRIPS agreement. The establishment of EU exclusive competence over commercial aspects of IP under Article 207 TFEU brings the TRIPS agreement within the scope of Union law, irrespective of the existence of secondary Union rules on patent protection. As a result, the Court of Justice can no longer offer any discretion to Member States to determine the legal effects of the patent provisions of the TRIPS Agreement, and its jurisprudence under *Dior*[110] and *Merck*[111] cannot be applied any longer in the field of the TRIPS Agreement. In that respect, the CJEU acquires significant powers to determine whether national (and in the future Union) patent rules are to be interpreted consistently with the TRIPS.

The second trap lies in the proper identification of the impact of the CJEU's interpretative jurisdiction over TRIPS on patent law harmonisation. On the one hand, it would be at least naïve to consider that the creation of the EPUE and the Unified Patent Court result in uniform patent protection in the EU, thus rendering

110. See above, note 29.

111. See above, note 8.

the CJEU's interpretative jurisdiction over TRIPS obsolete. Even if the new patent protection and litigation system is successful, the existence of multi-layered and multi-jurisdictional patent protection can result in inconsistencies and fragmentation, which the CJEU can remedy via the use of its interpretative jurisdiction overt the TRIPS. On the other hand, the power to interpret the TRIPS is not a panacea. It does not result in the establishment of uniform substantive rules, as the TRIPS is a minimum standards agreement, while its success depends on the number and subject matter of the actual cases that will reach its jurisdiction under the preliminary reference procedure.

Recognising the constitutional function of the CJEU within the EU legal order, the CJEU's interpretative jurisdiction overt the TRIPS rather presents a valuable tool in ensuring coherence and consistency in the application of the different regimes of patent protection in the EU.

Rethinking gene patents

Richard Spinello and Sarah Cabral

1. Introduction

The dispute over gene patents has intensified in recent years thanks to several prominent legal cases and an anticipation that genomics will soon deliver on its promises of new drugs and therapies. We propose to analyze this debate primarily from a moral perspective. We also consider the policy perspective and in particular the suitability of international intervention. Are the stakes high enough to warrant adjustment to the international intellectual property trade agreement knows as TRIPS in order to prevent further patenting of the human genome? We maintain that while gene patents are legally and morally suspect, such multilateral intervention would be inadvisable. The complexities of this issue cannot be sorted out without understanding something about human genomics, and so we begin with this topic.

Cells are the basic units of all living organisms. Within cells are the nuclei or life force of the cells. DNA and RNA are the nucleic acids found in an organism's cells, and DNA is the molecule that stores genetic material. There is about six feet of DNA within the nucleus of every cell. DNA is composed of genes, which are really "stretches" or strains of that DNA. Genes are organized into chromosomes and it is through chromosomes that genetic information is transmitted. A human's chromosomes contain approximately 30,000 genes, and this complete set of genes is known as the human genome (Klug and Cummins, 1996). These genes contain the biological information necessary for making certain proteins. In effect, each gene is analogous to a sentence with a four-letter alphabet, A,T, C, and G (representing the nucleotide bases that form the genes: adenine, thymine, cytocine, guanine) which combine in pairs to communicate with the cell and instruct its development in certain ways. It's this genetic information, for example, that instructs cells to make black hair instead of brown hair (Mitchell, 2004).

The Human Genome Project mapped and sequenced these genes. This effort has enabled genetic testing and also created opportunities for various gene therapies. Through a blood test or tissue sample it is possible to determine aspects of an individual's genetic status, which, in conjunction with the human genome map, will allow doctors to determine if an individual has defective genes that predispose that individual to a chronic illness. For example, researchers have isolated

two genes, BRCA 1 and 2, which function to suppress breast tumors. When a problem or mutation occurs with either of these genes, breast cancer can be the result. Once genetic diseases have been diagnosed the goal is to develop therapies that correct the mutation. Consider the disease known as phenylketonuria that is triggered by a mutation to a gene that breaks down the molecule called phenylalanine which can cause brain damage if it builds up in the bloodstream. The optimal cure is to repair this defective gene so that the person's metabolism is restored to a normal state (Zimmer, 2012).

Cancer has been at the forefront of genetic research and medicine since the mapping of the human genome was completed and published in 2003. Scientists are now convinced that cancer is a genetic disease: it originates in a genetic mutation that is promoted by environmental factors. Genomics has led to limited success in cancer treatment such as PLX4032 which inhibits the activity of mutated proteins in patients with melanoma and causes those cells to die (Carr, 2010). Many similar therapies are on the horizon and the whole biotech industry stands to gain, but who appropriates the value from these discoveries depends to a large extent on how the issue of gene patents is resolved.

2. Patenting the genome: precedents and antecedents

Patents are controversial but necessary. Most forms of technological investment require significant investment and inventors need the reward of a patent, or some sort of protection for their investment as an inducement to commit capital. Patents give inventors a property right in their innovation so that they can appropriate the value of their added value without interference from free riders. Without patents, competitors would enter the market and free from the burden of paying for research costs force the price down to the marginal cost of production, making it exceedingly difficult for the innovator to recover his costs. Thus, the patent system prevents others "from reaping where they have not sown" and thereby promotes research and development investment (Dam, 1994). While it is generally admitted that patents enhance social welfare by encouraging ingenuity, there are costs associated with the patent system such as impediments to cumulative innovation along with foregone consumer surplus associated with economic rents. There is also the social cost associated with administering the patent system. The objective of policy makers should be a balanced patent policy that rewards technological innovation while also minimizing these costs by ensuring that patents are awarded prudently.

According to the U.S. Patent Act (U.S.C., 2006) a patent is to be awarded to "whoever invents or discovers any new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof."

Thus, a patent eligible invention must satisfy the criteria of novelty and utility, and it must fall under the category of a process, machine, manufacture, or composition of matter. Over the past few decades the scope of patent protection has been expanding to include, software, surgical procedures, research tools, and business methods. Even living organisms are now patentable subject matter under certain conditions. In the famous *Diamond v. Chakrabarty* (1980) case the judges opined that the patent statute should cover "anything under the sun that is made by man." The Court ruled that genetically altered life forms such as plants and animals could be patented. This ruling in conjunction with the *Moore v. Regents of University of California* (1990) case, which stated that people do not own their DNA and that such DNA can be owned by researchers, opened the door for the patenting of genetic material.

There are, however, still exceptions to patentable subject matter, most notably, laws of nature, physical phenomena, and abstract ideas. Thus, algorithms and formulas, existing material elements, and plants and animals cannot be patented since they are discovered rather than invented. Such discoveries are "manifestations of . . .nature, free to all men and reserved exclusively to none" (*Funk Brothers v. Kalo*, 1948). However, if a naturally occurring substance is altered, perhaps through the introduction of genetic material, the new result would typically be a "non-naturally occurring manufacture or composition of matter – a product of human ingenuity," and therefore something eligible for a patent. The focal issue or "relevant distinction" is between products of nature and human made inventions. In the Chakrabarty case human intervention resulted in bacteria that had markedly different characteristics form nature and "the potential for significant utility" and so was deemed to be patent eligible. On the other hand in *Funk Brothers* (1948) the Supreme Court ruled that a patent for multiple naturally occurring bacterial strains was invalid. According to the guidelines put forth in that case, an invention that "serves the ends nature originally provided" is most likely unpatentable subject matter but an invention that expands the "range of utility" when compared with nature is apt to be patent eligible.

In keeping with legal precedent and the apparent wishes of Congress, the U.S. Patent and Trademark Office (PTO) has issued patents for DNA molecules (or genes) for the past thirty years. Over 2,600 patents for isolated DNA have been awarded over that period. The U.S. Congress has not yet taken any action to curtail such patents. As a result, the Courts have been reluctant to nullify these patents and so typically rely on the clear and flexible precedent of cases such as Funk Brothers and Chakrabarty to analyze patent claims and to determine whether or not there is some expansion of utility when compared to nature.

While many gene patents have been granted, the validity of such patents has been the subject of intense debate. Discussion has polarized between those who claim isolated DNA is a product of nature and those who see this isolated and purified substance as a legitimate invention. Several high profile law suits have contested the validity of these patents. At issue in these cases is whether or not isolating DNA from its native environment amounts to an invention. Or does it remain a product of nature? The isolated human gene or DNA differs from the native gene to the extent that the extraction process results in changes to its molecular structure The native genes are chemically bonded to other genes and proteins. The isolation process not only separates out impurities but also changes the chemical bonds so that the isolated DNA is no longer connected to thousands of additional nucleotides as it is in its native state. Perhaps the most critical question in this dispute hangs on whether cleaving those bonds to isolate a gene transform that isolated gene into different and hence patentable material? Those who support gene patents argue in the affirmative and claim to have science firmly on their side. However, even if we concede that isolated DNA is chemically different, does it have a new utility (as required by *Funk Brothers*, 1948) or does it just serve the same ends intended by nature, that is, to function as a gene encoding a protein sequence?

Aside from the technical and scientific questions, there are obviously social and moral issues at stake. Opponents of gene patents insist that these isolated genes are products of nature and maintain that they these unwarranted patents cause "inexcusable and intolerable societal harms" (Eli, 2011). They cite the many problems with "oppressively monopolistic patents," including the detrimental exclusionary effects of this enclosure of the genome (Eli, 2011). Supporters, on the other hand, offer utilitarian arguments based on the necessity of patent protection to induce biotech innovations. They also point to firm legal precedent and the cloud of uncertainty that would envelop the biotech industry if these patents were now invalidated.

3. The Myriad Genetics case

There have been several high profile cases involving gene patents or medical testing patents. In *Amgen, Inc v. Chughai Pharmaceuticals Co.* (1991) the court validated a claim that isolated DNA encoding human erythropoietin was eligible for patent protection. Although the U.S. Supreme Court has not yet directly address this issue in 2012 it invalidated Prometheus Laboratories process patents that help doctors determine drug doses for patients with Crohn's disease. Prometheus' patents combined a law of nature about how the body metabolizes certain drugs with a set of routine steps for applying that knowledge. The Court said that the patents merely "recited" laws of nature, and since the laws of nature are not pat-

entable neither can the claimed process or tests be eligible for patent protection (*Mayo v. Prometheus Laboratories*, 2012). Legal scholars believe that this decision could have ramifications for the gene patent issue.

But the most relevant case for our purposes is clearly *Association for Molecular Pathology v. United States PTO* (2010, 2011). The patent holder in this case, a company called Myriad Genetics, claimed an isolated piece of DNA containing the nucleotide sequence that translates into either the BRCA1 or BRCA2 protein. Relying on DNA samples from families with inherited breast cancer, Myriad had identified this DNA sequence that codes for these proteins. It was awarded patents in 1997 covering these isolated DNA sequences and associated diagnostic methods.

These patents have a "preemptive effect," since they exclude anyone from working with the BRCA genes without permission. Only Myriad can commercialize this discovery through the development of diagnostic screening tests, gene therapies, or other products. In addition to the patenting of this isolated DNA, the patent holder also claimed a product called cDNA, which is the "mirror image" of the DNA sequence. cDNA does not normally exist in the human body, and is naturally created only through the operation of certain retroviruses. Transforming normal DNA into cDNA, however, provides a more efficient tool for researchers and health care professionals who wish to study, diagnose, and treat the disease associated with a gene.

Along with its patents for the BRCA genes, Myriad was also awarded a patent for the method of determining whether a person is predisposed to the relevant form of cancer by comparing the person's gene sequence to the sequence in nature that codes for either BRCA1 or BRCA2. Finally, Myriad received a patent for the method of determining whether a particular cancer therapy is efficacious by growing cells containing the relevant gene and determining whether those cells grow more slowly when subjected to that therapy.

A lawsuit by a group of genetic researchers contested the validity of these patents, arguing that the BRCA genes are "natural human genes" or products of nature. As such, they are unpatentable subject matter and hence invalid under statue § 101. The plaintiffs also maintained that the monopoly of these genes enabled by the patent interfered with the capability of patients to obtain better cancer screening tests. The District Court agreed with the plaintiffs and rejected all of the Myriad patents reasoning that since the purification of natural DNA does not alter its inherent characteristics, isolated DNA remains a product of nature. The court concluded that "because the claimed isolated DNA [was] not markedly different from native DNA as it exists in nature, it constituted unpatentable sub-

ject matter" (*Association for Molecular Pathology v. United States PTO*, 2010). The court also invalidated Myriad's method claims.

On appeal, the Federal Appeals Court ruled in favor of the patent holder, reversing the decision of the lower court. Following the framework laid out in the Supreme Court's decisions in *Chakrabarty* and *Funk Brothers*, this court reach a different set of conclusions. It reasoned that due to human intervention the isolated DNA did exist in a distinctive chemical form and therefore was different from DNA in the human body (or native DNA). Isolated DNA has been cleaved or severed from chemical bonds so that it consists of just a fraction of the naturally occurring DNA molecule. Since isolated and purified DNA has this "markedly different" chemical structure it is eligible for a patent. Moreover, after decades of genetic patents and a pattern of firm judicial precedent, including Chakrabarty and Moore, the court concluded that it could not now call isolated DNA as non-patentable and thereby disrupt the "settled expectations" of the scientific community (*Association for Molecular Pathology v. United States PTO*, 2011). The court also rejected plaintiff's argument that isolated DNA and native DNA are not different because they have the same genetic function of transferring information. According to the court, it's not the use of this isolated DNA that determines patent eligibility but its distinctive nature. As result, the Court declined to extend the "laws of nature" exception to include isolated DNA sequences. At the same time, the Appeals Court affirmed the two method patents, one for comparing and analyzing DNA sequences and the other for screening potential cancer therapeutics by way of changes in cell growth rates. It criticized the District Court for creating this sweeping rule that isolated genes are not patentable, and quoted the Supreme Court which has more than once cautioned lower courts not to "read into the patent laws limitations and conditions which the legislature has not expressed" (*Diamond v. Diehr*, 1981).

4. Legal and normative analysis of BRCA patents

Arguably, a more balanced and legally nuanced outcome would have supported the patentability of the cDNA claims, and the patentability of the method claims, while holding that isolated DNA sequences or BRCA gene patents should be voided. By simply isolating the BRCA genes through extracting them from their natural location and incidentally changing their molecular structure in the process seems an insufficient basis for a patent. It is certainly dubious that the cleaving or breaking of chemical bonds transforms the isolated genes into a new substance as the Court has supposed. Thus, this innovation appears to still fall on the side of products of nature as something discovered but not invented. As an amicus curiae brief for the plaintiff stated, awarding a patent for the discovery of the BRCA gene is like awarding a patent for the discovery of a chemical element such

as lithium. On the other hand, cDNA cannot be isolated from nature but must be created in the laboratory so it should be patent eligible. Similarly, assuming that the method claims meet the general criteria for method patents, they too should be considered patent eligible so that researchers can reap the rewards from the application of its discoveries (*Bilski v. Kappos*, 2010). Such a solution balances the innovator's reward with the preservation of open access to the human genome for the sake of future research.

Hence, researchers or biotech companies like Myriad should not be able to obtain patent rights to isolated and purified DNA sequences on the legal basis that this does not constitute patentable subject matter. Although different in molecular structure, those DNA sequences have not been sufficiently modified, so they are still fundamentally the same entities as they were in their natural state. Also, why isn't the issue of utility relevant in this case as it is in other patent cases? Isolated DNA offers no new utility, since it serves the same function it did in nature.

Patents will mean that other researchers are pre-empted from using these mutant genes for their own scientific work. As one dissenting judge in the Molecular case stated, "broad claims to genetic material present a significant obstacle to the next generation of innovation in genetic medicine—multiplex tests and whole genome sequencing" (*Association for Molecular Pathology v. United States PTO*, 2011). The purpose of patent protection is to stimulate innovation but sometimes too much protection can impede rather than promote innovation. Given these valid preemption concerns and the proximity of these modified genes to native DNA, the justification for BRCA patents appears to lie on tenuous legal ground.

How should this decision be assessed on purely normative grounds? A utilitarian analysis is probably indeterminate, since it would be difficult to resolve this debate on the basis of cost benefit analysis. A Lockean analysis, on the other hand, holds more promise for probing the moral issues in this case. Recall the essentials of Locke's theory. A person has a property right, that is, the right to exclude others, in his person, in his actions and labor, and in the products of that labor. Thus, Locke relies on a labor theory justified by this thesis of self-ownership to demonstrate why property rights are warranted when someone adds his or her labor to what is held in common. As Locke explains, "Man has a Property in his own person. This no Body has any right to but himself. The Labor of his Body and the Work of his Hands we may say are properly his. . .Whatsoever then he removes out of the State that Nature had provided. . .he hath mixed his Labor with and joined to it something that is his own, and makes it his Property (Locke, 1988). There have been many discussions of Locke demonstrating how this theory applies both to physical and intellectual property, since production of the latter also

involves creative effort and labor. As Easterbrook (2005) points out, "intellectual property is no less the fruit of one's labor than is physical property."

On the surface, it may seem that a property right is well deserved in this case given that there is substantial labor involved on common property. The laborious and time consuming efforts in mapping the physical location of the BRCA genes (with the help of DNA samples), the determination of the exact nucleotide sequences, and the cleaving and purifying efforts to isolate the DNA seem to warrant a property right of some sort. Also, although this research is initially based on DNA samples, those who provide these samples have no ownership claims. Ownership was the central issue in *Moore v. Regents of the University of California* (1990). John Moore filed suit against researchers at the University who patented a cell line from the tissues derived from his diseased spleen once it was surgically removed from his body. The California court ruled against Moore's claim of any proprietary right over this genetic material. Similarly, in *Greenberg v. Miami Children's Hospital Research Institute* (2003) a Federal District Court found that the patent for the gene for Canavan's disease which was discovered from Greenberg's tissue sample did not violate the rights of the donor since that donor has "no cognizable interest in body tissue and genetic matter. . . ."

Despite these factors, however, there are two reasons why patents are not warranted according to Locke's framework. First, for Locke, labor gives rise to a property right only when it transforms and adapts something from the state of nature. This standard should have a higher threshold for intellectual (as opposed to physical) resources. The creator awarded an intellectual property right must create something new and distinct from the public domain, something that goes beyond what already exists there as an intellectual object (such as an idea or formula) or a naturally occurring substance. There is some question in this case whether the labor of researchers like Myriad is transformative enough to warrant a property right since, as we have seen, some argue that isolated DNA is not "markedly different" from native DNA. Locke is always insistent that labor must put a "distinction" between what is worked upon and the commons. In discussing how the collection of apples or acorns from the commons bestows a property right on the collector Locke says: "That Labor put a distinction between them [acorns and apples] and common. That added something to them more than Nature, the common mother of all, had done; and so they became his private right" (Locke, 1988). But does the discovery and isolation of a DNA segment (such as the BRCA gene) create a decisive distinction by adding something "more than nature" to create the type of property boundary required by Locke's theory? Didn't Myriad discover these genes, which are part of our bodies and which contain fundamental information about humanity, rather than actually invent them? Does the purification and cleaving process really result in a new, distinct substance or

composition of matter? As the dissent points out in the Association for Molecular Pathology (2011) case, "there is no magic to a chemical bond that requires us to recognize a new product when a chemical bond is created or broken." The breaking of these bonds and other purifying efforts do not result in structural or utility difference between the native BRCA gene and the gene in its isolated state. If patents were awarded for these genes, why not for chemical elements like lithium which also must be isolated for industrial applications but which is the same element whether it is in the earth or isolated.

Second, even if it could be argued that isolated DNA is distinct enough from native DNA, a patent would still be inappropriate when scrutinized through the lens of Locke's theory. While Locke believed in property rights based on labor he did not support unlimited rights. Locke insists on an important condition limiting the acquisition of property which is referred to as the sufficiency proviso. According to this principle, one cannot appropriate an object from the commons through labor unless there remains enough resources of the same quality for others to appropriate. According to Locke, "For this Labor being the unquestionable Property of the Laborer, no Man can have a Right to what that is once joined to, at least where there is enough, and as good, left in common for others" (Locke, 1988). This proviso, which should apply to both physical as well as intellectual property, clearly limits the right to appropriate property. Appropriators, therefore, must leave sufficient resources and "equal opportunity" for others, though some commentators on Locke have suggested a more flexible limitation such that an appropriation should not worsen the situation of others (Waldron 1988).

Moore (2004) frames this proviso in terms of weak Pareto superiority, which permits individuals to better themselves through the appropriation of property so long as no one is made worse off in the process. In cases where no one is harmed by such an appropriation, it is "unreasonable to object to a Pareto-superior move." Thus, if the acquisition of an intangible work or patentable subject matter makes no one worse off in social welfare terms, compared to how they were before the acquisition, then an intellectual property right is valid. For most intangible works such as novels or poems, no one is made worse off by the acquisition (provided that the presumptive property right is given to the expression of ideas and not the ideas themselves), and the labor creates a prima facie property claim to that work.

However, this is not the case with the patenting of isolated DNA sequences which cannot pass the Pareto superiority test. The patenting of the BRCA genes is not consonant with even this more flexible interpretation of Locke's proviso, because it does make others worse off by preempting them from using these valuable genetic resources. These preemption concerns, which gave rise to the

plaintiff's law suits against Myriad, signal a problem from a Lockean perspective. When patents inhibit future discoveries and innovation by locking down natural phenomena or laws of nature they must be inconsistent with Locke's proviso. In this case, Myriad's BRCA patents do not leave sufficient resources for other potential appropriators. When genes are patented, researchers are constrained from studying the genetic basis of a disease such as Canavan's disease without the payment of a steep licensing fee to the patent holder. In some cases, companies refuse to license their patents and products, and thereby foreclose research all together. Myriad itself has been accused of this exclusionary behavior (Holman, 2007). Myriad does not allow others to perform diagnostic tests that reveal increased risk of breast cancer and its patents foreclose research opportunities for the development of improved tests. Also, it is alleged that these gene patents impede the development of tests for other diseases, since the BRCA mutation may be responsible for certain chronic afflictions other than breast cancer (Eli, 2011). By enclosing this genetic information through these broad claims to genetic material, Myriad precludes others from making their own appropriations, such as the invention of new diagnostic tests for breast and other cancers, or from even sequencing BRCA genes, through their own productive labor. Hence, despite the arduous labor involved, the patents awarded in this case lack a moral foundation since many others are made worse off through this initial appropriation and subsequent exclusion.

Patents for diagnostic methods and therapies, on the other hand, have a much better chance of satisfying a Pareto-based proviso, if they are awarded properly and do not involve patenting or "reciting" laws of nature in ways that tie up the future use of those laws. The criteria for process or methods patents is beyond the scope of our discussion, but the U.S. Supreme Court has recently clarified those guidelines insisting that a process is not patentable "unless that process has additional features that provide practical assurance that the process is more than a drafting effort to monopolize the law of nature itself" (*Mayo Collaborative Services v. Prometheus Laboratories*, 2012). Assuming they meet these criteria, companies like Myriad should be allowed to patent the applications of their discoveries of the BRCA genes such as diagnostic tests, so long as these patents are not preemptive and, in the spirit of Locke's proviso, they leave sufficient resources for others.

The Appeals Court that decided the most recent Myriad case validating their gene patents asserted that it is not their duty to re-write the law or change policy. Courts should defer to the legislators who are elected to make laws. However, there is certainly ambiguity about whether or not patents for DNA molecules, which are the physical embodiment of nature's laws, are consistent with the precedent of Chakrabarty and Funk Brothers. This ambiguity should be resolved,

and U.S. patent policy should be adjusted to preclude this type of broad gene patent, based on reasoning that takes into account the normative demands suggested by Locke's theory which point to the harm caused by the dangerous preemptive effects of these patents.

5. The international controversy: Human gene patents and TRIPS

Concurrent with the debate going on in the United States over human gene patents is an international debate regarding whether or not there should be a specific exclusion of human genes from patentability in the World Trade Organization's Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). The intellectual property agreements often referred to as TRIPS consist of provisions protecting copyrights, trademarks, geographical indications, industrial designs, patents, integrated circuit layout designs, and undisclosed information and trade secrets. Since the WTO, including TRIPS, went into effect in January 1995, some of the most controversial provisions of TRIPS have been those regarding patent protection, a subject covered in Articles 27 through 34. According to these Articles, every member nation must protect patents for twenty years after the patent is filed (Art. 33). Although patents apply to any invention, product and/or process that is novel, inventive and applicable to the relevant industry (Art. 27.1), there are three types of inventions that can be excluded from patentability, including inventions contrary to morality, diagnostic, therapeutic, and surgical methods for the treatment of humans or animals, and plants and animals other than microorganisms (Art. 27.2, Art. 27.3a, Art 27.3b). In addition, compulsory licensing and government use without the authorization of the patent holder are allowed under certain conditions (Art. 31). The language of TRIPS Article 27.3(b) is ambiguous, such that member nations can either exclude gene patenting, allow gene patenting, or allow for "purpose-bound protection," which protects the specific use of the gene disclosed in the patent but not the gene, itself (Carlos, 2007).

At its meeting in March 2002, the TRIPS council surveyed representatives of member nations, regarding their own national patenting practices. Although no question on the survey explicitly raised the issue of human gene patenting, representatives addressed patenting isolated DNA sequences in their responses to what is and is not patent-eligible in their country. The following countries identified that while it is not possible to obtain a patent covering subject-matter identical to that found in nature, it is possible to patent biological material which is isolated from its natural environment: Bulgaria, Canada, Australia, Switzerland, Czech Republic, European Communities, Estonia, Hong Kong, Iceland, Japan, Norway, Poland, and the United States (WTO IP/C/W/273, 2003).

6. Should the WTO Amend TRIPS Article 27.3(b)?

Although citizens of the developed world are advocating for the WTO to amend TRIPS to exclude gene patenting, by and large, the representatives of developed nations on the TRIPS council are against increasing specificity in the TRIPS agreement, in order to maintain flexibility in the application of the agreements. However, the representatives of many developing and least-developed nations on the TRIPS council, especially Bolivia, hold that the patentability of life forms ought to be explicitly excluded.

Though many WTO representatives of developing and least developed nations are eager for an amendment to TRIPS, it was the representative of Bolivia who sent a memorandum in February 2010 to all the member nations of the TRIPS council highlighting the "need to urgently review Article 27.3(b) to prohibit the patenting of all life forms, including plants and animals and parts thereof, gene sequences, micro-organisms as well as all processes including biological, micro-biological and non-biological processes for the production of life forms and parts thereof" (WTO IP/C/W/545, 2010). The representative of Bolivia reasoned that 1.) Patent holders and applicants are from developed countries, 2.) Patents prevent those in developing countries from using patented material, and 3.) The patenting of life forms is "unethical, as it is against the moral and cultural norms of many societies and indigenous people" (WTO IP/C/W/545, 2010).

At the June 2010 TRIPS council meeting, the memorandum from the representative of Bolivia became the subject of a debate on human gene patenting. The representative of Bolivia began the conversation, claiming that Article 27.3(b) actually encouraged the patenting of genes and gene sequences (WTO IP/C/M/63, 2010). He also addressed the ethical dimension of human gene patenting again, noting that "the patent system had turned into a tool for the privatization and commercialization of life itself on a scale and magnitude that warranted concern" (WTO IP/C/M/63, 2010). Representatives from developing and least-developed countries, including Brazil, Venezuela, Ecuador, Pakistan, Zimbabwe, Holy See, Nigeria (on behalf of the African Group), and Angola (on behalf of the Least-Developed Countries Group) aligned themselves with the Bolivian representative.

Many representatives of developed nations of the WTO, including representatives from Switzerland, the United States, the European Union, Japan, and Australia, and Canada, argued that there should be no amendment to Article 27.3(b) of TRIPS. The representatives of Switzerland and the United States defended their position, by pointing to the stimulation of investment and the generation of benefits to mankind due to patent rights. The United States representative went

on to state that "life forms and methods related to life forms should be patentable if they [meet] the requirements of patentability, especially novelty, inventive step and industrial applicability" (WTO IP/C/M/63, 2010). It is not surprising that the United States, Switzerland, and the European Union are upholding strong patent protection for biotechnology inventions, since these nations are home to almost all of the top 100 biotechnology firms (MedAdNews, 2007).

There was no action plan established to amend Article 27.3(b) after the debate that occurred at the June 2010 meeting of the TRIPS council. A large constituent, those against amending TRIPS, noted that the patentability of life forms, as they exist in nature, are excluded through the application of TRIPS, as it now stands. The representative of Chile noted that "the three essential requirements for patentability set forth in Article 27.1 of the TRIPS agreement, i.e. novelty, inventiveness and industrial application, should be applied and respected in full, and, if this [is] the case, there should be no contradiction or conflict with misappropriation of naturally occurring life forms" (WTO IP/C/M/63, 2010). However, the controversy still remains, since "novelty" and "inventiveness," as they relate to human gene patents, are left up to each member nation's interpretation. It is, therefore, up to national judicial systems to determine what is patent-eligible or patent-ineligible.

One suggested solution for achieving a more consistent application of TRIPS is to create an international, comprehensive database of patents. This was suggested by the representatives of Chile and Japan. The representative of Chile said that it was "essential" that "national and regional patent offices have access to all the information available to avoid granting erroneous patents that did not comply with the patentability requirements" (WTO IP/C/M/63, 2010). The rationale behind the database is that precedents would be set for the international community, regarding what is and is not a novel or inventive use of life forms.

7. Conclusion

In this paper we have demonstrated why gene patents, such as those awarded for the BRCA genes, are unwarranted. Their legal justification is dubious, since it is questionable that isolated DNA is an invention rather than a discovery and a product of nature. A normative analysis confirms this judgment. While utilitarian reasoning is indeterminate, a Lockean analysis strongly suggests that these patents cannot be justified because they are inconsistent with Locke's proviso due to their preemptive effects. Although we argue isolated DNA is patent-ineligible, we do not think it necessary that the TRIPS council amend article 27.3(b), so that it explicitly excludes human gene patenting. However, we do think that the TRIPS council should offer specific recommendations encouraging member na-

tions to view isolated DNA patent-ineligible for the reasons delineated in this paper. There is support for excluding human gene patentability among the citizens of many developed nations, and that support includes some government officials, members of medical associations, geneticists, patients, and human rights and consumer activists actively engaged in advocating against the patenting of human genes. If public pressure continues to mount against gene patenting, we are reservedly confident that the judicial and legislative branches of developed nations will soon disturb the "settled expectation" of the biotech industry.

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3. Privacy

The right to be forgotten in the digital era

Fereniki Panagopoulou-Koutnatzi

I. Introduction

A society devoid of memory may experience monumental disasters. In addition to its historical value, however, memory can also serve a social and legal purpose as reflected in Greek mythology where the Erinyes, the goddesses of vengeance, persecuted wrongdoers, denying them their right to rebirth. Today's society, in contrast to that of the Greek goddesses, is one of absolute digital memory: almost everything - from our credit card transactions, court records, university grades, and personal Internet communications - is recorded and follows us throughout our lives, whether we desire this or not. Indeed, particular concern has been raised by the Internet's enhancement of memory, along with the danger posed by the data collection that takes place on the Internet, which is often undisclosed and imperceptible to the average citizen.[1] For example, an unfortunate moment in our lives, such as a sexually provocative photograph of oneself sent to an ex-partner or posted on Facebook, or an adolescent crime committed decades ago, or another dark page of our lives, may be recorded on the Internet for others to see. Painful parts of our past that we wish to forget may resurface and impact our reputations for years. This concern regarding the extremely sizeable memory of the Internet, as well as the negative consequences that come with having each and every of our acts, transactions, and communications recorded, was 'heard' by the European Parliament Regulation Proposal and the Council on the Protection of Individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation) which, in turn, effectively reaffirmed the preexisting right to be forgotten.[2]

1. See Zoe Kardasiadou, In the aftermath of Directive 95/46/EC, Europeans' Politeia 2/2011 (issue dedicated on the topic of personal data protection), p. 209 et seq. (213). In Greek.
2. See the Proposals for a Regulation of the European Parliament and of the European Council on the protection of individuals regarding the processing of personal data and on the free movement of such data (General Data Protection Regulation), available at http://ec.europa.eu/justice/data-protection/document/review2012/com_2012_11_el.pdf, 25 January, last access June 10, 2013.

II. The origins of the right to be forgotten

A. Legal foundation

The right to be forgotten (the right to oblivion, droit à l'oubli, diritto all'oblio) was not a novelty introduced by the European Parliament's Regulation Proposal, but rather a simple reaffirmation of a preexisting right that had not always been referred to as the right to be forgotten as such, but which is nonetheless a corollary to the wider freedom of developing one's own personality. The right to be forgotten is applicable to individuals convicted of crimes who have served their sentences. Indeed, convicted persons' reintegration into society is an extremely arduous process, as they must not only rebuild their lives but must cope with society's disdain and continuing rejection. [3]

a. The European Convention on Human Rights (ECHR)

On a European level, the right to be forgotten is guaranteed through the right to respect for private and family life (article 8 ECHR). As recognized by the Council of Europe in Recommendation (2003) 13 (principle 18), the right to protection of privacy includes the right to protect the identity of persons in connection with their prior offences after they complete their prison sentences. An exception to this protection is only in the event when an individual has consented to the disclosure of their identity or in cases where these persons and their prior offence remain of public concern (e.g., sexual predators) or have become of public concern anew.

b. Greece's Constitution

The right to be forgotten is guaranteed in the Greek Constitution primarily via the wider entitlement to freely develop one's personality (article 5§1), in conjunction with the guarantee of human dignity (article 2§1), and also through the protection of the right to private life (article 9) and the protection of personal data and of a person's informational self-determination (article 9A), intended to be construed as the right of every person not to become the object of journalistic interest pertaining to painful or unpleasant events of a person's past.[4]

3. See Lilian Mitrou, The publicity of sanctioning or the sanctioning of publicity, Sakkoulas Press, Athens-Thessaloniki 2012, pp. 156-157. In Greek.

4. See Charalambos Anthopoulos, The freedom to political discourse and the protection of the honor of political figures: Decisions Nos. 467/10.10.2006 and 51/30.1.2007 of the Greek National Council for Radio and Television, Administrative Law Reports 2009, p. 234 (245 et seq.). In Greek.

c. Law No. 2472/1997 on the protection of personal data

Greek legislation on data protection does not expressly state the right to be forgotten; it does, however, confirm this in articles 4§1(d) and 4§2 of Law No. 2472/1997 via the provision for the erasure of data that are no longer necessary for the fulfilment of a processing purpose. The right to be forgotten also serves the right to object, granted to individuals under article 13 of Law No. 2472/1997, in that it is the right of the data subject to put forward objections in relation to the processing of information concerning him/her.

d. Criminal Procedure Code

Accordingly, Article 576§3 of the Code of Criminal Procedure provides for the non-registration on copies of one's criminal record intended for general use, the content of all criminal records that state: a) monetary penalties or imprisonment sentences of up to six months, after a 3-year period; b) a sentence of imprisonment of more than six months or a sentence of incarceration in a psychiatric ward, after an 8-month post sentencing date; and c) imprisonment, after a 20-year post prison release date. Therefore, the law provides for the erasing of a criminal record after a certain period of time has lapsed, thus granting both the individual, as well as those around him, the chance to forget this past whilst offering the opportunity to reconstruct one's life.

e. Presidential decree 77/2003

In the same direction of recognising the existence of the right to be forgotten, we also find Article 11§3 of Greek Presidential Decree 77/2003, according to which "the conviction of a person with respect to a particular crime should not be referred to after this person's sentence has been served, unless this is in the public interest." This public interest clause leaves open the opportunity for relativising the right to be forgotten in cases where the public has a legitimate interest to be informed (e.g., in the case of sexual offenders or violent repeat offenders), in accordance with Article 367§2 of the Criminal Code. A legitimate interest in information on behalf of the public can be said to exist in instances where crimes remain fresh in the public's mind, provided that references to these crimes do not connect the past to the present and that the private lives of convicted persons who have served their sentences is respected.[5]

In view of the above, along with the right to be forgotten, the reproduction of outdated news that is disparaging for its subject and which had been lawfully

5. See Charalambos Anthopoulos, ibid., p. 246 et seq.

made be public in the past, although it is no longer relevant to the public's current informational needs, is seen as undue.

B. The case law approach

a. Recognition of the right to be forgotten

aa. France

France's National Commission of Informatics and Freedom (CNIL),[6] the authority in charge of protecting personal data and the private lives of its citizens, on numerous occasions, has pointed out violations of the right to be forgotten[7], stressing that digital freedom cannot exist in any other way. Indeed, the CNIL recently issued a seminal decision in relation to the dissemination of personal data and the violation of the right to be forgotten.[8] The decision comments on the practice of a webpage that published court decisions available to the public online. The decisions were published exactly as they had been issued publicly including the names of the parties involved in the court cases (witnesses, accused persons and those convicted), contrary to the CNIL's well-established position for the anonymization of court decisions.[9]

Notwithstanding the CNIL's references to the fundamental importance of the right to be forgotten, French legislation does not recognize this as a free-standing right. In the course of the debate that has commenced in France with regard to establishing the express protection of the right to be forgotten, the CNIL's position is clear: In an online environment where the collection and disclosure of readily accessible personal data to the public domain is constantly increasing, the protection of the freedom of opinion and expression must go hand-in-hand with

6. The Commission nationale de l'informatique et des libertés (CNIL) is responsible for ensuring that information technology remains at the service of citizens and that it does not jeopardize human identity or breach human rights, privacy or individual or public liberties. The Commission fulfils its duties in pursuance of the law of January 6, 1978 as amended on August 6, 2004.

7. Recommendation No. 1988-052 regarding the compatibility of laws 78-17 of 6 January 1978 on computers, files and freedoms and 79-18 of 3 January 1979, Schedule No. 9 Articles 99 - 27 on the automated processing of personal data that concerns the lending of books and audiovisual and artistic works, Decision No. 2010-028 of 4 February 2010 allowing French banks to amend the conditions of processing of the central registry of withdrawals of "CB" bank cards.

8. See Decision No. 2011-238 (LEXEEK).

9. See Decision No. 2001-057, containing recommendations on the dissemination of personal data from legal databases.

the right of changing one's mind about one's beliefs, as well as with the choice of revealing specific aspects of one's private life.[10]

ab. Germany

In 1973, the German Federal Constitutional Court had to decide whether the personal rights of a convicted criminal should supersede the general interest of the public good. The suspect had been involved in the notorious "soldier murders of Lebach," whereby four German soldiers were killed during the armed robbery of an ammunition dump in 1969.[11] The two primary perpetrators were friends of the petitioner, and the relationship had a homosexual element During the planning of the attack, the petitioner repeatedly expressed reluctance in carrying out the deed, and he did not take part in the attack. The two primary perpetrators were convicted in 1970 and received life sentences, whereas the petitioner was given a sentence of six years for aiding and abetting the crime.[2] In 1972, the state-owned German television channel ZDF planned to broadcast a television drama about the Lebach murders. In an introduction to the drama, the broadcasters had planned to broadcast the names and photographs of those involved in the crime. Moreover, ZDF had arranged to air a docudrama in which actors would reconstruct the crime. The petitioner wanted to prevent the airing of the docudrama insofar as he (or his name) would be represented in it. The German Federal Constitutional Court was required to decide which of two constitutional values would take priority: the freedom of the media under Article 5 of the Basic Law or the personality rights of the convicted criminal under Article 2.

The court ruled that the petitioner's constitutional rights merited priority because the right to freely develop one's personality and the protection of one's dignity guarantees every individual an autonomous space in which to develop and protect one's individualism. The court noted that every person should determine independently and for oneself whether and to what extent one's life and image can be publicized. The court also pointed out, however, that it was not the entire spectrum of one's private life that fell under the protection of personality rights. If, as a member of society at large, an individual enters into communications with others or impacts them through one's presence or behaviour, and therefore impacts the private sphere of others, the individual limits this privacy of life.

10. See http://www.cnil.fr/la-cnil/actualite/article/article/pas-de-liberte-sans-droit-a-loubli-dans-la-societe-numerique/, last access June 10, 2013.

11. Bundesverfassungsgericht [BVerfG] [Federal Constitutional Court] June 5, 1973, 35 Entscheidungen des Bundesverfassungsgerichts [BVerfGE] 202 (204) (F.R.G.), available at: http://www.utexas.edu/law/academics/centers/transnational/work/gerrman-cases/case-sbverg.shtml?05jun1973, [hereinafter referred to as the Lebach Case]. Last access June 10, 2013.

Where such social interactions are present, the state may take certain measures to protect the public good.

The court emphasized that, in most cases, freedom of information should receive constitutional priority over the personality rights of a convicted criminal. Nevertheless, the court held that the encroachment on the convicted criminal's personality rights should not go any further than required to satisfy what was necessary to serve the public interest and, furthermore, that the disadvantages for the convicted criminal should be weighed against the severity of the crime committed. Using these criteria, the court found that the planned ZDF broadcast violated the petitioner's personality rights because of the way in which it named, pictured, and represented him.

The court noted that the broadcast represented the petitioner, who was recognizable through the facts of the story even though his name and face were not shown, in a negative and unsympathetic manner. Moreover, the petitioner was represented in the planned TV docudrama as a primary perpetrator, when in actuality he had simply aided and abetted the crime. Additionally, the docudrama placed more emphasis on the homosexual element of the relationships between the perpetrators than what the outcome of the trial warranted. The court also found it relevant that, as a general rule, television had a much stronger impact on privacy than a written or verbal report in a newspaper or radio show. Finally, the court indicated it was important that the ZDF broadcast's misstatements were a significant reason for its decision.

Applying these factors, the court found that the ZDF report could prevent the resocialization of the complainant in violation of his rights under Articles 1 and 2(1) of the Basic Law. The inviolability of human dignity required that a former convict receive the opportunity to re-enter society once the prison term was served and dues were paid to society. In this case, the convicted criminal's resocialization was put at risk where a television broadcast would reenact the crimes of a perpetrator close to or after the time of his release from prison. Moreover, ZDF's stated goal of informing the public about the effectiveness of the prosecution and the security measures taken by the German military since the attacks could be reached without identifying the petitioner in the manner that had been planned.

ac. The Greek Data Protection Authority

The Greek Data Protection Authority has repeatedly commented on the risks posed by the Internet, particularly with reference to data that are true, lawful but also non-flattering for their subjects, such as one's failure in an exam for in-

stance. A characteristic example can be seen in decision No. 62/2004[12], where the Authority recommended that the Greek Supreme Council for Civil Personnel Selection (ASEP) should only publish online the names of successful candidates who are awaiting appointment and not the details of those who have failed the exam. According to the Authority, the publishing of all such data on the Internet would be in excess of the requirements needed to ensure transparency, given access to these data would become available to the public who may or may not have an interest in this information. More specifically, the court held that it would be disproportionate to the aim of transparency to publish data related to exam failings, thus enabling any third party to become privy to such information even by complete chance.[13]

In view of the above, the Authority has stressed the need to place a time restriction on the publication of unfavorable administrative acts (demotions, suspensions, employee dismissals) on the Internet[14] in the recommendations of Opinion No. 1/2010[15], effectively positioning this as an essential corollary of the principle of proportionality.[16] The Authority also stressed the necessity of placing a time restriction on the publishing of unfavorable information in the case of

12. See Greek Data Protection Authority Decision No. 62/2004, available at: www.dpa.gr (Decisions), last access June 10, 2013.

13. See Greek Data Protection Authority Decision No. 38/2001, available at: www.dpa.gr (Decisions), last access June 10, 2013.

14. In relation to the wide publicization of non-favorable acts (but not on the Internet), cf. Recommendation No. 2/2011 of the Greek Data Protection Authority, available at: www.dpa.gr (Decisions), last accessed on: 1 May 2012, concerning the compatibility of Bar Associations' publicizing, in their capacity as controllers, of lawyers' disciplinary penalties vis-à-vis the provisions on the protection of subjects from the processing of personal data. The Authority held, in a majority vote, that the posting decisions ordering final disbarments of lawyers on the walls of Bar Associations is lawful. On the other hand, the posting of such decisions in courthouses and at the office of the Secretaries of the local Public Prosecutors of courts of First Instance, where any citizen could have access to them, is unlawful. Most importantly, it was deemed unlawful to post decisions enforcing a temporary suspension of lawyers at Bar Associations' offices, in courtrooms and at the office of the Secretaries of the local Public Prosecutors of courts of First Instance.

15. See Greek Data Protection Authority Opinion No. 1/2010, Posting of legislation, regulatory and personal acts on the Internet, available at: www.dpa.gr (Decisions) last access June 10, 2013.

16. See also Fereniki Panagopoulou-Koutnazi, Tr@nsparency in public administration under the light of personal data protection, Human Rights Journal 2012. In Greek.

TEIRESIAS S.A., where it set categories and corresponding time limits for the maintenance of adverse financial data on the Internet.[17]

B. Express denial of the right to be forgotten – the U.S.A.

The U.S. Supreme Court has taken the opposite approach in holding that states cannot pass laws restricting the media from disseminating truthful but embarrassing information—such as the name of a rape victim—as long as the information has been legally acquired.[18] Therefore, American legal thought reflects an extreme form of non-recognition of the right to be forgotten, based on the reasoning that the disclosure of criminal records is protected by the First Amendment of the American Constitution that guarantees freedom of speech.[19] The publication of someone's criminal history is protected by the First Amendment, which led Wikipedia to resist the efforts by two Germans convicted of murdering a famous actor to remove their criminal history from the actor's Wikipedia page.[20] The German case of Lebach, discussed above, highlights the differences between the American and the European legal tradition regarding the right to be forgotten and the right to free speech. This case highlights the importance of human dignity and, in general, of one's personality in German law. On the other hand, in American legal theory, the application of the right to be forgotten is seen as a case of judicial activism, in the sense that the court appears to be "discovering" an enumeration of rights to personality that overshadow the right to expression that has been expressly guaranteed.[21]

A characteristic example of the non-recognition of the right to be forgotten can be seen in the case of Stacy Snyder, a young American university student who was about to graduate from the faculty of education when her employer, a state

17. See Greek Data Protection Authority Decision No. 523/19.10.1999, available at: www.dpa.gr (Decisions), last accessed on 1 December 2012, and the analysis by Eugenia Alexandropoulou-Aigiptiadou, Personal Data, Ant. N. Sakkoulas Press, Athens-Komotini 2007, p. 53. In Greek.

18. See *Florida Star v. B.J.F.*, 491 U.S. 524 (1989).

19. "The Congress cannot enact legislation on the establishment of religion or the prohibition of the freedom of worship, just as it cannot pass laws that restrict the freedom of speech or of the press or the citizens' right to peaceful assembly and calling the Government to amend its ideas": See Kostas Mavrias/Antonis M. Pantelis, Constitutional Texts, Greek and Foreign, 3rd edition, Ant. N. Sakkoulas Press, Athens-Komotini 1996, p. 554. In Greek.

20. John Schwartz, Two German Killers Demanding Anonymity Sue Wikipedia's Parent, N.Y. TIMES, Nov. 12, 2009, at A13; see also Walter Sedlmayr, WIKIPEDIA, available at: http://en.wikipedia.org/wiki/Walter_Sedlmayr, last access June 10, 2013).

21. See Edward J. Eberle, Human Dignity, Privacy and Personality in German and American Constitutional Law, 1997 Utah Law Review, p. 963 et seq. (p. 1021).

school, discovered her comment on her MySpace (Internet) page criticizing her supervising teacher. The MySpace page also contained a picture of herself wearing a pirate's hat and holding a plastic cup with the words "drunk pirate" written on it.[22] Because of this posted material, the school claimed that she had behaved in a nonprofessional manner, one that effectively promoted the consumption of alcohol by minors. Consequently, they barred her from concluding her training, preventing her from earning a bachelor's degree in education, but allowed her to receive a degree in English literature. Her claim was that, on the basis of her right to freedom of speech as guaranteed by the First Amendment of the American Constitution, she had a right to post the picture on MySpace. The federal judge, however, rejected her claim, arguing that she was a civil servant and thus the ground she had raised was not in reference to an issue that was in the public interest. As Jeffrey Rosen aptly remarked,[23] had this incident taken place in Europe Stacy Snyder would have invoked her right to be forgotten and she would have requested that Google and Yahoo remove all references to this picture. Indeed, this is precisely where the vast difference between the two continents lies: in America people want to be remembered, whereas in Europe, influenced by Sartre's French intellect, people wish to be forgotten.[24] After all, this different treatment of the right to be forgotten between the two continents can also be seen in the relevant literature. In the United States, Nestor A. Braunstein talks about forgetting a crime as a crime of forgettance,[25] while Lilian Mitrou in Europe has written a monograph entitled "the publicity of sanctioning or the sanctioning of publicity".[26] Whereas Nestor A. Braunstein treats oblivion as a crime, Lilian Mitrou considers memory as being a sanction.

The right to be forgotten is treated with great suspicion in the United States. Nonetheless, technological solutions are suggested for dealing with the problem of great memory, such as the utilization of Facebook applications for example, which allow users to choose whether they want a photograph on their Facebook page, for example, to stay there permanently or for a specified period of time.[27]

22. See *Snyder v. Millersville Univ.*, 2008 U.S. Dist. (E.D. Pa., Dec. 3, 2008).

23. See Jeffrey Rosen, Information Privacy: Free Speech, Privacy, and the web that never forgets, 9 Journal on Telecommunications & High Technology Law (2011), p. 345 et seq. (346).

24. See Jeffrey Rosen, ibid., p. 346.

25. Nestor A. Braunstein, Oblivion of Crime as Crime of Oblivion, 24 Cardozo Law Review (2003), p. 2255 et seq.

26. See Lilian Mitrou, footnote 3.

27. See Viktor Mayer-Schonberger, Delete: The Virtue of Forgetting in the Digital Age, Princeton University Press, Princeton 2009, p. 15.

A similar possibility is offered by Google when users send messages late on a Saturday night.[28] Practical solutions are also offered in addition to technological applications, such as the use of pseudonyms on social networking sites, as is mainly the case in Japan.[29] Another proposed practical solution is the possibility to change one's name after graduation from school.[30]

c. The vortex of oblivion and memory - Argentina

The case of Argentine pop star Virginia Da Cunha focuses on a series of racy photographs she had posed for when she was young. She subsequently sued Google and Yahoo after a number of years had passed, requesting that they be taken off various websites, arguing that they violated her right to be forgotten. Google asserted that it could not comply technologically with the court's broad legal injunction to remove all of the pictures, while Yahoo stated that the only way they could comply would be to block all sites referring to Da Cunha that originated from its Yahoo search engines. Nevertheless, an Argentine judge sided with Da Cunha and after fining Google and Yahoo, he ordered them to remove all sites containing sexual images that contained her name. The decision was overturned on appeal, on the grounds that Google and Yahoo could only be held liable if it could be shown that they knew that the content was defamatory and had thus negligently failed to remove it. But there are at least 130 similar cases pending in Argentine courts demanding the removal of photos and user-generated content, mostly brought by entertainers and models. The plaintiffs include the Sports Illustrated swimsuit model Yesica Toscanini who won her case; indeed, when a user of Yahoo Argentina plugs her name into the Yahoo search engine, the result is a blank page[31].

28. See Jon Perlow, New in Labs: Stop Sending Mail You Later Regret, Gmail Official Blog, 6 October 2008, available at: http://gmailblog.blogspot.com/2008/10/new-in-labs-stop-sending-mail-you-later.html, last access June 10, 2013.

29. See Hiroko Tabuchi, Facebook Wins Relatively Few Friends in Japan, N.Y. Times, 10 January 2011, p. B1, presenting the outcome of research conducted of a sample of 2,130 Japanese citizens, 89% of whom were reluctant to reveal their true name on the Internet.

30. See Holman W. Jenkins, Jr., Google and the Search for the Future, Wall St. J., 14 August 2010, p. A9.

31. Vinod Sreeharsha, Google and Yahoo Win Appeal in Argentine Case, N.Y. TIMES, Aug. 20, 2010, at B4.

III. The proposal to regulate the protection of personal data

The recognition of the right to be forgotten in the form of an express confirmation appears to be an imminent need in this era of absolute digital memory. Consequently, a key consideration is the adjustment of legislation in view of new technology that supplies vast stores of data, which is precisely the aim that the Proposal for a Regulation and a Directive Regarding Personal Data seek to serve.

Article 17 grants the data subject's right to be forgotten and the correlating right to erasure of personal data. It further elaborates and specifies the right of erasure provided for in Article 12(b) of Directive 95/46/EC and outlines the conditions of the right to be forgotten, including the obligation of the controller who has made the personal data public to inform third parties on the data subject's request to erase any links, or copy or replication of that personal data. It also integrates the right to have the processing restricted in certain cases, avoiding the ambiguous terminology "blocking".

Article 17 states:
1. The data subject shall have the right to obtain from the controller the erasure of personal data relating to them and the abstention from further dissemination of such data, especially in relation to personal data made available by the data subject while he or she was a child, where one of the following grounds applies:

(a) the data are no longer necessary in relation to the purposes for which they were collected or otherwise processed;

(b) the data subject withdraws consent on which the processing is based according to point (a) of Article 6(1), or when the storage period consented to has expired, and where there is no other legal ground for the processing of the data;

(c) the data subject objects to the processing of personal data pursuant to Article 19;

(d) the processing of the data does not comply with this Regulation for other reasons.

2. Where the controller referred to in paragraph 1 has made the personal data public, it shall take all reasonable steps, including technical measures, in relation to data for the publication of which the controller is responsible, to inform third parties that are processing such data, that a data subject requests them to erase any links to, or copy or replication of that personal data. Where the controller has authorised third party publication of personal data, the controller shall be considered responsible for that publication.

The controller shall carry out the erasure without delay, except to the extent that the retention of the personal data is necessary:

(a) for exercising the right of freedom of expression in accordance with Article 80;

(b) for reasons of public interest in the area of public health in accordance with Article 81;

(c) for historical, statistical and scientific research purposes in accordance with Article 83;

(d) for compliance with a legal obligation to retain the personal data by [European?] Union or Member State law to which the controller is subject; Member State laws shall meet an objective of public interest, respect the essence of the right to the protection of personal data and be proportionate to the legitimate aim pursued;

(e) in the cases referred to in paragraph 4.

4. Instead of erasure, the controller shall restrict processing of personal data where:

(a) their accuracy is contested by the data subject, for a period enabling the controller to verify the accuracy of the data;

(b) the controller no longer needs the personal data for the accomplishment of its task but have to be maintained for purposes of proof;

(c) the processing is unlawful and the data subject opposes their erasure and requests the restriction of their use instead;

(d) the data subject requests to transmit the personal data into another automated processing system in accordance with Article 18(2).

5. Personal data referred to in paragraph 4 may, with the exception of storage, be processed only for purposes of proof, or with the data subject's consent, or for the protection of the rights of another natural or legal person or for an objective of public interest.

6. Where processing of personal data is restricted pursuant to paragraph 4, the controller shall inform the data subject before lifting the restriction on processing.

7. The controller shall implement mechanisms to ensure that the time limits established for the erasure of personal data and/or for a periodic review of the need for the storage of the data are observed.

8. Where the erasure is carried out, the controller shall not otherwise process such personal data.

9. The Commission shall be empowered to adopt delegated acts in accordance with Article 86 for the purpose of further specifying:

(a) the criteria and requirements for the application of paragraph 1 for specific sectors and in specific data processing situations;

(b) the conditions for deleting links, copies or replications of personal data from publicly available communication services as referred to in paragraph 2;

(c) the criteria and conditions for restricting the processing of personal data referred to in paragraph 4.

IV. Reflections on the regulation proposal

The express confirmation of a right to be forgotten comes at a time when use of the Internet is virtually unrestrained and individuals (private and public figures alike) feel helpless in terms of controlling, or even monitoring information about themselves that is disseminated on the Internet. The aim of the Regulation is to put the brakes on the endless flow of often damaging and unwanted personal information published on the Internet that can follow and stigmatize individuals in perpetuity. Nonetheless, an objection could be raised if the confirmation of a guaranteed right to be forgotten would lead to an effective violation of the freedom of speech[32] or, in more general terms, if it would bring about an excessive restriction of the freedom of journalistic information and of citizens' right to information.

At this point, it must be noted that the Regulation Proposal refers to data that have been publicized by the subjects of the data themselves when they were children: in other words, the Regulation focuses on the uploading of photographs or provocative text that the subjects of the data have placed on the Internet, information (data) that relate to their childhood when they did not possess the cognitive and emotional maturity to consider that such posts could or would follow them in perpetuity, for instance, they may not realize that potential employers could access this information, or that their teenage Facebook posts could be accessed and assessed by university admissions officials. This was precisely the reasoning presented by the Vice President of the European Commission, Viviane Reding, when she announced the proposed right to be forgotten, making a special note on the particular danger faced by adolescents who may reveal personal data

32. The opinion that the right to be forgotten violates the freedom of speech is advocated by Jeffrey Rosen, The Right to Be Forgotten, 64 Stanford Law Review (2012), p. 88 et seq. (92). Rosen stresses quite poignantly that Europeans have a long-standing tradition of recognizing abstract rules of privacy that they fail to apply in actual practice. Indeed, in one of his previously mentioned articles, see footnote 23 above, p. 345, Jeffrey Rosen emphatically states that he would prefer the freedom of speech over the protection of privacy.

that they later may come to regret.[33] The Regulation Proposal refers to the posting of data "especially" by children. This choice of wording is indicative of the special sensitivity shown towards the protection of childhood, whilst still leaving a window of opportunity for the protection of adults as well in cases of a thoughtless posts that they may have made. The term "especially" does not solely refer to children, but also to all subjects who post data about themselves, thus leaving open the possibility for seeking the erasure of data that may have been copied and re-uploaded by others on the Internet or, simply, data involving an individual that has been uploaded by a third party. On this point, it is worth highlighting that the interpretation of the right to be forgotten that had initially been adopted before the finalizing of the Regulation Proposal's text, suggested that only references which have been made by others should fall under the scope of application of the right to be forgotten.[34] The final Regulation Proposal, however, appears to be very broad in relation to the right to be forgotten, as it recognizes that all information that relates to a data subject will actually fall under its scope. As a result, the right to be forgotten in the Regulation Proposal concerns: a) Internet posts that have been made by the data subject; b) Internet posts concerning the data subject that have been copied by others and re-uploaded on the Internet; and, lastly, c) posts made by others concerning the data subject, if these are not covered by the right to the freedom of expression and art.

The claim for the erasure of the first two categories above is particularly suited to the case of social networks,[35] that is, when the data subject had at some point in the past, in a carefree moment or even a moment of thoughtlessness, posted information about herself for which she subsequently regretted. In view of this, subjects of unwanted or offensive published data who wish to erase the data should not be followed by their careless or thoughtless posts forever.[36] In this case, the right to be forgotten constitutes a corollary to a user's right to develop

33. See Viviane Reding, The EU Data Protection Reform 2012: Making Europe the Standard Setter for Modern Data Protection Rules in the Digital Age 5, 22 January 2012, available at: http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/12/26&format=PDF, last access June 10, 2013.

34. See John Hendel, Why Journalists Shouldn't Fear Europe's 'Right to Be Forgotten,' Atlantic, 25 January 2012, available at http://www.theatlantic.com/technology/archive/2012/01/why-journalists-shouldnt-fear-europes-right-to-be-forgotten/251955/, last access June 10, 2013.

35. See Fereniki Panagopoulou-Koutnatzi, Social Networking Sites as a National, European and International Challenge of the Protection of Privacy, Sakkoulas Press, Athens-Thessaloniki 2010, p. 95 et seq. In Greek.

36. See Lilian Mitrou, Case-note, Decision No. 16790/2009 of the Singe Member First Instance Court of Thessaloniki (Petition for Injunctions) [On the publication of documents contain-

one's personality freely, while the same applies to search engines, such as Google and Yahoo.

The greatest step, however, is realized through the third category that concerns embarrassing posts about individuals that have been published by others. It is herewith noted that, in accordance with Article 17(3) of the Regulation Proposal, when a subject requests that personal data (about themselves) be erased, the controller is under an obligation to carry out the task of data erasure without delay, except to the extent that the retention of the personal data is necessary for exercising the right of freedom of expression, as defined by Member States. Moreover, according to Article 80, a further exception to the duty of erasure is recognized in cases of processing of personal data solely for journalistic purposes or purposes of artistic or literary expression. The proposed European regulation, however, treats takedown requests for truthful information posted by others identically to takedown requests for photos one may have posted about oneself that have then been copied by others: both are included in the definition of personal data as "any information relating" to oneself, regardless of its source. For instance, an individual can demand takedown of data posted on the Internet, and the burden, once again, is on the third party to prove that it falls within the exception for journalistic, artistic, or literary expression. This could transform Google, for example, into a censor-in-chief for the European Union, rather than a neutral platform. And because this is a role Google does not want to play, it may instead produce blank pages whenever a European user types in the name of someone who has objected to a nasty blog post or a status update.

The question that arises here is whether the right to be forgotten extends as far as enabling the erasure of every part of one's 'dark' past. Such a prospect would lead to a claim for the erasure of a former conviction from each and every webpage on the Internet. For example, can a lawyer who has been penalized by the bar association with a two-year suspension order on charges of corruption request that all statements referring to this event be erased from the Internet after she has paid the prescribed penalty? Considering the Regulation Proposal in conjunction with the rights to freedom of speech and freedom to information, leads to favor the data subject if there is no legitimate need to inform the public of a violation.

Consequently, the republication of the past actions of a person who has served a sentence can be construed as jeopardizing her smooth reintegration into society, and seen as an additional and unjust act of punishing her once again, without reason. In this case, we find a correlation with the fundamental criminal law

ing personal data and defamatory remarks on facebook], Journal of Mass Media and Communications Law 2009, p. 400 et seq. (408, et al). In Greek.

principle of *ne bis in idem*, in the sense that the publicizing of a closed case effectively constitutes a second sentence for the same offence. The right to be forgotten allows the individual to have a second chance to rejoin society - an opportunity that is essentially similar to that of the deletion of sentences from one's criminal record or from the service record of an employee - and is comprised by the withdrawal of information from society's memory.[37]

Special emphasis should be given to the fact that this right is not unlimited, particularly in cases of long-standing matters that are of public interest, such as the unaccounted flow and use of public funds.[38] Therefore, a politician involved in a matter concerning the abuse of public funds, even if the relevant accusations have not been proven, is not entitled to removing this dark page of his political career from the public domain. What he can demand, instead, is the accurate inclusion of details of the outcome of any relevant court action in all publications, which is based on the right to the rectification of personal data that are inaccurate or the completion of incomplete data, in pursuance with Article 16 of the Regulation Proposal. Furthermore, the right to be forgotten must, in practice, coexist harmoniously with the rights to information, freedom of speech, access to information, and the right to preserve collective and historical memory and/or with the public interest.[39] Accordingly, notifying the public as to the name of a convicted person for reasons falling under public interest is subject to time limitations, as well as to the principle of proportionality, in the sense that a currently relevant and objective reference that serves an informational aim will be acceptable, provided that it does not extend beyond serving the genuine interest of the public to be kept informed.[40] The time limit within which a reference to an older case would be deemed to be legitimate is advisable to coincide with the equivalent temporal limits set for the erasure of penalties from a convicted person's criminal record.[41]

In addition to the need to weigh the right to be forgotten against other constitutionally protected rights, we face the task of defining its precise scope: Is the right to be forgotten relevant only with regard to the press and the Internet or does it also extend to our social or workplace sphere? It is true that it is difficult to erase one's memory in relation to a criminal act conducted by a person who belongs to one's wider or immediate social circle. If, for example, we are

37. See Lilian Mitrou, footnote 3, p. 160.

38. See Charalambos Anthopoulos, footnote 4, p. 246.

39. See Lilian Mitrou, footnote 3, p. 160.

40. See Lilian Mitrou, footnote 3, p. 161.

41. See Lilian Mitrou, footnote 3, p. 161, et al.

aware of the fact that a neighbor of ours committed a crime for which he has been sentenced, it is virtually impossible to erase this knowledge from our memory. Nonetheless, and irrespective of this consideration, whether we will actually forgive this neighbor and offer him a second chance is entirely up to our discretion. Bearing that in mind, it follows that the right to be forgotten cannot lead to the prohibition of the public expression of social outrages or ordinary gossip that do not appear in the press or on the Internet. We simply cannot place a prohibition upon society to stop talking about an individual, be it others or ourselves.[42] The state should give convicted persons a second chance, but we cannot demand that this be required to individuals who may not, in all probability, treat former convicts as social pariahs but who would still remain quite suspicious of them, particularly in work spheres (e.g., in terms of employing them as nannies or teachers).[43] In fact, hiding part of one's darker aspects of the past may potentially raise even greater suspicion for prospective employers.[44]

Lastly, we must also inquire whether the right to be forgotten should be final. If one has committed a crime and has been convicted for it, does he have the right - after serving the sentence - to demand erasure of all references to this event in the mass media and on the Internet in order to facilitate a smooth reintegration to public life? This right is retracted if serving a wider public interest is at issue of concern, such as, for example, a danger that a publication seeks to prevent or limit through publicizing it.[45] Also, in cases where the same or a similar act is committed again by a person who has served a sentence, the right to be forgotten also appears to give way, due to the fact that the repetition of this illegal act, is of more greater significance. Nonetheless, the wording of paragraph 8 of the proposed Regulation does not allow for this kind of differentiation, as it prohibits the processing of erased personal data in any manner. Moreover, the provision related to the confinement of data processing that is recognized by paragraph 4 is particularly limiting and it does not include a category for storing data in case these may be used again if a future conviction of the same person occurs, for the same crime. This is justified, given that had the opposite been the case - if there were a provision for the maintenance of data in case these may be proven to be useful in the future - a situation

42. See Eugene Volokh, Freedom of Speech and Information Privacy: The Troubling Implications of a Right to Stop People from Speaking About You, 52 Stanford L. Rev. (2000), p. 1049 (1091).

43. See Eugene Volokh, ibid., p. 1092.

44. See Richard A. Epstein, Privacy, Property Rights, and Misrepresentations, 12 Georgia L. Rev. (1978), p. 455 (472-73).

45. Cf. Thrasivoulos Th. Kontaxis, The Mass Media and the Violation of Personality, Nomiki Vivliothiki Publications, Athens 2011, p. 19 et seq. In Greek.

of legal uncertainty would emerge in reference to the possibilities of keeping data on file, thus leading to the violation of a natural person's right to ask that his/her personal data be deleted. In instances where a person is reconvicted for the same crime, it is only natural that everyone's memory will be jogged about the event and in relation to the convicted person's past actions; however this rehashing of past events should not take place via the Internet.

Finally, it must also be pointed out that the right to be forgotten refers to the erasure or the conditional limitation of the processing of factual data about individuals who do not wish to have publicized as part of their private life. Along with the confirmation of the right to be forgotten, the Regulation Proposal also incorporates a minor provision under Article 16, namely the right to seek the rectification of personal data that are inaccurate or the completion of incomplete data.

V. *In lieu* of an epilogue

As history repeats itself, it is absolutely vital that society should have a sharp memory in order to avoid the repetition of mistakes of the past: after all, a society without a clear memory of the past cannot gaze toward the future. Special emphasis, however, must be applied to ensure that retaining memory will take place only for events that stir society's legitimate interest in access to information. When no such interest in access to information can be established, a person has the right, as well as the claim vis-à-vis the relevant institutions, to see that unpleasant pages of the past are forgotten, so as to enable a smooth reintegration to society after having served the prescribed sentence or paid the prescribed dues to society. In addition to convicted persons who have served their sentence, a stronger claim to have the past erased can be given to all those who have decided to turn a page in their lives and forget past moments that no longer represent who they are. Indeed, an even greater claim to this effect should be granted to children who, during some carefree thoughtless moment, may have posted information or photographs on the Internet without realizing that this publication may adversely affect their lives at some later point in time. Even if the Internet is the supreme collector of personal data,[46] this does not mean that a certain brake cannot be placed in the uncontrollable and unwanted collection of so much personal data. The express confirmation of an established and widely recognised right to be forgotten through the Regulation Proposal is therefore welcomed with genuine optimism in this era where every bit of personal information is being logged unrestrainedly, along with the hope that registered information will be managed with care and governed by reason.

46. Cf. Shawn C. Helms, Translating Privacy Values with Technology, 7 Boston University Journal of Science & Technology Law (2001), p. 288 et seq. (293).

The legal nature of the controller's civil liability according to art. 23 of Directive 95/46 EC

Timoleon Kosmides

1. Introduction

Processing of personal data plays a prominent role in the current social and economic context.[1] It can contribute to financial, scientific and social development. This specifically applies to the territory of the European Union since the free movement of goods, persons, services and capital requires that personal data should be able to flow freely from one Member State to another.[2]

However, processing of personal data has a dark side. It entails a serious threat to one's right to privacy (Privatsphäre), personality (Persönlichkeit) and informational self-determination (informationelle Selbstbestimmung).[3] This threat is associated with a damage risk (Schadensrisiko). Particularly, the illegal processing of personal data can cause damage to individuals. In other words, the illegal processing of personal data may lead to a damage potential (Schadenspotential).[4]

2. The liability rule (art. 23 of the Data Protection Directive)

In view of the above, clause 2 of recital no. 55 of the Data Protection Directive declares that "any damage which a person may suffer as a result of unlawful processing must be compensated for by the controller, who may be exempted from liability if he proves that he is not responsible for the damage, particularly in cases where he establishes fault on the part of the data subject or in case of force majeure". To that end, the Data Protection Directive includes a liability rule in art. 23.

According to art. 23 par. 1 of the Data Protection Directive "Member States shall provide that any person who has suffered damage as a result of an unlaw-

1. Kosmides (2010): 1 et seq., with further references.
2. See recital 3 of the Directive 95/46 EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (OJ 1995 L 281, 31), "Data Protection Directive"
3. Kosmides (2010): 3 et seq.
4. Id., 6-7.

ful processing operation, or of any act incompatible with the national provisions adopted pursuant to this Directive, is entitled to receive compensation from the controller for the damage suffered".[5] Par. 2 establishes a possibility of liability reduction or exemption as it states that "the controller may be exempted from this liability, in whole or in part, if he proves that he is not responsible for the event giving rise to the damage".

3. The legal nature of civil liability

3.1 The problem

The EC/EU case law does not deal with the issue of the determination of the legal nature of the controller's civil liability according to art. 23 of the Data Protection Directive.[6] By contrast, the respective discussion in scholarly literature, especially German literature, is old and wide-ranging. Nevertheless, the question about the type of the liability remains to date undecided. Opinions on this issue diverge widely, a lot of them being extremely briefly reasoned.[7]

Despite a shift in emphasis, different opinions can be schematized as follows: According to a first point of view, art. 23 of the Data Protection Directive establishes a fault-based liability, reversing the burden of proof concerning the fault element.[8]

Other authors have a completely different way of interpreting the liability rule of art. 23 of the Data Protection Directive. They classify it as strict/objective liability, more accurately as no-fault liability (verschuldensunabhängige Haftung).[9]

5. See also Advocate General Colomer (2009): marginal no. 57 footnote 45

6. On the problem of the legal nature of civil liability according to art. 23 of the Greek Data Protection Law (Law no. 2472/1997) see in detail Kosmides (2010): 154 et seq. According to him, art. 23 par. 1 of the Greek Data Protection Law establishes two liability rules. The first one (art. 23 par. 1 clause 1) sets a no-fault liability for violation of law, whereas the second one (art. 23 par. 1 clause 3) sets a liability for violation of due diligence. For the prevailing opinion, supporting that art. 23 par. 1 establishes a fault-based liability see Ap. Georgiades (1999): § 63 marginal no. 33 et seq.; Iglezakis (2003): 283 et seq.; Bottis M. (2009): 786; AP 1923/2006, NoB 2007, 367, 371.

7. Ehmann/Helfrich (1999): art. 23 marginal no. 12.

8. Ehmann/Helfrich (1999): art. 23 marginal no. 14 et seq., especially 17; Born (2001): 82-83; Teschner (1999): 67; v. Burgsdorff (2003): 77; cf. also Schneider (1993): 39; id. (2009): Chap. B marginal no. 90.

9. Simitis, in: Simitis (2011): § 7 marginal no. 4; Brühann, in: Roßnagel (2003): Chap. 2.4 marginal no. 48; id., in: Grabitz/Hilf (2009): art. 23 marginal no. 5; Kautz (2006): 140 et seq.,

Finally, another group of authors denies the above mentioned opinions. They suggest that the compensation claim according to art. 23 of the Data Protection Directive should be approached as one arising from a liability between a fault-based and an endangerment liability ("zwischen einer Verschuldens- und einer Gefährdungshaftung).[10]

3.2 Compilation of critical questions

The above presented disagreement clearly shows that the determination of the legal nature of the controller's civil liability according to art. 23 of the Data Protection Directive is a rather difficult issue. In order to achieve this, one must answer two questions: first of all, what would the type of the liability be if par. 2 did not exist? To answer this question, an isolated assessment of art. 23 par. 1 is required.[11] The second question to answer is the following: how does art. 23 par. 2 influence the legal nature of the liability? Here, it is important to determine which circumstances fall under par. 2 and lead to liability exclusion. In this context, a total assessment of art. 23 par. 1 and 2 is necessary.[12]

3.3 Qualification of the civil liability according to art. 23 par. 1 of Data Protection Directive (isolated assessment)

If it is fictitiously assumed, that art. 23 par. 2 does not exist, the controller's civil liability has to be classified as an objective liability for violation of law. This is the case since par. 1 does not provide the controller with any liability exoneration possibility.

As seen above, authors categorizing the controller's liability as strict/objective liability regard it either as a "no-fault liability" or an "endangerment liability". In both cases, one is liable for damage regardless of his fault.[13] However, a "no-fault liability" and an "endangerment liability" are not coincident terms. Endangerment liability presupposes neither fault nor violation of law (Rechtswidrigkeit).[14]

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especially 163) or endangerment liability (Gefährdungshaftung) (Ellger, RDV 1991, 121, 130; Kautz (2006): 140 et seq., especially 152 et seq., 162.

10. Cf. Kilian, in: Tinnefeld/Phillips/Heil (1995): 106; Dammann/Simitis (1997): art. 23 marginal no. 1, 6 et seq., especially 9; Tinnefeld/Ehmann/Gerling (2005): 415.

11. Kosmides (2010): 61.

12. Id.: 61.

13. Id.: 62, with further references.

14. Esser (1969): 90-91; Larenz (1963): 597-598; Larenz/Canaris (1994): § 84 I 3a, 3b, 610; Deutsch (1996): marginal no. 9, 644; id., (1976): 367; id., (1992): 74; Enneccerus/Nipperdey (1960): § 217 I, 1341 et seq.; Spindler, in: Bamberger/Roth (2008): § 823 marginal no. 0.2; Kötz/Wagner (2006): marginal no. 491; Medicus/Petersen (2009): marginal no. 604,

The establishment and operation of a source of danger is permitted.[15] Liability for damage arises if the danger is realized. In this context it is irrelevant if there is a violation of law or not.

From this point of view, an endangerment liability is a no-fault liability. However, not every no-fault liability is an endangerment liability. This is the case when a liability rule, on the one hand, does not presuppose a fault of the person who is responsible for the event giving rise to the damage suffered, but, on the other hand, requires a violation of law. One such case is the liability rule of art. 23 par. 1 of the Data Protection Directive. According to this rule, "any person who has suffered damage as a result of an unlawful processing operation, or of any act incompatible with the national provisions adopted pursuant to this Directive, is entitled to receive compensation from the controller for the damage suffered".

Since art. 23 par. 1 of the Data Protection Directive explicitly presupposes a violation of law, this provision does not establish an endangerment liability. In contrast, it sets an objective liability for the violation of law (objektive Haftung für Rechtswidrigkeit), a liability for no-fault tort (Haftung für unverschuldetes Unrecht) or an objective tort liability (objektive Unrechtshaftung).[16]

631; Deutsch/Ahrens (2002): marginal no. 523; Hager, in: Staudinger (1999): Vorbem. zu §§ 823 et seq. marginal no. 30; Kosmides (2010): 62-63; id., GPR (2009): 179; cf. Teichmann, in: Jauernig (2009): Vor § 823 marginal no. 9; Fikentscher/Heinemann (2006): marginal no. 1684-1685; Staudinger, in: Schulze (2009): Vor §§ 823-853 marginal no. 6; RGZ 141, 406, 407; BGH, Beschl. v. 4.3.1957 – GSZ 1/56, BGHZ 24, 21, 26 = NJW 1957, 785; BGH, Urt. v. 14.3.1961 – VI ZR 189/59, BGHZ 34, 355, 361 = JZ 1961, 601 = MDR 1961, 403 = NJW 1961, 655; BGH, Urt. v. 5.7.1988 – VI ZR 346/87, BGHZ 105, 65, 68 = LM Nr. 61 zu § 7 StVG = MDR 1988, 1047 = NJW 1988, 3019; Kornilakis (1982): 155 et seq., 161; id., (2002): § 109, 668 et seq.; Valtoudis (1999): 84 et seq.; see also Ap. Georgiades, (1999): § 4 marginal no. 61; Stathopoulos (2004): § 15 marginal no. 91; AP 447/2000, EllDni 2000, 1309-1310; EfLar 598/2006, ArchN 2007, 487, 489; EfPeir 121/2004, EllDni 2006, 1687-1688; different viewpoint: BGH, Entscheidung v. 28.10.1971 – III ZR 227/68, BGHZ 57, 170, 176 = DB 1971, 2468 = WM 1972, 45; BGH, Urt. v. 24.1.1992 – V ZR 274/90, BGHZ 117, 110, 111 et seq. = LM Nr. 21 zu § 833 BGB = NJW 1992, 1389; v. Bar (1980): 131 et seq.; Seiler (1994): 291-292; Eberl-Borges, in: Staudinger (2008): § 833 marginal no. 27.

15. Deutsch (1976): 367, with further references; id., (1992): 74.

16. Kosmides (2010): 64.

3.4 Qualification of civil liability according to art. 23 par. 1 and 2 of the Data Protection Directive (total assessment)

3.4.1 The Problem – clarification

The controller's civil liability cannot be determined on the grounds of an isolated assessment of art. 23 par. 1 of the Data Protection Directive. Instead, an overall assessment of art. 23 par. 1 and 2 is required.[17] According to par. 2 an exemption from this liability is possible if the controller "proves that he is not responsible for the event giving rise to the damage".

Par. 2, first of all, reverses the burden of proof in favor of the victim. However, what is important for determining the type of liability is basically to define the meaning of the 'event' for which the controller is not responsible. If the controller, according to par. 2, is exempted from his liability because the event giving rise to the damage cannot be attributed to his fault; art. 23 establishes a fault-based tort liability. If the event for which the controller is not responsible is not related to the controller's fault (absence of fault), art. 23 sets an objective tort liability. This is the case when the person obliged to pay can only exempt himself from liability by proving objective circumstances. Finally, the event leading to liability exemption according to par. 2 may consist of both an absence of fault and other, objective facts. In this case par. 2 sets an open rule concerning liability reduction or exemption (offener Tatbestand hinsichtlich der Haftungsminderung oder Haftungsbefreiung).[18]

The event for which the controller is not responsible according to art. 23 par. 2 of the Data Protection Directive is not defined by the Directive. Thus, it is an indefinite legal term (unbestimmter Rechtsbegriff).[19] In order to determine the legal nature of the controller's civil liability, a concretization of this indefinite legal term is required. This demands an interpretation of the liability exoneration rule of art. 23 par. 2 of the Data Protection Directive. This rule is a secondary Union law rule. Therefore, an autonomous interpretation has to be made, namely on the grounds of the interpretation criteria of Union law.[20]

17. Ehmann/Helfrich (1999): art. 23 marginal no. 14.

18. Kosmides (2010): 65.

19. Id.: 65.

20. Wolf (1992): 783; Franzen (1999): 475.

3.4.2 Initial point: Interpretation of art. 23 par. 2 of the Data Protection Directive

Despite its special characteristics,[21] European Union law should basically be interpreted according to the same criteria applicable to national law.[22] Viewed that way, a literal, systematic, historical and teleological interpretation of art. 23 par. 2 is required. In addition to that, this rule has to conform to primary Union law.

3.4.3 Literal interpretation

The textual interpretation, being the first criterion to apply,[23] seeks to ascertain the literal sense of the wording of the law in question. In common language one is "not responsible, for the event giving rise to the damage" if he is not to blame for this event. This phrase contains a subjective behavior reproach. Viewed in this light, the controller can be exempted from his liability if he proves that he has taken due care. A similar meaning have amongst others the French ("le fait qui a provoqué le dommage… ne lui est pas imputable"), the German ("der Umstand, durch den der Schaden eingetreten ist, (kann) ihm nicht zur Last gelegt werden") and the Greek ("δεν ευθύνεται για το ζημιογόνο γεγονός") wordings of art. 23 par. 2 of the Data Protection Directive.

If the controller could only be exempted from liability if he could prove that he had taken due care, the wording of art. 23 would give evidence of a fault-based liability. This is not the case here. This happens as there are liability exempting events in the sense of art. 23 par. 2, that are not related to a subjective behavior reproach of the controller. For example the controller may be exempted from the liability of art. 23 par. 1 in cases where he establishes fault on the part of the data subject. This is stated expressively in recital 55 clause 2 of the Data Protection Directive.

Though recital 55 does not define the meaning of an event for which the controller is not responsible, this recital is crucial concerning the meaning of this event. This recital cites as an example for such an event alternatively a fault on the part of the data subject or force majeure. This means that it is consistent with the wording of art. 23 par. 2 of the Data Protection Directive if the controller can only exonerate himself from his liability in case of a fault on the part of the data

21. Kosmides (2010): 67-68, with further references.

22. Franzen (1999): 445 et seq.; Riesenhuber, in: Riesenhuber (2006): 191 et seq.; Anweiler (1997): 34; Schulze, in: Schulze (1999): 13; cf. also Dederichs (2004): 24 et seq.

23. Larenz (1991): 320 et seq.; Bydlinski (2005): 11 et seq.; id. (1991): 437 et seq.; Kramer (2010): 57 et seq.; Wank (2008): 41 et seq.; Pawlowski (1999): marginal no. 360 et seq.; Papanikolaou (2000): 131 et seq.; Stamatis (2009): 383 et seq.

subject. If so, art. 23 establishes a no-fault liability.[24] On the contrary, a fault-based liability exists if the controller may be exempted from his liability in case of force majeure.[25]

Consequently, the grammatical interpretation of art. 23 of the Data Protection Directive leads to the conclusion that this provision sets per se neither a no-fault nor a fault-based liability. Instead, it provides the national legislator with the authority to concretize the open rule of art. 23 par. 2 concerning liability reduction or exemption. The national legislator has the discretion to determine the type of the controller's civil liability as long as the Data Protection Directive targets are respected.

3.4.4 Systematic interpretation

Literal interpretation of an isolated legal text does not suffice. One must penetrate into the field of systematic interpretation[26] since this legal text does not exist in isolation and therefore cannot be understood isolatedly. Looked at in that light, the meaning of art. 23 par. 2 of the Data Protection Directive can be ascertained if it is considered as a part of this Directive. This Directive has to be consistent in its entirety.

However, all possible solutions (fault-based, no-fault liability and liability with an open rule concerning liability exoneration) are consistent with the Directive.[27] As a result, a systematic interpretation provides no decisive criterion for the determination of the type of the controller's civil liability according to art. 23.

3.4.5 Historical interpretation

The historical interpretation[28] seeks to identify the meaning of the legal phrase in question in the light of the ruling intention (Regelungsabsicht), objectives (Zwecke) and norm perception (Normvorstellung) of the historical lawmaker.[29]

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24. Kosmides (2010): 70.
25. Id.: 70 with further references to ECJ case law.
26. See hereto Larenz (1991): 324 et seq.; Bydlinski (2005): 16 et seq.; id. (1991): 442 et seq.; Kramer (2010): 85 et seq.; Wank (2008): 55 et seq.; Zippelius (2006): 52 et seq.; Pawlowski (1999): marginal no. 362 et seq.; Papanikolaou (2000): 147 et seq.; Stamatis (2009): 388 et seq.
27. Cf. hereto Kosmides (2010): 72 et seq.
28. See hereto (1991): 328 et seq.; Bydlinski (2005): 19 et seq.; id. (1991): 449 et seq.; Kramer (2010): 116 et seq.; Wank (2008): 63 et seq.; Zippelius (2006): 49 et seq.; Papanikolaou (2000): 160 et seq.; Stamatis (2009): 386 et seq.; cf. also Fikentscher (1976): 674 et seq.
29. Larenz (1991): 328 et seq.

Art. 21 par. 1 of the first draft of the Data Protection Directive set the first version of the liability rule in question. Art. 21 par. 2 established a liability exemption possibility if the liable party proved, that he adopted all appropriate measures to secure data processing as well as selecting the processor carefully. In this respect, one could exempt himself from his liability if he has shown due diligence in terms of par. 2.[30] In the second draft of the Data Protection Directive there existed a similar liability exoneration rule concerning the events leading to liability relief (art. 23 par. 2). Finally, a third draft of the Directive contained the existing art. 23 par. 2.

This rule abandons the wording of art. 21 par 2 of the first draft of the Data Protection Directive and art. 23 par. 2 of the second draft of the Data Protection Directive. Both of them combined expressively the possibility of liability exemption with the event of showing due diligence. Unlike the above mentioned rules, art. 23 par. 2 of the Data Protection Directive abstracted and generalized the event leading to liability exoneration. This finding indicates that the legislator did not intend to establish a fault-based liability. On the contrary, he wanted to introduce an open rule with regard to liability reduction or exemption, providing the national legislator with the authority to concretize it.[31]

3.4.6 Objective-teleological interpretation

Playing an exceptional role within the frame of EU law[32] the objective-teleological approach[33] seeks to interpret the legal provision in question so as to maintain the spirit, object and purpose (Sinn und Zweck) of the law.

In order to do this, one has to take into consideration first and foremost recital 55 of the Data Protection Directive.[34] Out of this recital arises the spirit and purpose of the liability rule of art. 23. Recital 55 states that the controller may only be exempted from liability "if he proves that he is not responsible for the damage, in particular in cases where he establishes fault on the part of the data subject or in case of force majeure". The use of the phrase "in particular" in recital 55 and the enumeration of only exemplary cases (Beispielsfälle), not regular examples (Regelbeispiele), the Directive provides the national legislator with a wide scope

30. Kosmides (2010): 76-77.

31. Id., 78.

32. Franzen (1999): 452 et seq.; Riesenhuber, in: Riesenhuber (2006): 201 et seq.; Bleckmann (1982): 1177, 1178; Schmidt (1995): 579

33. See hereto Kramer (2010): 146 et seq.; Wank (2008): 67 et seq.; Zippelius (2006): 49 et seq.; Bydlinski (2005): 26 et seq.; id. (1991): 453 et seq.; Papanikolaou (2000): 175 et seq.; cf. also Larenz (1991): 333 et seq.

34. For further objective-teleological arguments on this issue see Kosmides (2010): 82 et seq.

of discretion regarding the formulation of the national liability reduction or exemption rule. The range of liability reduction or exemption possibility is thus left open for the member states within the limits set by the spirit and purpose of the Directive.[35]

The above conclusion is confirmed by the disjunction of the above mentioned exemplary cases leading to liability reduction or exemption. Were it for the controller only possible to exonerate himself from his liability in case of force majeure, a fault-based liability would exist. If a liability exoneration was only possible in case of a fault on the part of the data subject, a no-fault liability would have to be assumed.

3.4.7 Interpretation result

Interpreting art. 23 par. 2 of the Data Protection Directive leads to the following result: an "event giving rise to the damage for which the controller is not responsible" is an indefinite legal term. This indefinite legal term can be concretized by member states within the scope of spirit and purpose of the Data Protection Directive. Viewed in this light, art. 23 par. 2 sets an open rule concerning liability reduction or exemption. An event allowing liability reduction or exemption in terms of the Directive may consist either in the absence of fault on the part of the controller or an objective event or in both of them.

Moreover, the national legislator is free to abandon the possibility provided by Data Protection Directive to establish a liability exoneration rule. National regulation may contain no such rule. In other words, the implementation of art. 23 par. 2 is optional for the member states.[36]

3.4.8 Conformity of the interpretation result with primary Union law

The obtained interpretation result is compliant with primary EU law since accepting a civil liability with an optional open rule concerning liability exoneration contradicts no provision of primary EU law.[37]

4. Conclusion

Considering its characteristics, the controller's civil liability according to art. 23 of the Data Protection Directive is a non-contractual liability for violation of law (tort liability) with an optional, relatively open rule concerning liability exon-

35. See Kosmides (2010): 89 and 117 et seq.

36. Id., 89.

37. Id., 87.

eration reversing the burden of proof in favor of the victim (außervertragliche Haftung für Rechtswidrigkeit (Unrechtshaftung) mit fakultativer, relativ offener Entlastungsmöglichkeit mit umgekehrter Beweislastverteilung).

In order to determine the type of the controller's civil liability, national legislators have to set a liability rule establishing either an objective liability for violation of law without any liability reduction or exemption possibility (verschuldensunabhängige Unrechtshaftung ohne jede Haftungsminderungs- bzw. -befreiungsmöglichkeit), or an objective liability for violation of law with a liability reduction or exemption rule reversing the burden of proof in favor of the victim (verschuldensunabhängige Unrechtshaftung mit Haftungsminderungs- bzw. -befreiungsmöglichkeit mit Beweislastumkehr), or a fault-based liability reversing the burden of proof in favor of the victim with regard to the fault element (verschuldensabhängige Unrechtshaftung mit Beweislastumkehr für das Verschuldenselement/Haftung für vermutetes Verschulden).

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Intellectual property versus data protection on the internet

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Introduction

Although intellectual property is all around us, sometimes we hardly realize it. A common example is the intellectual property of artists or performers, or the creators of computer programmes, which is easily accessible through the internet. Undoubtedly we live in an era when we can be informed through the world wide web about events happening around us, in the shortest possible time, at the lowest possible cost and in the convenience of our home. Most importantly, the internet may provide anonymity and freedom of movement by the user. However, despite the benefits of such freedom, the anonymity can result in abusive or non-compliant actions within the applicable legal framework. Although a detailed and thorough analysis of the issue may be impeded from differences arising from the laws of each country involved, there are common areas where the legal framework between countries colludes. Such common areas include, but are not limited to, the promotion of activities related to terrorism, drugs, and hacking (the most severe offences). Despite the severity of the cases previously described, intellectual property rights infringement is one of the most common offences committed through internet channels.

Although internet anonymity is assumed, the act of surfing the internet may leave a huge trail of personal data behind. The user may provide substantial information during activity on the internet; this leaves open the opportunity for a third party to extract data concerning the user's personal profile and preferences, for various underlying motives. The "assumed freedom" of internet usage creates an environment of false security so that the internet user feels comfortable about providing personal information.

Regarding the trail of internet usage contradiction thus arises. In this paper, we will attempt to analyze this contradiction from the perspective of intellectual property rights infringement. Can the creators of works and other rightholders use the identitification data of the internet users in order to be protected from the infringements performed by the latter? If yes, under what conditions? The result of balancing the protection of intellectual property and privacy is not obvious. For this reason, different jurisdictions have given different responses. In the

present paper, we will consider this question under both Greek and French law. The choice of the first legal system is justified by the venue of this conference. The choice of the second is justified by the original solution given in the French legal system and the reactions to it at European level.

We will examine the processing of internet users' personal data and under which circumstances the data might be disclosed. Specifically, providers of electronic communication services may be required to reveal the personal data of their customers, that is to say internet users, under the applicable legal framework requirements, i.e. when an investigation by the authorities is taking place (I). An obligation thus arises to retain this data for a specified period of time, usually 1-2 years (II).

I. The obligation of electronic communication providers to provide the personal data of internet users

The need to identify the user, raises the question of whether the matching of his IP (Internet Protocol) address, with the identity of the subscriber to an internet access service, should be allowed (see section B below). In the above case, an issue arises of whether the IP address constitutes personal data and can be considered among the information that the provider should store under certain conditions. Furthermore, we will examine whether it should be also covered by the definition of communication (see section A below).

A. The IP address as personal data and as part of communication

The IP address is automatically assigned by a provider of internet access services to any internet user. It is composed of four series of three numbers between 0 and 255 [Putman, 2011]. It can be static or dynamic, depending on whether it consists of the same series of numbers, each time a subscriber is connected to the internet.

The use of a dynamic IP address has no effect to the identification of a subscriber. The provider may obtain the identification information of the IP address holder at any time. It is possible to uniquely identify a subscriber connected to the internet on 25.05.2012 at 11:00, even if he was disconnected five minutes later. However, a shared IP address could be used by two persons living in the same house using the same internet access service. Further, if a subscriber leaves the network "open", other users may log in with the same address. Also, a hacker with only basic knowledge may steal an IP address of another user. Therefore, there is a possibility that the IP address cannot identify the internet user.

As described above, technically, the subscriber's identification is a possibility (see for a definition of personal data Directive 95/46/EC Article 2.a "per-

son is one who can be identified, directly or indirectly, in particular by reference to an identification number", Greek Law 2472/1997 Article 2.a, French Law 78-17 06.01.1978 Article 2.2; see for a definition of communication Directive 2002/58/EC Article 2). The question that arises, however, is whether matching the IP address to the identity data that a subscriber has given to his provider is also legally permitted, i.e. if the IP address is personal data or part of the communication, the use of this data should be carried out under the conditions and guarantees provided by each legal system. Otherwise, the user could be easily identified so that rightholders may initiate legal action against him to stop any infringement of intellectual property.

Under French law, the qualification of the IP address as personal data seems quite perplexing. The Court of Appeal (Cour d'appel, CA) of Paris in its judgement of 15 May 2007, considered that the IP address does not constitute personal data information. Therefore, a specifically assigned official for this purpose (certified agent, agent assermenté) could identify a user participating in a file sharing network [Simon, 2009]. The court stated that the IP address "refers only to a machine and not to the person using it" (translation, "trans."). Similar statements are found in other decisions of that court, as of 27 April 2007, of 15 May 2007, of 12 December 2007, of 29 January 2008 [Pignatari, 2010; Szuskin, 2007; Caron, 2007].

By contrast, French courts decisions accepting the IP address as personal data, have also been issued (TGI Paris, 24.12.2007, CA Rennes, 22.05.2008) [Identification des utilisateurs de logiciels, 2008]. A judgement of 24 June 2009 states that "an IP address is considered a personal data due to its correspondance with a number provided by an internet access provider, identifying a computer connected to the network [...] In view of the available technical means, this address appears to be the only evidence related to the person who posted the published content. Even if the IP address can be spoofed using specially developed software tools, [...] this fact does not prive the IP address from being considered as data permitting to identify the content providers" (trans.) [TGI Paris, 24.06.2009; Forest, 2011] .

The French Supreme Court (Cour de cassation), however, in its judgment of 13 January 2009 [Cass. crim., 13.01.2009] declined to resolve this issue in a final ruling. The Court merely stated that no processing of personal data has taken place in this case, since the agents assermentés had manually accessed a subscriber's list of musical files available through a file-sharing programme [Strugala, 2010; Chafiol-Chaumont / Bonnier, 2009]. It has been argued that «if an authorization by the CNIL (Commission nationale de l'informatique et des libertés) is not required for a processing taking place not automatically, that may be ex-

plained by the fact that this processing does not concern personal data information" (trans.) [Caron, 2009].

Given the fact that no clear response can be found within French legislation or case-law, we should look for other guidelines regarding the classification issue of the IP address as personal data information.

Article 29 Data Protection Working Party, in its Opinion 4/2007 of 20 June 2007, states that "while identification through the name is the most common occurrence in practice, a name may itself not be necessary in all cases to identify an individual [...] on the Web, web traffic surveillance tools make it easy to identify the behaviour of a machine and, behind the machine, that of its user" [Article 29 Data Protection Working Party, 2007; Couland / Mariez, 2008]. This working group confirmed that "IP addresses attributed to Internet users are personal data" in its Opinion 2/2002 "on the use of unique identifiers in telecommunication terminal equipments: the example of IPv6", adopted on 30 May 2002 [Article 29 Data Protection Working Party, 2012].

Moreover, the Decree of 5 March 2010 (décret n° 2010-236 relatif au traitement automatisé de données à caractère personnel autorisé par l'article L. 331-29 du code de la propriété intellectuelle dénommé «Système de gestion des mesures pour la protection des œuvres sur internet») classifies the IP address among personal data that the HADOPI authority (Haute Autorité pour la Diffusion des œuvres et la Protection des droits sur Internet, refer forward to p. 9) may process in order to send recommendations in cases of intellectual property infringement by internet users. Further, the Conseil Constitutionnel (decision no 2009-580, 10.06.2009) stated that "the authorization given to individuals to collect data allowing to identify indirectly the subscriber to internet access services, results that those persons process personal data about infringements" (trans.). The primary information collected for the identification of users is the IP address, and thus it constitutes personal data.

A different approach to the above, can be found within the Greek legal system. Here, the primary issue of concern is whether the IP address should be included in the definition of communication.

According to the Prosecutor's Opinion 9/2009 [Prosecutor, 2009], the IP address is not protected by the principle of confidential communication provided by Article 19.1 of the Greek Constitution, since the communication via the internet is "public communication" (trans.). "As it is clear from the wording of Article 19, paragraph 1 (a), the confidentiality is protected for any means of communication, present or future, provided that these means of communication are by nature suitable for conducting communication within intimacy [...] Therefore,

there is such secrecy, i.e. in communication via fax, but not in communication via the internet, since the latter is by definition public communication". "[...] confidentiality concerns the contents of the letter and, in general, of the responses and not the external communication data, i.e. the data of the sender or of the recipient. This means that disclosing the identity data of persons that make such abusive, threatening or extortionate phone calls is allowed [...] In such cases, this does not constitute a violation of confidentiality, since there is no intention of the communicating persons to keep the conversation secret [...]" (trans.) (see also Prosecutors' Opinions 12/2009 and 9/2011).

However, considering communication via private messaging as public communication is open to criticism, i.e. the French case law has accepted that an employer may not have access to messages marked as private correspondence; a message may address a personal issue, as evidenced by the title of the message (CA Douai, 26.11.2004) [CA Douai, 2004]. The Supreme Court has ruled, in an older judgement, that no access to employees' private messages is permitted to the employer, even if non-professional use of computers placed in the workplace is prohibited (Nikon, Cass. soc., 02.10.2001, Bull. V, n° 291; confirmed by judgement of Cass. soc., 12.10.2004, Bull. V, n° 245) [Mélin / Melison, 2007]. Moreover, as the Greek Data Protection Authority has pointed out on its website, "The monitoring of an employee's e-mail may be considered necessary only in exceptional cases. For instance, monitoring an employee's e-mail may be necessary to ensure confirmation or proof of certain actions on his behalf. These actions should include criminal activity and monitoring is essential to defending the legitimate interests of the employer. This occurs, for example, where the employer has legal responsibility for the actions of the employee".

Sending a personal message via the internet should not result in the waiving of the private nature of this communication, since the sender does not want third parties to peruse the message.

The increased risk of third party access to private communication has no influence in qualifying a message as private. This risk is due to the means of communication used, the facilitation it offers, the opportunities it provides and the risks that its use entails. Moreover, if we follow the same logic, we can argue that telephone communication by calls, or text messages via a mobile, cannot be considered as a private communication. On the contrary, assuming the privacy of the communication via telephone, but denying that character in communication via internet, implies discrimination against the internet, which is not justified under the principle of equality. Furthermore, this is not justified in terms of competition, since it provides a competitive advantage to a technological means of communication (the phone instead of the computer).

It has been also pointed out that even in communication through websites accessible to third parties (such as blogs), personal data not disclosed by users cannot be considered as part of public communication; users have taken adequate measures to prevent disclosure of such data [Sotiropoulos, 2009].

Moreover, the protection of the IP address as part of the communication should be accepted since at European level, a clear response is given to this question since 2002. The Directive 2002/58/EC specifies that "a communication may include any naming, numbering or addressing information provided by [...] the user of a connection to carry out the communication" (paragraph 15 of the preamble to Directive 2002/58/CE). The same paragraph also provides that: "Traffic data may, inter alia, consist of data referring to the routing, duration, time or volume of a communication, to the protocol used, to the location of the terminal equipment of the sender or recipient, to the network on which the communication originates or terminates, to the beginning, end or duration of a connection" (see also the definition of the "communication", Article 2 (d) of the same directive).

Art. 4.1 of the Law 3471/2006 transposes the Directive 2002/58/EC into Greek Law. Article 4.1. e (bb) of the Greek Presidential Decree 47/2005 provides waiving of communication for specific data information, including the IP address (see also Opinion of ΑΔΑΕ 1/2005, refer forward to p. 6 second paragraph for the authority ΑΔΑΕ). Moreover, two judgements of the European Court of Human Rights, Judgement Malone v. United Kingdom (02.08.1984) and Judgement Copland v. United Kingdom (03.04.2007), found a violation of private life and correspondence (Article 8 of the European Convention of Human Rights, ECHR), due to the recording of phone numbers in the first and the monitoring of telephone calls, email and internet use in the second.

B. Matching a user's IP address with a subscriber to an internet connection

Should the IP address be considered as both personal data and part of the communication as described above, this data may be processed and disclosed by providers of electronic communication services to rightholders. This question was posed to the Court of Justice of the European Union in case Promusicae (Judgement of 29 January 2008, C-275/06) (1). In the Greek and French legal system, different responses were given; the French Law HADOPI (refer forward to p. 9) is of particular interest and should be presented (2).

1. The judgement Promusicae

As already mentionned above, in the case Promusicae the Court was asked to decide whether the service providers should disclose users' personal data to collect-

ing societies. The Court replied that Community Law does not "require the Member States to lay down, in a situation such as that in the main proceedings, an obligation to communicate personal data in order to ensure effective protection of copyright in the context of civil proceedings". Instead, Community Law requires from Member states to interprete it so as to ensure "a fair balance to be struck between the various fundamental rights protected by the Community legal order".

The Court confirmed this ruling, also in case LSG-Gesellschaft zur Wahrnehmung von Leistungsschutzrechten GmbH v. Tele2 Telecommunication GmbH (Judgement of 19 February 2009, C-557/07) by stating that "Community law ... does not preclude Member States from imposing an obligation to disclose to private third parties personal data relating to Internet traffic in order to enable them to bring civil proceedings for copyright infringements. Community law nevertheless requires Member States to ensure that [...] they rely on an interpretation of those directives which allows a fair balance to be struck between the various fundamental rights involved" (see also judgement of 19 April 2012, Bonnier Audio AB a.o. v. Perfect Communication Sweden AB, C-461/10).

2. Solutions provided by the Greek and French legal systems regarding intellectual property infringements committed through the internet and, especially, the adventurous journey of the Law HADOPI in the French legal system

a. The waiving of confidentiality in the Greek and French legal systems

Under Greek law, the waiving of confidentiality is not applicable for violations of the intellectual property. Article 19.1 of the Greek Constitution allows the waiving of confidentiality for reasons of national security or for offences of particular gravity (see also Law 3471/2006 Article 3). It is permitted for acts listed in Article 4 of Law 2225/1994. However, it has also been pointed out that a communication via file-sharing networks is not protected by Article 19.1 of the Greek Constitution since it is public, and non-confidential, communication [Prosecutor, 2009; Synodinou, 2010].

In Greek legislation, the Law 2251/1994 provides for the disclosure of the users' data either in case of felony offenses (Article 4) or for national security (Article 3). The waiving of confidentiality can be ordered by the prosecutor (Article 3.2) or the competent judicial council (Article 4.4). Only the competent prosecutor (Article 4.5) or a judicial authority or other political, military or police public authority, competent for an issue of national security requiring the waiving of confidentiality (Article 3.1), may submit such a request. The independent Hellenic Authority for Communication Security and Privacy (ΑΔΑΕ) verifies compliance with the provided conditions and procedure, that is to say Articles 3, 4

and 5 of the Law 2225/1994 and the Presidential Decree 47/2005 (Article 19.2 of the Greek Constitution, Article 1 of the Law 3115/2003). Furthermore, the waiving of confidentiality is provided by Article 253 A of Greek Code of Criminal Procedure for organized criminal activity under the requirements of the Law 2225/1994 [Tsolias, 2004].

The French Law 91-646 dated 10.07.1991 provides the waiving of confidentiality to protect the public interest, such as national security, the protection of important scientific and economic elements of France, the prevention of terrorism, crime and organized crime (Article 1 and 3). The Prime Minister, or a duly authorized person, can order the waiving of confidentiality (Article 4). They also should notify their decision to the National Control Commission for the security of interceptions (Commission nationale des contrôle des interceptions de sécurité) (Article 5). Thus, contrary to Greek Law, this administrative procedure does not require the judicial intervention. However, intellectual property is not included in the scope of this Law.

In addition, the waiving of confidentiality is allowed if a magistrate judge or a police officer investigates offenses punishable by more than two years imprisonment (Code de procédure pénale Article 100) [Dupuis, 2001]. Article L. 335-2 CPI provides for three years imprisonment for intellectual property infringements. Therefore, Article 100 of the Code de procédure pénale is applicable for these infringements.

It is worth mentioning that Article 15.1 of the Directive 2002/58/EC provides that "Member States may adopt legislative measures to restrict the scope of the rights and obligations provided for in Article 5 (confidentiality of the communications), […] when such restriction constitutes a necessary, appropriate and proportionate measure within a democratic society to safeguard national security (i.e. State security), defence, public security, and the prevention, investigation, detection and prosecution of criminal offences or of unauthorised use of the electronic communication system […]".

b. Processing personal data in the Greek and French legal systems

Retaining and disclosing contact details also requires processing personal data; this processing should either be notified, or authorized, by the competent authorities (independent Hellenic Data Protection Authority "ΑΠΔΠΧ", Commission nationale de l'informatique et des libertés "CNIL"), depending on the nature of the data (simple or sensitive data) (Law 2472/1997 Articles 6 and 7; Law 78-17 06.01.1978 modified by the Law 2004-801 06.08.2004 Articles 23 and 25).

Article 5.2 (e) of the Greek Law 2472/1997 also allows the processing of personal data without the consent of the data subject concerned, when "the process-

ing is absolutely necessary so that the legitimate interests pursued by the controller, or the third party/parties to whom the data are provided, can be satisfied, and on condition that these interests are obviously superior to the rights and interests of the data subjects, and without compromising their fundamental freedoms" (trans.). Nevertheless, this possibility is not provided by the Article 5.2 of the Law 3471/2006, which specifically regulates the personal data protection in the electronic communications.

Under French Law, the legitimate interests pursued by the controller or by the recipient should not disregard the interests or fundamental rights and freedoms of individuals (Law 78-17 Article 7.5). Therefore, disclosing personal data to third parties without the data subject's consent seems to be possible under these provisions since third parties' legitimate interests to protect their intellectual property rights could make the processing of personal data necessary.

However, even if Article 5.2 (e) is applicable under Greek law, the free and confidential communication should be considered as a fundamental freedom (i.e. Article 19 of the Greek Constitution) and thus the confidentiality should be waived only under the conditions described above (the Greek Law 2251/1994 and the French Law 91-646). By contrast, if the communication via file sharing networks is considered as public and non-confidential communication, the data processing could be possible following a notification to the Greek data protection authority or an authorization by the French data protection authority (refer forward to p. 8 second paragraph) [Synodinou, 2008].

It should be clarified that there is no overlapping of powers concerning the competent authority for the protection of personal data and the competent authority for the waiving of confidentiality (in the Greek legal system protection of confidentiality of free correspondence or communication under Article 19 paragraph 1 of the Constitution, protection of personal data under Article 9A of the Constitution, see also the Law 3471/2006 Article 13 for the competence of the two authorities regarding the electronic communications; in the French legal system, protection of communication confidentiality by the Law 91-646 dated 10.07.1991, protection of personal data by Articles 2 and 4 of the Declaration of the Rights of Man and of the Citizen) [Moritz, 2008]. Processing personal data is a broader concept than waiving confidentiality. Disclosing contact data requires both the processing of personal data and the waiving of confidentiality. By contrast, collecting personal data or retaining it requires the processing of personal data, but not the waiving of confidentiality [Papadopoulos, 2007].

The provisions of the Greek Law 2472/1997 are not applied to data processing carried out by the courts or prosecutors in order to investigate crimes punishable as felonies or misdemeanors if committed intentionally, crimes against property

included. However, the provisions of Criminal and Procedure Law are applicable. Therefore, the Law concerning the waiving of confidentiality should be applied and thus processing personal data regarding intellectual property infringements is not allowed (Article 3.b).

Under French Law, processing of personal data relating to offenses, convictions and security measures can be carried out by the courts, public authorities or corporations managing a public service when acting within their legal powers, or the court officers in order to carry out the tasks entrusted to them by the law, or the collecting societies (Article 9 loi 78-17), in respect to other laws and namely the Law HADOPI (refer forward to p. 9). The collecting societies can process users' data if this processing is authorized by the CNIL. By contrast, the autorization by the CNIL is not required if the processing is carried out by the court officers (Article 25.3).

Directive 2004/48/EC (Article 8.1) provides that "the competent judicial authorities may order that information on the origin and distribution networks of the goods or services which infringe an intellectual property right be provided by the [...] person who: (c) was found to be providing on a commercial scale services used in infringing activities" (Articles 63.2 of the Law 2121/1993 and L. 615-5-2 CPI). However, provisions that "govern the protection of confidentiality of information sources or the processing of data" should be respected (Directive Article 8.3).

Directive 2000/31/EC (Article 18) also provides for "the rapid adoption of measures, including interim measures, designed to terminate any alleged infringement and to prevent any further impairment of the interests involved" (see Presidential Decree 131/2003 Article 17).

Further to the above, Article 64 A of the Greek Law provides that "Rightholders may request an order against intermediaries whose services are used by a third party to infringe a copyright or related right" (trans.). Article 65.1 of the Law provides that "In case of infringement of copyright or related right, the author or the holder of related rights may demand the recognition of his right, removing the offense and its omission in the future" (trans.) (see Articles 11 of Directive 2004/48 and Article L. 615-7 CPI).

Moreover, the Court of Justice of the EU, in case C-557/07 (as mentioned above), clarified that "access providers which merely provide users with Internet access, without offering other services such as email, FTP or file-sharing services or exercising any control, whether de iure or de facto, over the services which users make use of, must be regarded as 'intermediaries' within the meaning of Arti-

cle 8(3) of Directive 2001/29". Thus "intermediaries" foreseen in Article 64A of the Greek Law can be also the access providers.

Pursuant to these provisions, the court can impose to a provider a filtering obligation regarding specific webpages infringing intellectual property rights [Kallinikou, 2010].

The first judgement of a Greek court was recently issued on 16.05.2012 (Court of First Instance of Athens, no 4658/2012) [Court of First Instance of Athens, 2012] imposing a filtering obligation to service providers. In this case, following a request of collecting societies, the court ordered the provider to take technological measures to make impossible the access of their subscribers to specific websites, when illegal presentation and exchange of works have taken place on these websites.

c. Application of the French Law HADOPI

In the French legal system, there could be a recession of the protection of users' data information under certain conditions. The implementation of the system of "progressive notification" of a subscriber, the processing of personal data by an administrative authority, the authorization of this processing by the CNIL as well as the imposition of the penalty of interruption of internet access service by a judicial authority are considered sufficient guarantees for the lawful processing of subscribers' data.

To be more analytical, the much-debated law HADOPI (see above to p. 3) imposes a duty of care to subscribers of an internet access service, so as to ensure that no acts infringing intellectual property take place through the use of their internet connection.

The Law HADOPI 1 (nº 2009-669, loi favorisant la diffusion et la protection de la création sur internet, 12.06.2009) was passed after settlement by the General Assembly on 12 May 2009 and by the Senate on 13 May 2009. The law entered into force on 13 June 2009, without the provisions being criticized by the Conseil Constitutionnel in its decision 2009-580 (10.06.2009). This law was modified by the Law HADOPI 2 (no 2009-1311, relative à la protection pénale de la propriété littéraire et artistique sur internet, 28.10.2009) issued after the decision of the Conseil Constitutionnel 2009-590 (22.10.2009). This law was also a subject of dispute between the presidential candidates in recent elections [Hollande, 2012; Frescaline, 2012). This law provides for the HADOPI authority, competent to send letters to subscribers informing them of infringements of intellectual property. The HADOPI authority also recommends them taking safety measures, so that third parties do not repeat such acts by using their connection

and warns them of penalties that may be imposed. In the case of repetitive violations, the authority may send a second letter within six months.

Thus HADOPI authority should process subscribers' personal data in order to send the above mentioned notices. This authority can retain technical data for as long as necessary, so as to exercise the powers conferred to it (Art. L. 331-28 of Code de la Propriété Intellectuelle, "CPI"). The processing of personal data is set forth by a decree issued by the Conseil Constitutionnel, after consultation with the CNIL (L. 331-29). The above decree was issued on 05.03.2010 (Décret n° 2010-236) and modified on 11.03.2011 (Décret n° 2011-264). The HADOPI authority also employs agents assermentés to collect the personal data of internet users (L. 331-21). These certified agents are appointed by the President of the HADOPI authority, under the conditions laid down by a decree of the Conseil Constitutionnel. They are subject to the obligation of professional secrecy (Art. L.331-22). The rightholders may also appoint agents assermentés authorized by the Minister of Culture to establish the infringement of intellectual property rights (L. 331-2), and then either contact the HADOPI authority or appeal to the courts (L. 335-2 to L. 335-4) [Benabou, 2009; Boubekeur, 2009]. It should be pointed out that the agents assermentés provided by Article L. 331-21 differ from the agents assermentés provided by Article L. 331-2, who are not approved by the Minister of Culture.

The matching of IP addresses of internet users to internet access service subscribers is carried out by the HADOPI authority. The identification data of the users after matching can be used only by the HADOPI authority or by a judicial authority. The rightholders or collecting societies cannot have access to this data. Moreover, the CNIL must authorize in advance the processing of personal data (autorisation, Art. 25 loi 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés) [Gautron, 2009].

Should the subscriber not comply with the recommendations of the HADOPI authority, urgent court proceedings could take place after six months from the second letter sent by the HADOPI authority (L. 331-25 of CPI). The court can issue an order for interruption of internet access service, pursuant to Article 336-3. The initial provision that an independent administrative authority (HADOPI) could impose this penalty, was criticized by the Conseil Constitutionnel. Such a severe restriction on the fundamental right of freedom of expression, as depicted in the freedom of internet access, could not be imposed by an authority not providing the necessary guarantees as an independent admistrative authority, but only by a judicial authority (decision of the Conseil Constitutionnel 2009-580, 10.06.2009, §§ 15, 16).

The Conseil Constitutionnel had also, in its decision 2004-499 of 29 July 2004, demanded that the matching of the IP address to a user should be made by a judicial authority and only in the context of judicial proceedings (§ 13) [Colaud, 2009]. The Conseil Constitutionnel, in its decision 2009-580 of 10 June 2009 (§ 27), ruled that the processing of personal data by the HADOPI authority could only be carried out, if the data had been obtained with the intention of use by the rightholder in asking for judicial protection.

The ruling that the processing of personal data must be ordered by a court was also repeated by the CNIL, in its four Deliberations of 15 October 2005 (see Deliberation of the Cnil n° 2005-235, 18.10.2005). Thus, the CNIL refused four collecting societies (Société des Auteurs, Compositeurs et Editeurs de Musique "Sacem", Société civile des Producteurs Phonographiques "SCPP", Société civile des Producteurs de Phonogrammes en France "SPPF", Société pour l'administration du Droit de Reproduction Mécanique "SDRM") to process users' data. However, the Conseil d'Etat, in its decision of 23 May 2007, stated that this argument does not justify by itself the contested decisions (CE 23 mai 2007, n° 288149) [Drouard, 2007].

d. Criticisism against the Law HADOPI

The initial provision that the interruption of internet access service could be imposed by an independent authority had caused reactions at European level. In discussing the Directive 2009/140/EC amending Directive 2002/21/EC, the rapporteur deputy Guy Bono proposed the amendment 138/46, providing that the interruption of internet access service could only be imposed by a judicial authority. This amendment was passed by the Parliament, but not accepted by the Commission. At conciliation, before the Council of Ministers, a less binding version of a "prior, fair and impartial procedure" finally was adopted instead of judicial intervention. However, the principle of proportionality should be taken into account while imposing such a penalty, as a guarantee for the protection of fundamental rights. Specifically, according to Article 1.1.b of the Directive 2009/140/EC, restrictions to "those fundamental rights or freedoms may only be imposed if they are appropriate, proportionate and necessary within a democratic society".

However, the interruption of internet access service, even when ordered by a judicial authority, cannot be accepted without reservations. In the era of technology, the use of the internet is necessary not only for information but, also, for free expression of opinions, or exercise of a profession. For instance, a lawyer must search for case law and articles online. The law expressly provides for consideration in these cases that subscription to internet access service is conducted

by a company or a professional (L. 335-7-2 al. 1). However, a professional does not work only at his office.

Furthermore, professionals should not be treated more favorably than individuals and hence giving the privilege of professional freedom over against the freedom of individual expression. The latter is also a fundamental human right and requires its weighting over the protection of intellectual property. Neverthless, the penalty of interruption of internet access service is not imposed in every case, but it remains at the discretion of the judge.

The Law HADOPI also introduced a presumption of guilt against the subscriber to internet access service (decision of the Conseil constitutionnel 2009-580, § 18) [Bitan, 2009]. The subscriber is assumed responsible for an act infringing intellectual property rights, committed through his internet connection. He may be relieved of liability by proving to have taken the necessary security measures to avoid such acts or by proving either third party's fraudulent conduct or force majeure. Therefore, all subscribers are considered responsible for acts committed through their internet connection, without having contributed in any way to these infringements of intellectual property [Gitton, 2008]. The exemption from their responsibility by reversing the presumption seems extremely difficult. They have to prove that a third party used deceptively their internet connection. It does not constitute adequate evidence that they are not themselves the offenders of intellectual property rights [Colaud, 2009].

However, the subscriber is not liable for intellectual property infringements that a third person has committed (as are parents for the actions of their minor children, Article 1384 of French civil code (Code Civil), Article 923 of Greek civil code). A person could be relieved of his liability if he proves that he has properly supervised (i.e. the usage of his internet connection) or that the injury could not be prevented (under Greek law), or that the parents could not prevent the event giving rise to liability (under French law). Thus, in the case under examination, a strict responsibility is not established due to the actions of a third person, but rather a subjective liability for failing to take security measures for their internet connection.

It should be explained that, under French law, a person liable to an obligation of result can be relieved only by proving that the result is due to some external event (cause étrangère) or force majeure [Colaud, 2009], but not by demonstrating no fault. In the present case, however, the subscriber may be relieved of his liability should he prove not only the presence of an external cause but also no fault. Thus, it seems that there is a reinforced obligation of means and not an obligation of result. [Heinich, 2011]. This responsibility can be compared to the false (νόθο) strict liability under Greek law.

It should also be noted, that the initial law HADOPI 1 provided for a penalty of interruption of internet access service only for the internet user whose internet connection was used for breaching intellectual property rights, and not for the person infringing these rights. The law HADOPI 2 extended the application of this penalty also to the latter, in addition to other penalties that may be imposed to him, i.e. imprisonment, fines (provided by Articles L. 335-2, L. 335-3, L. 335-4 of CPI) [Chavent-Leclère, 2011].

Moreover, despite the neutrality of the used terms, the HADOPI law aims at suppressing file-sharing on networks (peer-to-peer), where there are also other spreading techniques for reproduction of works, such as streaming, or file-sharing in closed networks [Fr. Macrez / J. Gossa, 2009]. It should be noted that the previous law on copyright and related rights of 01.08.2006 (loi sur le droit d'auteur et les droits voisins, DADVSI), was criticized by the Conseil Constitutionnel, in its decision 2006-540 (27.07.2006), for discriminating file-sharing networks to other forms of electronic communication though which intellectual property may be infringed. These comments were taken into account by the legislator, while adopting the law HADOPI (Thoumyre, 2006 ; Tafforeau, 2011].

Although internet access service can be interrupted pursuant to an order of a court, the subscriber still has to pay the fee to the service provider. Thus, he pays a charge not corresponding to a service. However, there is no reason why the provider should take advantage of this amount; the latter did not prevent the intellectual property infringement. Indeed, two active persons on the internet are treated differently [Gitton, 2008]. On the one hand, the subscriber is responsible for intellectual property infringements not committed by himself. On the other hand, the service provider is relieved of his liability for these actions under Articles 12 and 15 of Directive 2000/31/EC (Articles 11 and 14 of Greek Presidential Decree 131/2003, Article 6 of the French Law 2004-575). Therefore, the individual subscriber is treated more severely than the professional provider (as well as than the professional subscriber as seen above, p. 11 first paragraph), while all the parties mentioned are unaware of the infringement of the intellectual property.

The principle of proportionality requires that the penalty should not be extended to telephone connection or cable TV services on the grounds that they are likely to be provided by the same provider [Colaud, 2009].

e. EDPS and Greek case-law regarding the "three strikes disconnection policies"

Further to the above, the European Supervisor of Personal Data (EDPS) has pronounced upon the "three strikes disconnection policies" by considering that "a

three strikes Internet disconnection policy as currently known - involving certain elements of general application - constitutes a disproportionate measure and can therefore not be considered as a necessary measure" (Opinion of the European Data Protection Supervisor on the current negotiations by the European Union of an Anti-Counterfeiting Trade Agreement (ACTA), 2010/C 147/01) [EDPS, 2010].

The Court of First Instance of Athens (no 4658/2012) [Court of First Instance of Athens, 2012] is opposed to the interruption of internet access service. We deem it appropriate to quote part of this extremely interesting ruling: "Technological interventions in the information society where the access service providers interrupt or degrade significantly services over their networks, which are based on p2p technology, so as to deprive internet users from accessing to these [...] as a whole should be considered as incompatible with Greek Law, as contrary to Article 5a paragraph 2 of the Constitution, which establishes the right to participate in the information society, as applied in conjunction with Articles 5 § 1, 5 § 1, 14 § 1 and 16 § 1 of the Constitution and interpreted in accordance with Article 10 ECHR, Art. 19 § 2 of the International Covenant on Civil and Political Rights and Articles 11 and 36 of the Charter of Fundamental Rights of the European Union (with the restrictions of Article 52 § 3 of this Charter). The constitutional right includes, inter alia, the claim to have access to infrastructure of the information society [...] Therefore, the p2p technologies (peer-to-peer) is part of this material and technical infrastructure of the information society [...] These are the most advanced technologies for the time being, in order to transfer information in the internet, and are used for, among others, perfectly legitimate uses. As a concequence, degradation or interruption of access to these services, for the protection of intellectual property, would result in the suppression of such perfectly legitimate uses, and therefore, it would restrict more than necessary the right to participate in the information society and other freedoms provided by the Constitution" (p. 13 of the Judgement) (trans.).

In the United Kingdom, the Digital Economy Act 2010 provides a system of gradual notification of subscribers infringing intellectual property rights, following the example of the Law HADOPI. The copyright owner may apply to a court to learn the subscriber's identity and may bring proceedings against the subscriber for copyright infringement. The interruption of the internet access service can be ordered by the Secretary of State and the right to an appeal process made before a court (a First-Tier Tribunal) is also available [Digital Economy Act 2010; Taylor, 2010]. In Germany, such legal framework does not exist [Szuskin, 2009]. Finally, in France, it seems that maintaining the solution of the "three strikes" system is no longer certain following the presidential elections on 6 May 2012.

II. Obligation to retain data

1. The Directive 2006/24/EC: data retention for security reasons

The providers of publicly available electronic communications services or of public communications networks should retain subscribers' personal data in order to disclose them, if asked. The Directive 2002/58/EC provides for the retention of subscribers' or users' personal data for as long as necessary for the service charge (Directive Article 6.2, see also the Greek Law 3471/2006 Article 6.2). However, Article 15.1 of the Directive 2002/58/EC allows Member States to adopt legislative measures providing for the retention of data for a limited period justified on the grounds of prevention, investigation, detection and prosecution of criminal offences or of unauthorised use of the electronic communication system.

The Directive 2006/24/EC provides for the retention of subscribers' or users' personal data for a period of 6 months to 2 years (Article 6). Providers are required to provide subscribers' personal data to the competent national authorities in specific cases and in accordance with national law (Directive 2006/24/EC Article 4).

This requirement was incorporated into Greek legislation under Law 3917/2011. The data can be provided only to the competent authorities in accordance with the procedure, the terms and the conditions of access set forth in Law 2225/1994 (Article 4). Thus the retained data cannot be used for protecting intellectual property. The Greek legislator has opted for the maintainance of data for a period of one year (Article 6).

Nevertheless, according to Article 5.5 of the Law 3471/2006 (as modified by the Law 4070/2012) "the provider of publicly available electronic communications service must [...] enable the use and payment of these services anonymously or under a pseudonym".

The period of one year is also applied in French law, by Articles R. 10-13 and L. 34-1-III of the Code of Post and Electonic Communications (Code des postes et des communications électroniques, CPCE). This provision was entered into force before the enactment of the EU directive (by the Decree (décret) 2006-358 of 24.03.2006), so the French legislator had not to take additional measures to ensure compliance with the provisions of the Directive. According to this Article, technical data should be retained "for the purposes of finding, detecting and prosecuting criminal offenses, or breach of obligations, defined in Article L. 336-3 of the Code of Intellectual Property, and in the sole purpose of making them available, as appropriate, to the judicial or executive authority (HADOPI)

referred to in Article L. 331-12 of the Code of Intellectual Property" (trans.). Article L. 336-3 provides for the subscriber's obligation to take safety measures in order to protect the use of its access service. Thus, in the French legal system, the retained data can be used for intellectual property protection.

The service provider should retain, in compliance with the above provisions, "the name and address of the subscriber or registered user to whom an Internet Protocol (IP) address, user ID or telephone number was allocated at the time of the communication" (Directive 2006/24/EC Article 5.2.iii). Furthermore, it should be underlined that under no condition the provider can retain the content of communication; an obligation to retain traffic or location data can only be imposed to him (see Directive 2002/58/EC Article 2 (b) and (c) for definitions of such data).

It is worth, however, referring to the reactions of the German Constitutional Court to the German law, providing similar measures, in order to put emphasis on the predominant role of the judicial intervention, in case of serious offences of privacy.

Regarding the duty of the providers of publicly accessible telecommunications services to keep subscribers' personal data, the German Constitutional Court on an interim judgement of 11 March 2008 found that the use of data can only be made in judicial proceedings in progress, for a particular serious violation (Press release no. 37/2008 of 19 March 2008, Bundesverfassungsgericht, 1 BvR 256/08, 1 BvR 256/08) [Press release no. 37/2008; Moritz, 2008]. In its judgement of 2 March 2010, the court confirmed that the use of personal data be allowed only for safety reasons. The court found the provision unconstitutional, by stating that "a duty of storage to the extent provided is not automatically unconstitutional at the outset. However, it is not structured in a manner adapted to the principle of proportionality. The challenged provisions guarantee neither adequate data security nor an adequate restriction of the purposes of use of the data. Nor do they in every respect satisfy the constitutional requirements of transparency and legal protection" (Press release no. 11/2010 of 2 March 2010, Bundesverfassungsgericht, 27.02.2008, 1 BvR 256/08, 1 BvR 263/08, 1 BvR 586/08, Data retention unconstitutional in its present form) [Press release no. 11/2010; Mareau, 2010]

It should be clarified that the legal obligation imposed upon providers to maintain personal data is not, however, applicable to search engines. Search engines are recommanded to maintain users' data for the shortest time possible, i.e. six months. This is thought to minimize risks of possible combination of the data being construed. Indeed, this was exactly the retention period proposed by Article 29 Data Protection Party in the Opinion 1/2008 on data protection issues related

to search engines [Article 29 Data Protection Party, 2008]. However, it should be noted that prior to this proposal, some search engines were retaining users' personal data for a period of 18-24 months [Waters, 2009; Sullivan, 2007].

2. Article 6-II and 6-III of the French Law 2004-575: data retention for identification reasons

Article 6-II of the French Law 2004-575 imposes on service providers the obligation to maintain data of users who contribute in creating content published on a website. The providers may have to communicate such data to a judicial authority. Article 6-III of that law, explicitly gives a list of data information which persons with a professional activity as a content editor should make available to the public. By contrast, individuals may retain anonymity; their data may not be published on a website; it suffices to provide this information to the provider. Therefore, hosting providers, such as "Dailymotion", "youtube.com", "eBay", should maintain the data of these users. Service providers are subject to professional confidentiality regarding any information leading to identifying the persons concerned; however, this privilege cannot be invoked before a judicial authority [Derieux, 2008]. Therefore, in a case whereby the content published on a website infringes intellectual property rights, the identification of the editor could be possible due to the data retention obligation imposed upon the provider, pursuant to Article 6-II [Szukin / Guillenshmidt, 2008].

Another issue raised concerned which personal data the providers had to demand from users and maintain. More analytically, if it was sufficient to maintain the user's IP address, based on the assumption that the user of the online service is the subscriber to the internet access service. The court held that it suffices to maintain only the e-mail address and IP address of the content editor, in the absence of the provided decree (décret) regarding the data to be maintained by a hosting service provider (TGI Paris, 07.01.2009, Jean-Yves Lafesse a.o / YouTube) [TGI Paris, 2009]. By contrast, as Criqui observes, the providers should maintain complete identity data (such as name, address, etc.) of the content editors, as required by Law 2004-575. The verifiability of this data has no effect on the editors' obligation to provide valid identification data, when acting in good faith [Criqui, 2009].

Further to the above, until recently, there was no legislative provision on whether a hosting provider should confirm data provided by a user. According to case-law, if the data declared by a user is obviously false, the provider should ask for evidence (i.e. Tribunal d'instance de Vienne, 12.11.2010, Vincent M. v. eBay International AG) [Tribunal d'instance de Vienne, 2010]; CA Paris, 07.06.2006, Tiscali Média v. Dargaud Lombard, Lucky Comics [CA Paris, 2006]). However, the Supreme Court refused to impose upon providers an additional obli-

gation, given that the law does not require the verification of the identification data (Cass. civ., 14.01.2010) [Cass., 2010]. Other judgements of the courts of first instance have confirmed the provider's obligation to retain data, but not to verify them (TGI Grenoble, 01.02.2007, Jean-Pierre Contoz c/Sté eBay international) [TGI Grenoble, 2007; E-commerce et escroquerie: irresponsabilité d'eBay, 2007]. Furthermore, a judgement concluded the presence of providers' negligent conduct resulting in depriving the victims of suing against infringers; thus, a tort under Article 1383 of Code Civil was established (TGI Paris, 16.02.2005, Sté Dargaud a.o. v. Sté Tiscali Media) [TGI Paris, 2005].

In any case, the Decree 2011-219 of 25 February 2011, issued seven years after the publication of the law providing for its issuance, listed personal data to be maintained [Castets-Renard, 2011]. It includes the bank reference of the payment as well as the payment amount regarding a paid e-service. However, data processing aiming at identifying the users hardly justifies maintaining all this information [Chafiol-Chaumont, 2011]. Moreover, it is not justified to maintain the password for access to electronic services [Grégoire, 2011]. These passwords are normally encrypted, so they remain unknown to the provider. An additional risk is also the standard use of the same password to several different online services. Therefore, the invasion of a users' privacy can take a heavy toll in the case of theft of these codes [Chafiol-Chaumont, 2011].

The data retention period provided by the decree is one year (Article 3). That is exactly the same period as foreseen in Articles L. 34-1 and L. 34-1-III CPCE. There is also a provision to cover the excessive cost of providers due to this requirement. It is worth referring to the Decision of the Conseil Constitionnel 2000-441 (28.12.2000) stating that "in compliance with the constitutionally guaranteed freedoms, requiring operators of telecommunications networks to establish and operate the technical devices that permit interceptions justified by the needs of public safety, and to contribute in safeguarding the public order, in the general interest of the population, is outside the scope of the operation of telecommunications networks; therefore, the operators should not cover directly the above resulting costs, given the nature of these actions" (trans.). In addition, the competitive disadvantage to small providers, who will possibly have to pay a disproportionate amount in relation to their infrastructure, in order to maintain all these data, should not be ignored.

3. LOPPSI 2: data retention for strengthening national security

The recent French Law 2011-267 of 14 March 2011 on guidance and planning for the strengthening of national security (loi d'orientation et de programmation pour la perfomance de la sécutité intérieure, LOPPSI 2) enables remote access to a user's computer for detection of certain crimes, if allowed by a judge, for a

maximum period of four months (Article 36). In no case is it allowed that this law be applied to intellectual property infingements.

By contrast, the German Constitutional Court, in its judgement of 27 February 2008, refused to allow remote access to a user's computer and established the principle of guaranteeing the confidentiality and the integrity of information systems. The court found that there is a breach of the principle of proportionality of the measures available to authorities, to gain access to information, when their obligations are not clearly specified (Press release no. 22/2008 of 27 February 2008, Bundesverfassungsgericht, 1 BvR 370/07 1 and BvR 595/07) [Press release no. 22/2008; Guerrier, 2011].

We conclude, that, while, in principle, the retention and the subsequent processing of personal data was the exception, following the adoption of Directive 2006/24/EC, of the Greek Law 3917/2011, of the French Decree 2006-358, of the French law 2011-267, it has become the rule. Before the adoption of the Directive, the EDPS had not been convinced of the necessity to impose an obligation upon the service providers to retain personal data. The EDPS also proposed that the duration of data retention should be limited to 6-12 months instead of the initially proposed period of two years [EDPS Press Release, 2005]. However, by invoking the need to combat criminal activity, especially after the terrorist attacks in New York, Madrid and London, the European legislator overcame the reactions expressed regarding the restriction of privacy.

Moreover, as Lorrain/Mathias observe, "The severity of the law imposes on the economy a significant risk of offshoring activities of providers outside the borders of the European Union" (trans.) [Lorrain / Mathias, 2007].

Concluding remarks

The protection of intellectual property (Article 17 of the Greek Constitution, Article 2 and 17 of the French Declaration of the Rights of Man and of the Citizen) is in conflict with the protection of privacy (Article 9 of the Constitution, Articles 2 and 4 of the Declaration, Article 8 ECHR, Article 7 of the Charter of Fundamental Rights of the European Union), the protection of personal data (Article 9A of the Constitution, Articles 2 and 4 of the Declaration, Article 8 ECHR, Article 8 of the Charter of Fundamental Rights of the European Union), the freedom of expression (Article 14 of the Constitution, Article 11 of the Declaration) and the communication confidentiality (Article 19 of the Constitution, Articles 2 and 4 of the Declaration). The result of the conflict is left to national regulators, since the Court of Justice of the European Union declined to resolve the issue at European level. The national regulators should take into account the general principles of proportionality and of necessity.

Under Greek law, the waiving of confidentiality for intellectual property infringements is not allowed; thus disclosure of the users' data is not allowed under any circumstances in order to investigate such offenses.

Under French law, the courts and the collecting societies can process data regarding offences, in respect to other laws, namely the Law HADOPI. Thus the HADOPI authority may process users' data in order to send letters to subscribers informing them of intellectual property infringements they have committed by them. Therefore, the rightholders have no access to users' data without judicial intervention and users' privacy is adequately protected.

As indicated above, the main debatable issue, as was addressed in this paper, is the existing conflict between intellectual property and personal data protection. A further issue that the paper addressed is the area whereby conflict does not exist (second area). There is also a third area, where intellectual property and personal data are in a degree of conflict but can neverthless be reconciled.

The second area concerns the works available with licenses Creative Commons (CC) as well as the open source software. The CC licenses contain various terms of the licensed use, i.e. providing attribution to the original creator and licensor (BY), prohibiting the commercial use of the work (NonCommercial, NC), permitting reuse provided the work is not modified (NoDerivatives, ND), allowing modifications and, requiring modified works to be released under the same license (ShareAlike, SA) [About the licenses, 2012; Frequently asked question, 2012]. As for the open source software, the licensed use varies depending on the granted license, i.e. the GNU GPL license (General Public Licence of Free Software Foundation) allows modifying the software, requiring the licensee to disclose the source code in case of further redistribution [Cool / Laurent, 2005]. Therefore, in these cases, there is no intellectual property infringement since the use of works is in accordance with the conditions laid down therein. The Greek as well as the French "creativecommons" website (but no the "www.creativecommons.org") clearly state that licensed CC works can be exchanged via file-sharing networks. To be more analytical, the Greek website states that "All Creative Commons licenses explicitly provide for an exception for file sharing. The licenses provide that exchanging works via the internet (online) is not a commercial use, if it is not taking place for an economic advantage" (trans.) [Application of Creative Commons, 2012]. On the French website, it is mentionned that "The aim is to encourage a simple and lawful circulation of works, the exchange and the creativity; thus, the sharing of works, on P2P networks (peer-to-peer) or otherwise, is permitted" (trans.) [FAQ, 2012]. Therefore, there is no need to disclose users' personal data in case of exchanging works bearing such licenses.

In the second case, the rightholders of these works have, in principle, exclusive rights. It is, however, possible to sign agreements with platforms on which their works are available in exchange for a fee. Such an agreement also takes into account the interests of all parties. The interests of rightholders are taken into account: they receive remuneration for making available their works on the platforms and benefit from greater visibility of their works. We could just think that there are artists who allow access to their works, even for free, in order to become quickly known by a wider audience. Others favour the free movement of ideas and creations, sharing them with all the online community, inspired by Open Source Initiative [The Open Source Definition, 2007]. It should be clarified that Open Source Initiative differs from Free Software Foundation. The first one supports the idea that a work belongs to the community. Therefore, no royalty or other fee should be required. The second one argues that using the word "free" does not mean offering without charge, but offering a work with the source code [Renard, 2000; Roquefeuil, 2007; Avgerinos/Tsavos, 2006]. On the other hand, the interests of the platforms are also taken into account: they provide richer content to the public. Thus, a large audience wishing to have access to these platforms results in increased revenue from advertising. For instance, the platform Dailymotion has already concluded agreements, from 18 October 2007, with collecting societies, to make available works of creators managed by these societies on the internet, by paying a determined fee [de Martino, 2008]. However, Sirinelli was not convinced of the efficacy of this agreement and has pointed out that signing an agreement between platforms and collecting companies managing intellectual property in animation is inadequate, since an agreement of related rights holders (singers, musicians, actors, etc.) is also required. Otherwise, the rights of the latter would be infringed [Sirinelli, 2009].

These agreements offer one more benefit to the platforms. They help platforms to be exempted from any liability for intellectual property infringement and from any obligation to take filtering action. In principle, the platforms as hosting service providers, are not liable for the contents published on the platform if they are unaware of it (i.e. if they have not received notification for illegal content). In addition, despite decisions by national courts imposing a filtering obligation on platforms or the obligation to take safety measures, in order to prevent intellectual property infringements (CA Paris, 09.11.2007, eBay v/ DWC [Saint-Martin, 2007]; TGI Troyes, 04.06.2008 [Saint-Martin, 2008]; TGI Paris, 13.07.2007, Nord Ouest Production v/ SA Dailymotion [Tabaka, 2007]), the Court of Justice of the European Union ruled, in case Scarlet Extended SA v. SABAM a.o. (Judgement of 24 November 2011, C-70/10), that a general filtering obligation cannot be imposed on service providers [Troianiello, 2012]. According to the Court, it cannot be required from the provider "to install a system for filtering all electron-

ic communications passing via its services, in particular those involving the use of peer-to-peer software". Furthermore, the Court has stated, in case L'Oréal SA a.o. v. eBay International AG a.o. (Judgement of 12.07.2011, C-324/09), that "the measures required of the online service provider concerned cannot consist in an active monitoring of all the data of each of its customers in order to prevent any future infringement of intellectual property rights via that provider's website. Furthermore, a general monitoring obligation would be incompatible with Article 3 of Directive 2004/48, which states that the measures referred to by the directive must be fair and proportionate and must not be excessively costly". The possible imposition of a filtering obligation provided in the draft law HADOPI 1 had been eventually removed as it was not possible to determine clearly the filtering measures nor to estimate the cost of implementing these measures [M. Colaud, 2009]. This paper has also referred to the first judgement of a Greek court ordering the provider to take technological measures regarding specific webpages [Court of First Instance of Athens, 2012].

In addition, filtering content on a website by using methods as digital watermarking, audio or image fingerprints is a wide spreading technique available for the protection of intellectual property, i.e. technology "Audible Magic" used by MySpace and Facebook, "Signature" technology used by Dailymotion, "content ID" used by YouTube. Education of users so as to respect others' rights, i.e. the letters sent by the HADOPI authority or educational messages on websites, is also of essential importance in order to protect intellectual property [Audible Magic, 2011; Dailymotion, 2008].

Moreover, in French legal system, a discussion for a system of "global license" (licence globale) was launched, during the drafting of the Law DADVSI, that makes it possible for users to pay providers a fee, redistributed to rightholders, depending on the volume of downloaded works [Thoumyre, 2006]. Finally, the proposal was rejected due to the reactions to it. A similar discussion was open in Belgium [Lalieux, 2010].

However, there is no intellectual property infringement, if we accept for downloads the exemption for private use (i.e.TGI Paris, 08.12.2005, the court held that the accused had no information as to whether the works are protected by intellectual property) [Thoumyre, 2006]. This exemption is not accepted by the case-law in most cases. It seems that the exemption of private copying cannot result in making legal the reproduction of an illegally acquired work (i.e. Tribunal de Grande Instance de Rennes, 30.11.2006) [TGI Rennes, 30.11.2006; Thoumyre, 2007]. However, it has been argued that making lawfully a copy for private use does not require the possession of the original work or of an authorized copy [Macrez, 2005]. In addition, downloading via file sharing networks does

not meet the requirements of the three step test (Berne Convention for the Protection of Literary and Artistic Works Article 9.2, Directive 2001/29/EC Article 5.5, Law 2121/1993 Article 28.C, Articles 122-5 and 211-3 CPI), since such reproduction conflicts with a normal exploitation of the work and unreasonably prejudices the legitimate interests of the creator.

Furthermore, rightholders can use technological measures designed to prevent or restrict acts not authorized by them (see Paragraph 47, Preamble to the Directive 2002/29/EC). However, "any such rights-management information systems [...] may, depending on their design, at the same time process personal data about the consumption patterns of protected subject-matter by individuals and allow for tracing of on-line behaviour" in compliance with Directive 95/46/EC (Paragraph 57, Preamble to the Directive 2002/29/EC).

Of particular interest is the ACTA (Anti-Counterfeiting Trade Agreement), already signed (but not ratified) by Australia, Canada, Japan, South Korea, Morocco, New Zealand, Singapore and the United States. The European Commission and its Member States (22 of them) signed this Agreement on 26.01.2012 [Contrefaçon: l'Union Européenne signe le Traité ACTA, 2012; Signing Ceremony for the Anti-Counterfeiting Trade Agreement (ACTA), 2012]. However, it should also be approved by the European Parliament in order to become a committed text for the European Union. The European Commission had proceeded with negotiations with other parties, without having informed the European Parliament. Apart from the secrecy of the negotiations, reactions were also caused because the text under negociation came to public attention only during the final stage of negociations, whereas Article 207.3 of TFEU provides that "The Commission shall report regularly to the special committee and to the European Parliament on the progress of negotiations" [ACTA: appel du Parlement européen à la transparence, 2010]. It should be noted, however, that most of the provisions which caused reaction were deleted in order to reach agreement. Thus, the gradual process of notification (the "three strikes" system) in order to impose the interruption of internet access service was not adopted. As for the subscribers' identification, states may require providers to disclose the personal data of copyright or related rights infringers (Article 27.4). Furthermore, Article 23.1 refers to copyright and related rights piracy on a commercial scale, without providing explicitly for exceptions that should be considered as fair use (i.e. private copying, use for criticism or teaching).

All this discussion for ACTA takes place at a time when U.S. Congress seems to abandon SOPA (Stop Online Piracy Act) and PIPA (Protect Intellectual Property Act) because of the reactions that the restrictions imposed on free use of the internet have caused at the other side of the Atlantic Ocean. The two acts

have allowed in their proposals that the Ministry of Justice could publish lists of problematic websites (black lists) and could command internet service providers to block access to these sites. Furthermore, rightholders could demand that the providers take preventive measures upon a simple notification, while the latter could be relieved of their liability of blocking innocent sites [Les geeks font plier le Congrès, 2012].

Finally, it is possible that the European Parliament will not approve ACTA. The digital agenda commissioner Neelie Kroes admitted that "We are now likely to be in a world without [the stalled US act] SOPA and without ACTA. Now we need to find solutions to make the internet a place of freedom, openness, and innovation fit for all citizens, not just for the techno avant-garde" [David Meyer, 2012]. A condition of freedom, openess and innovation is the protection of users' privacy.

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Is GATTACA Already Here? An Interdisciplinary Approach to the Forensic Landscape of Biobanks

Rossana Ducato & Ilaria Marchi

"There is no gene for fate"

Vincent Freeman, GATTACA

1. Introduction

In the movie GATTACA, Andrew Niccol tells us about a dystopian society whose basic law is the genetic code. All citizens are cataloged in a database and, on the basis of genetic makeup, they are selected in both professional and personal relationships. In GATTACA, DNA is also used to conduct criminal investigations: because of a lash found at the crime scene the main character, Vincent Freeman, will be falsely accused of manslaughter…

For some years, this scenario no longer belongs to the realm of science fiction. With advances in technology, the double elix of DNA is showing an arsenal of potentialities in medical, scientific and social panorama. However, the use of genetics in the forensic field has raised several concerns from a legal point of view. On the one hand, the lawyer is called upon to face an ever-evolving technology that challenges his traditional categories; on the other hand, technology itself offers to lawyers the possibility to pursue the objectives of the law in a more efficient way. This complex relationship can be appreciated only with a multidisciplinary approach, connecting esponents of the different disciplines that come into play (Pascuzzi, 2010).

Furthermore, different areas of law, that are often considered separate and uncommunicating worlds, have also been called in this particular context: private and criminal law. We shall see that the forensic use of bioinformation raises not only procedural and criminal law crucial aspects, but also several issues in civil law. Moreover, the interactions between these two branches of law could benefit the provision of a more efficient and homogeneous policy with regard to forensic biobanks, familial searching and the investigation access to research biobanks.

Hence, in the first paragraph we will outline a general overview on the use of bioinformation in the criminal investigation context. Because the biological samples and genetic data are stored in dedicated structures, we will analyze the legal landscape of forensic biobanks, as delineated by international and regional provisions, and we will explain the main models adopted in EU. After that, we will focus on the most crucial aspects emerging in criminal law with regard to the seizure of anonymised DNA samples, the procedures of DNA dragnets and familial searching, and the potential return to a deterministic trend in evaluating the social dangerousness of a person under investigation or already convicted of a crime. Finally, we will point out the possible impacts of such practises in a civil law perspective, with regard to the right to privacy and data protection. The map of the legal issues mentioned above will become more complicated if we consider the use for investigative purposes of non-forensic biobanks.

2. The use of bioinformation in criminal investigation

The introduction of DNA testing into criminal justice systems has modified the previous model of investigation, which was only based on the collection of fingerprints, a biologic two-dimension evidence, which permits the identification of an offender without the disclosure of sensitive information.

On the contrary, DNA is a far more reliable proof, not only because it is an excellent source of personal data, but also because it could reveal a lot about health, genetic disorder and susceptibilities of the individual. All this information could have a great role even during the proceeding - i.e. in case of dragnet or familiar searching – since the Public Authorities can manage the whole sample, and not only the non-codifing part, thus obtaining clues even if the blood-print is deteriorated. This is the reason why the results of the DNA tests must be kept under strict control in order to avoid abuses and illicit uses (Simoncelli and Krymsky, 2007).

Hence, according to the Council Resolution of 25 June 2001 on the exchange of DNA analysis results – now implemented from the Charter of Human Rights of the European Union – Member States should only use a specific list of seven DNA markers to create a DNA profile, which could be legitimately stored in a forensic biobank, specifically set up for the purpose of criminal investigation. The profile could be defined as a numerical representation of ten regions of DNA sequence, traditionally called "junk DNA" because it allows only to verify the identity of an offender without any possibility to disclose information about genetic or hereditary characteristics (Human Genetic Commission, 2001).

The problem rises when the terms DNA sample and DNA profile are considered interchangeable by national legislators, even if the storage and the subsequent

test on biologic samples has a different influence on the criminal proceeding: on the one hand, DNA samples allow the Public Prosecutor to easier identify the possible author of the crime, on the other hand their retention could increase the risk of infringement of rights and civil liberties of the offender and of his relatives, especially in those systems in which the discretionary power of the judge must supply the lack of regulation. Thus, in the field of genetic investigation the better solution would be the adoption of a policy directed to the unification rather than harmonization of DNA evidence-rules.

The European Data Protection Supervisor underlines that «the exchange should not relate to more types of data than strictly necessary, with a possibility of an anonymous exchange of data, and should take place under strict conditions of data protection» and it points out that in any case, DNA profiles should be considered as dynamic, because «an innocent DNA profile at a certain moment in time, may at a later stage reveal much more information than expected and needed. (EDPS - Opinion 2006/C 116/04, par. 51- 57).

The Prüm Treaty gives a very wide discretion to Member States in the definition of the criteria on the factual conditions of the collection and the retention of DNA profiles; hence the real challenge in Europe is to avoid that, in any case, emergency-powers or a superior interest in crimes persecution overcome fundamental rights.

An unclear situation, as the one above, allows police agents to gain access to biobanks created for every kind of purpose, which store samples representing a full genetic mapping of the individual and not only a limited "genetic print" (Picotti, 2003). This activity permits a constant mass screening of the population which, in the absence of provisions which can limit the retention of samples, will be treated as a "suspect" for their entire life.

On the 30th of June 2009, the Italian legislator adopted the law n. 85, which ratifies the Prüm Treaty and sets up the first official DNA biobank. Nevertheless, it has not been enacted yet so, at the present time, each public or private institution – National Police, Arma dei Carabinieri – has an unofficial biobank that does not comply with the Prüm Treaty, but only with the guidelines of the Italian Privacy Authority. The DNA Investigation Unit of the Forensic Science Service «established its Combined DNA Index System (CODIS) program in January 1999 starting with the implementation of an STR population database» (Biondo, 2000).

The case of Zefi Ilir in 2004, which was about the supposed blood-weeping of the Virgin, caused a deep scandal and a strong reaction of the press that stigmatised the "illicit dossier activity" of the police for the illegal storage of biologic samples. In 2007, the Privacy Authority decided to search the database of the

Unit of Forensic Science Service of Parma and found a collection of 19.000 DNA profiles, electronically and randomly stored: 5.100 of them were anonymously collected at the crime scenes; 2.200 were taken from suspects and 11.700 derived from victims and from individuals identified during the investigation, but never charged (Gennari, 2011).

This overview shows that the decision of taking part in research programs could seem a good one, but it is also unwise, because these collections may become an extension of the forensic biobanks. In Scotland, in the case of a man charged with recklessly infecting a partner with the HIV virus, the prosecution sought access to a blood test that the defendant had previously voluntarily provided, as part of a health testing program in a prison. The defence assumed that the evidence was not admissible but the High Court pointed out that «the interests of everyone that serious crime should be effectively investigated and prosecuted outweighed any confidentiality concern so that the patient-doctor relationship does not permit doctors to decline to give evidence that may incriminate their patients» (*Her Majesty's Advocate v. Stephan Robert Kelly*[1]).

The same conclusion was reached in Sweden, in the case of the murder of the Minister of Foreign Affairs, Anna Lindh: the Chief Prosecutor submitted an instance of confiscation in order to get the blood sample of a 24-year-old man, which was stored in the PKU biobank. The PKU biobank contains a collection of blood tissue taken from almost every baby born in Sweden from 1975. The police already had a partial DNA profile of the man but they needed the entire sample to verify the matching with the traces found at the crime-scene. The offender was convicted thanks to the compliance of the Head of the biobank, who handed over the sample in clear violation of the Swedish Biobank Act. The Act states that all collected blood samples may be used only for research purposes and with the consent of the person concerned or in a pseudonymised form.

After the confiscation, the National Board of Health and Welfare launched an investigation into the release of the sample. However, the Head of the PKU and his staff have not been subjected to any reprimand, although their excess of cooperation was heavily criticized. Hence, the Board proposed a review of the legislation suggesting the statement of a clear hierarchy «where the Biobank Law would enjoy a higher priority than the Rule of Legal procedure in case of conflict» (Hansson and Björkman, 2006). From a judicial point of view, since the police activity was not unlawful, the representatives of the biobank had to cooperate with the Authorities.

1. (2001) Scot HC 7.

In this case, as well as in similar ones, the real problem is the lack of criteria to strike a fair balance between the interest of the donor over the control of every future hypothetical use of his DNA and the interest of the State over prosecution and prevention of crimes (Häyry et al., 2007).

3. Legal aspects of forensic biobanks: a comparative overview

From the notorious case of Colin Pitchfork (the first sentence based on DNA fingerprinting evidence, as a result of mass DNA screening, Jobling and Gill, 2004), DNA analysis has become increasingly relevant for law enforcement purposes. More recently, it has been recruited into the fight against terrorism and cross-border organized crime. In fact, technological advances in molecular genetics, statistics and informatics have made more efficient and effective criminal investigations and automated searching, showing the importance of tools such as forensic biobanks. The latter allows the linkage of DNA-profiles from crime-related biological trace material to each other and to the possible donors of that biological sample (ENFSI, 2011): so, the main purpose is the identification of perpetrators and victims (Bárd, 2009).

Forensic biobanks are usually made up of: a) the DNA database, containing the DNA profiles (i.e. "a letter or number code which represents a set of identification characteristics of the non-coding part of an analysed human DNA sample", see art. 2 lett. c of Council Decision of European Union 2008/616/JHA); b) a central laboratory, that is the biorepository where are stored the biological samples from which the DNA-profile has been generated. Forensic biobanks have a "double nature", because the material dimension of the biorepository is often pushed into the background but, as we will explain in the next paragraphs, it entails relevant consequences from the legal point of view.

Unlike other types of biobanks, those forensic have received a precise regulation over the years. The first prototype was established in the USA, where in the late 1980s the project that would lead to the creation of CODIS (Combined DNA Index System), the DNA federal database funded by FBI, was launched. Later in Europe a series of national databases were set up. They collect DNA profiles derived from biological samples culled from crime scene evidences or derived from suspects, convicted persons, arrestees, missing persons, relatives of missing persons, volunteers, victims, and unidentified remains. So, the UK National Criminal Intelligence DNA Database, well known as the United Kingdom National DNA Database (NDNAD), was created in 1995; the Netherlands and Austria have set up a national DNA database in 1997, followed by Germany and France in 1998, Finland, Sweden and Norway in 1999, Switzerland, Belgium and Denmark in 2000, Spain in 2007.

Finally, in 2008 the European Union converted the Treaty of Prüm into EU legislation, according to which, every Member State is required to set up a DNA database and to make it available to the other European countries in order to implement the exchange of DNA data - but also dactyloscopic data and vehicle registration – to enforce police and judicial cooperation in criminal matters.

Despite these recent trends toward harmonization, the solutions adopted by single Member States are dissimilar. They differ in the criteria for the inclusion of DNA profiles, the storage time, the conditions for removal, the degree of involvement of the judicial authority (Stefanini, 2008). However, this "legislative geography" is referable to three main models: the English, the French and the German one (Novelli et al., 2011). The National DNA Database Date (NDNAD) of the UK is the example that puts fewer restrictions. In addition to crime-scene material traces and samples taken from volunteers, it receives DNA profiles from anyone arrested and detained in police custody in connection with a recordable offence. In this case, the non-intimate samples (as a mouth swab) can be taken without consent (Murphy, 2006). Furthermore, before the ECHR decision in the -S. and Marper- case[2], samples and DNA-profiles could be stored indefinitely in the forensic biobank.

On the contrary, in the French model (Fichier National Automatisé des Empreintes Génétique), only those samples coming from persons convicted of or charged with a serious offence, specified by law may be collected. The sample and the DNA profile can be retained for 40 years after the conviction or 80 years after the individual's date of birth. The suspect's profile can be removed by motion of the public prosecutor or of the same individual when the storage is no longer useful for investigation purposes. The sample has to be destroyed only after the acquittal of the suspect.

Finally, the German example is an intermediate solution, because as well as the profiles of people convicted of or charged with a serious offence, an additional entry standard consists in a prognostic evaluation made by the judge about the risk that the convicted person could repeatedly commit the same minor offence. Profiles and samples are deleted when their retention is no longer necessary.

Beyond doubt, the promise of forensic genetics is enticing and DNA national databases offer greater efficiency in the investigation, timeliness in enforcement action, and saving in economic and human resources (Novelli et al., 2011). Moreover, some governments justify DNA database provisions with the 'no reason to fear if you are innocent' argument (Levitt, 2007).

2. *S. and Marper v. United Kingdom,* (2008) ECHR 1581.

Nevertheless, forensic biobanking appears deeply troubling, because it refers to a sensible aspect such as the genetic identity of a person, posing complex legal, social and ethical issues. Potential risks for fundamental rights can come, on the one hand, from the functioning in itself of the biobank and, on the other hand, from the further extensions of its scope, such as in case of familial searching. This subject, as described by the Italian Privacy Authority, requires a balance between two fundamental rights: public security and the right of the individual to the collective liberty of the citizens.

4. DNA: the silent eyewitness. A criminal law perspective

The effect of DNA tests on criminal proceedings is not so revolutionary as one may think, because DNA cannot ground a charge alone. Further evidence is still required to obtain a conviction. Moreover, a match between the crime-scene DNA and a profile stored in a forensic database does not mean a plea of guilty, because «a murder suspect might have acted in self-defence or there may be some other reason to account for the presence of DNA found at the crime scene» (Rothstein and Talbott, 2006). Despite this, we cannot deny that the chance to identify a potential offender will increase. Accordingly, the prosecutor has a great interest in gaining access to every kind of biobank – not only the forensic ones – in order to screen a larger number of samples. This allows her to find a match and to collect other useful information, such as medical, racial or ethnic ones (Gennari and Piccinini, 2012).

This procedure rises a lot of issues on the violation of fundamental rights and liberties because the routinely trawling of these databases «renders the people whose personal data are included as suspects for any and all future crimes» and makes the set up of forensic –or criminal– biobanks totally meaningless (Simoncelli and Krimsky, 2007).

Looking at the constitutional framework, we can assume that the exploitation of the samples stored in biobanks for forensic purposes could violate the right to privacy, the dignity of a person, the presumption of innocence, the equality principle and the right not to testify – in the sense of refusing to cooperate with the prosecution. Egalitarianism was paradoxically used to support the idea of the extension of State power in order to create universal databases, because only a policy that applies to all citizens can be considered non-discriminatory (Simoncelli, 2006).

The aim of the paragraph is to enshrine the effects that the overcoming policy of the "superior interest in persecution of crimes" has on the above rights and liberties, through the focus on four main issues, depending on the exploitation of biologic samples –and not only profiles– available in a biobank: 1) seizure of

anonymised DNA samples 2) DNA dragnets 3) familial searching 4) the potential return to a deterministic trend in evaluating the social dangerousness of a person under investigation or already convicted of a crime.

4.1. Seizing genetic exceptionalism

As it has happened in the Anna Lindh case, the Public Prosecution could decide to submit an instance of seizure or confiscation to get a DNA sample stored in a biobank, both when the State does not have a forensic biobank or when it is not possible to find a match in it. Moreover, in case of serious crime investigation, it is possible to predict that no judge would refuse to sign an order to scan a biobank even in the lack of a specific legal provision.

Nevertheless, the main issue is the anonymising procedure: In order to protect the privacy of the donors, every stored DNA sample is characterised by an alphanumeric code that permits the future identification of the individual. The only person that holds the key for the "decryption" is the Head of the biobank.

According to that, several questions arise: can the Head of the biobank refuse to cooperate? Or has he a specific duty to disclose the information if requested by the police? Only if we assume that he has no duty to cooperate during the investigation, we can exclude his liability for aiding and abetting and for every other charge connected with data retention.

In Germany, there is no legal ban for security services to access a biobank and the possibility for third parties to gain such personal data raises central questions as to right of personality and privacy. This was the reason why the *Deutscher Ethikrat* in 2010 prepared an opinion on Human biobanks with research purposes, where they noted that «although there are no specific provisions for biobanks, there are models for this in current law that can be used, and suggest that there must also be provisions defining the right to refuse to give evidence for persons with a duty of professional discretion which prevents these persons from having to testify as witnesses and thus break their duty of professional discretion to state agency» (Santosuosso, 2013).

The main points of the Opinion are listed at number 29, 30 and 31, which state:

- the constitutionally guaranteed freedom of research under article 5(3) of the Basic Law suggests that data traffic within the domain of research should be given particular privileges and should be separated from other (non-academic) domains. (…) all persons who have de facto access to data keys and identifying data should be included in the group of person with a duty of biobank secrecy;

- biobank secrecy should include a right to refuse to give evidence and prohibition of seizure;

- (…) The right to refuse to give evidence is justified for the protection of the general right of personality and the right to informational self-determination (*Persönlichkeitsrecht*) under Article 1, in conjunction with Article 2 of the Basic Law.

A similar operation, aiming at creating a biobank secrecy in the Italian legal framework, could be done through an analogical interpretation of article 200 of the Code of Criminal Procedure that rules the "Professional Secrecy"; people like doctors, priests, lawyers, who can assume personal and sensitive information have not a duty to testify on them and are legally allowed to keep the secret.

4.2. DNA dragnet: a suspicious procedure

In 2002 in Dobbiaco, Italy, an old woman was raped and killed in her home. The police officers collected a lot of biologic traces at the crime scene in order to obtain the DNA profile of the murderer. The profile did not match with the ones taken from the suspected individuals but, thanks to the analysis made, the prosecution noted the presence of genetic features, typical of that small community.

Voluntary blood samples were requested from all male residents to make a long-stringency search that permitted police to identify the murderer through the genotype of his father.

This kind of procedure is called DNA dragnet and it is a new method of investigating crimes which aims at the collection of samples, with their consent, from a large number of people who live or work near the crime scene, in order to find any proof – such as unjustified refusal or abnormal behaviours – that could direct investigations on a specific suspect.

The claim that DNA dragnet is based on a voluntary decision of the "donor" has been widely criticised because people who refuse to give the sample could be stigmatized by the society and treated as suspects. During "Operation Minstead", 1.000 black men in south London were requested for a volunteer DNA test to investigate on a serial rapist. The 125 individuals who refused the blood sample received "intimidating" letters from the police to reconsider their decision and five were arrested and forced to give a biologic sample (McCartney, 2006).

This method could undermine the basic principle of a fair trial and in particular it could reverse the presumption of innocence because all people requested for a sample are considered and treated as suspects unless they decide to voluntary cooperate.

A further crucial issue is deeply connected with the equality principle: all the tissues taken from "innocent" people are included in forensic biobanks, together with the ones of the offenders, but without any guarantee of future removal. There is no provision regarding the future of those samples because national

laws, dealing with DNA samples which must be destroyed, refer only to DNA samples belonging to people not charged with a crime at the end of the investigations or acquitted. A possible solution could be based on a broad interpretation of the Marper decision in order to apply the principles and the limits of retention, which it establishes.

In the UK, from 1995 to 2005 the Forensic Science Service has made 292 mass screening, testing 80.000 DNA samples, but only in 62 cases (20 %) this measure provided useful results for the investigation; in the USA only one case among 18 investigated with mass screening tests was solved (Gennari, 2009).

4.3. How I met your relatives

Another controversial procedure is the familial searching of databases, which is considered a method to create suspects in the absence of a direct matching between a crime scene sample and a stored DNA profile. This procedure relates on the theory, which states that siblings and related people share a specific common genetic material so that a "low stringency" analysis or a "rare allele" search could find a partial match between crime scene evidence and the offender's profile. Afterwards, because this method of investigation only indicates that there could be someone, belonging to that specific genetic group, whose DNA fully matches with the one found at the crime scene, close relatives of people, whose DNA partially matches, are tracked down and asked for a voluntary DNA sample (Simoncelli and Krimsky, 2007).

The greater problem arises if individuals, identified through familial searching, refuse to give their consent for DNA tests.

In the UK, for instance, starting from the 2001 reform of the Criminal Justice and Police Act, in case of mass screening, the prosecution must collect the informed-written consent of people asked for a blood or other DNA sample if they are not suspected of a crime. In the USA this procedure is assimilated to a search and seizure, hence police must respect the provision stated in the Fourth Amendment. A judge-order based on probable cause, which recognises the presence of reasonable suspect of the commission of a crime, is necessary to take a sample from anyone.

On the contrary, in Italy individuals involved in a criminal investigation, even if not suspected, can be forced to provide a DNA sample.

In 1996, a defendant and his relatives refused to give their DNA samples to the police claiming that such procedure would violate their right to personal liberty (art. 13 of the Constitution) and the equality principle because of the indiscriminate possibility to force people under investigation as well as those who are not

suspected, to provide a genetic tissue. The Italian Constitutional Court stated that such procedure would interfere with the personality of individuals so that it must be specific regulated by the law in order to define cases and procedures that legally allow police to do it (Fanuele, 2011).

In 2009, with the ratification of the Prüm Treaty, the Italian legislator introduced art. 224-bis in the Code of Criminal Procedure, with the aim of promoting a new procedure for the collection of DNA samples without consent of individuals. This provisions states that the individual can be forced only with a judge order that certifies the necessity of the collection and in the case of particularly serious offences. The provision does not solve the main problem so that prosecution continues to take DNA samples even from people who do not have any connection with the crime, such as relatives of the offender.

In the Explanatory Memorandum of Recommendation No.R (97)5 on the protection of medical data (par. 58), the Committee of Ministers to Member States pointed out that «the collection and processing of genetic data involves the storage of data concerning third parties. These third parties may be constituted by members of the data subject's genetic line or collateral relatives or members of the data subject's social family». Moreover, it stated that «the drafters agreed to accord an intermediate status to members of the data subject's genetic line so as to distinguish them from third parties in the strict sense of the term and to grant them a hybrid legal protection».

The human body could be considered declaratory evidence because it is able to provide information very similar and maybe more reliable than the ones obtained from a witness (Fanuele, 2009). This is why it is necessary to grant every hypothetical "donor", in case of partial match found out with a low stringency search, the same right recognised from the national law to the relatives of the offender. For instance, article 199 of the Italian Code of Criminal Procedure allows closed relatives of the defendant not to testify in trials. Similarly, art. 378 of the Italian Criminal Code, which refers to the felony of aiding and abetting, rules out the punishment of the offender's relatives, if they decide to help the offender to avoid the arrest.

To afford an "hybrid legal protection", the general right not to cooperate during the investigation, recognized to the members of the suspect's family in case of testimony or aiding and abetting, should be analogically applied in case of DNA testing. This means that an individual asked for a sample by security officers must be informed about the future use of it and the scope of the drawing, in order to prevent that an innocent act of cooperation leads to the conviction of a relative. Only with this systematic interpretation the protection accorded to a traditional witness could be applied to "genetic witnesses".

In Germany, where there is a constitutional right to informational self-determination, the legislator introduced in 1997 a specific provision for the collection of DNA evidence. §81 of the *Strafprozessordnung* allows the prosecution to take samples from third parties without their consent only if they could be considered witnesses of the crime under investigation and if the genetic analysis does not require the action of specialised doctors. Accordingly, blood samples and DNA tests involving "innocent people" are legally banned.

Only if the purpose of the test is to find a familial connection among people does the German Procedure Code allow every kind of genetic tests, but in this case the information gathered have no connection with a criminal trial.

Moreover, §81e section 1 states that every DNA sample collected during investigations should be used only to analyse genetic status, to investigate the criminal fact and to verify whether the DNA traces at the crime scene belong to the offender or to the victim. Every other kind of test is expressly forbidden to avoid the possibility that evolution in science could lead to the exploitation of genetic analysis for the purpose of estimating genetic predisposition to violent behaviour or to recidivism (Orlandi and Pappalardo, 1999).

4.4. A genetic version of Lombroso's general theory

In Italy, the Bayout case (2007) made people think about a new deterministic trend in the criminal justice system and about the possible application of the hereditary claim of eugenics: a man convicted for a murder was sentenced to 9 years of jail, but the Court of Appeal, admitted the claim, reducing the punishment to 8 years because of the "genetic vulnerability" of the defendant.

The Court stated that the DNA test, provided by the defence, proved the presence in the gene pool of the offender of two alleles, which, according to international studies, are responsible for the predisposition to violent and aggressive behaviours: in particular, gene MAOA could make people predisposed to hostility if they are provoked.

In this case, the results of the genetic test had a positive effect on the defendant's position. But is it possible to imagine which kind of risks could such an analysis create, if it leads to results against the defendant/a sentenced person?

According to determinism, genes directly determine –in a significant way– a large number of human social and behavioural traits. The scientific community does not agree with this assertion because the genetic development of people depends on the interaction between genes and environmental factors (Garland, 2004). Despite the lack of rigor in the analysis of eugenic data and the assumed mythical correlation between genes for criminality and human criminal behav-

iour, it is not possible to exclude that genetic predisposition would be used as an argument to support a claim of social dangerousness and to obtain a judicial order for preventive detention or other security measures.

A genetic pool should hold a clue to a specific "criminal type" and could provide a justification for discriminatory measures related to the risk of recidivism and for the creation of a criminal policy influenced by current stereotypes, which associate crimes with race (Nelkin and Andrews, 1999).

Looking at this problematic framework, some national Courts state that in genetic investigation, which include the use of DNA tests it is necessary to comply with the proportionality principle. The German Federal Constitutional Court, facing this issue, recognised the "principle of proportionality of renunciation". The pros and cons are compared and analysed in order to strike a fair balance between security and fundamental freedoms and to determine whether it is proportional to limit basic rights for the greater benefit of the society. The same approach is adopted by the Spanish Constitutional Court, which demands that any body intervention must be adequate, essential and proportional in a strict sense (Guillén et al., 2000). Accordingly, Member States should promote a review of their legislation in genetic field in order to define a specific standard of protection for the offender's and third parties' position. Not every procedure used to collect evidence is to be considered proportional if the effect is to harm dignity or individual rights. In the highlight of this assumption it is important once more to underline the decision of the European Court of Human Right in *S. and Marper v. the United Kingdom*[3]: «an interference will be considered "necessary in a democratic society" for a legitimate aim if it answers a "pressing social need" and, in particular, if it is proportionate to the legitimate aim pursued and if the reasons adduced by the national authorities to justify it are "relevant and sufficient". While it is for the national authorities to make the initial assessment in all these respects, the final evaluation of whether the interference is necessary remains subject to review by the Court for conformity with the requirements of the Convention».

5. The forensic use of bioinformation. A private law perspective

The treatment of personal and genetic data for forensic purposes raises several concerns from a legal point of view. It potentially affects fundamental rights such as the principle of non-discrimination, the rights of the child, the right to an effective remedy before a tribunal and a fair trial. However, the most prominent

3. (2008) ECHR 1581.

concern is about privacy at different stages. In particular, it is possible to identify at least three profiles of friction with respect of the processing of personal data: 1) the storage of biological samples and DNA profiles within forensic biobanks 2) the conducting of familial searching procedure 3) the use of human tissue collected in "medical" or research biobanks for investigation purposes.

5.1. The role of privacy in forensic biobanks

As is well known, the concept of privacy has evolved from the traditional principle of the «right to be let alone» (Warren and Brandeis, 1890) toward the protection of the integrity of the individual's body and, more recently, with the spread of ICT, until the right of control over personal information (Rodotà, 1995 and 1999; Buttarelli, 1997; Pardolesi, 2003; Ubertazzi, 2004; Resta, 2005).

In the matter of forensic biobanks, we can identify two different faces of privacy: the first one concerns the drawing of biological samples and involves personal liberty (bodily privacy); the second one refers to the storage and use of samples, DNA profiles or personal data, so related to the information privacy, with respect of the processing of personal data. Many studies focus primarily on the first problem. Most underrated, but not least, is the second aspect. The aim of the paper is precisely to investigate the latter.

First, it is necessary to outline the regulatory framework regarding the forensic use of personal data. The legal pillars at European level are: art. 16 TFEU, the Convention 108, the Reccomendations of the Council of Europe R (87)15 and R(92)1, Regulation (EC) No 45/2001, Decision 2008/977/JHA of 27 November 2008, and art. 8 ECHR.

Art. 16 TFEU is a general clause on the protection and the free movement of personal data, which also includes police and judicial cooperation in criminal matters.

The Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (so called Convention 108), opened for signature by the Member States of the Council of Europe on 28 January 1981, is a prelude to some concepts which echo in Directive 95/46/EC (that expressely does not apply in the area of criminal law), such as: the fair and lawful process of personal data; the specified and legitimate purposes of the storage; the adequacy, relevance and non excessiveness in relation to the purposes; the preservation of data «in a form which permits identification of the data subjects for no longer than is required for the purpose for which those data are stored» (art.5). The Convention also devotes special attention to "more sensible" categories of data, such as those able to reveal racial origin, political opinions or religious or other beliefs, as well as personal data concerning health or sexual life. This provisions also apply to

personal data related to criminal convictions. A derogation to these principles can be allowed only if it is provided for by national law or necessary for guarantee State security, public safety, the monetary interests of the State, the suppression of criminal offences, the data subject or the rights and freedoms of others (art.9).

The Reccomendations, although not binding, indicate a set of guiding principles for the collection, storage, use and communication of personal data and DNA analysis within the framework of the investigation and prosecution of criminal offences. In particular, they reaffirm the principle of necessity in relation to the purpose, the length of storage and the criteria for the deletion of personal data, and the rule of law in the matter of sample taking and DNA analysis.

Regulation (EC) no 405/2001 concerns the protection of individuals with regard to the processing of personal data by Community institutions and bodies, and it sets up the European Data Protection Supervisor (EDPS), as independent authority.

Also the Council Framework Decision 2008/977/JHA declares the principles of lawfulness, proportionality and purpose in the collection and process of personal data by competent authorities of member State, unless the scope of the Decision is considered limited, being the result of an agreement on the «lowest common denominator» (Bárd, 2009). However, such provisions could be repealed by the new Directive on data protection, which is currently under discussion. In particular, the proposal "on the protection of individuals with regard to the processing of personal data by competent authorities for the purposes of prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and the free movement of such data" is interesting because introduces new definitions such as 'personal data breach', 'genetic data' and 'biometric data'. In addition, it provides a special protection for particularly sensitive data like the genetic ones: according to Article 8 there is a general prohibition of processing special categories of personal data, influenced by the *ratio decidendi* of *S. and Marper v. the United Kingdom*[4].

The judgment rendered by the Grand Chamber of the ECHR on 4 December 2008 originated from the contrast between the Police and Criminal Evidence Act (1984) - allowing an indefinite retention of fingerprints, DNA profiles and samples from someone suspected or convicted - and art. 8 ECHR. In the case, two subjects, S. - 11-year-old boy charged with attempted robbery and later acquitted - and Michael Marper - guilty of harassment whose process was discontinued – claimed for the removal of their data from the NDNAD. The Court, chronicalling its case law, outlined a very broad notion of private life. So, art. 8 must be adapt-

4. (2008) ECHR 1581.

ed to the case, which concerns three types of personal data: genetic data, biological sample and fingerprints. This decision is important because it affirmed that, given the differences in the level of information that biological samples could be revealed, the storage itself is *per se* an unlawful interference with private life. Also DNA profiles contain «substantial amounts of unique personal data», allowing, thanks to the automated processing, to go beyond the neutral purpose of identification (if we consider, for example the procedure of familial searching). The Court found the violation of art. 8 ECHR, establishing that «the blanket and indiscriminate nature of the powers of retention of the fingerprints, cellular samples and DNA profiles of persons suspected but not convicted of offences, [...] fails to strike a fair balance between the competing public and private interests and that the respondent State has overstepped any acceptable margin of appreciation in this regard». So, the Court recognized a "power to destroy", as a sort of remedy of "specific perfomance" with respect to the violation of the right to privacy (Abrusci, 2010).

Since the judgments of the ECHR, as interpreted by the Strasbourg Court, are binding for our legal system, it is possible to note some incompatibilities with the Italian legislation regarding forensic biobanks (Bargis, 2011; Gennari, 2009). According to art. 13 of Law 85/2009 DNA profiles and biological sample are destroyed *ex officio* only in case of full acquittal (i.e. with the formula of art. 530 co.1 c.p.p.). In any other case, until the implementing regulation is enforced, the DNA profile is stored up to 40 years and the biological sample is kept up to 20 years. The Italian law does not make any distinction among data belonging to suspected, convicted or innocent person.

Such provisions leave many questions unanswered: what happen in case of acquittal for reasons different from art. 530 co.1 c.p.p., compulsory non-suit ruling or dismissal of the case? What about the sample of the victims? Are these measures proportionate in a democratic society? Probably, we just have to wait for the implementing technical regulation, hoping to solve this situation of "interregnum" and clashes with the European judgments.

However, if it appears justified to preserve the DNA profile for a reasonable time as provided by art. 8 ECHR, the reason of retaining the biological sample after the DNA-profile has been extracted remains unclear. In fact, if the scope of a forensic biobank is just the identification of offenders and victims, and for that function the DNA profile is sufficient, then the retention of a potentially "dangerous" material seems in contrast with the European standards of adequacy, relevance and non-excessiveness in relation to the purposes: a biological sample is a source that allows the extraction several times and over time not only of the DNA profile but also of genetic data. The latter is a "supersensible" data (But-

tarelli, 1997), because it «can provide insight into personal family relationship, disease predisposition, physical attributes, and ancestry» (Simoncelli, 2006). In the context of forensic biobanks, concerns about discrimination and stigmatization can take two different dimensions. First of all, one of the greatest threats to fundamental rights depends on the amount and type of information that DNA can reveal and on the possibility that such information could be used for purposes other than law enforcement. It is not an abstract concern because, as a result of the study which reported 48 cases of genetic discrimination in the area of life insurance and employment (Barlow-Stewart and Keays, 2001), the Australian Federal Government decided to conduct an inquiry into the Protection of Human Genetic Information.

The second problem is related to ethnic information. In fact, the overrepresentation in a forensic biobank of certain minority groups can reinforce discrimination trends (Bárd, 2009) or racist policy of the police (Patyn and Dierickx, 2009).

Neverthless, even the storage of the mere DNA-profile is unable to ensure adequate protection of privacy and other fundamental rights in a dynamic perspective; some authors, in fact, argue that the non-coding DNA, with the advances of technology could not be "junk DNA", but, on the contrary, a source of new information that today we cannot predict (Bargis, 2011; Gennari, 2009).

In conclusion, if we can affirm that the retention of biological samples is not a necessary measure in order to ensure the criminal identification, but it could only constitute a source of legal and social damage, also the maintenance of DNA-profiles in forensic biobanks has problematic aspects. We took the example of Italy, which legislation makes little distinctions between heterogeneous situations and allows the storage of DNA-profiles up to forty years. Moreover, even if domestic law complied with the principles enunciated by the Court of Strasbourg, this would represent a contingent response to a need necessarily *in fieri*.

5.2. Dearest relatives, poisonous relations

The procedure of familial searching is an extension of the scope of a forensic biobank. This tecnique - currently practised in UK, the Netherlands, New Zealand, and some states of US - looks for near perfect matches in order to find people who share a significant portion of the perpetrator's DNA profile (Murphy, 2010; Chamberlain, 2012). Once again, the balance is between law enforcement needs and privacy, but in this case it involves the rights of suspects' relatives. This is made possible by the peculiar nature of DNA that is an inherited data shared among all members of a biological family. This connection has enabled, similarly, the use of DNA in research (Bottis 2005; Tavani & Bottis 2010).

Familial searching offers the possibility of extending the scope of the research, maximizing the defensive effort in the investigation, also permitting the acquittal of innocents erroneously accused (Epstein, 2009), but at the same time it can «generate false starts or cast suspicious on wholly innocent people solely on account of biological relatedness» (Murphy, 2010). As affirmed by Tania Simoncelli: «if practiced routinely, we would be subjecting hundreds of thousands of innocent people who happen to be relatives of individuals in the FBI database to lifelong genetic surveillance», with the result that the criminal suspicion depends on «the bad luck of having a black sheep in family» (Gennari, 2009). Moreover, familial searching is based on the slippery premise of biological determinism: such a searching works if there is a matching with a sample that is already filed in a forensic biobank, as if the relatives of the offenders had a greater propensity to crime than people who have relatives uncensored (Murphy, 2010). This thesis was also supported by eminent authors (Bieber and al., 2006).

In any case, the practice is highly problematic for two other reasons. Firstly, the accuracy of familial searching is still in development and the overconfidence in the infallibility of technology could lead investigators to forget traditional and tested investigative methods with awful results (as in the case of the wrongful identification of the Madrid subway bomber); secondly, the suspicions created by this practice could cause indirect damage to professional and private life (Murphy, 2010).

According to this scenario we can provide only two alternatives: the legislative ban of familial searching (as Canada did) or its admission with correctives measures. In the latter option, it should be necessary to reflect on whether familial searching should be used to pursue any or only certain types of offences. Secondly, it will be crucial to draw a dividing line between conducts that are considered a violation of privacy and those which are not. In this sense, a cost benefit analysis could be a useful element in order to evaluate the complex balance between the sacrifice imposed on privacy and the expected benefits for criminal investigations and social security.

5.3. Odin's eye and the forensic use of research biobanks

The needs of criminal investigation may in some cases cross the boundaries of forensic database and reach out to other types of biobanks. The thesis is not weird because this "trespassing" happened in the already mentioned swedish case. In order to solve the murder of the Minister of Foreign Affairs the competent authotity granted access to a national research biobank, collecting the blood samples of the newborns from 1975 (Wendel, 2007). The strategy proved to be effective as the murderer was identified, but at the same time raised a whirlwind of controversy not only in Sweden.

Compared to the forensic biobanks where potential violations can involve "only" individual or familial privacy, in the context of research biobanks come to be other interests, such as the right of self-determination, the right to health, scientific research, social well-being (Macilotti et al., fortcoming). The matter must be addressed simultaneously taking into account these factors.

The ecosystem of research biobanks is essentially based on trust (Kaufman et al., 2009). Patients and participants donate tissues and information unselflishly to the biobank, which is able to maximize these resources for research purposes while ensuring fundamental rights of donors. The latter, in fact, through the instrument of informed consent, can exercise the authonomy of the donors and the control over their information, for example, deciding to allocate the samples for every type of research or only for specific protocols. At all times, participants may withdraw the consent and data and samples will be destroyed (Faden, 1986; Ferrando, 1998, Kaye and Stranger, 2009; Kaye et al., 2012). A further guarantee that feeds the circle of trust is the anonymization. Although it has been shown that a complete anonymization cannot technically be realized (Lunshof et al., 2008), however biobanks have mechanisms of double eccoding that does not make the participant identifiable when its sample is transferred to researchers (Caplan and Elger, 2006). In this way, donors are shielded from potential illegal or discriminatory treatments.

The forensic use of research biobanks could jeopardize this delicate balance. First, it would deprive of any significance the informed consent and, at the same time, it would be able to cross the guarantee of anonymization. The lost of trust in biobank is likely to lead to a drastic decrease in donations. Moreover, since genetic data is a shared information, many donors may decide not to donate as precaution, fearing to harm their relatives now or in the future.

In addition, the use of biobank's bionformation for investigative purposes constitutes a bypass of the logic of *Marper's*[5] case: biological samples are stored for the time necessary for the research (hence, also for years), then potentially available to the judicial authority indefinitely.

This provision would trigger a dangerous vicious circle. The decrease of donations would have a negative effect on the functioning of biobanks which would no longer be able to ensure a critical mass of samples for research purposes. Biomedical and translational research, that is based mainly on massive molecular analysis of tissues, would suffer a dangerous stalemate or would be forced to obtain the necessary resources incurring additional costs. If the research is un-

5. *S. and Marper v. the United Kingdom,* (2008) ECHR 1581.

able to progress or its results are too expensive, the damage will finally affect the whole society.

On the other side, DNA testing is not yet able to guarantee certainty and cannot be decisive in a trial in the absence of a solid framework of probative evidences. Considering the negative externalities that may arise and the possibility to ensure the persecution of crime with traditional investigative methods, it would be more efficient that privacy concerns prevail over criminal investigation needs.

6. Conclusion

The ethical and constitutional issues related to the access by prosecution into biobank, DNA dragnet, forced-drawings and familial searching are deeply connected to the problem of how to govern risks fighting terrorism and transnational crime. In order to provide an efficient criminal policy, modern democracies have introduced the right to security in the constitutional framework, but the effect of the enhancement of the standard of social defence has involved a partial collapse of the criminal law system, traditionally focused on the respect for the offenders' rights and on the principle of fair trial (Donini, 2008).

Granting a superior level of protection to the victim means that Public Authorities are authorized to use a more repressive approach to serious crimes, reducing in some cases both the fundamental rights that criminal law recognises to the offender and the basic liberties of "innocent" people. Indeed the fear for serious crimes induces individuals to waive a portion of their freedom in exchange for a grater safety and make them more willing to be kept under surveillance by the State, allowing it to breach their privacy in order to prevent illegal acts (Vico Valentini, 2011).

The use of bioinformation raises several concerns also in a private law perspective, because the storage of biological samples and DNA profiles within forensic biobanks and the practice of familial searching can affect genetic privacy both of individual and his biological family. From the above we detect a need to rethink the current framework considering the European standards of adequacy, relevance and non-excessiveness in relation to the purposes and the principles outlined by ECHR in *S. and Marper*[6] case. This tension between security and privacy is exacerbated in the use of human tissue collected in research biobanks for investigative purposes, as it fits into the complex ecosystem of biomedical research. Access by the judicial authorities to research biobanks could reduce the trust in the institution, producing a dangerous chain reaction that would cause incalculable harm to drug discovery and scientific progress.

6. (2008) ECHR 1581.

Note

Rossana Ducato is the author of paragraphs 1, 3 and 5.

Ilaria Marchi is the author of paragraphs 2, 4 and 6.

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4. Computer and information ethics

mDignity in the global village: reflections on the digital divide, capabilities, and new information technologies

Mark Coeckelbergh

1. Introduction: The global digital divide

The idea that there is a global 'digital divide' usually refers to global disparities in access to information and communication technologies (ICTs). For instance, Castells has argued that 'the rapid diffusion of the Internet is proceeding unevenly throughout the planet', creating a digital divide (Castells, 2002, p. 260). The digital divide – which is not only a gap between North and South, but also runs through developed countries – creates a barrier between insiders and outsiders. Given the enormous influence ICTs have on our lives, this is highly problematic: it creates 'insiders' and 'outsiders', 'haves' and 'have nots'. As Floridi has argued, the outsiders ' are not merely marginalized, they actually live under the shadow of a new digital reality, which allows them no interaction or access, but which can influence their lives profoundly' (Floridi, 2001, 3).

However, the phenomenon is far more complex than captured by the term 'access'. For a start, the gap does not only concern access as such, meaning possession and experience of but also skills and usage opportunities (Van Dijk and Hacker, 2003; Fuchs and Horak, 2006). Much depends, for example, on education. Castells already suggested that in the information age people need to learn different skills. Rather than memorizing information, people have to learn to search for, and effectively use, information and they have to turn it into knowledge: 'what is really required is the skill to decide what to look for, how to retrieve it, how to process it, and how to use it for the specific task that prompted the search for information' (Castells, 2002, 259). The extent to which people learn this, depends on the quality of their education. This means that even if the gap regarding possession and experience is closing (see also Section 3), there may be disparities in skills and usage. And as Van Dijk argues, disparities of this kind may even increase, thus widening the gap. For instance, he found that people with low levels of education and income tend to use ICTs mainly for entertainment rather than for work (which could improve their social position) (Van Dijk 2006; Fuchs and Horak, 2006).

Furthermore, as the issue of education already suggests, the digital gap is connected to other gaps: social, economic, and political gaps. For example, Fuchs and Horak have argued that the global digital divide 'is mainly an aspect of the economic divide' since in poor countries people 'are much less likely to be able to access ICTs, to know how to use them, to benefit from usage, and to participate in embedding institutions. Developing countries are not only economically excluded, but also deprived of political power and cultural skills needed for active participation in the information society' (Fuchs and Horak, 2006, 102). They suggest that there may exist a new class structure in the information society. For example, Van Dijk distinguishes between an information elite with high income and high skills, a participating majority who have access but possess fewer information and strategic skills, and the disconnected and excluded without access and without skills (Van Dijk, 2006, 174; Fuchs and Horak, 106).

Is this the main problem, and how can ethics of information and communication technologies (ICTs) contribute to understanding and coping with the global digital divide? In this paper I will discuss this problem in three steps. First I will articulate a capability approach to the global digital divide, then I will discuss the use of ICTs in development countries, and finally I will argue for a non-instrumental understanding of ICTs and its relation to capabilities, and for more attention to the 'how' of ICT use.

2. The capability approach and the digital divide

The digital divide can be, and has been, addressed by a variety of ethical and political theories. When we want to discuss how to approach the issue as an ethical and political issue, the first question to ask is: What kind of problem is it? For instance, do we want to frame it as a problem of freedom? Or is it a problem of equality? Is it about the quality of our society or about individual dignity, or both? Is it about 'the system' or about what individuals choose and do? In this paper I will start from the premise that the digital divide raises, among other things, a problem of justice. Sometimes the term 'equity' is used, especially by international policy makers at European and international level (e.g. the UNESCO and the WHO), but I will use 'justice' since the term 'equity' might have the connotation of equality, and equality and justice are two different concepts.

Once we have established what kind of problem we want to address, there are further questions about how to conceptualize justice. A common approach, especially in the West, is to discuss justice in terms of (human) rights. From this perspective, one could argue that in order to bridge the global digital divide, we need to make sure that people's right to communication and to have access to contemporary ICTs is respected. Perhaps we could say that such rights are human

rights, or could at least be derived from them. However, the (human) rights approach has often and rightly been criticized for being too abstract and ineffective, for example – but not exclusively – in the Marxist tradition. An alternative, non-Marxist approach to justice is provided by the capability approach (CA).

The CA has been developed by Sen and Nussbaum as a response to narrow, economic definitions of human development. Instead of viewing human development only in terms of the growth of the gross national product or the growth of personal income, the CA focuses capabilities and functionings, that is, on what people can effectively do rather than on the means that make this possible. In Sen's words, it calls attention to the 'real freedoms that people enjoy' (Sen, 1999, p. 3). In Nussbaum's version of the CA, the CA is construed as a theory of justice (Nussbaum, 2006). Based on a variety of theoretical sources (including Aristotle, Grotius, and Marx), her version of the CA focuses on the dignity of the human being. Thus, justice is re-conceptualized in terms of dignity. According to Nussbaum, human dignity requires 'an appropriate threshold level' [Nussbaum, 2006, p. 75] of a range of 'central' human capabilities, which include life, bodily health, bodily integrity, being able to use your senses, imagination, and thought, emotions, practical reason, affiliation, other species, play, and control over one's environment' (Nussbaum pp. 76-78).

It is easy to see how such a theory of justice can inspire and feed an attractive ethical and political framework for thinking about human development. It seems relevant to dealing with all kinds of social, economic, and political divides. In addition, it calls attention to individual well-being, but is at the same time sufficiently sensitive to communal, societal, and cultural dimensions of that individual well-being. But what has this approach to the problem of justice, framed in terms of human dignity and capabilities, to do with *technology*? The CA was meant to move beyond the economist's focus on resources. And technology seems to be a resource for well-being, capabilities, and human dignity. Or can we arrive at a different view of technology and its relation to dignity and capabilities?

Let me first outline the instrumental view of that relation and its implications for thinking about the digital divide. The capabilities can be seen as the ethical goals (or sub-goals, if human dignity is the main goal), which we can achieve by using various means, including ICTs. This means that we can use the CA to evaluate technology, including ICTs. Indeed, some authors have suggested that we could use the CA to understand and evaluate ICTs (e.g. Johnstone, 2007; Coeckelbergh, 2010, 2011, 2012). Usually these authors assume an instrumental relation between technologies and capabilities (or functionings). For example, Johnstone has argued that the CA – both Sen's and Nussbaum's version – can be a valuable conceptual tool in computer ethics and, more generally, in ethics of technology.

She writes: 'technological artefacts are, after all, resources' (Johnstone, 2007, p. 78) and ICTs can be considered as cognitive resources (p. 79), that is, resources for 'knowledge capabilities' (p. 83), and as resources for other functionings. More generally, the CA stresses that what matters is that we empower people, that we achieve better functionings and better lives (aim) by means of the technology.

Given this focus on justice and given this view of the relation between ICTs and human development, we can use the CA to address the problem of the global digital divide, as Johnstone already suggested in the conclusion of her article [p. 86] and as I argued in recent talks at the UNESCO World Summit on the Information Society (WSIS Forum 2011, Geneva) and at the 'eHealth and Equity in the Global Health Communities' workshop (European Commision, Brussels, 2011). The CA is particularly helpful to support the argument that formal and physical access to ICTs is not enough to close the global digital gap. The CA enables us to move beyond the view that we must ensure 'access' to ICTs or that we must give people the abstract 'right to communication': as a normative theory of justice, it demands that ICTs be used to empower people who are on the 'wrong' side of the divide, that we ensure that their capabilities and functionings are enhanced by means of the new technologies. In other words, what matters is not giving people (more) technology but shaping the conditions that enable people to live better lives.

In this way, the CA can make a useful contribution to ongoing discussions information technology and the digital divide (e.g. Grodzinsky and Tavani, 2007; Bottis and Himma, 2008; Himma and Bottis, 2013), which already pay attention to the global digital divide as an ethical issue and an issue of (global) justice, but do not generally use the capability concept, which enables us to meaningfully link the individual dimension of the problem to the societal, political, and cultural dimension, and which comes with a theory of justice: it more fully explains why we should care about the divide, has a clearer normative focus and also more normative substance. Nussbaum's version of the CA provides a substantial view of what justice and dignity consists in. And if we agree that bridging the global digital divide is not only a matter of ending 'life-threatening poverty' but also a matter of promoting human 'flourishing', as Bottis and Himma argue (p. 633), then the CA offers a framework that integrates both concerns: justice and 'the good life'.

But are ICTs mere tools, resources for capabilities, as these authors suggest? In the final section of this paper I will question this assumption. However, before further discussing the relations between capabilities and information technology, let me revisit the initial concern with 'the digital divide' in light of recent information about ICTs in developing countries.

3. ICTs in developing countries: Hopes and worries

Although as I mentioned the digital divide also runs through Western countries, when it comes to (global) justice the main worry is about people in so-called development countries. But who and what are we talking about? How wide is the gap really?

New data about the use of ICTs in developing countries raise the hope that the divide may diminish due to the increasing availability of mobile technologies in these countries. For instance, Aker and Mbiti report 'rapid adoption of mobile phones' and growth of mobile phone coverage 'at staggering rates' in Africa: moving from no coverage in most countries in 1999 to 65 % in 2008, the mobile phone has 'leapfrogged the landline in Africa' (Aker and Mbiti 2010). The authors quote Paul Kagame, President of Rwanda, who already said 5 years ago (on the Connect Africa Summit, October 29, 2007): 'In 10 short years, what was once an object of luxury and privilege, the mobile phone, has become a basic necessity in Africa'. A more recent UNDP report, significantly called 'Mobile Technologies and Empowerment' suggests that most people in poor countries have access to a mobile phone (which does not necessarily mean that all of them *own* one, they might share it with other people in their community), and observes that 'mobile phone subscriptions in the developing world are rapidly outpacing those in the developed world and costs are coming down' (Zambrano and Seward, 2012, p. 8). This is starting to have an impact on human development, 'enhancing democratic governance and other development areas such as health, education, agriculture, employment, crisis prevention and the environment' [p. 8]. For example, mobile phones can empower women, help people to develop their own businesses, etc. Moreover, people do not only talk on the phone and use sms (Aker and Mbiti 2010); in recent years people in developing countries have started to use (cheap) smartphones, which gives them access to the internet (provided the infrastructure is there) and hence opens up new opportunities. These developments raise hope and expectations. Is the digital gap closing? Do we still need to worry? Do we still need our ethical and political theories if the problem is disappearing?

One problem concerns the empirical basis of these claims: it is difficult to assess the impact of the phones (and, more generally, of ICTs) on human development – let alone on justice and human flourishing. Given the complexity of the issue, there are no straightforward causal relations which we can easily be detected. Therefore, some precaution seems appropriate here.

A different problem, which relates to the more-than-access issue mentioned before, is that it not enough to have access to a phone. What matters is how phones

are used. If more people have access to the internet, but mainly use it for entertainment purposes, then the impact on their development, on justice, and on human flourishing is at least questionable.

Furthermore, it is unclear if people (in developing countries but also elsewhere) are sufficiently educated and received *the right kind of* education to learn to turn information into enhanced cognitive and other capabilities. Again we must insist that there are differences between information, knowledge, know-how, and capabilities.

More generally, the use of mobile phones may well increase, but if there are (still) huge differences in phone use between urban and non-urban environments, between highly educated people and others, between people who know how to use the phone for trade, agriculture etc. and people who use it only for leisure activities, etc., then the problem of *justice* remains.

Therefore, one may be optimistic in response to the current developments in phone use, but this does not mean that questions of justice are solved and which strategy to follow is a normative problem. For example, should we leave further initiatives to the free market, given the persistence of social and economic gaps? Fuchs and Horak remark about South-Africa that markets have been liberalized and that the number of ICT users increased, but that 'the ethical digital divide has not narrowed because South Africa is still a country shaken by poverty, social polarization, an extreme unequal distribution of income, and high crime rates' (Fuchs and Horak, 2006, 115).

To conclude, although given current developments in Africa and elsewhere we can be more optimistic about access, the ethical problem as a problem of justice is likely to persist due to lack of skills and effective, strategic usage of ICTs, which is at least partly and significantly due to the kind of socio-economic and political environments in which people live and which hinder the development of appropriate skills and usage.

This leaves us with the question: in so far as there is still a justice gap, how can we best address this gap in ethics and political philosophy? In the previous pages I have explored the option of using the CA as a normative framework in response to the digital divide, in particular Nussbaum's version of the CA which frames the problem as a problem of dignity. One could say that bridging the divide means that we need to foster e-dignity and m-dignity (with 'm' referring to mobile technology), understood as the enhancement of central human capabilities. But does this mean that we can simply adopt (Nussbaum's version of) the CA? In the next section I will question the instrumental view of technology assumed by the CA and explore what this means for the discussion about the global digital divide. I

will modify the argument in a way that takes into account developments in philosophy of technology.

4. A non-instrumental view of the relation between technologies and capabilities and its implications for m-dignity

The discussion in Section 2 assumed that there is an instrumental relation between technology and capabilities: ICTs are supposed to be resources, that is, *means* that enable us to reach ends (capabilities, human dignity, justice, etc.). But in so far there is still a digital divide, global and otherwise, this gap can only be adequately addressed by the CA if it recognizes that ICTs are not mere tools (means), but are changing, and have changed, the very meaning of human capabilities and indeed of human dignity (ends). In other words, the digital gap is already an ethical-anthropological gap 'before' it is construed in terms of means (technology as resource) and ends (capabilities, human dignity). Let me explain this additional, 'deeper' meaning of e-dignity and m-dignity.

Although the point that access to ICTs is not sufficient for capabilities, justice, dignity, and flourishing is correct, it should not be taken to mean that we should construe the relation between ICTs and capabilities as an external relation between a thing A (technology, for instance mobile phones) that causes a thing B (e.g. capability, justice) to change (or not), depending on use. Contemporary philosophers of technology understand technologies and technological artefacts not as neutral tools but as already influencing the way we think, live, and exist. Inspired by Heidegger's view that technology is not just an instrument but a way of thinking (Heidegger, 1977), we might say that our very ideas of what particular capabilities consist in are already influenced by the technologies we use – for instance ICTs such as mobile phones– regardless of our ethical or other aims and intentions.

From a different but compatible theoretical perspective, one might say that we need an ecological approach to the relation between technology and human ends. As Floridi has argued, 'technologies are not only tools, but also vehicles of affordances, values and interpretations of the surrounding reality' and 'any significant technology is always ethically charged' (Floridi, 2001, 3). Evaluating new ICTs, therefore, is a evaluating ourselves – our ecological selves. We must revise our conception of the relation between technology and ethics, in this case ICTs-capabilities: ICTs are not mere means, they are a way of thinking and doing.

As I have previously argued (e.g. Coeckelbergh, 2011), this need to move beyond a means-end dualism in ethics of technology requires us to modify the capability approach accordingly: we should no longer see capabilities and human dignity as

ends external to technological means, but study and interpret the dynamic relations between capabilities, technologies, practices, and values. The meaning of these capabilities and indeed of the ethical principles and aims we have is no longer stable. We need a hermeneutics of capabilities and a hermeneutics of dignity, which retains its normative concern but understands this normativity in a relational and dynamic way, thus enabling a critical stance towards taken for granted ways of thinking and doing that are presupposed when we try to evaluate technologies by using the principles of the CA.

For the question regarding dignity and ICTs, recognizing this means recognizing that what we consider to be a life spent in dignity is not independent on the technologies we use. For example, today we consider ICT-mediated existence as part of what it means to lead a dignified life. Similarly, capabilities are being re-defined – they change as we speak but also 'as we use ICTs'. All capabilities are e-capabilities and m-capabilities. For example, the capability of social affiliation comes to include the use of mobile devices and new social media. It comes to be seen as part of what it is to be human: what it is to have a minimal form of dignity and what it is to maximize human flourishing. It also influences how we deal with other people and with our environment – and indeed with ourselves. In this 'deeper' sense, ICTs have an ethical dimension: they are not mere instruments to realize human aims, they co-define these aims. They also influence how we experience others and how we experience the problem of the 'digital divide'. Coping with this insight requires us to reflect not only on the technologies we use and not only on the values we have, but on the very relation between the two. Do we want to live and think in this way? How, and to what extent, can we change our way of life and (at the same time) our way of thinking?

For the digital divide, this approach to technology implies that what matters is not only a gap between people who have and use particular 'resources' (haves) and people who do not have and use those 'resources' (have nots), which 'then' has consequences for dignity, justice, etc., but rather that there is already a gap between two (or more) different kinds of lives and two (or more) different kinds of people and two different ways of being human (enhanced by ICTs and not or less enhanced by ICTs). It means that our ideas about these lives and our ideas about justice have already been re-shaped when the technology is introduced and used.

If we reflect on our position as experiencing and interpreting subjects, it becomes clear that the "who" in the question "Who cares about the global digital divide?" is a very particular "who": it is the subject that lives in e-dignity and m-dignity, it is the "us" that already excludes and already projects a way of life in virtue (or vice) of its existence shaped by ICTs. To think of ICTs as mere tools – even as tools for justice, tools for development, etc. – neglects this ethical and anthro-

pological significance of ICTs (does too little justice to technology) and is blind to an important, material dimension of the ethical and anthropological project (does too little justice to ethics). An appropriate ethics of information technology, by contrast, turns to a non-dualist, ecological, and relational moral-technological epistemology.

5. Conclusion

The CA can help us to address the issue of the global digital divide by showing that the ethical-political problem does not concern the technology as such, as a resource for human development, but the relation between the ICTs and capabilities: closing the gap is possible by creating conditions under which people (learn how to) use ICTs in a way that enables them to lead a minimally dignified life, that empowers them, and that leads to flourishing – their flourishing and that of others. In this sense, it is true that what matters ethically is how to live with ICTs, what matters is our mode of e-living. In so far as there is still a global digital divide, this way of using the CA gives us an attractive theoretical framework that has immediate practical implications.

But I have also argued that there is a second, 'deeper' way in which ICTs are not a mere resource: they influence our very aims, indeed the way we think about capabilities, dignity, justice, and ethics. This means that if we want to address the digital gap by using the CA, we need to engage in a hermeneutical process that involves and engages with the ecological relations between us as subjects, the values and principles we have, and the technologies (here: ICTs) we use.

Here is another way of formulating the implications of these arguments. If ICTs are only tools, closing the digital gap is an indirect demand of justice. It is only a means to reach justice; there is an 'external' relation between ICTs and human dignity. But if ICTs are more than means, then they shape what dignity, ethics, justice, capabilities consist in. Then the relation is much more direct or 'internal'. We can conclude, therefore, that if in order to function and flourish as a human being in this global world we need the ICTs of our time, then making sure that all people participate in and benefit from the effective, skilful and meaningful use of these new ICTs (including mobile technologies) is a direct, not indirect demand of justice.

Note, however, that whether or not we *ought* to bridge the digital divide, we are not the master-designers of the new ways of doing and thinking that emerge in the information age; there are limits to what we can do as humans-in-relation. If we take seriously the idea of the non-instrumentality of technology we should also conclude that humans are not absolute, unchanging ends; we are being changed by technology and our values are changed as well. Even if we want these

technological, moral, and anthropological changes to go one way rather than another, it is good to remind ourselves that all these changes are interdependent. Paradoxically, technological changes require changes in human thinking and doing that are themselves dependent on ICTs and their evolution. What will happen to the digital divide depends on the emergence, growth, and evolution of e-bridges, bridges which are at the same time material and virtual, technological and human, economic, social, and political.

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The Information Society law: The fusion of law and information technology

Munenori Kitahara

1. Introduction

A few years ago, I tried to design a system of information society law in Japan[1]. The legal system is composed of twelve legal groups (laws) and fifty two legal norms (acts). The information society law will form and run an advanced information and communications network society of the 21st century. The laws would regulate information (contents), information processing devices (computers), and information circulation routes (networks). In society people live most of their information lives. Information life means a life where people use computers, the Internet, and information contents. They receive online administrative, financial, educational, commercial services on the Internet, or the Cloud.

In information society, the use of information technology has been recommended in order for individuals to exercise their legal rights. Both e-central government and e-local governments have promoted the use of information technology (PCs and the Internet) since the Law Concerning the Use of Information and Telecommunications Technology on Administrative Procedures (Online Administrative Procedures Law) went into force in 2003[2].

On the other hand, they might meet across information accidents (computer crimes, cybercrimes). Information accidents mean informational incidents where internet users' rights and profits are jeopardized. The accidents would include data protection right infringement, personal information abuse, privacy infringement, spoofing identity, tampering with data, repudiation, personal information disclosure, denial of service, elevation of privilege, copyright infringement, child pornography disclosure, and so on.

As described above, the information society has the legal system to prevent those unlawful incidents. Some legal norms, however, have never been complied with since the norms were established. In a part of the information society, legal norm communications would have not become established. It can be said that the legal norms on information incidents have had no effectiveness.

Information accidents would mostly performed by using information technologies. They say that a computer virus is a kind of computer program. Computer

misuse is the collective term for a number of criminal offences committed by means of a computer, often through access to the Internet[3]. The offences under a computer law are relevant to crimes involving the use of computers. Such offences can generally be distinguished into three categories. The first category is traditional type of criminal offence that may be committed using computers as the instrument of the crime. The second category concerns 'content-related crimes', where computers and networks are the instrument, but the content itself is illegal, such as infringing intellectual property and certain forms of pornography. The third category is offences that have been established to specifically address activities that attack the integrity, confidentiality, and availability of computer and communications systems, such as viruses and other malware [4].

Technologies would be neutral. This is often the case with information technologies. A famous hacker would be employed with his high information technology power by a big information provider. He had attacked the networks of the provider with information technology. The former hacker would try to protect the networks with the same information technologies as he had used to attack the networks. They say that like cures like. In other words, information technology cures information technology. The hacker's story could suggest that information technology could prevent unlawful actions with the same information technology.

Here, I can suggest some instances of a collaboration of law and information technology. The electronic signature act introduces a cryptographic technology to make it possible for anyone to make easy use of strict certification. The authenticity of any electromagnetic record can be legally verified by public key cryptosystem. The minor protection act shall oblige providers to apply a filtering and blocking technology to the child pornography information on the Internet. By implementing a data audit technology, a data controller can grasp a lifetime of personal data, which will contribute to the effectiveness of a data protection act. It might be possible to grasp personal data flow by attaching a logical IC tag to the personal data. The logical IC tag will play the same role as the header of an IP packet. ID of personal data will be presented on the monitor of smart phones. Data subjects can know where and how their personal data are processed.

These examples mean a cooperative regulation of law and information technology. We can see a collaboration of law and information technology in the cooperation. Information technology should be embedded into laws. But the laws should provide a security standard and structure standard of the information technology.

Unlawful actions in relation to information technology had been conducted with information technologies. Then, the information society law should introduce information technologies in order to recover the effectiveness of the law itself. This

means that information technologies should regulate themselves in the law. This is a collaboration of law and information technology. The purpose of the collaboration is to realize the contents of laws by using information technologies.

Law enforcement agencies would use information technologies for policing and criminal justice. They will have a combined research of criminal histories, available by entering a single request from a computer in a patrol vehicle, thus reducing radio traffic. A database can be required, resulting in more reliable crime analysis reporting or investigative searches. A system can link persons, addresses, property, and vehicles, thus reducing data entry and improving safety to the officer in the patrol vehicle[5].

As for the collaboration, there will be, logically, some problems. The collaboration would compel people to use a specific information system. In addition, it must be understood that information technology would regulate information technology itself.

This paper has a few main goals. The first one is to show examples of the collaboration of law and information technology in existing laws. The second one is to suggest the other possibility of the collaboration.

In this paper, I would like to propose a fusion of law and information technology. By introducing information technologies into laws, we can recover legal effectiveness. That means realizing social justice. A security and architecture standard of the information technologies which the laws provide. The structure and security standard of information technologies.

To reach the goals, I, first, will examine the uses of information technology in legal fields (2). Second, I will suggest that information technologies should include ethical elements (3). Third, I would like to show several examples of the fusion (4). Last, I will examine the security and architecture standard of information technology (5).

2. The Use of Information Technology in Law

2.1 Realizing Laws by Technology

Several years ago, miserable traffic accidents continuously occurred by large-sized trucks on the highway. The main reason was that the trucks ran at a tremendous speed and did not observe the legal speed. The road traffic act provides the maximum speed of trucks. In addition, the enforcement ordinance of the road transport vehicle act also provides the maximum speed of 80 kilometers an hour. In these cases, both the act and the ordinance as information had no effect on the drivers.

Then the act required the large-sized trucks of installing the speed limiter. And the ordinance provided the security standard of the apparatus. The security standard provides that the speed limiter can adjust the supply of fuel for trucks not to exceed the speed of 90 kilometer per hour.

The trucks must travel at the speed less than 90 kilometer an hour. All the trucks are also equipped with a tachometer which records speed.

This story suggests that the apparatus helped truck drivers to obey the legal speed on the highway. At the same time, it can be said that an act could recover the legal effect by technology. That is to say, this is realizing laws by technology.

2.2 Use of Information Technology in Law Enforcement

Increased computing power, advances in data transmission and attractive and user-friendly graphic interfaces present law enforcement agencies with unprecedented capacity to collect, store, analyze and share data with stakeholders inside and outside of government. Ultimately, information technology represents a tool to help local law enforcement achieve its broadened and increasingly complex mission[6]. Two areas in which information technology in policing has attracted a great deal of attention are crime mapping and information integration[7].

Today, law enforcement agencies have more technologies available to them than ever before. Information technology is a world of its own, and so is law enforcement. Marrying the two can result in a more efficient and, hopefully, safer working environment and community. Regardless of where technology is used, the activities in the agency's day-to-day business can be characterized as a business process. Applying information technology is not (and should not be) simply automating a process. It is using technology where it makes sense and brings about greater efficiencies[8].

2.3 Computer-Assisted Audit Information Technology

Information technology auditors gather evidence from an enterprise's books and records to support their conclusions. This audit evidence includes any actual paper-based documents, evidence that these documents or supporting transactions were properly recorded in a timely manner, and appropriate authorizing signature or notations. Today, most of those documents are IT based and paperless, and procedures to support their audit conclusions when older traditional paper-based documents have gone away.

IT auditors often need tools to better understand and evaluate the completeness accuracy of the data stored in the files and databases of IT applications. It is al-

most always more efficient to use information technologies to examine all recorded items on the supporting computer files[9].

IT auditors must obtain evidence on the validity of accounting and operational data. IT audit approaches to testing, analyzing, and gathering detailed evidence from data contained on IT applications through the use of computer-assisted audit information technologies controlled by IT auditors. These technologies allow an IT auditor to review the contents of computerized applications data in files, ranging from accounting systems on large database repositories to smaller systems residing on departmental desktop systems.

2.4 Information Technology Controlled with Information Technology

The infrastructures of information society are "information," "information processing devices," and "information circulation routes."

Software and contents technologies will relate to information. Computer and machine technologies will relates to the devices. Networking and internet technologies will relate to the routes.

The information society law should introduce the information technologies in order to raise the effectiveness of the law itself. This introduction might be permitted only to the information society law. For example, electronic signatures acts introduce cryptographic techniques in order to make it possible for anyone to make easy use of strict certification functions using electronic certificates and to enable the safe supply and use of network services. An unauthorized computer access prevention act uses a firewall technology, which implements information security policies. And minor protection acts would oblige providers to apply a filtering or blocking technology to child pornography information on the Internet. This means that information technologies should control themselves in the law. It is really the fusion of technology and law.

3. IP Technology and Ethical Deed

3.1 Ethical Technology

The Internet is the only sphere that "enforces" ethics in itself by its own technology. A firewall router uses access control lists (ACL) and other methods to ensure the security of the private network. PAP (Password Authentication Protocol) that allows PPP peers to authenticate one another, does not itself prevent unauthorized access, but merely identifies the remote end. The router or access server then determines whether that user is allowed access. PGP (Pretty Good Privacy) allows secure files and message exchanges. L. Lessig said that code is law[10]. I would say that code is ethics.

3.2 Ethical Deed and IP Technology

An end-user has nothing to do with unlawful computer access and the computer virus.

As the ethical deed, there is no way for the user other than constructing the firewall to the host computer or installing an anti-virus software. It is not possible to hope any more. If it is a timid user, it is already wax without becoming nature as for the Internet. However, IP technology is offering a new technology. That is a quarantine network system. This system serves a severe authentication, and protects the user from the threat of unlawful computer access, virus and worms. People use the same password on different systems. People are going to rely less and less on passwords. So, a new password system is being developed.

Network administrators must be able to deny unwanted access to a network and allow authorized users to access necessary services.

Security tools such as passwords, callback equipment, and physical security devices are helpful.

However, they often lack the flexibility of basic traffic filters and the specific controls that most administrators prefer.

For example, a network administrator may want to allow users access to the Internet, but not permit external users Telnet access into the LAN.

Routers provide the capability to the filter traffic, such as blocking Internet traffic, with access control lists (ACLs).

An ACL is a sequential list of permit or deny statements that apply to addresses or upper-layer protocols.

This module will introduce standard and extended ACLs as a way to control network traffic and explain how they are used as part of a security.

ACL technology can refuse access from the networks and hosts which the sites think of undesirable.

With technology, the sites should limit the access right.

Moreover, the sites could deny many processes (commands)—ping, telnet, http, ftp, and so on.

ACLs are also used in firewall routers.

A firewall is an architectural structure that exists between the user and the outside world to protect the internal network from intruders.

In most circumstances, intruders come from the global Internet and the thousands of remote networks that it interconnects.

Typically, a network firewall consists of several different machines that work together to prevent unwanted and illegal access.

4. The Fusion of Law and Information Technology

4.1 Email Technology and Law

An email technology has been introduced into the Electronic Consumer Contracts Act. The article 2 (definitions) defines the electronic consumer contracts as follows:

"In this Act, an 'electronic consumer contract' means a contract that is made between a consumer and a business entity by electromagnetic method through a visual browser of a computer in cases where the consumer manifests his/her intention to make an offer or to accept the offer by transmitting his/her intention through his/her computer in accordance with the procedures prepared on this visual browser by the business entity or its designee."(1)

"In this Act, 'electromagnetic method' means a method using electronic information processing system or other types of information communication technology."(3)

"In this Act, 'electronic acceptance notice' means an acceptance notice to the offer of a contract which is, among electromagnetic methods, given by means of transmission through a telecommunication line connecting a computer, etc. (meaning a computer, a facsimile device, a telex or a telephone, the same shall apply hereinafter) used by the party dispatching the acceptance notice to the offer of the contract with a computer, etc. used by the offer or of the said contract."(4)

As described above, an electromagnetic method is using electronic information processing system or other types of information communications technology in this act. Transmitting offering and accepting electromagnetic records would use e-mail technologies.

The email technology uses SMTP (Simple Mail Transfer Protocol) and POP (Post Office Protocol) in TCP/IP.

A number of cryptosystems have been adapted to help secure e-mail, a notoriously insecure method of communication. Some of the more popular adaptations include Secure Multipurpose Internet Mail Extensions (S/MIME), Pretty Enhanced Mail (PEM), and Pretty Good Privacy (PGP)[11].

S/MIME builds on the Multipurpose Internet Mail Extensions (MIME) encoding format by adding encryption and authentication via digital signatures based on public cryptosystems. PEM has been proposed by the IETF (Internet Engineering Task Force) as a standard that will function with public key cryptosystems[12].

4.2 Encryption Technology and Law

Encryption is one technique which can be used to achieve secrecy for the contents of a message, but there are other methods of hiding identities and information including steganography, remailers, account cloning and spoofing[13]. Encryption can provide confidentiality, integrity and authenticity of the information transferred countering the open nature of the electronic documents. Digital signatures can be created by the use of encryption, and these can authenticate the sender of the information.

The Electronic Signatures and Certification Business Act has introduced encryption technologies. The purpose of this Act is to provide the presumption of authentic establishment of electromagnetic records by electronic signatures. In the Act, any electromagnetic record that is made in order to express information shall be presumed to be established authentically if the electronic signature is performed by the principal with respect to information recorded in such electromagnetic record. The authenticity and electronic signature of the electromagnetic record can be verified by the public key cryptosystem.

Japanese electronic signatures act (Act on Electronic Signatures and Certification Business) has the following provisions:

Article 1 (Purpose)

The purpose of this Act is to promote the distribution of information by electromagnetic forms and information processing through ensuring the smooth utilization of Electronic Signatures, and thereby to contribute to the improvement of the citizens' quality of life and the sound development of the national economy, by providing the presumption of authentic establishment of electromagnetic records, the accreditation system for designated certification businesses and other necessary matters, with respect to Electronic Signatures.

Article 2 (Definitions)

(1) The term "Electronic Signature" as used in this Act means a measure taken with respect to information that can be recorded in an electromagnetic record (a record that is prepared by an electronic form, a magnetic form or any other form not perceivable by human senses and that is used for information processing by computers; hereinafter the same shall apply in this Act), and which falls under both of the following requirements:

(i) A measure to indicate that such information was created by the person who has taken such measure; and

(ii) A measure to confirm whether such information has been altered.

(2) The term "Certification Business" as used in this Act means a service that, in response to either the request of any person who uses the business (hereinafter referred to as the "User") with respect to the Electronic Signature that he/she himself/herself performs or the request of another person, certifies that an item used to confirm that such User performed the Electronic Signature pertains to such User.

(3) The term "Specified Certification Business" as used in this Act means a Certification Business that, among Electronic Signatures, is performed with respect to an Electronic Signature that conforms to the criteria prescribed by ordinance of the competent minister as an Electronic Signature that can be performed by that person in response to the method thereof.

But, in these provisions, we can find no provisions to introduce an encryption technology into the act. The hint can be found in the ordinance for enforcement of the act (art. 2). That is, there is provided of the security of electronic signatures and the difficulty of electromagnetic records. In addition, the difficulty shall be depended upon the factorization in prime numbers of integer, and the calculation of discrete logarithm.

These hints suggest that we are forced to use an encryption technology in order to establish and send electromagnetic records.

The use of encryption seems to give rise to an element of suspicion - it is often assumed that the use of secret codes are associated with the world of spies and industrial espionage. Nevertheless, there are many legitimate purposes of secrecy in general and encryption in particular. Many are connected with business transactions and the desires to keep financial information away from the prying eyes of third parties and to authenticate and prevent repudiation of the communication as between the intended parties to the transaction. In this way, encryption technology is a fundamental element for the development of a global electronic commercial system[14].

4.3 Filtering Technology and Law

Packet filtering firewalls are simple networking devices that filter packets by examining every incoming and outgoing packet header. They can selectively filter packets based on values in the packet header, accepting or rejecting packets as needed. These devices can be configured to filter based on IP address, type of packet, port request, and/or other elements present in the packet[15].

In the Act Concerning Environment for Children to Safely Use the Internet, information providers shall be obliged to provide filtering technologies. This Act focuses on measures to protect minors from harmful information and explicitly provides for the direction of future efforts with respect to a vision of the environment for the Internet utilization.

4.4 Internet Technology and Law

The Internet is the only sphere that establishes a lawful action in itself by its own technology. A firewall router uses access control lists (ACLs) and other methods to ensure the security of the private network.

ACLs consist of the user access lists, matrices, and capability tables that govern the rights and privileges of users. ACLs can control access to file storage systems, software components, or network communication devices. In general ACLs can restrict access for a particular user, computer, time, duration--even a particular file. This specificity provides powerful control to the administrator[16].

Internet protocol security (IPSec) is an open source protocol that secures communications across IP-based networks such as LANs, WANs, and the Internet. The protocol is designed to protect data integrity, user confidentiality, and authenticity at the IP packet level. IPSec is the cryptographic authentication and encryption product of the IETF's IP Protocol Security Working Group[17].

PAP (Password Authentication Protocol) that allows PPP peers to authenticate one another, does not itself prevent unauthorized access, but merely identifies the remote end. The router or access server then determines whether that user is allowed access. PGP (Pretty Good Privacy) allows secure files and message exchanges.

Pretty Good Privacy (PGP) is a hybrid cryptosystem originally designed in 1991. PGP combined some of the best available cryptographic algorithms to become the open source de facto standard for encryption and authentication of e-mail and file storage applications[18].

The Directive 95/46/EC requires that the controller must implement appropriate technical and organizational measures to protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorized disclosure or access, in particular where the processing involves the transmission of data over a network, and against all other unlawful forms of processing.

ICT offers solutions in the shape of privacy protection for users, consumers and citizens. The application of ICT to protect privacy has become widely known under the name Privacy-Enhancing Technologies (PETs). PETs have been defined as a coherent system of ICT measures that protects privacy by eliminating or reduc-

ing personal data; all without losing the functionality of the data system. PETs are about technologies that enhance privacy and privacy protection is neither an equivalent of information security or confidentiality. PETs have to be used for implementing the legal specifications in the EU privacy directives, and can guarantee data protection without making excessive demands on the processing of the data. By applying PETs and streamlining personal data processing, the organizations can continue to meet the high public expectations with respect to services and dealing with personal data[19].

4.5 Data Audit Technology and Law

By implementing a data audit technology, a data controller can grasp a lifetime of personal data, which will contribute to the effectiveness of a data protection act. It might be possible to grasp a personal data flow by attaching a logical IC tag to the personal data. The logical IC tag will play the same role as the header of an IP packet.

Packet filtering firewalls examine every incoming packet header and can selectively filter packets based on header information such as destination address, packet type, and other key information. The firewalls scan network data packets looking for compliance with or violation of the rules of the firewall's database[20].

4.6 Email Filtering Technology and Law

SaaS for email primarily involves cleaning spam, phishing emails, and malware included in email from an organization's incoming email stream, and then delivering that clean email security to the organization so that it is effectively not repolluted[21].

This is accomplished by using either Secure Socket Layer (SSL) or Transport Layer Security (TLS) on network communications at the transport layer[22].

4.7 Web Content Filtering Technology and Law

In the Cloud, a SaaS provider scans for malware threats and ensures that only clean traffic is delivered to end users. SaaS providers supplement that URL filtering with the examination of HTTP header information, page content, and embedded links to better understand site content. SaaS for web content also involves scanning outbound web traffic for sensitive information (e.g., ID numbers, credit card information, intellectual property) that users could send externally without appropriate authorization (data leakage protection). Web traffic is also scanned for content analysis, file type, and pattern matching to prevent data exfiltration[23].

Content filter effectively protects the organization's systems from misuse and unintentional denial-of-service conditions. A content filter is a software program or a hardware/software appliance that allows administrators to restrict content that comes into a network. The most common application of a content filter is the restriction of access to Web sites with nonbusiness-related material, such as pornography or entertainment. Another application is the restriction of spam e-mail from outside sources. Content filters can consist of small add-on software for the home or office, or major corporate applications[24].

Content filters ensure that employees are not using network resources inappropriately. Unfortunately, these systems require extensive configuration and constant updating of the list of unacceptable destinations or incoming restricted e-mail source addresses. Some newer content filtering applications update the restricted databases automatically, in the same way that some antivirus programs do. These applications match either a list of disapproved or approved Web sites, for example, or key content words, such as *nude* and *sex*. Content creators, of course, work to bypass such restrictions by suppressing these trip words, creating additional problems for networking and security professionals[25].

4.8 Cloud Computing Technology and Law

Information processing systems which include personal information should be required of a privacy design in the architecture. Cloud technologies provide the privacy design. It should be included in the checklists of privacy impact assessment.

It is important to consider how users approach an application architecture for systems that have a special segment of private data, notably e-commerce systems store credit cards and health care systems with health data. The key to privacy in the cloud -- or any other environment -- is the strict separation of sensitive data from nonsensitive data followed by encryption of sensitive elements[26].

4.9 Authorizing Technology and Law

In 1999 the Unauthorized Computer Access Prohibition Act was established in Japan. The Act provides the punishment of unauthorized computer access and the security measures of access controllers. An unauthorized computer access means an act of making available a restricted specific use by making in operation a specific computer having that access control function through inputting into it, via a telecommunication line, any information or command that can evade the restrictions placed by that access control function on that specific use (art.3(2)), and an act of making available a restricted specific use by making in operation a specific computer, whose specific use is restricted by an access control function

installed into another specific computer which is connected, via a telecommunication line, to that specific computer, through inputting into it, via a telecommunication line, any information or command that can evade the restrictions connected (art.3(3)).

The access controller who has added an access control function to a specific computer shall endeavor to properly manage identification codes relating to that access control function and codes used to confirm such identification codes through that access control function, and shall always verify the effectiveness of that access control function, and, when he deems it necessary, shall endeavor to promptly take necessary measures to protect that specific computer from acts of unauthorized computer access, including the upgrading of the access control function concerned (art.5).

Then the access controllers will be required of necessary measures to protect the specific computer systems.

4.10 Architecture Technology and Law

The security controllers must start security measures from the outside (perimeter) of an operating system and work toward the center not to leave servers and hosts unprotected. With an initial perimeter layer implemented, the controllers at least have one umbrella layer of security in place, which is much better than having nothing at all[27].

This layered approach is to develop a layered security posture, or defense-in-depth. Layers are important because they add levels of protection. If one layer is breached, the controllers have multiple layers beneath it to continue protecting their valuable assets. For example, if an attacker manages to compromise the firewall, they still have IDS (Intrusion Detection System) and host security to protect them from a full network compromise. This gives them the opportunity to focus their efforts on the firewall issue instead of worrying about what other systems have been compromised[28].

5. The Security and Architecture Standard of Information Technology

5.1 The Security Standard of ICTs

Biometric systems are increasingly being considered as better fool-proof methods of ensuring security in several areas ranging from national security to credit card processing, as opposed to traditional methods such as alphanumeric passwords and personal identification numbers[29].

The Biometric Consortium is to develop widely acceptable standards for the application level and device level interfaces that are independent of the operating systems and vendors, and to be able to support a variety of biometric applications. Due to the sensitivity of information contained in biometric systems, it is expected that such systems will be attacked by intruders both from within and outside the country[30].

5.2 The Architecture Standard of ICTs

Assurance and security mechanisms need to be provided for the information stored in the biometric systems both in stored and transit modes. It is important to understand the design principle underlying the architecture and management of biometric systems so that appropriate mechanisms can be used to secure such systems.

In order to maximize the level of security provided buy biometric systems, multimodal systems are being considered as better alternatives to relying on a single biometric for identification and verification purposes. Multimodal biometric systems utilize multiple signatures of the same individuals obtained from different sensors. Information (signatures) obtained from multiple sensors can be fused together to improve the performance of identification and verification systems and compensate for lack of sufficient features from the signature obtained from a single sensor. Information fusion can take place while extracting features, while matching the scores obtained from different modalities, or while making decisions. Results obtained from information fusion suggest that the reliability of biometric systems can be significantly improved by combining two or more biometric signatures[31].

5.3 The Necessity of the Standards

The users of these information technologies which are installed in laws are the addressees of each law. The addressees have duty to comply with laws. They would use these information technologies when they conclude contracts and conduct administrative processes. Most of the addressees normally have little knowledge of the technologies. This, first of all, must be taken into consideration in introducing the collaboration of law and information technologies.

Therefore, those ICTs would be required the security and the architecture standards. A security level of technologies must be assured, and the architecture level must be based on the security level. The success of the collaboration needs an ICTs impact assessment in order to look for the standards. At least a privacy impact assessment will have to be conducted[32].

Information technologies are also being used for law enforcement, that is, for policing. The using purpose might be completely different from that of the collaboration. But, the authority recognizes that information systems are indispensable tools for effective, expedient, and well-informed policing[33].

In addition, it also recognizes that technology also poses an enormous security risk. Law enforcement agencies that operate mission-critical information technology systems without adequate security controls in place put the public, themselves, and the government at extreme risk. Data contained within these systems are extraordinarily sensitive and mission-critical. Sensitive case reports, confidential investigative data, agency intelligence, suspect and personal data, and personnel information are just a few examples of data that may be subject to compromise via a malicious hack, an untrustworthy insider, an accidental misuse of the system, and/or a natural disaster[34].

Creating security policies and instituting a security process has traditionally been an afterthought in many IT implementations. Too often, only marginal consideration is given to the security of a system when it is being developed or implemented. What is missing is the adoption of an IT security policy development process, a conscious decision by senior management to establish a formal procedure to investigate and analyze the very real security risks to the agency's IT systems, and to develop mechanisms and policies designed to mitigate those risks. Securing an information system is much more involved than merely requiring a password, applying a digital signature, or using encryption. It is organizational strategy that must be driven by the highest levels of the organization[35].

6. Conclusion

This paper would mainly aim at achieving a collaboration between law and information technology. That is to say, laws might use information technology for a legal system to become effective. I would like to borrow the functions of information technologies. Or, if I say marrying law and information technology, is it an overstatement?

The important features of computer systems are adopted in many social systems in the information society. Because the computer systems are by nature political and social.

Information security technology includes authentication technology, data protection technology and information filtering technology. These technologies would require the users of an ethical consideration. These technologies might lead the users to an ethical deed. Therefore, I would define that these information technologies are ethical technologies.

It will be permitted that these technologies are used to realize the contents of laws in place of the laws, because the technologies are political, social and ethical. That is, this is the collaboration of law and information technology. The collaboration will aim at realizing social justice.

There might be certainly various problems about the collaboration. First, technologies will regulate technologies. Second, the collaboration will force the users to use specific computer systems with the information technologies implemented. Third, the collaboration will have to cope with the evolution of technologies. Last, there will be left the problem of standardizing the technologies.

Information society, increasingly, depends on computer systems to behave acceptably in applications with extremely critical requirements, by which she means that the failure of systems to meet their requirements may result in serious consequences.

There is good news and there is bad news. The good news is that computer system technology is advancing. Given well-defined and reasonably modest requirements, talented and diligent people, enlightened and altruistic management, adequate financial and physical resources can be built that are likely to satisfy certain stringent requirements most of the time. The bad news is that guaranteed system behavior is impossible to achieve. There can always be circumstances beyond anyone's control. Besides, people are fallible. Thus, there are always inherent risks in relying on computer systems operating under critical requirements[36]. The law must evolve to reflect how both society and technology evolve, for the truth is that neither the tech-deterministic school nor the socially-mediated school is completely correct. The information society is rooted in connections between people enabled by, and mediated by, digital technology[37].

Notes

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[28] M. Andress, ibid., p. 25.

[29] M.E. Whitman/H.J. Mattord, Management of Information Security, 2nd ed., Thomson 2008, p. 64.

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[31] M.E. Whitman/H.J. Mattord, Principles of Information Security, 3rd ed., Course Technology 209, pp. 340ff.

[32] See Office of the Privacy Commissioner (Australian government), Privacy Impact Assessment Guide, 2006.

[33] COPS (U.S. Department of Justice), Law Enforcement Tech Guide for Information Technology Security: How to Assess Risk and Establish Effective Policies, 2006, p. 3.

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The role of internet access in enabling individual's rights and freedom

Nicola Lucchi*

Introduction

Technological developments in communication have brought revolutionary opportunities and changes in the landscape regarding how people obtain, process and exchange information. In this framework, one of the contemporary emerging challenges for the legal and regulatory regime is in shaping a modern interpretation of freedom of thought and expression.[1] The rapidly evolving media revolution has generated a number of new regulatory initiatives designed to reduce systemic risks associated with this means of communication.[2] Traditionally, mass media have a powerful influence over our culture and everyday life playing a fundamental role in the public's perception of many key issues in society. Their importance is even more important now in the age of digital and social media.

This paper explores the increasing number of conflicts between modern communication technologies and fundamental constitutional freedoms. In particular, it focuses primarily on a a range of Internet and freedom of expression-related issues. Attention is given to the necessity to re-balance the current culture of "rights" characterized by exclusionary and divisive attitudes, mainly oriented towards control and imposition of sanctions.[3] Networked digital communications are now considered crucial components of a democratic system because they are

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1. See William H. Dutton et al., Freedom of Connection, Freedom of Expression: The Changing Legal and Regulatory Ecology Shaping the Internet, Paris: UNESCO. (2011), 8, available at http://unesdoc.unesco.org/images/0019/001915/191594e.pdf (accessed June 10, 2013).
2. Id.
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a vehicle for moving "information, knowledge, and culture", which are key elements to develop "human freedom and human development".[4]

In this context, the relevance of networked communication as a tool of mass democracy is increasingly evident. In some countries, the Internet is the only source of pluralistic and independent information.[5] In this respect, the Inter-American Court of Human Rights has correctly observed that: "it is the mass media that make the exercise of freedom of expression a reality".[6] The recent events of the Arab Spring have served to highlight how important new communication and information technologies have become.[7] Using a mix of blogs and social networking sites, the new medium has demonstrated its power to support spontaneous democratic mobilization from below: a concrete and participatory form of democracy.[8] The result of these online movements was surprising, with hundreds of thousands of people being summoned to action. Up to now this kind of influence was a prerogative which belonged to the great political and union organizations only. The impact that digital communication tools can have on public opinion and decision making is therefore enormous. This is common not only in developing countries, but also in Western liberal democracies. Empirical evidence of the mobilizing and political potential of the Internet is also provided by the recent and viral movements like the American "Occupy Wall Street" or the trans-European "Indignados" protesters. They are both tangible examples of the features and potentialities provided by new horizontal communication channels. In this view, the Internet has revivified "the notion of freedom of expression as an individual liberty"[9] no more mediated by other elements. The Internet, in fact, has effectively returned more power to individuals with a radical redistribu-

4. See Yoachai Benkler, The Wealth of Networks: How Social Production Transforms. Markets and Freedom, 1, New Haven: Yale University Press (2006).

5. See Toby Mendel and Eve Salomon, Freedom of Expression and Broadcasting Regulation, 11, Brasilia: UNESCO (2011); Ronald J. Deibert et al. (eds.) Access Controlled: The Shaping of Power, Rights, and Rule in Cyberspace, xvii, Cambridge, MA: MIT Press (2010).

6. See Inter-American Court of Human Rights Advisory Opinion OC-5/85 of November 13, 1985, Inter-Am. Ct. HR (Ser. A) No. 5, 1985, para. 34.

7. See Eben Moglen, Why Political Liberty Depends on Software Freedom More Than Ever, speech given at the 2011 FOSDEM conference in Brussels, February 5, available at http://www.softwarefreedom.org/events/2011/fosdem/moglen-fosdem-keynote.html(accessed June 10, 2013).

8. See Jack M. Balkin, The Future of Free Expression in a Digital Age, 36 Pepperdine Law Review, 427, 438 (2009).

9. See Vincenzo Zeno Zencovich, Freedom of Expression: A Critical and Comparative Analysis, 100, Abingdon, Oxon: Routledge-Cavendish (2008).

tion of control on information flow and a completely new approach to the way in which society operates.

According to a recent document published by the UN Human Rights Council, this latest wave of demonstrations "has shown the key role that the Internet can play in mobilizing the population to call for justice, equality, accountability and better respect for human rights. As such, facilitating access to the Internet for all individuals, with as little restriction to online content as possible, should be a priority for all States".[10]

As already reported by some authors, Internet filtering, content regulation and online surveillance are increasing in scale, scope, and sophistication around the world, in democratic countries as well as in authoritarian states.[11] The most troublesome aspect of this new trend is that "the new tools for Internet controls that are emerging go beyond mere denial of information".[12] We are facing a strategic shift away from direct interdictions of digital content and towards control of Internet speech indirectly through the establishment of a form of cooperation with Internet service providers.[13] There is an increasing legal trend towards considering network intermediaries legally responsible for the illegal content they host or transmit also authorizing control powers.[14] Law enforcement policies like the so called "graduate response" (also known as "three strikes" rule) proposed in different countries, put in place a system for terminating Internet connections for repeat online infringements where the role of Internet intermediaries is critical.[15]

The practical effect of this method of control is that the freedom of the networked environment is increasingly squeezed between security needs, market-

10. United Nations General Assembly, Human Rights Council, Commission on Human Rights, Report by the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, Frank La Rue, U.N. Doc. A/HRC/17/27 (16 May 2011), at 4, available at http://www.unhchr.ch/Huridocda/Huridoca.nsf/0/16583a84ba1b3ae5802568bd004e80f7/$FILE/G0010259.pdf(accessed June 10, 2013) [hereinafter: UN Human Rights Council 2011].

11. See Deibert et al. *supra* note 5, at xv.

12. Id., at 6.

13. See Laurent Szuskin, et al., Beyond Counterfeiting: The Expanding Battle Against Online Piracy, 21 Intellectual Property & Technology Law Journal, 1 (2009).

14. See generally OECD, The Role of Internet Intermediaries in Advancing Public Policy Objectives, (2011), available at http://dx.doi.org/10.1787/9789264115644-en.

15. See Alain Strowel, Internet Piracy as a Wake-up Call for Copyright Law Makers - Is the "Graduated Response" a Good Reply? 1 World Intell. Prop. Org. J. 75, 80 (2009).

based logic and government interventions.[16] As in the past, innovations in communications technology have completely transformed the previously established balance of power. But now the situation has gone beyond the normal interaction between opposing players. In particular, when fundamental rights are likely to be in question, every change should be carried out appropriately and within the democratic framework. Furthermore, it should be the very keystone of a democratic society to preserve the basic conditions for freedom, pluralism, participation and access to media. On the contrary, the logics of the market are inclined to shape the network as an increasingly close-meshed tool within which democratic citizenship is gradually reduced and threatened. Within this setting, we are also witnessing a serious growth of menaces to rights and freedoms posed by increasing government intervention. All these problems have given rise to animated discussions about a possible "institutional translation" of the meanings, values and scope attached to communication sent over the network.[17] In particular, the necessity to consider the question of equal, public and fair access to network services is widely debated. In light of these factors, we want to focus on the vexing and controversial question of "Internet access" as a basic human right.[18] In this sense, it is firstly indispensable to explain that the right of access to the Internet may be declined in several ways: (i) access to network infrastructure, (ii) access at the transport layer and services (iii) access to digital content and applications. However, it is immediately evident that, in order to get access to the transport and content layer it is first necessary to access the network infrastructure.

In the following pages, we will examine some recent cases, which deal with the dilemma of online content regulation. In this regards, the investigation considers the US Supreme Court's First Amendment approach toward computer-mediated communication through a brief review of two leading cases: Reno v. ACLU[19] and Denver Area Educational Telecommunications Consortium, Inc. v. FCC.[20] The analysis then reveals some ramifications with French Constitutional Council's

16. See Stefano Rodotà, Rodotà, La Vita e le Regole: Tra Diritto e Non Diritto, 135 Milano: Feltrinelli (2006).

17. See generally Rikke Frank Jørgensen, (ed.) Human Rights in the Global Information Society, Cambridge, MA: MIT Press (2006); UN. Human Rights Council 2011, supra note 10; Dutton et al., supra note 1; Yaman Akdeniz, OSCE Report: Freedom of Expression on the Internet, OSCE (2010) available at http://www.osce.org/fom/80723 (accessed June 10, 2013).

18. See Michael L. Best, Can the Internet Be a Human Right?, 4 Human Rights and Human Welfare: 23, 24 (2004).

19. 521 U.S. 844 (1997).

20. 518 U.S. 727 (1996).

decision No. 2009-580DC[21] as well as with other recent legislative attempts to regulate and monitor digital information.

Internet regulation and access to information

The Internet is undoubtedly the most widely recognized and utilized digital communication technological tool employed to propagate information. Through its cables individuals have new opportunities to exchange and share knowledge, ideas, express their creativity and participate in social, cultural, economic and political life.[22]. The Internet and its technology is increasingly perceived and used as a fundamental instrument to guarantee an effective freedom of expression and a democratic participation in public life.[23] In fact, the Internet has commonly seen as providing a technological enrichment of individual freedom of expression.[24] For this reason, digital rights defenders and digital libertarians "have raised growing concerns over how legal and regulatory trends might be constraining freedom of expression" over the Internet.[25] Actually, it has the potential to strengthen freedom of expression by providing, developing and facilitating new mechanisms for exchanging data and, as a consequence, ensuring a more intense flow of information.[26] At the same time, however, such conditions are used

21. See Conseil constitutionnel [CC] [Constitutional Court], decision No. 2009-580DC, June 22, 2009, relative a la loi favorisant la diffusion et la protection de la creation sur internet, June 13, 2009, Journal Officiel de la Republique Francaise [J.O.] [Official Gazette of France] p. 9675, http://www.conseil-constitutionnel.fr/conseil-constitutionnel/root/bank/download/cc-2009580dc.pdf (in French) and http://www.conseil-constitutionnel.fr/conseil-constitutionnel/root/bank_mm/anglaconstitutionnel/root/bank_mm/anglais/2009_ 580dc.pdf (in English). The law reviewed by the French Constitutional Council is the so called "HADOPI 1": Loi 2009-669 du 12 juin 2009 favorisant la diffusion et la protection de la creation sur internet, 135 Journal Officiel de la Republique Francaise [J.O.] (Official Gazette of France, June 13, 2009, p. 9666).

22. See Rebecca Tuhus-Dubrow, One nation, online. The push to make broadband access a civil right, Boston Globe, Jun. 20, 2010, at http://www.boston.com/bostonglobe/ideas/articles/2010/06/20/one_nation_online/. Last access June 10, 2013.

23. See Zencovich, *supra* note 9, at 99.

24. Ronald J. Deibert and Rafal Rohozinski, Good for Liberty, Bad for Security? Global Civil Society and the Securitization of the Internet, 140 in R.J. Deibert et al. (eds.) Access Denied: The Practice and Policy of Global Internet Filtering, Cambridge, MA: MIT Press (2008).

25. See Dutton, *supra* note 1, at 8.

26. See Zencovich, *supra* note 9, at 101.

as a justification for content regulation targeted in part at trying to counteract the pervasiveness and anarchic nature of the medium.[27]

It is a matter of fact that, in almost all democratic systems, use of both new and old forms of information media have not only posed problems of boundary definition, but have often resulted in attempts to contain and control information flow.[28] The key point is that the problem of information control has now become amplified by the phenomenon of new media.[29] In order to contain information and maintain control over access, some countries have made legislative attempts to regulate and monitor digital content. For example, specific state legislation has been adopted in the United States, United Kingdom, Canada and Australia. In particular, number of regulations designed to monitor and control the flow of information on the Internet certainly increased since September 11, 2001.[30] As has been observed by some scholars, virtually every industrialized country and many developing countries have passed laws that expand "the capacities of state intelligence and law enforcement agencies to monitor Internet communications".[31] Furthermore, such ongoing attempts to regulate the Internet "reflect the natural maturation process that previous media, such as print, radio, and television, all experienced as they evolved out of unrestrained and experimental to tightly controlled and regulated environments".[32] The experience of democratic countries with provisions designed to monitor and control the flow of information on the Internet, frequently shows that restriction of the freedom of the media may not withstand constitutional scrutiny.[33] Regulations on the global medium

27. See Michael Holoubek et al. (eds.) Regulating content: European regulatory framework for the media and related creative sectors, Alphen aan den Rijn: Kluwer Law International (2007); See Zencovich, *supra* note 9, at 107.

28. See Manuel Castells, The Power of Identity, 320, 2nd edn., Malden, MA: Wiley-Blackwell (2010); Carl J. Couch, Mass Communications and State Structures, 27 Social Science Journal, 111.

29. See Dominique Foray, The Economics of Knowledge, 5 Cambridge, Mass.; London: MIT, (2004).

30. See Deibert and Rohozinski, *supra* note 24, at 137; Benkler, *supra* note 4, at 32; Also see Jack Goldsmith and Tim Wu, Who Controls the Internet? 65 New York: Oxford University Press, (2006).

31. See Deibert and Rohozinski, *supra* note 24, at 138.

32. Id. at 137.

33. See e.g. the case of the US 1996 Communications Decency Act which attempted to limit minors' access to Internet pornography, but it was overturned by the Supreme Court's decision *in Reno v. ACLU* (521 US 844, 1997); or the more recent case of the French Hadopi law which was enacted to fight Internet piracy, but it was partly censored by the Conseil Constitutionnel.

of the Internet, were often criticized for their inability to reconcile technological progress, protection of economic interests, as well as other conflicting interests: essentially these policy measures "alter the environment within which Internet communications take place".[34] Illustrative examples are given by the controversy over the constitutionality of the U.S. Communication Decency Act of 1996 in *Reno v. American Civil Liberties Union* invalidating certain provisions of a proposed law designed to regulate indecent and obscene speech on the Internet;[35] or by the ruling of the Supreme Court of the United States in *Ashcroft v. American Civil Liberties Union* holding that the enforcement of the Child Online Protection Act should be enjoined because the law likely violated the First Amendment;[36] or by the French case of the called "Loi Fillon", where the French Constitutional Council censored most of the dispositions of the Fillon amendment concerning regulation of the Internet and the linked power given to the Conseil Supérieur de l' Audiovisuel.[37] Finally, another interesting example is provided by the most recent decision regarding the so-called "Hadopi Law"[38] partially censored by the French Constitutional Council also on the ground of its inconsistency with Article 11 of the 1789 Declaration of the Rights of Man and of the Citizen.[39] In the following paragraphs we will discuss more in details the different key points of this issue through the analysis of some of these representative judicial decisions.

The current debate over Internet access and regulation of illegal material

Freedom of expression is constitutionally protected in many liberal and democratic Countries. It is considered one of the cornerstones of the United Nations Declaration of Human Rights (Article 19) and it is recognized as a fundamental

34. See Deibert et al., *supra* note 5, at 152; Cass R. Sunstein, Republic.com, 134 Princeton, NJ: Princeton University Press (2001).

35. 521 U.S. 844 (1997).

36. 535 U.S. 564, 656 (2002).

37. See Conseil constitutionnel [CC] [Constitutional Council] decision no. 96-378DC, Jul. 23, 1996, Journal Officiel de la République Française [J.O.] [Official Gazette of France], Jul. 27, 1996, p. 11400 (Fr.) (censoring most of the dispositions of the Fillon amendment concerning regulation of the Internet and the linked power given to the Conseil Supérieur de l'Audiovisuel [Audiovisual Regulatory Authority]).

38. Loi 2009-669 du 12 juin 2009 favorisant la diffusion et la protection de la création sur internet, 135 Journal Officiel de la République Française [J.O.] [Official Gazette of France], June 13, 2009, p. 9666.

39. See *supra* note 20.

right under Article 10 of the European Convention on Human Rights.[40] The reason that justifies the protection of freedom of expression is to enable the self-expression of the speakers.[41]

The multimedia revolution has affected not only habits of thought and expression, but also issues concerning fundamental freedoms and access to knowledge.[42] The rules governing the world of information and communication have never been - as they are in the current period - the subject of such intense changes. This has inevitably produced tension in the delicate balance that underpins fundamental rights and basic democratic principles. Regulatory policies could not interfere or restrict freedom of expression, but on the contrary it would be necessary to maintain the delicate balance between the citizens' rights and information security. However, freedom of expression is not an absolute right, and consequently some limitations and restrictions may apply under certain legitimate circumstances.[43] In this regards, it is also necessary to distinguish between the right to freedom of expression and right of access to the medium: the nature of the two rights is different and their two profiles do not necessarily match.[44]

In almost all democratic societies, new media, besides incurring definitional problems, has led to attempts to restrict and control online information.[45] The advent of the Internet has had a profound and revolutionary impact on the general framework of media regulation and on the government of the broadcasting sector in general.[46] This has often led to the adoption of legislative measures criticized for their inability to reconcile technological progress with economic and other public interests.

40. See Deibert and Rohozinski, *supra* note 24, at 140.

41. See Wojciech Sadurski, Freedom of Speech and Its Limits, 18 Dordrecht: Kluwer Academic Publishers (1999).

42. See Amy Kapczynski, The Access to Knowledge Mobilization and the New Politics of Intellectual Property, 117 Yale Law Journal 804 (2008).

43. See Michel Verpeaux, Freedom of Expression, 42 Strasbourg: Council of Europe Publishing (2010); See Zencovich, *supra* note 9, at 80; see also generally Thomas I. Emerson, Toward a General Theory of the First Amendment, 72 Yale L. J.: 877 (1963).

44. See Emerson *supra* note 43; Sunstein supra note 34, at 28; see also Blevins, J. (2012) Meet the New Scarcity: A First Amendment Framework for Regulating Access to Digital Media Platforms, 79 Tennessee Law Review 353 (2012) available at http://works.bepress.com/john_blevins/5 (accessed June 10, 2013).

45. See Sunstein *supra* note 34, at 138.

46. See Monroe E. Price, Media and Sovereignty: The Global Information Revolution and Its Challenge, Cambridge, 216 MA: MIT Press (2002); Laura DeNardis, Protocol Politics: The Globalization of Internet Governance, 20 Cambridge, MA: MIT Press (2009).

In recent years, some attempts have been made by the States to regulate the content on the Internet. One of the most famous, and certainly one of the most debated, was the United States Communication Decency Act of 1996 (CDA).[47] It was the first important effort by the United States Congress to control pornographic content on the Internet. In the landmark 1997 case of *Reno v. ACLU*, the U.S. Supreme Court held that the CDA violated the freedom of speech provisions of the First Amendment.[48] In an effort to protect minors from "indecent" and "patently offensive" materials, the CDA had the effect, *inter alia*, of restricting access to material that was not harmful to adults: "in order to deny minors access to potentially harmful speech, provisions effectively suppressed speech that adults have a constitutional right to receive and to address to one another, with no demonstration less restrictive alternatives would be at least as effective in achieving legitimate purpose that statute was enacted to serve".[49]

The case attracted the attention of the international media and legal scholars and generated a heated debate over freedom of expression on the Internet and in developing technologies. Many of the findings and conclusions reached by the U.S. Supreme Court in the 1997 are still relevant today. Among the essential findings, the Court had the ability to set out the nature of cyberspace, the techniques of accessing and communicating over digital networks and some alternative means of restricting access to the network infrastructure.[50] In this ruling, for the first time, the Supreme Court introduced a sort of legal recognition to have unconstrained and complete access to the Internet through a broad interpretation of the first Amendment. The opinion expressed by the Supreme Court confirmed the judgment of the District Court. In particular, Justice Stevens reported one of the district court judge's conclusions: "As the most participatory form of mass speech yet developed, the Internet deserves the highest protection from governmental intrusion".[51] Moreover, the Court, through a fact-based approach, came to the conclusion that speech in the Internet, even when indecent, is entitled to the protection of the First Amendment.[52] In particular, the decision concluded by arguing that: "The record demonstrates that the growth of the Internet has been

47. The Communications Decency Act of 1996, Pub. L. No. 104-104, 110 Stat. 56.

48. 521 U.S. 844, 885 (1997). See Mike Godwin, Cyber Rights: Defending Free Speech in the Digital Age, 323 rev. edn., Cambridge, MA: MIT Press (2003).

49. 521 U.S. 844, 874 (1997).

50. See Stephen C. Jacques, *Reno v. ACLU*: Insulating the Internet, the First Amendment and the Marketplace of Ideas, 46 American University Law Review 1945, 1975-76 (1997).

51. 521 U.S. 844, 863 (1997).

52. Id. at 870.

and continues to be phenomenal. As a matter of constitutional tradition, in the absence of evidence to the contrary, we presume that governmental regulation of the content of speech is more likely to interfere with the free exchange of ideas than to encourage it. The interest in encouraging freedom of expression in a democratic society outweighs any theoretical but unproven benefit of censorship".[53] In other words, the constitutional protection of freedom of expression implies also a constitutional protection of the access to information through the Internet even when the content is considered offensive. The U.S. Supreme Court based its judgment on the conclusion that the Internet is a fundamental tool for the exercise of the freedom of expression.

The US Congress responded to the Supreme Court's decision in *Reno v. ACLU* by passing a new legislation, the Child Online Protection Act (COPA).[54] But also this second attempt to regulate Internet content did not fully resolve the constitutional issues presented by the provision of the CDA.[55]

The role of Internet Access for the Freedom of Expression

From the right to freedom of expression is emerging the fundamental question concerning the access to network services. If the value of freedom of expression rests primarily on the ability of every individual to communicate and exchange ideas, Internet must be considered a key instrument for the implementation of this freedom. The access to this medium represents an essential precondition of the freedom to communicate. By similar reasoning, it should also represent an element of the "freedom of expression" guaranteed by most democracies. For these reasons, the Internet has been described "as the most participatory form of mass speech yet developed" deserving "the highest protection from government intrusion".[56]

Any discussion on this matter inevitably leads to two classic queries: what restrictions and safeguards may be legitimately imposed on fundamental rights and freedom in a democratic society in the digital environment, and under which conditions and guarantees are these restrictions feasible?

Across Europe, some countries have taken clear steps towards a recognition of the right to "Internet access". Following these initial actions, there is now a

53. Id. at 885.

54. 47 U.S.C.A. § 231 (held unconstitutional by *Ashcroft v. American Civil Liberties Union*, 542 U.S. 656).

55. See Deibert et al., supra note 23, at 229.

56. 929 F. Supp. 824, 883 (E.D. Penn. 1996).

growing debate amongst governments, policy makers and civil society regarding the legal status of the access to network services.[57]

Initially, such discussion takes places after a recent and innovative decision of the French "Conseil Constitutionel": the decision n. 2009-580DC, adopted on 22 June 2009. For some commentators, this decision supports the pursuit of legal recognition of "access the Internet" as a fundamental right.[58] In fact, by reviewing the constitutionality of laws under Article 61, paragraph 2 of the French Constitution[59], the Court declared partially unconstitutional a law – referred to as "HADOPI 1"[60] – aimed at preventing the illegal copying and redistribution over the Internet of digital content protected by copyright.[61]

With the HADOPI anti-piracy legislation, France became the first country to experiment with a warning system to protect copyrighted works on the web. Pursuant to this law, Internet usage is monitored to detect illegal content sharing and suspected infringers are tracked back to their Internet service providers (ISPs). The legislation provides for gradual intervention (the so called three strikes procedure); three email warnings are sent before a formal judicial complaint is filed.[62] The email warnings are sent directly by the Internet Service Providers at the request of the HADOPI Authority (Haute Autorite pour la Diffusion des Oeuvres et la Protection des Droits sur Internet). If illegal activity is observed in the six-month period following the first notification, the HADOPI Authority

57. See UN Human Rights Council 2011, supra note 10; Nicola Lucchi, Access to Network Services and Protection of Constitutional Rights: Recognizing the Essential Role of Internet Access for the Freedom of Expression, 19 Cardozo J. Int'l & Comp. L. 645 (2011); Dutton, supra note 1; Akdeniz, supra note 16; Lisa Horner et al., Information and Communication Technologies and Human Rights,' Brussels: European Parliament (2010) available http://www.europarl.europarl.europarl.europa.eu/activities/committees/studies/download.do?langu age=it&file=31731 (accessed June 10, 2013.).

58. See Laure Marino, Le Droit d'Accès à Internet, Nouveau Droit Fondamental, 30 Recueil Dalloz 2045 (2009).

59. See 1958 Const. art. 61, § 2 (Fr.). According to this provision, "Acts of Parliament may be referred to the Constitutional Council, before their promulgation, by the President of the Republic, the Prime Minister, the President of the National Assembly, the President of the Senate, sixty Members of the National Assembly or sixty Senators." See also Francis Hamon & Michel Troper, Droit Constitutionnel 834, 31st edn., Paris: L.G.D.J. (2009); George A. Berman & Etienne Picard (eds.) Introduction to French Law, 30-31 Alphen aan den Rijn: Kluwer Law International (2008).

60. See Loi 2009-669 du 12 juin 2009 favorisant la diffusion et la protection de la création sur internet, 135 Journal Officiel de la République Française, June 13, 2009, p. 9666.

61. See decision No. 2009-580DC, *supra* note 20.

62. See Code de la Propriété Intellectuelle art. L. 331-25, al. 1.

can send a second warning communication by registered mail.[63] Should alleged copyright infringement continue thereafter, the suspected infringer is reported to a judge who has the power to impose a range of penalties, such as Internet disconnection.[64] This particular form of sanction was considered to be inconsistent with the provision of the 1789 Declaration of the Rights of the Man and of the CitizWhen called to evaluate the constitutionality of the normative act, the *Conseil constitutionnel* highlights a sort of "fundamental right" of access to computer networks.[65] At the same time, it lays the basis for a debate about the need of a balancing analysis by a jurisdictional authority before any sanctions are applied, a debate whose consequences may seem to exceed the French border. In addition to France, similar laws and policies have been adopted, considered, or rejected by Australia, Hong Kong, Germany, the Netherlands, New Zealand, South Korea, Sweden, Taiwan, and the United Kingdom.[66]

The framework set up by the law anticipates further developments in the relationship between the use of networks and fundamental rights, as well as unavoidable adverse effects within other European countries and European Community legislation. For example, in the United Kingdom, the Digital Economy Act addresses the problem of online copyright infringement by the introduction of the same graduated response regime and analogous system is in use or being considered in New Zealand, Taiwan and South Korea.[67] The same concerns have arisen with regard to the secret negotiation of the proposed Anti-Counterfeiting Trade Agreement (ACTA),[68] which is also focused on the implementation of a

63. Id., art. L. 331-25, al. 2.

64. Id., art. L. 335-7.

65. See Marino *supra* note 58; Commentaire de la décision n. 2009-580 DC du 10 juin 2009,' 27 Les Cahiers du Conseil constitutionnel, 1,7 available at http://www.conseil-constitutionnel.fr/conseil-constitutionnel/root/bank_mm/commentaires/cahier27/cccc_580dc.pdf (accessed June 10, 2013).

66. See Peter K. Yu, The Graduated Response, 62 Florida Law Review 1373, 1376-77 (2010).

67. See Peppe Santoro, Progressive IP Strategies for European Clients, 168 in E. Baud et al. (eds.) IP Client Strategies in Europe, Boston: Aspatore (2010).

68. Anti-Counterfeiting Trade Agreement (ACTA), Public Predecisional/Deliberative Draft, (Apr. 2010), http://trade.ec.europa.eu/doclib/docs/2010/april/tradoc_146029.pdf. On this, see Margot Kaminski, Recent Development, The Origins and Potential Impact of the Anti-Counterfeiting Trade Agreement (ACTA), 34 Yale Journal of International Law 34: 247 (2009); Annemarie Bridy, ACTA and the Specter of Graduated Response,' American University, Washington College of Law, PIJIP Research Paper No. 2 (2010) available at http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1002&context=research&sei- (accessed June 10, 2012).

"graduated response" regime. [69] Many European Countries refused to ratify ACTA, mentioning privacy and human rights issues.[70] Recently, European Commission has officially submitted its request for an opinion on ACTA to the European Court of Justice in order to examine its compatibility with the Treaties and in particular with the Charter of Fundamental Rights of the European Union[71] Finally, another similar example is offered by the so-called *Ley Sinde* (Sinde's law)[72] which represented the first legal instrument introduced in Spain to address the illegal downloading of copyrighted content on the web.[73] The provisions included in the Spain's Sustainable Economy Act contains a set of norms to establish a special commission designed to review requests submitted by copyright holders against websites for suspected infringement activity. This special Commission – recently appointed – has the authority to shut down the website due to the violations and also to take actions against content intermediaries.[74]

In this turmoiled setting, the decision of the French Constitutional Council triggered a debate about Internet access as a possible constitutional or fundamental right.[75] In fact, one the most troublesome issue the *Conseil constitionnel* had to address concerned the right of access to online networks. The *Conseil constitutionnel*

69. The term "graduated response" refers "to an alternative mechanism to fight internet piracy (in particular resulting from P2P file sharing) that relies on a form of co-operation with the internet access providers that goes beyond the classical "'notice and take down" approach, and implies an educational notification mechanism for alleged online infringers before more stringent measures can be imposed (including, possibly, the suspension of termination of the internet service)". See Strowel *supra* note 14, at 77.

70. See ACTA: Germany Delays Signing Anti-Piracy Agreement, BBC (Feb. 10, 2012). Online. Available at http://www.bbc.co.uk/news/technology-16980451; ACTA Loses More Support in Europe, the Guardian (UK) (Feb. 15, 2012). Online. Available at http://www.guardian.co.uk/technology/2012/feb/15/acta-loses-moresupport-europe. Accessed June 10, 2013.

71. Statement by John Clancy, EU Trade Spokesman, 11 May 2012. Online. Available HTTP: http://trade.ec.europa.eu/doclib/press/index.cfm?id=799. Accessed June 10, 2013.

72. Named after former Minister of Culture, Ángeles González-Sinde.

73. Law 2/2011, of March 4, 2011, on Sustainable Economy, Official Journal n. 55, of march 5, 2011, Sec. I. p, 25033.

74. Royal Decree 1889/2011 of 30 December 2011 regulating the Intellectual Property Commission, Official Journal no. 315 of 31 December 2011, sec. I, p. 147012. The royal decree also sets down the administrative procedure – with a formal and limited judicial review - for the sanctioning of illegal distribution of copyrighted content.

75. See David Banisar, The Right to Information in the Age of Information, 85-86 in R.F. Jørgensen (ed.) Human Rights in the Global Information Society, Cambridge, MA: MIT Press (2006).

based its discussion of this issue on Article 11 of the 1789 Declaration. According to Article 11 "[t]he free communication of ideas and opinions is one of the most precious of the rights of man. Every citizen may, accordingly, speak, write, and print with freedom, but shall be responsible for such abuses of this freedom as shall be defined by law" (Declaration des Droits de l'Homme and du Citoyen de 1789: art. 11).[76] The judges of the *Conseil constitutionnel* concluded that this right also includes the freedom to access online networks, given the diffusion of such services and their growing importance to the participation in democratic life and consequently to freedom of expression.[77] Specifically, the relevant paragraph in the court's opinion reads as follows: "In the current state of the means of communication and given the generalized development of public online communication services and the importance of the latter for the participation in democracy and the expression of ideas and opinions, this right implies freedom to access such services.".[78] In other words, because access to information is the foundation of any democratic society, this kind of freedom can be protected in a democratic context only if citizens have full and equal access to the information and communication infrastructure.

As a consequence, the Court determined the law at issue - which contemplates forcibly disconnecting an individual from the Internet without any type of judicial oversight - in conflict with Article 11 of the 1789 Declaration of the Rights of the Man and of the Citizen, which still enjoys constitutional value in France.[79] Although the *Conseil constitutionnel* concluded that Internet access cannot be considered a fundamental right in itself, the freedom of communication—which enjoys a particular *status* as a protected right—certainly deserves strengthened protection with respect to Internet access. In fact, this type of communication—as opposed to other forms of access to information—necessarily relates to each individual. The *Conseil constitutionnel*, in applying its jurisprudence on the assessment of proportionality, has established that the freedom of communication, as applied to the right of access to network services, assumes a peculiar importance (Conseil constitutionnel 2008: ¶ 22).[80] Consequently, the restrictions imposed by the sanctioning power must be limited. On this issue the *Conseil constitutionnel*

76. Declaration des Droits de l' Homme and du Citoyen de 1789, art. 11 (1789), avalable at http://www.conseil-constitutionnel.fr/textes/d1789.htm (accessed June 10, 2013).

77. See Verpeaux, *supra* note 43 at 50.

78. See Decision 2009-580 DC, *supra* note 21, para. 12.

79. See Berman & Picard, *supra* note 59, at 14-15, 419.

80. Conseil constitutionnel, Décision No. 2008-562DC, du 21 février 2008, §22, avalable at http://www.conseil-constitutionnel.fr/conseil-constitutionnel/root/bank_mm/anglais/a2008562 dc.pdf (accessed June 10, 2013).

stated that, "violations of freedom of access to the Internet can be analyzed, under the Constitution, as invasions of the liberty guaranteed by the Article 11 of the Declaration of 1789".[81] Access to such an important tool of communication has become, for millions of citizens, an integral part of their exercise of many other constitutionally protected rights and freedoms.[82] Therefore, inhibiting access to such a source of information would constitute a disproportionate sanction, in the sense that it would also have a strong and direct impact on the exercise of those constitutional rights and freedoms.[83] The Internet, as opposed to other forms of media, allows for the exercise of the freedom of communication not only in a passive way, but also in an active way, because the user can be both a producer and consumer of information.[84] Thus, individuals on the Internet are "active producers of information content, not just recipients".[85]

The impact of the decision, on this point, consists in asserting that, violations of freedom of access to the Internet can be analyzed, under the Constitution, as violations of freedom guaranteed by Article 11 of the 1789 Declaration of the Rights of Man and of the Citizen.[86]

The controversy around the right to "Internet access"

As previously discussed, there is an ongoing debate among scholars, policy-makers, and civil rights activists around the recognition of a fundamental right to "Internet access". In order to position the analysis of the issues in the global context, an overview of the different legal approaches to this question is set out below. Indeed, legislation from other countries has come into effect or is proposed to cover much the same ground. In addition to France, Finland, Estonia, Greece and Costa Rica have also taken important actions concerning the question of access to the Internet (Long 2010).[87] In Finland, Decree no. 732/2009 of the Ministry of Transport and Communications on the Minimum Rate of a Functional Internet

81. See Commentaire de la décision n. 2009-580 DC du 10 juin 2009, *supra* note 65, at 7.

82. See Benkler, *supra* note 4, at 15.

83. See Marino, *supra* note 58, at 2045.

84. See H.H. Jr. Perritt, Law and the Information Superhighway, 43, 2nd edn, Gaithersburg, MD: Aspen Law & Business (2001); A. Murray, Information Technology Law, 104 Oxford: Oxford University Press (2010).

85. See Balkin, *supra* note 8, at 440.

86. See Commentaire de la décision n. 2009-580 DC du 10 juin 2009, *supra* note 65, at 7-8.

87. See D.E. Long, Three strikes and you are off the Internet, Chicago Daily Law Bulletin - Oct. 29, 2010, available at http://www.jmls.edu/news/Long%20CDLB%2010%2010%2 029. pdf (accessed June 10, 2013).

Access as a Universal Servic) sets provision on the minimum rate of a functional Internet access.[88] The decree does not mention an explicit right of individuals to access the network infrastructure, but rather contemplates a civil right to broadband. In particular it states that access to broadband Internet is a universal service, similar to other public utilities like telephone service, water supply, electricity etc.. That is to say that, according to the Finnish law, Internet is considered as a staple commodity, to which every consumer and company must have access. This also means that Finnish telecommunication companies are required to provide all Finnish citizens with an Internet connection that runs at a reasonable connection speed. In Estonia, according to Section 33 of the Public Information Act, "every person shall be afforded the opportunity to have free access to public information through the Internet in public libraries, pursuant to the procedure provided for in the Public Libraries Act (RT I 1998, 103, 1696; 2000, 92, 597)".[89] Moreover, according to Estonian legislation on telecommunications, Internet access is also considered a universal service. Finally, as far as Greece is concerned, the constitutional reform of 2001 has amended the Hellenic constitution introducing, among other novelties, an explicit right for all citizens to participate effectively in society. In particular, the second paragraph of Art. 5A stipulates that the State is obligated to facilitate access to information transmitted electronically, as well as the exchange, production and dissemination of information.[90] More recently, the Constitutional Court of Costa Rica declared Internet access to be a fundamental right.[91] In particular, the court had observed that "in the context of the information or knowledge society, public authorities are required - for the benefit of those governed - to promote and ensure universally the access to these new technologies . The delay in opening the telecommunications

88. Decree no. 732/2009 of the Ministry of Transport and Communications on the Minimum Rate of a Functional Internet Access as a Universal Service, 14 Oct. 2009 available at http://www.finlex.fi/en/laki/kaannokset/2009/en20090732.pdf (accessed June 10, 2012).

89. See Public Information Act of Estonia, 15 Nov. 2000, as amended 2003, available at http://www.legaltext.ee/text/en/X40095K4.htm (accessed June 10, 2012).

90. See 2001 Syntagma [SYN] [Constitution] art. 5A. (Greece). See The Constitution of Greece: as revised by the parliamentary resolution of April 6th 2001, of the VIIth Revisionary Parliament (2004). Online. Available at http://www.hellenicparliament.gr/UserFiles/f3c70a23-7696-49db-9148-f24dce6a27c8/001-156%20aggliko.pdf. Accessed June 10, 2013.

91. See Sala Constitucional de la Corte Suprema de Justicia de Costa Rica, *Andres Oviedo Guzman v. Ministerio de Ambiente, Energia y Telecomunicaciones*, Sentencia No. 2010-012790, 30 July, 2010, (Costa Rica) available at http://200.91.68.20/pj/scij/busqueda/jurisprudencia/jur_repartidor.asp?param1=TSS&nValor1=1&nValor2=483874&strTipM=T&strDirSel=directo (accessed June 10, 2013).

market [...] has an impact on the exercise and enjoyment of other fundamental rights, such as the consumers' right to freedom of choice (Article 46, last paragraph of the Constitution), the constitutional right of access to new information technologies, the right to equality and the elimination of digital divide (art. 33 of the Constitution), the right of access to the Internet through the interface that the user or the consumer chooses and the freedom of enterprise and trade ".[92]

On the question of "Internet access" as a fundamental right, to the provocative proposal to introduce a new Article 21 bis in the Italian Constitution is noteworthy. In the Italian legal system, Article 21 of the Constitution stipulates that anyone has the right to freely express their thoughts in speech, writing, or any other form of communication. The proposal officially presented and proposed by professor Stefano Rodotà and Wired magazine Italy, sparked a lively debate in Italy between supporters and opponents. In December 2010, a group of members of the Italian Parliament submitted a Constitutional Amendment to introduce this new provision in the Italian constitution.[93] However, the prevailing opinion is that, in this context, there is no need for specific legislation of a constitutional provision designed to protect explicitly the right of access to the Internet. Such a principle, it is argued, can be easily derived from existing standards on freedom of speech or of expression through an interpretation of the same principle in a contemporary way. The practical example is given by the interpretive approach adopted by the French Constitutional Council in the evaluation of the HADOPI law.[94]

Finally, it is interesting to also note that the United Nations has declared that "access to the Internet" is a right of all individuals not to be subjected to arbitrary restrictions.[95] In particular, a recent report published by the UN Human Rights

92. Id. The original text reads as follows "En este contexto de la sociedad de la información o del conocimiento, se impone a los poderes públicos, en beneficio de los administrados, promover y garantizar, en forma universal, el acceso a estas nuevas tecnologías. Partiendo de lo expuesto, concluye este Tribunal Constitucional que el retardo verificado en la apertura del mercado de las telecomunicaciones ha quebrantado no solo el derecho consagrado en el artículo 41 de la Constitución Política sino que, además, ha incidido en el ejercicio y disfrute de otros derechos fundamentales como la libertad de elección de los consumidores consagrada en el artículo 46, párrafo in fine, constitucional, el derecho de acceso a las nuevas tecnologías de la información, el derecho a la igualdad y la erradicación de la brecha digital (infoexclusión) –artículo 33 constitucional-, el derecho de acceder a la internet por la interfase que elija el consumidor o usuario y la libertad empresarial y de comercio".

93. Disegno di Legge Costituzionale, 6 Dec. 2010, n. 2485, available at http://www.senato.it/service/PDF/PDFServer/BGT/00519114.pdf (accessed June 10, 2013).

94. See Decision 2009-580 DC, *supra* note 21.

95. See UN Human Rights Council 2011, *supra* note 10.

Council, declares that States should not institute any laws that prevent its citizens from accessing the Internet. It also underlines the fundamental nature of the Internet as a powerful communication medium given that "the Internet has become a key means by which individuals can exercise their right to freedom and expression".[96]

Conclusion

The advent of the Internet has placed in front of lawyers the important question of how to interpret the right to participate in the virtual society.[97] In other words, it is about how to assess, from a legal perspective, the optimal setting of the freedom to use digital communication tools both to provide information and obtain information. It is no longer just a mere exercise of the traditional right to freedom of thought and expression. It is increasingly perceived as a constitutional dilemma and the Courts are more often asked to resolve this dispute concerning the evolutionary interpretation of law.

This context has been employed to read some recent controversies over Internet access control, including the French controversy over the constitutionality of the HADOPI law, the controversy over the constitutionality of the U.S. Communication Decency Act of 1996, and some other international debated cases about whether the access to Internet should be declared a fundamental human right or not. Using these cases as illustrations of some emerging legal principles, we have reflected on the importance of fundamental rights as an institutional safeguard against the expansionary tendency of market powers and on the increasingly role of the Courts in expanding and adapting the frontiers of fundamental legal rights.

The issue of Internet regulation has found itself at the centre of a geopolitical clash being played at international level and involving multiple actors and interests. All the leading great powers (US, Russia, Continental Europe, China and Japan) as well as countries with low levels of democracy or authoritarian regimes seem intended to retain control on this new communication dimension.[98] In this context the world conference on International telecommunications - in Dubai in December 2012 - is very important for the governance of new media. This conference, in fact, aimed to renegotiate the treaty of 1998 that gave birth to the

96. Id.

97. See Vittorio Frosini, L' orizzonte Giuridico dell' Internet, Il Diritto dell' Informazione e dell' Informatica, 271, 275 (2002).

98. See Joseph S. Ney, The Future of Power, Public Affairs (2011).

International Telecommunications Regulations[99] Currently, these regulations do not specifically concern technical standards, infrastructure, or content. But some States support an expansion of the criteria to include some form of legislative provisions on Internet regulation with the potential to have direct adverse effects on fundamental rights and freedoms.[100] It looks to be a battle that will continue far into the near future.

99. See Final Acts of the World Administrative Telegraph and Telephone Conference Melbourne, 1988 (Wattc-99): International Telecommunication Regulations, Int'l Telecomm. Union 3-8 (1989). Online. Available at http://itu.int/dms_pub/itus/oth/02/01/s02010000214002PDFE.pdf. Last access June 10, 2013.

100. See D.A. Gross and E. Lucarelli, The 2012 World Conference On International Telecommunications: Another Brewing Storm Over Potential UN Regulation Of The Internet, November 2011, available at http://www.whoswholegal.com/news/features/article/29378/the-2012-world-conference-internationaltelecommunications-brewing-storm-potential-un-regulation-internet/ (accessed June 10, 2013); Luca Mainoldi, I Padroni di Internet, 1 Limes "Media come Armi" 9 (2012). See also Centre for Democracy & Technology, ITU Move To Expand Powers Threatens The Internet: Civil Society Should Have Voice in ITU Internet Debate. Online. Available at http://www.cdt.org/files/pdfs/CDT-ITU_WCIT12_background.pdf. Last access June 10, 2013.

Bodily presence, absence, and their ethical challenges: towards a phenomenological ethics of the virtual

Golfo Maggini

"if telepresence become ubiquitous
and we became dependent on electronic prostheses to mediate
all our relations to the world, the epistemological questions
that troubled Descartes and three centuries of
epistemologists could again come to seem, not just intelligible,
but disturbing."

Hubert L. Dreyfus, Telepistemology: Descartes' Last Stand (2000)

"being disruptive is the best one can do in the Matrix World.
That's why Neo – a hacker who, as Agent Smith says,
has broken every rule in the book – is the natural candidate for savior."

Hubert L. Dreyfus, Existential Phenomenology
and the Brave New World of The Matrix (2003)

I.

Hubert Dreyfus' work is well-known to be one of the most virulent, phenomenology-inclined, critiques of "strong AI", according to which "reason can be programmed into a computer", the result being that "this will confirm an understanding of man as an object, which Western thinkers have been groping toward for two thousand years but which they only now have the tools to express and implement" (Dreyfus, 1992: 78).[1] In his 1972 "*What Computers Can't Do*" (revised in 1979, and then again with a new introduction as "*What Computers Still Can't Do*" in 1992), Dreyfus claimed that a project which promotes the idea of total formalization of intelligent behavior is not possible and, consequently, that, to the extent that "intelligent machines" are destined to interact with humans in

1. See also Dreyfus 1988. Contemporary philosophy in its most dynamic expressions in phenomenology and the late Wittgenstein goes against the prejudice of "a world in which the possibility of clarity, certainty, and control is guaranteed; a world of data structures, decision theory and automation" (Dreyfus, 1992: 212).

real-time situations, it is not adequate for them to use a formalized syntactic, as well as semantic, system for coping with concrete problems in general, but only at the concrete moment when they occur. This is how Dreyfus summarizes his main thesis: "Looking back over the past ten years of AI research, we might say that the basic point which emerged is that *since intelligence must be situated, it cannot be separated from the rest of human life*." (Dreyfus, 1992: 62; my emphasis). Present in Dreyfus' critical account of "strong AI" are insights borrowed from Edmund Husserl's phenomenology of perception,[2] Martin Heidegger's phenomenology of worldliness,[3] and Merleau-Ponty's conception of perception as embodied,[4] among others. From those leading phenomenologists, Dreyfus borrows the idea of the "Gestalt" character of perception, that is, a "holistic" understanding of it, for which the part is to be viewed as part of a whole, operating as a background – an idea with which standard AI research didn't seem to be familiar.[5]

In what follows, I will not deal with Dreyfus' earlier critique of standard AI theories. I will focus instead upon his more recent accounts of the ontological, anthropological, epistemological, and ethical questions regarding Net technologies. His approach rests upon four major arguments, which may be held to support his critical perspective on the internet and virtual reality: the embodiment argument, the skills and practices argument, the authenticity argument, and, last but not least, the world-disclosure argument. Dreyfus' first three arguments are interrelated and, further on, constitute the main axis of his attack against a set of long-standing metaphysical prejudices which have dominated Western philosophy and technology, such as intellectualism, mind-body split, and situation- or context-indifference with regard to reflective thinking. All three arguments rely upon the first one, that is, the embodiment argument, which inspires Dreyfus' first major critique of Net technologies on the grounds of their "disembodied presence".

What we will argue, then, is that, despite Dreyfus' undubitable contribution to critical awareness of the uses and misuses of Net technologies, his critique does not resist the temptation to take the artifact for granted, that is, to under-

2. In Husserl, perception is understood as a context-related, goal-oriented activity (Dreyfus, 1992: 34-35). Still, Husserl's account does not finally resist conventional symbolic formalism (65). In fact, due to his intellectualism, Dreyfus aligns Husserl with Descartes and Kant (248).

3. In his phenomenological account of everydayness, Heidegger was the first to doubt the broad metaphysical assumption that the background against which objects appear and are represented can, in its turn, be represented as an object (Dreyfus, 1992: 56).

4. Dreyfus, 1992: 241 & 249-250.

5. The phenomenological blend of Husserl, Heidegger, and Merleau-Ponty is now considered to be phenomenology's main contribution to theories of "embodied cognition" in the field of AI research (Mingers 2001).

estimate the transforming power of Net and virtual reality (VR) technologies due to their involvement with changing cultural environments.[6] This is one of the major critiques addressed to his theses by social theorists and net researchers both within and outside the field of phenomenology. I mention, indicatively, Kris Markman's objection to Dreyfus' "disembodiment" hyperbole" (Markman 2003), as well as James E. Katz's (Katz, 2003), Steven G. Jones (Jones, 1998), Steve Woolgar's (Woolgar, 2002), Paul Sollie's (Sollie, 2007) criticisms.[7] It may be argued, then, that, as much as Dreyfus inherits his embodiment and skills and practices arguments from his earlier critique of "hard AI', still, what is more significant in his more recent work on Net and VR technologies is his world-closure argument. The majority of critiques addressed to Dreyfus are either with regard to his embodiment argument - by Don Ihde,[8] Paul Dourish,[9]

6. This idea is largely inspired by Don Ihde's Ihde's "multisustainability thesis", which suggests that simple, as well as for complex, technological artifacts reacts to the attempt to reducing them to designed functions with predetermined trajectories and outcomes; prediction and fixed assignments are, therefore, impossible (Ihde, 2002: 106-108). This is what also goes for the internet as a highly complex technological artifact with no fixed qualities; therefore its uses are very difficult to evaluate (112).

7. For several phenomenologists, the phenomenological accounts of perception and body paves the way for a genuine understanding of the complex way virtualization works, not just as the denial of the body. Here is the way in which Edith Wyschogrod describes the late Merleau-Ponty's notion of the "flesh" in connection with VR: "The body does not bifurcate in the manner of one-celled life but bilocates, splitting and resynthesising itself in every perceptual act. Yet, VR is not *simply* a phenomenon of bilocation but is entrapped in the hyperreal that it tries unsuccessfully to escape, an elsewhere that shifts in conformity with one's actions, that, in turn, are determined by the parameters of software programming and instrumentation. The effect of this technology is not to destroy bilocation but rather to virtualize the "actual" spatiotemporal locale of the viewer so that there is not stationary point of reference" (Wyschogrod, 2000: 175).

8. A point made by Ihde, which is a clear critique of Dreyfus' thesis, is that embodiment "is always relativistic in the sense that it is a *relation* between the human and the technologies employed. What stands out first is that all human-technology relations are two-way relations. Insofar as I use or employ a technology, I am used by and employed by that technology as well" (Ihde, 2002: 137). On these grounds, Ihde's theses on VR and the internet are less critical and more differentiated than Dreyfus'. Both Dreyfus and Ihde agree, first, on the VR agent being a non or post-Cartesian subject, and, second, on the need to move beyond the foundationalist-naturalistic and postmodern-semiotic approaches to the problem. Nevertheless, Ihde's approach is more relational: "I am suggesting that while one can directly seem to take account of such features of the machinic as its technical properties, this is itself merely one interactive variant upon the material. Another, the line I have developed, shows the current machines to be fantasy-enhancing devices as at least another trajectory of their human-nonhuman relational being" (86).

9. Paul Dourish would object to Dreyfus on the same grounds he objects to Husserl and Heidegger, prioritizing Schutz's phenomenology of the social world: "Husserl and Heidegger had

Peter-Paul Verbeek[10] - or with regard to his skills and practices argument - by Harry Collins (Collins 2009), Evan Selinger (Selinger 2002), and others. Still, what is Dreyfus' most important positive contribution to a phenomenology-inspired ethics of the virtual is his world-closure argument. The latter has been developed not so much in his "*On the Internet*" essay as in other instances, such as his 1997 "*Disclosing New Worlds*" book as well as his latest "*All Things Shining*" (2011), co-authored with the phenomenologist Sean Kelly. In both essays Dreyfus incorporates his critique of Net and VR technologies into the wider context of a phenomenological ontology of culture.[11] This is also the closest Dreyfus comes to the late Heidegger's exchange with information technologies (Heim, 1993: 55-72).

II.

In his 2001 "*On the Internet*", Dreyfus starts by posing a critical question, with several, easy to identify, Nietzschean overtones, that of overcoming our human condition precisely through defying its most characteristic feature, that is its being essentially embodied, where embodiment includes "all aspects of our finitude and vulnerability" (Dreyfus, 2001: 4). For Dreyfus, the Net lovers, or "Extropians" as he calls them, despite what they wish to believe, are more inclined to the Platonic idea of the body as a cage for the soul than to Nietzsche's call for the surhuman against the "despisers of the body", who are "no bridge to the overman" in "*Thus spoke Zarathustra*". In fact, the new technological "paradigm" the Net promotes is that of a disembodied, de-contextualized coping with people and things in the world, which alters both its perceptive-cognitive and its affective parameters (Dreyfus, 2001: 60). Dreyfus' critique starts, then, with a strong em-

developed phenomenology in different directions, but they had nonetheless both concentrated on the *individual* experience of the world. The critical contribution of Alfred Schutz was to extend phenomenology beyond the individual to encompass the social world" (Dourish, 2001: 110; my emphasis). Dourish talks about the need for "re-embodiment" on the grounds of "embodied interaction" (126) as what runs counter to the diagnosis of net disembodiment by Dreyfus, Turkle, and others by connecting embodiment to interaction: "Embodiment is not a property of systems, technologies, or artifacts; it is a property of interaction. It is rooted in the ways in which people (and technologies) participate in the world" (189). He thus opts for a positive account of the relationship between "real", everyday environments and hybrid, VR environments (150), by focusing on the intersubjective formation of meaning for electronic media as well as for information artifacts and physical tools (184).

10. Verbeek advances Ihde's "multistability thesis", thus proposing a differentiating theory of Net technologies (Verbeek, 2005: 117-118).

11. The much debated priority given to the ontological components of Dreyfus' analysis, here in the frame of a phenomenology-driven cultural ontology is the token of Heidegger's influence upon him (Dreyfus, 1993: 304-305).

phasis on the ontological, epistemological, and ethical shortcomings of "disembodied telepresence" and the need for a subsequent re-evaluation of embodiment as a decisive factor for coping with things and people within the world. He notes: "Not only is each of us an active body coping with things, but, as embodied, we each experience a constant readiness to cope with things in general that goes beyond our readiness to cope with any specific thing... So, for there to be a sense of presence in telepresence, one would not only have to be able to get a grip on things at a distance; one would need to have a sense of the context as soliciting a constant readiness to get a grip on whatever comes along" (Dreyfus, 2001: 57).

It is clear then that, in his analysis, Dreyfus sides with phenomenologists, such as Heidegger, Sartre, or Merleau-Ponty, and existentialists, such as Kierkegaard, who affirm our finitude. The epistemological question as to the loss of finitude in distant or virtual coping with things and people is directly linked to what he had already explored in his 1972 book, where he had distinguished between the syntaxic and the semantic structure of "intelligent machines". In that context, Dreyfus had already shown that, in order for meaning to be understood, it has to be contextualized and embodied. In analogous terms, he criticizes the way information is organized on the net through hyperlinks: "postmodern theorists and artists embrace hyperlinks as a way of freeing us from anonymous specialists organizing our databases and deciding for us what is relevant to what. *Quantity* of connections is valued above any judgment as to the *quality* of those connections" (Dreyfus, 2001: 12; my emphasis).[12] For Dreyfus, the Net search engines have a merely syntaxic, not semantic, function, and this poses the urgent matter of the "relevance problem" (Dreyfus, 2001: 94). But, "relevance" has to do with meaning and context; it is a semantic, not a syntaxic phenomenon. Thus, the "relevance problem" ends up being a "frame problem". Consequenly, what is of utmost importance is the question of embodiment, which runs through all Dreyfus' analysis: "there can be no understanding of relevance without commonsense understanding, and no commonsense understanding without a sense of how the world meshes with our embodiment. All search techniques on the Web

12. In this respect, Dreyfus draws the line between "the old library culture" and "the hyperlinked culture" (Dreyfus, 2001: 11). For a critique of Dreyfus argument about absence of relevance and meaninglessness as for hyperlinks (Stoner, 2004). Stoner argues that, contrary to what Dreyfus thinks, the radical, anarchic, way hyperlinks are created does not prove their loss of relevance, because they are created by humans who have access to the semantic, not just to their syntaxic, content. In fact, there is meaning to the hyperlinks and due to this, even if everything *could be* linked to everything else, *it is not*. Consequently, what Dreyfus praises in the "old library culture", that is, libraries are "archetypal hierarchies" is not only responsible for relevance and meaning, because hierarchies obscure relations between objects other than the mother/daughter sort (Stoner, 2007: 82).

are crippled in advance by having to approximate a human sense of meaning and relevance grounded in the body, without a body and therefore without commonsense" (Dreyfus, 2001: 25).

Dreyfus' defense of embodiment affects not only information-gathering and retrieving as mental operations, but also our whole way of coping with things and people. This becomes more apparent, when he puts all his efforts to differentiate between education and distant learning.[13] He then goes on to discuss his much-disputed phenomenological model of skill acquisition, introduced in his "*Mind over Machine*". In the context of the 1986 book, Dreyfus plays human expertise against the current domination of expert systems, claiming that, to the extent that proficiency and expertise in the performance of human skills requires intuition as well as a situational, involved understanding of things and people, no expert system and no information-processing computational model can account for genuine intelligence. In developing his skill acquisition model, Dreyfus argues against the degeneration of reason into calculation and the technological mentality that goes with it.

It is not necessary to get into the details of the model of skill acquisition articulated initially in five stages (novice – advanced beginner – competent – proficient – expert) (Dreyfus & Dreyfus, 1988: 19-36). Dreyfus elaborates the five-stage skill acquisition model in many instances. In all those instances, Dreyfus attempts to overthrow the intellectualist prejudice which privileges abstract, formal, context-free intelligence. In the dynamic process of human skill acquisition we go from rule-guided, abstract "know-that" to concrete intuitive "know-how". Analytic, calculative rationality pervades the first three stages of human experience, the fourth stage being transitional, whereas stages five and six are intuitive and, strictly speaking, "arational", requiring a holistic, situation-sensitive understanding: "*Competent performance is rational; proficiency is transitional; experts act arationally*" (Dreyfus & Dreyfus, 1988: 36; my emphasis).[14] At the beginning of 1990s, Dreyfus extended his five-stage model of skillful coping to a model of morally skillful coping with the world (Dreyfus, 1990). In the 2001 "*On the Internet*", he reiterates the five-stage model of expertise, but he adds two more stages with a pure ethical quality – those of mastery and practical wisdom (Dreyfus, 2001: 45-48).[15] The two last stages are of particular importance, because they

13. See in this respect Peters, 2002.

14. The two examples used by Dreyfus to depict the intuitive power of human intelligence are distant learning and management, the latter viewed as an art which requires deliberation.

15. See Vanderburg, 2004: 246.

give an answer to numerous criticisms, by Harry M. Collins[16] and others, as to the individualist trend of Dreyfus' expertise model. Thus, those later stages, which call for immersion in a cultural setting or in a *Sittlichkeit*, in Hegel's terms (Dreyfus, 1991a: 229, 248), already prefigure Dreyfus' attempt at a phenomenological ontology of culture.

Dreyfus' emphasis on embodied, perceptual as well as emotional, involvement as far as the higher levels of skill acquisition are concerned is noteworthy. As for the last stage, that of practical wisdom, with clear Aristotelian overtones, strongly reminding us of his debt to the early Heidegger,[17] it is meant to possess a wider cultural effect. The "embodiment argument" is present here too: one's immersion in the "style" of one's own culture requires embodiment, because a cultural "style" is not given in an abstract, theoretical manner, in the way the intellectualist tradition in philosophy would like it to be (Dreyfus, 2001: 48). But the same need for embodied presence, or for what Merleau-Ponty designates as "an optimal grip on the world", is what makes our body so important for having a genuine sense of reality. Apart from it, what Dreyfus appropriates from Merleau-Ponty is his leading idea of an "intentional arc", which comprises our innate bodily structures, the general (physical) acquires skills, and the cultural skills (Dreyfus & Dreyfus, 1999a: 103-105). This analysis underlies that of phenomenological skill acquisition, to the extent that skills are not seized representationally, as they are essentially embodied. In fact, embodiment witnesses the situational, non-thematic function of human action as being "purposive without a purpose". This analysis is taken over to its full extent by Dreyfus in his critical account of the internet: "Our sense of reality is in fact built against the background of both a primordial certainly *and* uncertainty or vulnerability. But this background is not *in vacui*, but thanks to our bodily presence, thanks to the "the background faith in the presence and reality of the perceptual world" (Dreyfus, 2001: 71).

Nonetheless, the need for embodiment has not only ontological, and epistemological, but also ethical implications; it is in this respect that Dreyfus sets forth his authenticity argument, taking as a starting point Kierkegaard's existentialism (Dreyfus 1994; Dreyfus, 1999b).[18] Authenticity, for Kierkegaard, comes from

16. For Collins, Dreyfus does not stress the discontinuity between humans and animals because of his emphasis on the embodiment argument. He, thus, puts aside socialness and linguistic-cultural embeddedness: Collins, 2009: 75-76.

17. See also Dreyfus, 2000a.

18. On the place of Kierkegaard's conception of authentic selfhood in the postmodern discourse on the self: Schrag, 1997: 62-67. See also McPherson, 2002: 396-398.

commitment and choice;[19] also from what Dreyfus designates on numerous occasions as the vulnerability of the human condition: "Kierkegaard would surely argue that, while the Internet, like the public sphere and the press, does not prohibit unconditional commitments, in the end, it undermines them. Like a simulator, the Net manages to capture everything but the risk" (Dreyfus, 2001: 88).[20] For Dreyfus, the lack of authenticity proper to the "digital self" makes of it the most telling example of what we could designate as the "postmodern self", that is, a self that "has no defining content or continuity but is open to all possibilities and to constantly taking on new roles" (Dreyfus, 2001: 81).

III.

Dreyfus' analysis assimilates many and quite diverse elements taken from contemporary philosophical positions. These elements are especially phenomenological. But they also are taken from concrete, scientific and technical, analyses of Web technologies. The key question regarding the threat those new technologies pose to us is formulated by him as follows: "What would be gained and what, if anything, would be lost, if we were to take leave of our situated bodies in exchange for ubiquitous telepresence in cyberspace? We can break up this question into two: how does relating to the world through teletechnology affect our overall sense of reality? And what, if anything, is lost when human beings relate to *each other* by way of teletechnology?" (Dreyfus, 2001: 52; my emphasis).[21]

Dreyfus situates himself beyond both the modern representational subject and the postmodern disintegrated self. Moreover, this move is clearly related to his world-disclosure argument, which paves the way for integrating his critique of Net technologies into the wider context of a phenomenological ontology of culture. A first formulation of Dreyfus' model of alternative cultural practices had already taken place in his 1997 "*Disclosing New Worlds*", where he had presented three forms of world-disclosing practices, which can make us recuperate our sense of "everyday history-making". This model was proposed by Dreyfus as an antidote both to Cartesianism, which promotes the idea of a stable, abstract, bodiless identity, and to Nietzsche-inspired postmodernism, which is typically exemplified in VR "morphing". He evokes once more Sherry Turkle's analysis of the impact of internet use on identity formation and change in her "*Life on*

19. On Heidegger's interpretation of authenticity in Kierkegaard and Dreyfus' appropriation of it: Guignon, 2000.

20. Here Dreyfus accepts the main arguments advanced by Sherry Turkle in her 1995 "*Life on the Screen. Identity in the Age of the Internet*". For a condenses account of her views: Turkle, 1996.

21. A full account of "world" and "worldliness" is given by Dreyfus in his 1991 "*Being-in-the-World*": Dreyfus, 1991b: 40-60 & 88-107.

the Screen", pointing out the radical ambiguity which pervades her analysis. For Dreyfus, both modern and postmodern sets of practices promote an ahistorical way of life (Dreyfus, Spinosa & Flores, 1997: 11-15). In the case of Net technologies, possibilities such as that of changing one's identity or experimenting with it, which have long been marginal practices reserved to minorities, are now becoming central to our cultural self-understanding. By extending his skill acquisition model to history-making skills – he identifies three of them, articulation, cross-appropriation, reconfiguration – Dreyfus clearly relates the last one, *reconfiguration*, with the internet's "flexibility": "the internet, in its creation of worlds that have a kind of disembodied reality, reflects and focuses many marginal practices of flexibility... One can have endless identities and indulge the postmodernist dream of change for its own sake in every domain. We see here how the transition from marginality to centrality of one set of practices, such as virtual-space morphing, can bring other marginal practices, such as sex changes, along with them and transform a whole way of life. This kind of transformation is what we mean by reconfiguration." (Dreyfus, Spinosa & Flores, 1997: 13).

What is apparent in Dreyfus' more recent critique of VR is the need to make it answer to fundamental questions which have to do with the "style" of the culture we live in, torn apart between the dominant technological paradigm and the persistance of marginal practices. In fact, his inquiry into Net technologies and VR moves progressively in the direction of a phenomenology-driven understanding of our cultural condition, centered upon the notion of "disclosive spaces", a further development of his Heidegger-inspired world-disclosure argument.[22] Here Dreyfus' phenomenological account of ethical skills extends over to everyday history-making skills by introducing two basic complementary structures.[23] The first structure implies the existence of "ontological goods", whereas the second one is articulated in terms of "receptivity" and "style". The balance between the two structures determines a cultural "paradigm", which for Dreyfus can be either "receptive", thus allowing new forms of life and action to come in from older forms, or "disclosive", that is, maintaining the "integrity of its basic forms of praxis" (Dreyfus, Spinosa & Flores, 1997: 182).[24] In our culture, the predominant struc-

22. Hubert L. Dreyfus, A Philosophical Appendix: How We Differ from Relativists and Formalists (Dreyfus, Spinosa & Flores, 1997: 177-188).

23. What establishes the continuity between ethical skills and history-making skills is Dreyfus' insistance upon the latter's non-reflective, intuitive nature (Dreyfus, Spinosa & Flores, 1997: 1-3).

24. This complementary structure could be an answer to the critiques addressed to Dreyfus which focus on the restricted notion of embodiment he takes as a starting point, but also on the alleged absence of any idea of invention of new cultural forms through Net technologies in him: "if the issue is seen not as the approximation of a particular cultural style, but as the

tures are those of "receptive practices" and "pluralism of "styles", which may have differentiated impacts upon both individual and collective identity formation. There is, first, a negative impact upon it, which calls for "fluid identities": "From within a disclosive space structured according to the ontological goods that produce historical worlds, the restless Nietzschean *gestalt*-shifting looks either a case of dysfunction or a lamentable stage of immaturity. Thus, the ontic-substantive concern of seeking flexible equilibria in the name of which gestalt-shifting occurs is excluded" (Dreyfus, Spinosa & Flores, 1997: 184). But change, either on the personal or on the cultural level, necessarily implicates the concern for integrity, which questions the quest for flexible identities and the Net's "morphing" practices. Thus, "the space of historical receiving", which evokes Heideggerian "releasement" (*Gelassenheit*) to things, "marginalizes the substantive-ontic concerns that would enable us to experience multiple worlds (without understanding them to supersede each other), then it excluded both the polytheistic ontic concerns and the postmodernist ontic concern of flexibly seeking equilibria of the Nietzschean kind that we imagined with our pack of teenagers" (ibid).

IV.

While examining the paradigmatic case of VR in the *Matrix* film, it is the world-disclosure argument that comes forth once more in Dreyfus' analysis, with several Nietzschean overtones, when he evoked Nietzsche's attack against "herd mentality": "to determine what human beings need beyond we have to turn to the Heideggerian point that what is missing in the *Matrix* world is the possibility of going beyond conventional preprogrammed reality and opening up new worlds – not just breaking the rules of the current game but inventing new games" (Dreyfus, 2003: 27). This is a capacity, which Dreyfus qualifies as ontological, not just epistemological, to free men not *within* the Matrix World, but *from* it: "By suppressing all unconventional behavior in their fear of change, and, in any case, having no way to introduce radical freedom into their programs, the AI intelligences have suppressed the Matricians' most essential human capacity – a way of being the computers can't understand but dimly fear: our ontological capacity for opening radically new worlds" (Dreyfus, 2003: 29).

In his 2011 *All Things Shining*, Dreyfus sharpens his critique by completely cutting off digital technological devices from the cultivation of skills in which humans inscribe meaning to the extent that the former encourage the flattening of human experience, what he calls "digital nihilism": "The GPS covers over the meaningful distinctions that the art of skilled navigation revealed. To the extent

invention of new ones, then it is an open question whether and how embodiment will play a role in them" (Burbules, 2002: 390; my emphasis).

that technology strips away the need for skill, it strips away the possibility of meaning as well. To have a skill is to know what counts or is worthwhile in a certain domain. Skills reveal meaningful differences to us and cultivate in us a sense of responsibility to bring these our at their best. To the extent that it takes away the need for skill, technology flattens our human life" (Dreyfus & Kelly, 2011: 213). Consequently, in his most recent work, Dreyfus sounds more and more like the late Heidegger, when he calls for "resistance" to the technological way of life, which comes not from within technology itself, bur from other non-technological, marginal or *poetic*[25] practices (Dreyfus & Kelly, 2011: 214).

Drawing heavily on an original, divergent from his prior accounts, analysis of Divisions I and II of Heidegger's "*Being and Time*", Dreyfus sets forth two "cultural figures", whose actions are largely determined by their response to the concrete, everyday coping with things and people. While the *phronimos* is someone who experiences fully his throwness in the world, that is, authentic decision-making in concrete situations, which call for a decision – Dreyfus designates him as a "cultural *virtuoso*"[26] –, the "innovative cultural master" as an alternative figure relativizes the current cultural practices and changes the way we see them by bringing forth the marginal practices inside a predominant cultural "paradigm". He, thus, "discloses new worlds" by turning marginal practices into central (Dreyfus, 2000: 169-170).[27] When transferred to the field of a phenomenological ontology of culture, those two cultural figures give place to the complementarity principle of "metapoiesis" (Dreyfus & Kelly, 2011: 212), which calls for resistance to "digital nihilism" without, nevertheless, ending up to a decisionism of some kind, but to reverence, a term strongly reminiscent of Heidegger's "releasement to things": "to be an embodied being as we are, open to moods that can direct us and reveal

25. Dreyfus talks about "sacred practices" still available at the margins of our culture which have their precedent in the "cultivating and nurturing practices" of the Greek *poiesis* as against modern technological practices (Dreyfus & Kelly, 2011: 206).

26. See, in this respect, Dreyfus' critique of MacDowell's intellectualist interpretation of Aristotelian *phronesis*: Dreyfus, 2005.

27. The two prevailing philosophers who introduced the alternatives are Aristotle and Kierkegaard. Aristotle is omnipresent in the "hermeneutics of everydayness" as exposed in the first division of "*Being and Time*", whereas in Kierkegaard lies the inspiration for the second one (Dreyfus, 1991b: 34, 275-276). In 1991, Dreyfus opted for the separation between the two divisions of the work: "Heidegger seeks some deeper understanding than that revealed in everydayness. Like Kierkegaard in "*The Present Age*" and unlike Wittgenstein, he holds that everyday intelligibility is a pseudoclarity achieved at the expense of a "genuine" clarity that is covered up…" (156). Nevertheless, in his 2000 paper, he criticizes his earlier theses, by setting the perspectives of Divisions I and II as not mutually exclusive, but complementary (Dreyfus, 2000a: 156).

the world as meaningful, just is to be a being who extends beyond what we can know about ourselves. The project, then, is not to *decide* what to care about, but to *discover* what it is about which one already cares" (Dreyfus & Kelly, 216; authors' emphasis).[28] Here Dreyfus makes of his phenomenology of skill acquisition a draft theory for a phenomenological ontology of culture by focusing on the split between technological abilities and aptitudes, which are manipulated by calculative rationality, and others designated as "metapoietic skills" showing reverence and humility: "The master of living in our poly-sacred world will understand immediately and without reflection that one moment calls for the microwave, while another moment calls for a grateful feast…" (Dreyfus & Kelly, 2011: 221).[29]

As should be evident from this discussion, what Dreyfus detects in Web technologies is their great debt to Cartesian representationalism and to the way it has determined man's relation to the world (Dreyfus, 2000b). Web analysts speak in the name of a novel reality or even of the projection to a "Brave New World". However, their debt to modernity is quite obvious (Dreyfus, 2001: 53-54). For him, what comes forth at the end is meaninglessness and "digital nihilism", to the extent that, within the broader context of his understanding of our cultural condition, Net technologies make us see the "new antihistorical future arriving in its most attractive form" (Dreyfus, Spinosa & Flores, 1997: 11). On the other hand, the strong ontological commitment of Dreyfus' phenomenological ethics of the virtual is his most obvious debt to Heideggerian phenomenology. Dreyfus' insistance upon the complementarity of "disclosure" and "receptivity", with an emphasis on the latter, comes from this powerful influence, allowing him to go beyond Luddism and technopessimism: "once we realize – in our practices, of course, not just a matter of reflexion – that we *receive* our technological understanding of being, we have stepped out of the technological understanding of being, for we then see that what is most important in our lives is not subject to efficient enhancement – indeed, the drive to control everything is precisely what we do not control" (Dreyfus 1993: 307).

28. Dreyfus elaborates the close affinity between his notion of "marginal practices" and Heidegger's *Gelassenheit* or his "last Gods": "…some of our practices could come together in a new cultural paradigm that held up to us a new way of doing things – a new paradigm that opened the world in which these practices and others were central, whereas efficient ordering was marginal." (Dreyfus, 1993: 310).

29. Few have diagnosed Dreyfus' attempt at a holistic understanding of our technological culture, suggesting that his critique could lead to a communitarianism of the conservative type: Reynolds, 2006: 552.

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Ethical concerns in the electronic age: the appropriated image

Katherine Mickle & Katherine Cooklin

Issues of copyright are something with which visual artists are highly engaged. Not only does concern arise for the protection of authorship and the artist's creations, but at times, artists incorporate images appropriated from another source into new artwork. The appropriation artist enters an ethical arena governed by copyright law while challenging ideas of originality and authorship.

The history of appropriation art places emphasis upon the utilization of borrowed imagery as commentary, parody or at times, collaboration. Many utilize images that already exist in order to creatively apply a new context while still paying homage to the original. Original images act as symbols or signifiers upon which new meaning is built.

Marcel Duchamp, with his introduction of the readymade, is considered a pioneer of appropriation art. His repurposing of an object such as a bottle drying rack or a urinal to create fine art was groundbreaking. One of Duchamp's pieces consisted of a postcard of DaVinci's *Mona Lisa* whereupon he drew a beard and mustache and added text in the margin under the image (Judovitz, 2010). Duchamp harnessed the painting's global recognition, deriving meaning and context from *Mona Lisa* into his new artwork. By using a commodification of *Mona Lisa,* the new meaning explores the difference between high and low art, between what Clement Greenberg would later coin as 'kitsch' (Harrison et al, 2002) and the longstanding art historical canon of the master artist. Duchamp further develops sophomoric reference to hedonistic values and language puns by writing the letters: L.H.O.O.Q. at the bottom. Reading the letters aloud, the letters sound like French words that roughly translate: "She has a hot ass." Not only did Duchamp visually challenge standards of art and promote Dadaist ideals, but he forced analysis of everyday objects' design, purpose and context (Judovitz, 2010).

Some of the more renowned art historical movements that incorporated appropriated imagery include, but are not limited, to the Cubists, the Dadaists, Pop Artists and Postmodernists. A long list of contemporary visual artists influenced by Postmodernism and Poststructuralism borrows images from a variety of sources: other artists, mass media, the internet, etc.

In our computerized era, the internet has become a major resource: an information superhighway with ease of accessibility. Intellectual property and original works of art are now at the behest of a few simple keyboard strokes. The digital proliferation and dissemination of information makes concerns for the ethical use of intellectual products more substantial. Some view the "internet as a potentially open system and archive of reproducible data [that] invites or allows for instant recontextualization of any information" (Lovejoy et al, 2011).

A manifesto as written by the five curators of the *From Here On* exhibition at the 2011 international photography festival Les Rencontres d'Arles [Chéroux et al, 2011] epitomizes a current attitude regarding image proliferation and exploitation on the internet:

> "*Across-the-board appropriation on the one hand plus hyper-accessibility of images on the other: a pairing that would prove particularly fertile and stimulating for the art field. Beginning with the first years of the new millennium—Google Images launched in 2001, Google Maps in 2004 and Flickr the same year—artists jumped at the new technologies, and since then more and more of them have been taking advantage of the wealth of opportunities offered by the Internet. Gleefully appropriating their online finds, they edit, adapt, displace, add and subtract. What artists used to look for in nature, in urban flâneries, in leafing through magazines and rummaging in flea markets, they now find on the Internet, that new wellspring of the vernacular and inexhaustible fount of ideas and wonders" (Chéroux et al, 2011).*

Our electronic age is fostering global interaction and connectivity. More and more people are using the internet, with Asia outweighing the rest of the world in internet activity due largely to population (IWS 2012). As of May 2012, over ten percent of internet usage worldwide is done on a mobile device (Russell, 2012). Technology continues to advance as does our visual acuity. From touch phones to assembly instructions, visuals are replacing text, removing barriers of language, class and culture.

Although copyright laws vary from country to country, the Berne Convention for the Protection of Literary and Artistic Works states that an artist's creations will be protected regardless of their country of origin. All works are copyrighted for 50 years after the artist's death, except for photography and cinematography. The protection of copyright for a photograph is 25 years from when it was created. For cinematography, it is 50 years from when it is first shown, or 50 years from its creation if it was not shown within those 50 years. The agreement permits individual nations to allow for the conditions of fair use of copyrighted material.

Specific applications of the Berne Convention vary from country to country. Some countries have adopted the 'rule of the shorter term,' respecting the country of origin's provisions for a longer term than that provided by the Berne Convention (WIPO, 2012). The World Intellectual Property Organization Treaty of 1996 provides additional protections not addressed in the Berne Convention due to issues surrounding advancements in information technology and the internet (WIPO, 2012).

Several countries extend moral rights to the artist, offering additional copyright protection. Moral rights include the right to attribution, the right to the integrity of the work and the right to publish anonymously or pseudonymously. The Visual Artists Rights Act of 1990 is part of Title 17 of the US Copyright Code and recognizes moral rights of artists.

In Section 107 of the Copyright Law of the United States, fair use of copyrighted materials limits exclusive rights and allows for the use of a particular copyrighted piece under specific considerations. There are four criteria by which fair use of the original is determined:

1. The character and purpose of the use of the image. This includes if the use is commercial or educational.
2. The nature of the original.
3. The amount and substantiality of the part used of the original.
4. How the use will impact the market or value of the copyrighted work.

Copyright protection is extended in the United States to the form in which authors/artists have expressed themselves, not in the ideas, systems or facts communicated by the copyrighted work. Citing the source of copyrighted work is no replacement for permission (Title 17, US code).

Section 107 of U.S. Copyright Law also cites examples of fair use of copyrighted material that include: scholarship, research, teaching, commentary, criticism and news reporting [Title 17, US code]. There are, however, no additional clarifications or distinctions, and the fair use of a copyrighted image can be vague, to be determined only in court relying upon the specificity of each case.

> *"The distinction between fair use and infringement may be unclear and not easily defined. There is no specific number of words, lines, or notes that may safely be taken without permission." (Title 17, US code).*

In the 1990s, internationally renowned photographer Annie Liebovitz produced a photograph of actress Demi Moore for the cover of the magazine Vanity Fair. At the time, the cover caused controversy and public discourse because Demi

Moore was nude and eight months pregnant. Nearly two years later, a mock version of the same photograph was produced by Paramount Pictures as promotion for the new film Naked Gun 33 1/3: The Final Insult [Leibovitz v. Paramount Pictures Corporation, 1996]. Actor Leslie Neilsen's face was overlaid onto the body of a nude pregnant woman photographed in the same pose with similar lighting as that of Liebovitz's photograph (Ibid). Liebovitz sued unsuccessfully. According to the summary judgment of the US District Court, Southern District of New York, "To establish a claim for copyright infringement of a protected work, a plaintiff must show both ownership of a valid copyright and that defendant copied the protected work without authorization" (Ibid). Paramount admitted copying Leibovitz's work and would have been liable for copyright infringement if there had been no fair use defense (Ibid). However, the judge found that the Paramount advertisement was a parody and demonstrated fair use of the Leibovitz photograph (Ibid). Upon appeal, the verdict was upheld. (*Leibovitz v. Paramount Pictures Corporation*, 1998).

Renowned appropriation artist Jeff Koons has found himself involved as a defendant in copyright infringement lawsuits more than once. The most noteworthy was initially filed in 1989 by artist/photographer Art Rogers against Jeff Koons and Sonnabend Gallery (*Rogers v. Koons*, 1990) Rogers registered his photograph *Puppies* through the US Copyright Office in 1989, having first published the image of Mr. and Mrs. Scanlon with their litter of eight shepherd puppies in 1980 (Ibid). Koons purchased Museum Graphics notecards of *Puppies* and later used the image as source material (Ibid). Koons ordered a 42"x62"x37" wooden sculpture be fabricated by Demetz Arts Studio in Italy that copied Rogers' black and white photograph as closely as possible (Ibid). Koons directed Demetz to add color: the values of which were to mimic the tonal range of Rogers' photograph (Ibid). Koons oversaw the creation of an edition of four of the sculptures that he entitled *String of Puppies* (Ibid). On display for the *Banality* exhibition at Sonnabend Gallery in December 1988, three out of the edition sold (Ibid). Although there were modifications from the original, the court decided that the edition was a copy of the photograph in its entirety (Ibid). His work, although creative, was established to be commercial in nature (Ibid). Koons' argument that the sculpture was satirical social commentary was not satisfactory to the judge who interpreted that "commentary" and "criticism" of Section 107 of US Copyright Law should be reflective upon the copyrighted work (Ibid). Previous case law made fair use more likely if the source is factual, not fiction (Ibid). The court identified Rogers' photograph to be creative and not solely fact-based (Ibid). The court also affirmed that art rendering (the production of a photograph in another medium) is the privilege of the copyright owner for which there is a recognizable market (Ibid). Koons' appropriation was decided to violate fair use of copyright-

ed material (Ibid). In early 1991, the district court found that Koons and Sonnabend Gallery were liable for infringing on profits, and a permanent injunction was entered to prevent either party from exhibiting, creating, loaning or selling any derivative versions of *Puppies* and to provide all infringing materials, including the fourth sculpture to Rogers (*Rogers v. Koons*, 1992).

In 2004, the photographer for a Gucci sandal advertisement, Andrea Blanch filed legal action against Jeff Koons for his appropriation of her image from Allure magazine for a painting entitled *Niagara* commissioned by Deutsche Bank (*Blanch v. Koons*, 2005). Also named as defendants were Deutsche Bank and the Solomon R. Guggenheim Foundation, both having exhibited the painting (Ibid). Blanch's photograph in the magazine depicted a woman's crossed legs from the calves to painted toenails wearing a pair of Gucci sandals on a cushion in an interior setting. Koons used the legs as photographed but discarded background information, shifted the orientation and added other elements to his painting. The judge identified Koons' piece as a transformative reference back to the photograph and not competitive in the same market with Blanch's photograph, thus in fair use of copyright (Ibid). Summary judgment was granted in favor of the defendants, and the case was dismissed (Ibid).

Richard Prince, Gagosian Gallery, and Lawrence Gagosian were found liable for copyright infringement in March 2011 and not entitled to a fair use defense for Prince's inclusion of Patrick Cariou's photographs in paintings, their subsequent exhibition and publication (*Cariou v. Prince*, 2011). Richard Prince is an established appropriation artist, securing his reputation in the 1980s by altering Marlboro advertisements as an investigation of societal constructs and gender roles. Patrick Cariou published a book of photographs in 2000 entitled Yes, Rasta featuring Rastafarian portraits and Jamaican landscapes shot over a period of six years (Ibid). Richard Prince admittedly used forty-one of Cariou's photographs in twenty-nine pieces comprising his *Canal Zone* series (Ibid). Prince modified the images by cropping, painting on them and adding other components (Ibid). Gagosian Gallery displayed twenty-two of the *Canal Zone* series in late 2008, and a catalog of the exhibition was published and sold. [m] Cariou was in communication with another gallery to exhibit images of Yes, Rasta at the time of the Gagosian show (Ibid). Prince's art was identified as largely commercial and adversely impacting the market for Cariou's photographs (Ibid). The court found Prince's work to be derivative overall, not transformative as defined by commentary on the copyrighted photographs (Ibid). The court gave relevance to the conduct of the defendants: Prince and the Gagosian defendants were found to be acting in bad faith. Prince made no attempt to receive permission from Cariou for the use of the photographs, and the gallery was aware that Prince utilized copyrighted material and had a history of appropriating imagery without permission (Ibid).

With the court finding in favor of Cariou, a permanent injunction was ordered to restrain any further infringement by the defendants, for all infringing materials be delivered to Cariou and forbidding any infringing pieces from ever being displayed publicly (Ibid). The appeal was filed in late 2011 (Walker, 2012). Interestingly, artist Steve Miller produced an appropriation of Cariou's books Yes, Rasta in 2011 entitled Gold Rasta where Miller printed with gold silkscreen painting on each page of the book, the binding and jacket. The limited, unique edition is available at Harper's Books (Harper's, 2012).

Although questions of copyright infringement have become more ubiquitous in our technological environment, the internet seems a difficult arena to police. There is an increasing attitude that information gathered from an online source is public domain and can be used as such. Bloggers and social media users often post other people's images without permission, and people across the globe upload photographs daily.

In April 2011, a motion was filed alleging that Thierry Guetta (aka Mr. Brainwash) infringed upon Glen Friedman's copyright of a photograph that he had created in 1985 of the hiphop music group Run-DMC (*Friedman v. Guetta*, 2011). Acquiring Friedman's photographic portrait of three men standing abreast wearing black cowboy hats from the internet, Guetta claimed that there was no evident copyright and that he was unaware it was published in Friedman's book Fuck You Heroes (1994) (Ibid). Guetta included aspects of the photograph into four various pieces that were displayed publicly, three of which sold (Ibid). After considering the accessibility of the original and the extrinsic and intrinsic similarity between each artist's works, then the court determined whether the use of the Friedman photograph was fair under the fair use doctrine (Ibid). The court determined that, "although the statements made by those respective artworks and the mediums by which those respective statements were made differ, the use itself is not so distinct as to render Defendant's use a transformation of Plaintiff's copyright," because both Friedman and Guetta used the imagery in "visual art for public display" (Ibid). Due to lack of transformative use, the significance of the portion used and the infringing works' direct market competition, the court granted summary judgment in favor of Friedman (Ibid).

Case law shows that a fair use is more likely to be evident if the copyrighted work is not a creative product and more factual in nature (*Rogers v. Koons*, 1990). The transformative fair use of copyrighted material has been upheld in court to mean in the visual arts that the appropriation artist creates work that derives meaning directly from the original image, its maker or its societal impact. The artist's intentions impact the legal interpretation of the transformative character of an artwork. The transformation of an image can't simply be derivative of the

source, an altered form of the original for which the author/copyright owner has sole privileges. Authorship is paramount.

Contemporary appropriation artists work in a context influenced by Postmodernism. Postmodernism/poststructuralism rejects romantic notions of authorship, originality, and genius as a pure expression of autonomy without external force or influence. For example, Barthes famously claimed that the author is dead (Barthes, 1977); Foucault reduced the author/subject to nothing but a function in a discursive system of capillary power (Foucault, 1982 &1984); and Derrida suggested that authors never occupy an originary place, and meaning is only and always within a system of deferral and hyperreferentiality such that the signified is always only a signifier (Derrida, 1997). Authors' intentions are never their 'own' and the meaning of the text or image is never bound. Such beliefs can extend the creative space for artistic and cultural meaning, and undermine distinctions between high and low art, art and mass culture, and artist and non-artist. Cultural and artistic power and authority is diffuse; and cultural and artistic creation is expansive and participatory.

The same ideas are reflected in the concept of semiotic democracy, first coined by Fiske in Television Culture, (Fiske, 1970), a term often used to refer to the audience's inevitable and active mediation of meaning encountered through media presentation, along with the creation of artistic and cultural meaning. It is viewed as a positive and self-enhancing activity, perhaps best exemplified by appropriation art. As legal scholar Marci Hamilton notes, this type of art has the "[u]nique capacity to permit individuals to live through worlds they have not and even cannot experience in fact and thereby to view and judge their own world from a new perspective" (Hamilton, 1991).

If participatory creation and semiotic democracy are desirable outcomes to encourage, then it would seem that copyright law should encourage these desiderata. Failure to do so would restrict such creative cultural products and limit the capacities of individuals from engaging in creative participation. Restrictive copyright laws favoring authorship would hinder the abilities of others to give new meaning to cultural/artistic products, and would relegate others to the role of passive consumers. When all meaning is fluid, it would seem that appropriation art in most forms could be viewed as fair use of copyrighted material given its creative and transformative capacity. It could be argued that most any use of existing pieces is creative and transformative, as is any audience reception of those pieces.

There is, however, a problem with linking the expansion and opening of creative space with postmodernism's rejection of authorship, originality, and authenticity. It is not at all clear that postmodernism can support the semiotic democracy

and cultural, artistic creative participation that seems so desirable. Such creative participation transforms the given meaning, which implies a certain originality and autonomy on the part of the audience that is itself undermined by postmodern theories.

It is not just the author of images or texts that is a mere placeholder in a discursive system, but the *subject* is also such a placeholder. The claim that the audience creates artistic and cultural meaning ensures that the audience and its choices of meaning become functions of a larger discursive system. Creative transformation is rendered highly problematic, if not impossible (Cooklin, 2005). Copyright law, then, would seem to be unable to fulfill a purpose of protection of authorship since no such authorship exists, or a purpose of expanding participatory creation since no such creation exists.

Interestingly, appropriation art rooted in postmodern/poststructuralist views reinscribes the primacy of the very author it claims to undermine. This is evinced in the copyright infringement cases of renowned appropriation artists who assert an originality or transformative dimension to the appropriated images. Ascribing such originality to the author, their piece, and the relationship between the two is precisely what renders coherent the defense of such pieces as fair use under copyright law.

"[M]any scholars claim that the sole purpose of copyright law is to ensure that incentives exist to encourage the maximum amount of creativity: creativity of authors and creativity of users….learning should result through the creative process itself as well as through the consumption and repurposing of creative works. Once the proper legal balance is achieved…there is nothing left for copyright to do" (Williams, 2010).

Striking such a balance is a perennial challenge. We must negotiate apparent incongruences between the postmodern/poststructuralist rejection of authorship; appropriation artists' use of the works of others with a claim to originality or transformation; the legal construction of authorship; and the goals of fair use and copyright law.

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5. Freedom of speech

United States v. Jones and the New Paradigm of Fourth Amendment Jurisprudence

Anna Tsiftsoglou

I. Introduction

It takes a vehicle, a GPS device and a few FBI men to cause nine justices in Washington, DC to stir constitutional waves again*. With *United States v. Jones*[1], decided unanimously on January 2012, the Supreme Court of the United States revisited its privacy theories, pondered on technology challenges and offered interesting hints on institutional matters. The case also gave us insights into judicial interpretation of security. While GPS surveillance has emerged recently as a prominent issue, principles developed historically may offer courts guidance to tackle it more effectively in the future.

II. The facts of the case

Antoine Jones, a nightclub owner in DC, was considered a suspect for drug trafficking. The FBI and the Metropolitan Police, eager to pursue information gathering, applied for the issuing of a surveillance warrant. The latter judicially authorized the installation and use of a GPS device on Jone's car but with two limitations: a) on duration (only for 10 days), and b) on location (only in Washington DC).

The agents secretly installed the GPS tracking device on the 11th day in Maryland. For the following 28 days they tracked all the suspect's movements via geo-location technology and collected thousands of pages of information over a month's span.

With this evidence, Antoine Jones and his conspirators were indicted on several charges. Jones, convicted to life by the District Court, challenged his sentence, among others, on *illegally obtained evidence* grounds. The Appellate Court accept-

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1. 615 F. 3d 544, affirmed, (2012).

ed the exclusionary rule remedy, famously pronounced in the '60s case *Mapp v. Ohio*[2], and upheld Jones' claim.

III. *Scalia v. Alito* or the 'Italian' debate over privacy

When the case finally reached the Supreme Court, the privacy issue came up again. The nine justices unanimously found that the installation and use of the GPS device on Jones' car constituted a 'search' under the Fourth Amendment. Thus, it was unconstitutional.

Despite the unanimity on the holding of the case, two blocks of justices debated the interpretation of the Fourth Amendment to the US Constitution. The first one was led by the conservative –and longest serving- Justice Scalia, who wrote the majority opinion, to which Justices Kennedy, Thomas, Sotomayor and President Roberts joined. The second one was led by the other conservative/libertarian Justice Alito, author of another concurrence, to which Justices Ginsburg, Breyer and –recent appointee- Kagan joined. For reasons of practicality, and given that both Justices Scalia and Alito have Italian heritage, we shall refer to this debate figuratively as the 'Italian Debate over privacy'.

a. The Scalia Approach: History & Consolidation

Justice Scalia, the veteran of the Court, is well-known for his love for textualism and originalism (O' Donnell, 2010). Thus, a strict adherence to the text of the Constitution and to the will of the Founding Fathers should guide us to the optimal interpretation.

This approach, as applied to privacy in our case, has surprisingly worked in two ways: a) it provided a supplement to the prevailing post-Katz privacy discourse and b) it strengthened privacy overall by offering judges more objective criteria to play with. The Scalia block, it seems, 'reinvented' Fourth Amendment jurisprudence by embracing constitutional history again (Goldberg, 2012, Friedman 2012).

The Fourth Amendment Jurisprudence is roughly divided into two periods: the pre-Katz and the post-Katz, with *Katz v. United States*[3] considered as the turning point.

In the pre-Katz period, dating back as far as the 18th Century, Fourth Amendment judicial interpretation was mainly inspired by English common-law property theories. The constitutional text offered much space for the application of the

2. 367 US 643 (1961).

3. 389 US 347 (1967).

trespass to chattels torts. Its 1791 formulation in the celebrated US Bill of Rights reads as follows:

> '*The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized*'.

Property theories during the pre-Katz period seemed thus a perfect fit. Long before the information technology revolution, the prevalent doctrine was protection against physical intrusions to "persons, houses, papers or effects". The meaning of "search" thus had a physical, property-based rationale. And that theory had guided justices for over a century (Kerr 2004, Solove 2011, Slobogin 2011).

In the landmark 1967 case *Katz v. United States*[4], things changed. The Supreme Court realized that searches may no longer be physical. The Court also realized that the Fourth Amendment protects 'people, not places' and shifted its focus towards developing a more responsive-to-technology interpretation. The *Katz* case, dealing with wiretapping on public telephone booths, presented justices an excellent opportunity to elaborate on the issue of privacy in the public sphere. There, Justice Harlan famously concurred by saying the Fourth Amendment applies whenever there are 'reasonable expectations of privacy'. Thus, the Court passed from physical to empirical metrics.

The "reasonableness" doctrine has not been that revolutionary. Though hailed by some as a turning point in Fourth Amendment jurisprudence, it has become the object of fierce criticism (Kerr 2004, Slobogin, 2011, Solove, 2011, Stanley, 2010) mostly, because it brings very subjective connotations to privacy protection. When exactly society's privacy expectations are deemed "reasonable"? Isn't such a standard contingent on technology evolution? And, at the end of the day, should justices be the final arbiters here and play with such a subjective and very circular notion?

Moreover, the application of the *Katz* doctrine is not sufficient to provide realistic answers in an era of ubiquitous surveillance. As Justice Scalia remarks, 'at the bottom, we must assure preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted'. Thus, the standard set historically against physical intrusions ought to be preserved even against novel technological challenges.

4. See note 3.

The Supreme Court, instead, has so far relied on the Katz 'reasonableness' and developed less privacy-friendly jurisprudence. For instance, according to *United States v. Knotts*[5], concerning a beeper installation on one's car parked on a public street, the car owner does not have 'reasonable expectations of privacy' for activities committed in public. The application of such doctrine here would mean that attaching a GPS device to someone's car -while parked outside- and using it to track his movements in the public sphere would not be considered a breach of privacy. But here is the paradox: How could we even compare the surveillance capabilities of a GPS device with a beeper's? And how rational is it to build privacy protection on the empirical statements of each court? Reliance on what the 'society' (or the judges at hand) considers or 'expects' as 'reasonable' for privacy protections may create massively diverse jurisprudence. And, given technological evolution, can Harlan's fluctuating standard really protect privacy? It then turns, altogether, a matter of personal taste. A judge in 2012 may find 'reasonable' to post your children's photos on Facebook just as she finds reasonable to conduct a month of GPS surveillance on a suspect. Another judge may disagree and so it goes.

The circularity and randomness embedded in this standard only contribute to the bigger fragmentation of Fourth Amendment protection in the US. Its underlying 'communitarian' philosophy (Etzioni, 1999) and its prevalence over other conflicting rights (Gerapetritis, 2003) may not help resolve this fragmentation. Due to emergence of irrationalities such as the 'third party doctrine' or the 'secrecy paradigm' (any sharing divests you from privacy) judges should seek other avenues to interpretation (Solove, 2011). Especially in the era of cloud computing.

Thus the pressing need to remake the Fourth Amendment relevant for the digital age. Modern judicial readings have seemingly failed to capture its hard core, the very concept of 'search'. The Scalia block rightly suggests that even the Katz supporters cannot deny its property roots: 'We have embodied that preservation of past rights in our very definition of 'reasonable expectation of privacy' which we have said to be an expectation that has a source outside of the Fourth Amendment, either by reference to concepts of real or personal property law or to understandings that are recognized and permitted by society [...] Katz did not narrow the Fourth Amendment's scope'. Scalia's originalist reading of the Constitution here may indeed be helpful. Scalia doesn't reject the Katz doctrine but rather blends it with the pre-Katz jurisprudence through the property link. The text of the Fourth amendment itself provides the answer. As another famous judge, Richard Posner, has written: "The *vaguer* or more *general* the constitutional text and precedents that create and define the right, the *more elastic its scope*, enabling

5. 460 US 276 (1983).

judges to change that scope without overruling any precedent and thus… without changing the law" (Posner, 2006, 23). The Fourth Amendment may date from the 18th century, but it still has the power to tackle issues of the 21st century, such as GPS surveillance.

Overall, Scalia's interpretation may 'restore our faith' in the Fourth Amendment, since: a) it offers justices concrete and *objective criteria* to decide with, b) it seamlessly unites the *pre*-Katz and the *post*-Katz doctrine and c) it resurrects the *property* roots of search (Goldberg, 2012). Even virtual searches (such as CCTV surveillance or accessing records from a computer) could be covered under Scalia's interpretation. Scalia here is taking an 'activist' stance by incorporating old and new privacy discourses into a novel constitutional interpretation for the future. Such stance may not rival others, such as his controversial one in the landmark and pro-corporate *Citizens United* case (Tsiftsoglou, 2009: 804). Nevertheless, Scalia's approach is a pro-privacy, paradigm-shifting one.

b. The Alito Approach: A Living Constitution?

Justice Alito, on his own concurrence, supported an alternative view. According to him, Fourth Amendment should be interpreted so as to adapt rapidly to technological change. In this respect, he criticized Justice Scalia's originalist approach as outdated. Reliance on '18th-century tort law' is inadequate, according to Alito, to provide solutions to 'searches' that do not have any physical connotations, such as electronic searches. Alito proposed, instead, to endorse the Katz doctrine, entailing the 'reasonable expectations of privacy'.

Alito insists on the Katz 'reasonable expectations' test but admits it may not always be an objective or reliable 'compass' for the judge, as both society and technology are constantly changing: '[…] Judges are apt to confuse their own expectations of privacy with those of the hypothetical reasonable person to which the Katz test looks […] In addition, the Katz test rests on the assumption that this hypothetical reasonable person has a well-developed and stable set of privacy expectations' (Alito Concurrence, 10)

By applying the Katz test, the Alito block performs a different interpretation. Alito evaluates the surveillance at issue, among others, in terms of time. 'Long-term' GPS surveillance, even in public streets, may be impinging on the 'reasonable expectations of privacy', while 'short-term' may not. The threshold between the two is certainly not clear and thus the Scalia criticism on the circularity of the test. In addition, Alito's insistence on the exclusivity of Harlan's standard only makes things worse. It deprives courts from objective evaluation criteria and opens the floor for all kinds of personal judgments.

The living constitution, endorsed by Alito, may provide justices legal avenues to deal with such challenges. Justice Alito's critique of Scalia's originalism is targeted *inter alia*: a) on the evolving Fourth Amendment jurisprudence ('[…] do these recent decisions represent a change in the law or simply the application of the old tort to new situations?') or b) on technological revolution as a factor of evolving constitutional interpretation ('[…] The availability and use of these and other new devices will continue to shape the average person's expectations about the privacy of his or her daily movements'). Regarding privacy, a living constitution interpretation would treat the Fourth Amendment as a 'living' text in relation to current and future technological threats. Thus, it could allow constitutional interpretation to evolve in areas and ways not even envisioned by the Founding Fathers (Balkin, 2005; Strauss, 2010). Alito's approach here treats the famous Katz doctrine as part of this 'living' interpretation: the 'reasonable expectations of privacy' will be shaped in accordance with technological evolution. Fourth Amendment jurisprudence should, therefore, evolve in parallel to societal and technological developments. Any other doctrines conforming to the original understandings of privacy do not seem suitable (Kerr, 2004). Scalia's originalism may seem irrelevant.

However, every constitution incorporates particular value judgments made through the political process, which are enacted through positive law. Such value judgments cannot be easily 'altered' by unelected judges. The 'living constitution' approach always entails great judicial subjectivity, and allows for the diffusion of certain ideologies into law beyond democratic deliberation. Justice Rehnquist, in a widely cited 1976 lecture said: "I know of no other method compatible with political theory basic to democratic society by which one's own conscientious belief may be translated into positive law and thereby obtain the only general moral imprimatur permissible in a pluralistic, democratic society" (Rehnquist, 2006). Thus, the 'living constitution', while a driving force in judicial hermeneutics, may alter the original establishment if judges apply it expansively. Jack Balkin from Yale correctly notes, nevertheless, that the 'real engine' behind the 'living constitution' is the evolving American nation itself: 'The great engine of constitutional evolution has not been judges who think they know better than the American people. It has been the evolving views of the American people themselves about what rights and liberties they regard as most important to them' (Balkin, 2005).

The adaptable 'living constitution' (Strauss, 2010) could be possibly reconciled with Scalia's originalism if viewed, as Scalia suggests, as complementary. Since privacy is founded on the physical concept of 'search' and the 'expectations of privacy' develop in accordance with technological and societal developments, a judge could use both criteria and apply the most suitable- depending on the nature of 'search'. As Slobogin remarks, reverting 'back to first principles' and re-

making a 'technologically-sensitive' Fourth Amendment will 'restore' (it) to its 'primary-arbiter' place (Slobogin, 2011).

IV. Courts v. Congress or the 'American' debate over regulation

Beyond the 'Italian' debate over privacy, the Jones case offers its readers a glimpse of another crucial debate concerning technological regulation: the one over institutional competence. Are the Courts or the Congress more competent to decide on such issues? Or, viewed otherwise, 'who decides best in last resort' and why? (Alivizatos, 2011).

In Justice Alito's concurrence we read the following:

> "[…] [C]oncern about new intrusions on privacy may spur the enactment of legislation to protect against these intrusions. This is what ultimately happened with respect to wiretapping. After *Katz*, Congress did not leave it to the courts to develop a body of Fourth Amendment case law governing the complex subject. Instead, Congress promptly enacted a comprehensive statute […] and since that time, the regulation of wiretapping has been governed *primarily by statute* and *not by case law*" (Alito Concurrence, 10-11).

> "[…] In circumstances involving dramatic technological change, the best solution to privacy concerns may be legislative […] A legislative body is well situated to gauge changing public attitudes, to draw detailed lines, and to balance privacy and public safety in a comprehensive way" (Alito Concurrence, 13).

So, what are the pros and cons of *legislative* v. *judicial* decision-making re: technology?

Technology moves fast, while law doesn't. The legislatures may be more effective decision-makers as they adapt to changes more rapidly. Orin Kerr has argued that Congress has created 'what is in effect a parallel Fourth Amendment to regulate many areas of privacy when technology is in flux'. Moreover, that statutory law, as opposed to common law, is the 'primary' source of privacy rules (Kerr 2005, 2004). Indeed, in some states like California, privacy laws provide stronger protection (Stanley, 2010). On the contrary, the Supreme Court has developed Fourth Amendment jurisprudence on a different pace, generating vague interpretations. 'The absence of a case and controversy requirement allows Congress to set the best rule for current technology; in contrast, judicial efforts to hit a moving target force the courts to keep the law uncertain to maintain flexibility for future technological change' (Kerr, 2005). Judge Posner has a slightly different view. Changed circumstances in technology may be a deciding factor, but both

statutory and case-law tend to lag in their responses to them. The difference between courts and legislators lies in their very perception of rulemaking: '... [A] Legislature can and sometimes does change course abruptly, with no felt sense of obligation to maintain continuity with previous legislation. Judges are more reluctant to overrule their "legislative" product, that is, their previous decision. To do is to acknowledge error...' (Posner, 2006) However prominent the argument of legislative flexibility or effectiveness may be, it cannot be absolute. An example just reported from the area of mobile telecommunications surveillance is revealing. Law enforcement attention in the US has lately shifted towards the collection of location data or data stored 'in the cloud' (entrusted to third parties) to which 'reasonable expectations of privacy' do not apply (due to the 'third-party doctrine'). This data is easier to obtain and without any warrant requirement. However, Congress has yet not revised the current legal framework to better protect privacy (Op-Ed, New York Times, 2012).

This also relates to *ex ante* v. *ex post* decision-making. In a sense, legislators may act early to regulate new technologies, whereas courts decide ex post, and only if and when a particular issue may arise and on a case-by-case fashion (Kerr, 2004).

Another deciding factor in this debate is information asymmetries. Legislators often operate in a richer information environment than courts. Especially in the field of technology, they may seek the assistance of experts and other feedback during the drafting process. Given this richer institutional environment, 'the legislative process tends to generate more informed rules governing developing technologies than is likely to result from the closed environment of the judicial process' (Kerr, 2005, 2004). Courts function differently. Usually judges do not have nor seek external assistance and usually fail to grasp even the basics of technology. Such institutional disadvantage affects judicial rulemaking. In fact, lack of information often leads to decisional minimalism. As Cass Sunstein further points, 'Sometimes the minimalist approach is the best way to minimize the sum of error costs and decision costs' (Sunstein, 1999).

Nevertheless, judges are important decision-makers, particularly in the Supreme Court. The 'judicialization of politics' has emerged as a popular phenomenon in modern democracies (Guarnieri, 2001; Tushnet, 2010). Given the inherent difficulties in amending the US constitution, judges are pragmatically entrusted a more active role in the evolution of law. It may seem more reasonable for judges to have the last word on human rights issues and leave hardly defined political questions to elected officials (Alivizatos, 2011). Thus, even on technological matters, with radiating effects on fundamental rights like privacy or freedom of speech, judges should still be considered big players. Impeding factors such as

lack of flexibility, information asymmetries or ex post decision-making may influence but not diminish their mission.

Moreover, judicial review is crucial for a well-functioning system of checks and balances. Courts act as guardians and they may not always be favorites, as judicial independence 'brings *inertia* and *political transaction costs*, which at some level outweigh the benefits' (Calabresi, 2002).Technology rules may be shaped by state or federal legislators, but courts hold the validating power to 'decide on last resort'. Thus, the justice's role as a judge of values should not be underestimated anyhow (Vrontakis, 2011). Judicial review of technology rules, like any rules, always entails some risk, though. As Judge Posner claims, 'when the Supreme Court, in the name of the Constitution, invalidates the act of another branch of government, it stifles a social experiment- by doing so it deprives itself as well as the nation of critical information concerning the consequences of the experiment for liberty, privacy, safety, diversity and other values' (Posner, 2006). The *democratic nature* of judicial decision-making power, including judicial review, will depend, according to Troper, 'on the definitions of democracy' (Troper, 2007).

V. Towards a new paradigm of Fourth Amendment jurisprudence?

So where does this case lead us to? Is there a new privacy paradigm to follow?

Reading the news headlines a few weeks after the ruling came out, we could even talk about the *Jones effect*: FBI forced to limit GPS surveillance (Wall Street Journal, 2012). Thus, on a practical level, law enforcement officials may start being more cautious.

On a judicial level, things have changed too. The SCOTUS unanimously created precedent: the attachment and use of a GPS device on one's vehicle to monitor his movements constitutes a 'search', thus a privacy violation, under the Fourth Amendment.

Very recently Orin Kerr suggested a novel approach. According to his 'Mosaic Theory' (Kerr, 2012), the *Jones* case introduces a brand new reading of the Fourth Amendment. Judges -here the Alito block joined by Justice Sotomayor- treat government surveillance activity collectively (as a 'mosaic') to determine 'search' and thus privacy violations. Such approach may have several implications, if applied, and is viewed with skepticism.

At any rate, the biggest contribution of this case is on the field of judicial interpretation. The 'Italian' privacy debate exposed two alternative visions on the Fourth Amendment. Justice Alito endorsed the living constitution and supported

the exclusive application of the *Katz* doctrine to resolve technological quizzes. Justice Scalia, on the other hand, though a conservative and originalist, endorsed a more *holistic* interpretation and encompassed both old and new doctrines. In Scalia's mind, a 'search' can occur both on physical grounds and as a breach of one's reasonable expectations of privacy. A judge, therefore, should be offered both objective and subjective criteria to decide with.

Justice Scalia's 'history and consolidation' formula, followed by the court's majority, may be considered a shift of paradigm for Fourth Amendment jurisprudence. Courts puzzled with technology shall not have to decide on empirical grounds on surveillance. They may turn to the roots of the meaning of 'search', when needed, and resort to the *Katz* standard as a supplement. At the end of the day, judges should re-explore the Fourth Amendment's hidden forces to tackle problems of today. Viewed as such, Justice Antonin Scalia's interpretation may echo Larry Lessig's 'translation' approach which, as the latter admits, presents a big challenge to the interpreter: 'The Challenge of Fidelity in Constitutional Interpretation is how broadly we allow that past to constrain us or who we as a nation will become. Constitutional Tradition cannot sensibly adopt either of the two extremes [...] But the sensible line between these two extremes is not obvious, or stable, or protectable from manipulation – especially in the future' (Lessig, 2011).

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EU Regulation on access providers: Is there enough room for the accommodation of non-profit, self-sustainable networks?

Fotis Stamatopoulos

1. Introduction

1.1 Historical Background

The wireless home routers and access points, with their low cost, the relatively easy setup and their practicality with respect to replacing cable connections, have become increasingly popular during the past years. They have also raised the awareness of radio frequencies that are set to be freely operated without the need for licensing. Next step was the establishment of various free wireless access point (free Wi-Fi spots, Hotspots), through which hotels, airports, municipalities, libraries, coffee shops, restaurants etc., provide Internet access to the numerous mobile computer devises, that nowadays can utilize it. Also, computer enthusiasts and community workers, some of them already involved into "community informatics[1]", joined radio amateurs and discovered that altogether, they can exploit the new digital capacity of radio frequencies, by using new compression and modulation protocols[2] in order to transfer respectable amounts of digital data to long distances and establish a new telecom infrastructure, the Wireless Community Networks (WCN).

1. "Community informatics" is a technology strategy or discipline which links economic and social development efforts at the community level with emerging opportunities in such areas as electronic commerce, community and civic networks and telecentres, electronic democracy and on-line participation, self-help and virtual health communities, advocacy, cultural enhancement, and others (Gurstein 2000b, p.).
2. The currently under development IEEE 802.11ac protocol plans to enable multi-station WLAN throughput of at least 1 gigabit per second and a maximum single link throughput of at least 500 megabits per second (500 Mbit/s). http://www.ieee802.org/11/Reports/802.11_Timelines.htm, http://mentor.ieee.org/802.11/dcn/10/11-10-1361-03-00ac-proposed-tgac-draft-amendment.docx. Last access June 10, 2013.

1.2. Definitions

Wireless Community Networks, also called Open Networks may be defined as wireless[3] networks with open access, maintained and operated by private persons, on a nonprofit basis, whereby the network recourses are shared with third users through the use of wireless mesh network routing protocols.[4]

WCN have been also defined as "public wireless access schemes, driven by community, commercial or municipal initiatives[5]".

A wireless mesh network in contrary to an infrastructure mode network does not rely on the server – client model of communication, since every node is an independent aggregate of the mesh network.

The persons, who decide to become operators of a network node buy, set up, maintain, operate and share their bandwidth resources with the other participants, on their own costs and efforts.

2. Athens Wireless Metropolitan Network

2.1 The establishment of AWMN

The Athens Wireless Metropolitan Network (AWMN) is the largest, among quite a few, wireless communities in Greece. Its members describe it as "a grassroots wireless community, taking advantage of new, state of the art wireless technologies, to connect people and services"[6].

The first wireless links of AWMN were established in 2002 in Athens, Greece, quite at the same time as similar movements worldwide[7]. The idea of the initial establishment of AWMN, has been conceived due to, at that time, still poor penetration of broadband services in Greece[8]. Since then the network has kept growing. In the beginning, it was composed of isolated "islets". Key point for the evo-

3. The initiative FFTF of Guifi.net made already the wireless part obsolete.
4. Reto Mantz, Rechtsfragen Offener Netze, Universitätsverlag Karlsruhe, p. 83 f.
5. Fotios Elianos, Georgia Plakia, Pantelis Fragoudis, George Polyzos, Structure and Evolution of a Large-Scale Wireless Community Network.
6. http://www.awmn.net, http://en.wikipedia.org/wiki/Athens_Wireless_Metropolitan_Network. Last access June 10, 2013.
7. Among others: the Austrian FUNKFEUER: http://kupf.at/node/2790, in Seattle USA, http://www.seattlewireless.net. Last access June 10, 2013.
8. Vasilis Kostakis, http://blog.p2pfoundation.net/v2/athens-wireless-metropolitan-network-commons-in-the-air/2008/10/27. Last access June 10, 2013.

lution of AWMN was surpassing some physical obstacles (hills and mountains) in the Athens metropolitan area, linking these islets and creating a unified network. AWMN's growth rate kept increasing until 2006. The network continued to expand, albeit at a declining rate, reaching 2022 nodes, as of mid 2008. This is easily explained by the fact that what was originally one of the highlights of AWMN, i.e. inexpensive broadband connectivity, has by then generally become a commodity, with the drop in DSL prices. Still, the self-organizing spirit of WCNs, the opportunity to experiment with wireless technologies and the content and services available only to community members keep attracting new members[9].

The network comprises 1120 backbone nodes (as of Aug, 2010) and more than 2900 client computers connect to it. More than 9,000 people have stated their intention to join AWMN in the near future.

2.2 The nodes

There are two types of nodes in AWMN. *Backbone nodes* are those upon which the backhaul of the network is built. They are considered more stable and reliable, forming the core of the network. Due to their reliability, they run routing software and provide services to the other nodes. They maintain two or more interfaces and they are interconnected with directional point-to-point links. At the same time, they may also function as *access points* providing connectivity to the rest of the nodes, i.e. the *clients*. Clients do not contribute to the routing process, being the "leaves" of the network. As of mid-2008, there were 515 active backbone and 1504 client nodes. Client connections are typically not ephemeral; clients are usually registered AWMN nodes and their links to APs are fixed. Each AWMN node is assigned a private IP address range. Routing is based on BGP (Border Gateway Protocol[10]), with each backbone node and its clients forming a single Autonomous System (AS).

2.3 The services

File sharing (via FTP or Bittorrent) tops the list of the most popular services among AWMN users. VoIP services, video streaming, game servers, websites, and web hosting are offered as well. Importantly, on some occasions, members share their fixed broadband connections with the community, so that Internet access is achieved through WCN-to-Internet proxies.

9. Fotios Elianos, Georgia Plakia, Pantelis Fragoudis, George Polyzos, Structure and Evolution of a Large-Scale Wireless Community Network.

10. http://docwiki.cisco.com/wiki/Border_Gateway_Protocol. Last access June 10, 2013.

3. Guifi.net

3.1 The establishment of Guifi.net

According to the webpage of the project commons4eu[11], Guifi.net is a free, open and neutral, mostly wireless telecommunications community network. It started in Catalonia in 2004 and it is, at the time of writing, probably the largest wireless community network in the world. The network is self-organized and operated by the users using unlicensed wireless links and open optical fibre links. The nodes of the network are contributed by individuals, companies and administrations that freely connect to a true open network of telecommunications and extend the network. Nodes join the network following the self-provision system since the whole structure is explicitly open to facilitate understanding how it is structured, the links, so everyone can create new sections as required. The network is supported by the guifi.net foundation, which was established in July 2008 in order to provide legal entity to the guifi.net community and preserve its spirit. The foundation, on behalf of the guifi.net community, has obtained the following awards and recognitions: member of the European Network of Living Labs (2008), Award finalist IGC City of Knowledge Internet Global Congress (2007) and National Telecommunications of the Government of Catalonia (2007). The foundation has been registered as an official Telecom operator. In 2009 it became a RIPE-NCC member and joined the Catalan Internet Exchange Point (CATNIX). In 2010 it extended its Internet link up to 1 Gb which is distributed to the WiFi network through a fibre backbone. Currently it is a partner of two ongoing EU projects, FIRE/CONFINE and CIP/Commons4EU.

3.2 The nodes

Guifi.net has got, over 25.300 registered nodes[12], of which more than 16.000 are operational, providing about 18.300 links and 28,400 Km of links and over 300 servers connected to the network (March 2012). The majority of these nodes are located in Catalonia and the Valencian Community, in Spain, but the network is growing in other parts of the world.

3.3. *Fiber from the Farms – FFTF*

Recently Guifi.net decided to start linking its network nodes not only wirelessly anymore, but also by fiber optic deployment. In the year 2009 Guifi.net started the project Fiber From The Farms – FFTF, which aims in deploying fiber optics

11. http://commonsforeurope.net/guifi-net/. Last access June 10, 2013.

12. http://guifi.net/en/guifi_zones. Last access June 10, 2013.

among network nodes set up in agricultural farms in the rural areas of the state. The project, described as a "bottom up broadband initiative", has been reported to be a success both in practical terms and in revolutionizing - once more - the broadband access architecture[13].

4. EU Law Principles of Access Providers Regulation and WCN nodes

4.1 Access Providers and Network Operators in the EU are regulated within the regulatory framework for electronic communications networks and services, which is in force since 2002 and has been revised in 2009. That is the known five directives: the Framework Directive[14], the Authorisation Directive[15], the Access and Interconnection Directive[16] and the Universal Service Directive[17] as well as the Directive on privacy and electronic communications[18]. Important are also, among others, the BEREC Regulation[19], the Citizens' Rights Directive[20], the Better Regulation Directive[21] and last but not least the Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector.

By studying the EU legal framework, it becomes apparent that the starting point for the regulators has been that of a commercial enterprise acting as an Access Provider and Network Operator offering network and internet access on charge and consumers - clients who pay to use that access services in order to connect to the Internet. The Access Provider will establish and maintain its infrastructure and last mile network on its costs and will interconnect it through negotiated peering agreements to other networks, operated usually by other commercial Access Providers.

Wireless Community Networks (WCN) dramatically reverse that fundamental dipole: Clients establish their own nodes, interconnect with other clients – nodes,

13. http://ec.europa.eu/information_society/events/cf/dae1009/document.cfm?doc_id=15527. Last access June 10, 2013.
14. Directive 2002/21/EC.
15. Directive 2002/20/EC.
16. Directive 2002/19/EC.
17. Directive 2002/22/EC.
18. Directive 2002/58/EC.
19. Regulation (EC) No 1211/2009.
20. Directive 2009/136/EC.
21. Directive 2009/140/EC.

create their own Network and become Access Providers and Network Operators themselves.

4.2 Need for Registration - The "Malaga Wi-Fi" Case

In the year 2007 the mayor of the City of Malaga in Spain, decided to go wireless and offer free wireless internet access to the entire city population and the city's visitors[22]. In the summer of 2008 the backbone nodes and the access points have been set up and the network started its operation. The Spanish NRA[23] CMT[24] decided in February 2010[25] and confirmed its decision in May 2010[26] to impose a fine of 300.000 € to the City of Malaga, since the latter by "beginning to operate a public electronic communications network "based on the use of public radio through commonly used frequencies (RLAN-WIFI) ", and the service provider of Internet access, the City had committed a very serious offense under section 53 of the Law of Telecommunications[27], since Article 6.2 of the Law requires the submission to the CMT's "official notification" of the activity before one undertakes it, overcoming thus the conditions set by the Commission. The City Council, according to the first resolution sanctioning of the CMT, did not make the required notification. To have done would have had to pay the general rate of operators defined in Article 56.2 of the Law, which also failed. Therefore, the resolution sanctioning the CMT February 2010 intimated the City to pay that fee and to carry out the notification of the service hoped for. The CMT informed the Council that if he did not do so automatically inscribe in the register of operators of networks and electronic communications services, which he did in May 2010 as the Consistory had implemented the system in 2007 and was acting as an Internet provider since August 2008[28]. The Spanish Supreme Court dismissed the appeal of the City of Malaga against the CMT decision as reported in June 2012.

22. http://www.muniwireless.com/2008/06/30/malaga-spain-wants-wi-fi-access-for-visitors-everywhere-in-the-city/. Last access June 10, 2013.
23. NRA: National Regulatory Authority.
24. CMT: Comisión del Mercado de las Telecomunicaciones http://www.cmt.es/. Last access June 10, 2013.
25. http://www.cmt.es/c/document_library/get_file?uuid=6e6bd9b2-afc2-45dc-9fb2-af27ed7c8524&groupId=10138. Last access June 10, 2013.
26. http://www.cmt.es/c/document_library/get_file?uuid=a37753d9-f31d-458b-b2a5-bafe94818096&groupId=10138. Last access June 10, 2013.
27. The General Telecommunication Law of Spain 32/2003 http://www.boe.es/boe/dias/2003/11/04/pdfs/A38890-38924.pdf. Last access June 10, 2013.
28. http://www.elmundo.es/elmundo/2012/06/13/andalucia_malaga/1339614521.html. Last access June 10, 2013.

Should the obligation to register by the national NRA be interpreted as extending over WCN nodes, then the next question arising is: who shall register? The option to oblige each and every person operating a private node to undergo registration proceedings is not reasonable and not efficient – WCN nodes operate on a best effort principle. Viewing the independent WCN nodes as pure and plain network operators (and not as Access Providers) would exclude them from the obligation to register, but could invoke specific unpleasant implications with respect to their liability (see below).

4.3 The liability of WCN nodes as intermediaries for third network users - the "Sommer unseres Lebens[29]" case

In the "*Sommer unseres Lebens*"[29] case the German Federal Court of Justice had to decide whether someone who was evidently not at home when he allegedly shared a copyrighted file was liable for the copyright infringement committed via his Wlan internet connection. The Court held that private persons that operate a Wlan have to have a sufficiently secure password defined as one that is individual and sufficiently long, and have to obey the security standards at the time of purchase.

Liability of Access Providers acting as Internet intermediaries[30] being one of the today's crucial legal issues in the IT law discussion is dealt with by EU law with the Directive 2000/31 on Electronic Commerce[31]. According to Article 12 of the Directive, liability of an internet intermediary is excluded in cases where an information society service is offered. Traditional Access Providers and Network Operators have been clearly classified as offering an information society service, but what about WCN private nodes? Both the "*Sommer unseres Lebens*"[29] case and even the more recent German case law[32] demonstrate that a person operating a node offering to third persons access to internet, may be held liable for privacy, copyright and other infringement, conducted by them over that access, unless his/her node will be clearly classified as offering an information society service, that is unless qualifies for Access Provider. Further, the German court decision

29. Decision by the Federal Supreme Court (Bundesgerichtshof) of May 12, 2010 – Case No. I ZR 121/08 (Higher Regional Court Frankfurt), GRUR 2010, p. 633.

30. G.N. Yannopoulos, The Liability of Internet Intermediaries, Nomiki Bibliothiki, Athens, 2012. In Greek.

31. Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (Directive on electronic commerce).

32. LG Frankfurt a. M., Decision of 18.08.2010 - 2-6 S 19/09.

openly bans the offer of free internet access and demands the active implementation of security measurements on Wi-Fi routers.

Recently, two of the main coalition parties at the local government of the City of Berlin applied[33] to the local parliament for clarification and legislative action with respect to the liability of the city wireless access infrastructure as an Internet Intermediary, asking expressly to qualify the municipality as an Access Provider.

4.4 Further potential obstacles

There are numerous other areas that may pose practical or legal obstacles to the establishment, operation, development and maintenance of WCN networks, among others: the Data Retention Directive[34], national restrictions on antennas and / or fiber optic deployment, the lack of interest from the EU administration, etc.

The scope of the Data Retention Directive is to establish legal provisions concerning public communications providers in order for the traffic and location data (necessary to identify a user) to be stored for at least 6 month to a maximum period of 24 months. The purpose of users' stored data is when criminal investigations, detection and prosecution of serious crimes require access to users' traffic data, the communication service provider has to make it available[35].

It is obvious, that a WCN node owner lacks both the technical capacity and the economic power to attend the Directive's obligations.

Initially, the Data Retention Directive was drafted[36] to expressly exclude non-profit access services but the final text has picked a different wording. Even like that, the directive has been interpreted[37] as covering only commercial services offered usually against payment. Providers of free services are not subject to data retention. It remains to be seen though, if national legislations will respect that view, or not.

33. http://www.sven-kohlmeier.de/?p=1398. Last access June 10, 2013.
34. DIRECTIVE 2006/24/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC.
35. Article 1 of the Data Retention Directive.
36. http://www.daten-speicherung.de/index.php/keine-vorratsdatenspeicherung-fuer-unentgeltliche-dienste/. Last access June 10, 2013.
37. Answer of Mrs. Vivian Reding on behalf of the Commission: http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2009-4374&language=EN. Last access June 10, 2013.

National regulation on installation and mounting of antennas, fundamental equipment for WCNs, may also present a serious constraint on the development of community wireless networks. Greece, for example, introduced recently[38] for the first time an obligation for small antennas operating in the unlicensed radio range of 2,4 and 5,5 Ghz to register by the national NRA[39].

The European Commission in its Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector[40] lists seven markets but community wireless networks are absent[41]. That is an important indication of EU administration not including WCN's in its consultations and planning.

5. Conclusions

In the final report[42] to the European Commission, "*Perspectives on the value of shared spectrum access*", the clear finding is that EU radio spectrum policy ought to move forward towards shared spectrum access whereby new types of network operation with sharing in the public space (public and user defined/operated networks) and the regulatory support for bandwidth, more light licensing, exploitation of white spaces for wireless broadband, shall be introduced.

WCN's could participate to bring into life the initial targets of informational society: the widest possible spread of digital divide[43].

EU law does not appear hostile to the development of non-profit self-sustainable community networks, yet existing uncertainty in important areas of EU and na-

38. KYA 13913/319 (Gazette Number 862/B/20-3-2012).

39. www.eett.gr.

40. Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services (Official Journal L 344 of 28.12.2007).

41. Konstantinos Ploubis, The Legal Framework of the Liberalization of the interconnection of alternative networks, presentation in the 1st Congress of Electronic Communications – Alternative Networks Interconnection, organized by the Hellenic Ministry of Telecommunications in Athens, Greece on 24/4/2012, http://yme.awmn.net. Last Access June 10, 2013.

42. Simon Forge, Robert Horvitz and Colin Blackman, Perspectives on the value of shared spectrum access, Final Report to the European Commission.

43. Gaved, Mark (2011). An investigation into grassroots initiated networked communities as a means of addressing the digital divide. PhD thesis, The Open University, http://oro.open.ac.uk/29696/1/gaved-2011-ORO.pdf. Last Access June 10, 2013.

tional telecommunication law can impose obstacles and constraints. It is yet to be decided upon if WCN nodes are plain network operators or eligible for Access Providers, if they need to register at the NRA, if they are liable for infringements conducted by persons connected to their node and if they need to retain data or not. Moreover, EU administration should bring into its focus the technical and social capacities of WCN's and the social and economic benefit that may occur by their operation and development.

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Should virtual cybercrime be brought under the scope of the criminal law?

Litska Strikwerda

Introduction

The advent of computer technology has given rise to a new type of crime: cybercrime, which is crime that involves the use of computers or computer networks. Examples of cybercrime are: the spread of computer viruses, e-fraud and the distribution of child pornography by means of the Internet. The newest generation of cybercrime is virtual cybercrime. Virtual cybercrime is crime that involves a specific aspect of computers or computer networks: computer simulation. For example, virtual child pornography, which does not consist of photographs or film material of real children engaged in sexually explicit conduct, but of entirely computer-simulated images.

In the Netherlands, for instance, several minors were convicted of theft for the stealing of virtual items in the virtual worlds of the online multiplayer computer games *Habbo* and *RuneScape*. One of these cases was decided by the highest court in the Netherlands (Hoge Raad, 31 January 2012, LJN: BQ9251). In Japan the police investigated the case of a woman who "killed" an avatar (a virtual person) in the virtual world of the online multiplayer computer game *MapleStory* (http://news.sky. com/home/world-news/article/15127170). But should acts like the above really be treated as crimes under criminal law? This paper aims to answer that question.

The question belongs to the field of legal ontology. Ontology is the study of being, which is a branch of philosophy that is concerned with the questions of which kinds of things exist and how they are categorized according to their differences and similarities. Legal ontology is an applied form of ontology that is specifically concerned with the question of how things are categorized under law. Legal ontology does not only study how existing things are categorized under law, but also how new things should be categorized under law (Koepsell 2003, p. 33).

This paper looks into when the new phenomenon of virtual cybercrime should be categorized as crime under criminal law. This paper consists of the following three parts:

1. *Empirical exploration*: what is virtual cybercrime and how, if at all, is it treated within existing legal systems?

2. *Philosophical analysis*: what are necessary and sufficient conditions for virtual cybercrime to obtain in order to count as crime under existing law?

3. *Moral evaluation*: when does virtual cybercrime meet these criteria?[1]

The first section of this paper concerns the first part. It will deal with how cybercrime is treated within existing legal systems, provide a definition of cybercrime and determine the scope of the term. Then it will study the different meanings of the term "virtual" and define the term so that it can be explained what the new legal phenomenon of virtual cybercrime entails. At last, it will examine how virtual cybercrime is treated within existing legal systems, provide a definition of the term virtual cybercrime and determine its scope. In the second section of the paper I will try to establish what the necessary and sufficient conditions are for virtual cybercrime to obtain in order to count as a crime under existing law, which is the second step. I will analyze virtual cybercrime from the point of view of ontology and legal philosophy. I will establish that it is a necessary condition for a virtual cybercrime that it has an extravirtual consequence (a consequence outside the virtual environment). And that that is also a sufficient condition if the consequence is of such a nature that it can legitimate an interference with the liberty of citizens by means of penal law on the basis of one of Feinberg's liberty-limiting principles: the harm principle, the offense principle, legal paternalism or legal moralism. In the third section, I will examine when the extravirtual consequence(s) of virtual cybercrime are of such a nature that (one of) the aforementioned liberty limiting principles can be invoked. This is the third part. Ultimately, I will come to the conclusion that virtual cybercrime should be brought under the scope of the criminal law when it results in extravirtual harm to others, offense, harm to the self or evils of other kinds.

1. Virtual cybercrime: legal positioning, definition and scope

In this section I will examine what virtual cybercrime is and how, if at all, it is treated within existing legal systems. I will start with a description of the developing field of cybercrime. Against this background I will provide a definition of cybercrime and determine the scope of the term. Then I will study the different meanings of the term "virtual" and define the term so that I can explain what the new legal phenomenon of virtual cybercrime entails. Next, I will examine how virtual cybercrime is treated within existing legal systems. At last, I will provide a definition of the term virtual cybercrime and determine its scope. Note that I

1. These steps are based on Koepsell 2003, pp. 38-39.

will define (virtual) cybercrime in general terms so that the definition in principle applies to any country or jurisdiction worldwide.

1.1 Background: the developing field of cybercrime

Crime is generally understood as a human act or omission prohibited by law. The prefix "cyber" refers to the use of computers or computer networks; it means "computer-mediated" (Brenner 2008, p. 52; Clough 2010, p. 10; Convention on Cybercrime, Expl. Report, § 8). Cybercrime thus consists of any human act that involves the use of computers or computer networks and is prohibited by criminal law.

Cybercrime poses a challenge, because the use of computers and computer networks allows for "new and different forms of (...) [human] activity that evade the reach of existing penal law" (Goodman & Brenner 2002, p. 153). On the one hand, the use of computers or computer networks allows for new varieties of anti-social human activity that did not exist before the advent of computers and computer networks, e.g. the spread of computer viruses (Ibid.; Clough 2010, p. 11; Tavani 2007, p. 204). On the other hand, computers and computer networks can be used as a tool to commit traditional crimes, such as fraud, in different ways (Goodman & Brenner 2002, pp. 152-153; Clough 2010, p. 10; Convention on Cybercrime, Expl. Report § 5; Tavani 2007, pp. 205-206).

Legislators continuously need to determine which of the new and different forms of human activity that the use of computers and computer networks allows for have to be prohibited and which not. They have to enact new legal prohibitions in order to prohibit the new forms of human activity that computers or computer networks allow for or make existing legal prohibitions sufficiently broad as to include the different forms of human activity that computers and computer networks allow for. Mostly, the enactment of new penal provisions or the extension of existing penal provisions takes place at a national level. Which new and different types of human activity involving the use of computers and computer networks are outlawed precisely, varies significantly according to national legal systems, but there are some common grounds (Goodman & Brenner 2002, p. 165).

The legal reforms that have taken place in many countries in order to respond to the developments in the field of cybercrime have followed four waves. The first wave of law reform started in the 1970s and addressed the protection of privacy. It was a response to the emerging capabilities for collecting, storing and transmitting data by means of computer equipment. Administrative, civil and penal legislation was enacted to protect data and the associated right to privacy. The second wave of law reform originated in the 1980s and was targeted against economic crimes. Traditional penal laws were extended to the new opportunities for

economic crimes, such as fraud, that computers provide. The third wave of law reform also took place in the 1980s and was directed toward the protection of intellectual property. The fourth wave of law reform concerned illegal and harmful content, such as child pornography, hate speech and defamation. It started in the 1980s, but began to expand significantly once the Internet became ubiquitous in the mid-1990s (Goodman & Brenner 2002, pp. 161-165).

The most familiar and most important international initiative to develop penal law aimed at cybercrime is the Convention on Cybercrime (Budapest, 23 November 2001, ETS No. 185), which has been signed by almost all member states of the Council of Europe and some other states, i.e. the United States of America, Japan, South Africa and Canada. It is the only binding international instrument on this issue to have been adopted to date (<http://www.coe.int>). The Convention on Cybercrime establishes "a common minimum standard of relevant offences" (Convention on Cybercrime, § 33 Expl. Report). It defines nine types of new and different human activities involving the use of computers or computer networks and State Parties to the Convention agree to establish them as criminal offences under their domestic law, if they have not yet done so. The Convention on Cybercrime thus provides a list of behaviors that are considered cybercrime worldwide.

The first offence category listed in the Convention on Cybercrime is illegal access or "hacking", which is the unauthorized intrusion of the whole or any part of a computer system (article 2 Convention on Cybercrime, § 44 Expl. Report). The second offence category, illegal interception, consists of the stealing of computer data (article 3 Convention on Cybercrime, § 51 Expl. Report; Goodman & Brenner 2002, p. 189). The third offence category, data interference, refers to the damaging, deletion, deterioration, alteration or suppression of computer data without right (article 4 Convention on Cybercrime). The alteration of computer data includes the input of malicious codes, such as viruses (Convention on Cybercrime, Expl. Report § 61). The fourth offence category, system interference, can be described as "computer sabotage"; it is the serious hindering of the functioning of a computer system by means of a "denial of service attack" or the dissemination of viruses and other malicious codes (article 5 Convention on Cybercrime, § 65-67 Expl. Report; Goodman & Brenner 2002, p. 189). A denial of service attack consists of an attempt to make a computer or computer network unavailable to its intended users. A common method of attack is sending so many external communications requests to a computer (network) that it cannot respond or responds so slowly that it is effectively unavailable. The fifth offence category, misuse of devices, refers to the production, sale, distribution or otherwise making available of a device that is designed or adapted primarily for the purpose of committing any of the aforementioned offences (article 6 Convention on Cyber-

crime, § 71 Expl. Report). The sixth offence category, computer-related forgery, involves the false making or altering of computer data (article 7 Convention on Cybercrime, § 81 Expl. Report). The seventh offence category, computer-related fraud, consists of electronic deceit: the undue manipulation in the course of data processing in order to obtain money or other property illegally, e.g. credit card fraud (article 8 Convention on Cybercrime, § 86 Expl. Report). The eighth offence category, offences related to child pornography, concerns the electronic production, distribution or possession of child pornographic images (article 9 Convention on Cybercrime). The last offence category, offences related to infringements of copyright and related rights, involves the unauthorized copying of protected works, such as literary, photographic, musical and audio-visual works, on a commercial scale and by means of a computer system (article 10 Convention on Cybercrime, § 107 Expl. Report).

The first five offence categories (illegal access, illegal interception, data interference, system interference and misuse of devices) concern new forms of human activity that did not exist before the advent of computers and computer networks. That is because they can only be carried out through the use of computers or computer networks. Since these offence categories concern new forms of human activity, they require signatory states to enact new legal prohibitions, if they did not prohibit these activities yet (Brenner & Goodman 2002, p. 189; Tavani 2007, p. 204). They can be classified under the heading "computer crime" (Clough 2010, p. 10). The next four offence categories (computer-related forgery, computer-related fraud, offences related to child pornography and offences related to infringements of copyright and related rights) concern traditional crimes where computers or computer networks are used as a tool to commit the crime in a different way. Because states will already have criminalized these traditional crimes, these offence categories require them to make their existing laws sufficiently broad to extend to situations involving computers or computer networks if they did not do so yet (Convention on Cybercrime, Expl. Report § 79). They can be classified under the heading "computer-facilitated crime" (Clough 2010, p. 10).

Generally, legislators will only prohibit human acts if that is consistent with existing laws and the penal philosophy responsible for them (Goodman & Brenner 2002, p. 216). Most of the computer crimes that are listed in the Convention on Cybercrime are, although they are new crimes, consistent with existing legal prohibitions and the penal philosophy responsible for them, because they are in essence "electronic versions of existing property crimes" (Ibid., p. 189). Illegal access is the electronic version of trespass. Illegal interception can be seen as an electronic invasion of privacy or burglary offence. And data interference is an electronic property damage offence. System interference and the misuse of de-

vices are entirely new offences that have no analogue in traditional crime, however (Ibid.). The prohibition on system interference protects an entirely new legal interest that has been brought about by the advent of computer systems: the interest of operators and users of computer systems to be able to have them function properly (Convention on Cybercrime, Expl. Report § 65). The prohibition on misuse of devices aims to prohibit the above offences at the source, because it prohibits the production, sale, distribution or otherwise making available of tools that are needed to commit them. It builds upon the European Convention on the legal protection of services based on, or consisting of, conditional access (Strasbourg, 24 January 2001, ETS No. 178) and EU Directive 98/84/EC of the European Parliament and of the Council of 20 November 1998 on the legal protection of services based on, or consisting of, conditional legal access (Convention on Cybercrime, Expl. Report § 71).

The computer-facilitated crimes that are listed in the Convention on Cybercrime are consistent with existing legal prohibitions and the penal philosophy responsible for them, because they relate to traditional offences that most signatory states have already criminalized (Convention on Cybercrime, Expl. Report § 79). The provision on computer-related forgery creates a parallel offence to the forgery of tangible documents (Convention on Cybercrime, Expl. Report § 81). The provision on computer-related fraud extends the prohibition on fraud to assets represented or administered in computer systems, such as electronic funds or deposit money (Convention on Cybercrime, Expl. Report § 86). The provision on offences related to child pornography aims to modernize existing criminal law provisions to more effectively circumscribe the use of computers and computer networks in the commission of sexual offences against children (Convention on Cybercrime, Expl. Report § 91). And, finally, the provision on offences related to infringements of copyright and related rights extends existing prohibitions on copyright infringement to the reproduction and dissemination of protected works on the Internet (Convention on Cybercrime, Expl. Report § 107).

Many states that have signed the Convention on Cybercrime have also signed its Additional Protocol (Strasbourg, 28 January 2003, ETS No. 189), which criminalizes four types of human acts of a racist and xenophobic nature that are frequently committed through computer systems. All of them are computer-facilitated crimes; the Additional Protocol aims to extend the penal law that already exists in most signatory states to the commission of traditional crimes through the Internet (Additional Protocol to the Convention on Cybercrime, Expl. Report §3). The Additional Protocol was set up, because the emergence of the Internet provides persons with modern and powerful means to support racism and xenophobia and enables them to disseminate easily and widely expressions containing such ideas. It builds upon the UN International Convention on the Elimination of

All Forms of Racial Discrimination (adopted and opened for signature and ratification by General Assembly resolution 2106 (XX) of 21 December 1965) and the European Convention for the Protection of Human Rights and Fundamental Freedoms (Rome, 4 November 1950) (Additional Protocol, Expl. Report §10).

The first offence category listed in the Additional Protocol is the dissemination of racist and xenophobic material trough a computer system (article 3). Racist and xenophobic material can be defined as "any written material, any image or any other representation of ideas or theories, which advocates, promotes or incites hatred, discrimination or violence, against any individual or group of individuals, based on race, colour, descent or national or ethnic origin, as well as religion if used as a pretext for any of these factors" (article 2 Additional Protocol). It can be disseminated through a computer system by means of, among other things, the creation or compilation of hyperlinks, the exchange of such material in chat rooms or the posting of messages in newsgroups or discussion fora (Additional Protocol, Expl. Report § 28, 31). The second offence category, racist and xenophobic motivated threat, refers to the utterance of threats against persons through a computer system for the reason that they belong to a group distinguished by any of the aforementioned characteristics (article 4 Additional Protocol, § 35 Expl. Report). The third offence category, racist and xenophobic motivated insult, consists of the offence of persons or a group or persons though a computer system for the reason that they belong to a group which is distinguished by any of the aforementioned characteristics (article 5 Additional Protocol, § 36 Expl. Report). The last offence category is denial, gross minimisation, approval or justification of genocide or crimes against humanity. It refers to the dissemination of material which denies, grossly minimises, approves or justifies acts constituting genocide or crimes against humanity committed through a computer system (article 6 Additional Protocol). There have been various cases, dealt with by national courts, where persons have expressed ideas or theories, often presented as scientific research, which aimed at denying, grossly minimising, approving or justifying the serious crimes that occurred during the second World War. The scope of this provision is not limited to the crimes committed by the Nazi regime during the second World War, but also covers genocides and crimes against humanity committed by other regimes, e.g. in Yugoslavia or in Rwanda (Additional Protocol, Expl. Report § 39, 40).

Last, there is another international initiative that establishes a common relevant offence: the Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (Lanzarote, 25 October 2007, ETS No. 201), which has been signed by most of the member states of the Council of Europe. The Convention obliges signatory states to take the necessary legislative or other measures to criminalize the solicitation of children for sexual purposes ("grooming") through

information and communication technologies (article 23). Grooming usually starts with the befriending of a child, often the groomer is pretending to be another young person. The groomer will slowly draw the child into discussing intimate matters. Sometimes pornography is shown to the child. The child may also be drawn into producing child pornography by sending compromising personal photos of him- or herself. This provides the groomer with a means of controlling the child through threats. Finally, the groomer will arrange a meeting in real life with the child (Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse, Expl. Report § 156). The latter is an essential aspect of grooming: sexual chatting with a child alone is insufficient to incur criminal responsibility, the relationship-forming contacts must be followed by a proposal to meet the child (Ibid. § 157). Grooming is a computer-facilitated crime: computers or computer networks are used as a tool to establish contacts that could also be established by means of non-electronic communications. Not all countries prohibit non-electronic variants of grooming, however, and the aforementioned provision explicitly does not include them either (Ibid. § 159). It thus differs from country to country whether the provision on grooming requires signatory states to extend an existing legal prohibition or to enact a new legal prohibition. As a rule, conduct that is not prohibited "offline" is not prohibited "online" either, unless computer technology "has such an impact on the nature of the conduct or its prevalence that it necessitates criminalization" (Clough 2010, p. 16). The drafters of the Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse felt it was essential to include a provision especially aimed at grooming committed through the use of information and communication technologies, because this is the most dangerous method of grooming; for it is extremely difficult to monitor, both for parents and for legal authorities (Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse, Expl. Report § 159).

1.1.1 Definition and scope of cybercrime

Against this background, cybercrime can be defined as any new or different human act that is carried out through the use of computers or computer networks and is prohibited by the enactment of a new or the extension of an existing law. It differs from country to country which behaviors involving the use of computers or computer networks are outlawed. The Convention on Cybercrime, its Additional Protocol and the Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse provide a list of new and different human acts involving the use of computers or computer networks that are commonly prohibited, i.e. illegal access, illegal interception, data interference, system interference, misuse of devices, computer-related forgery, computer-related fraud, offences related to child pornography, offences related to infringements of copyright and

related rights, acts of a racist and xenophobic nature that are committed through computer systems and "grooming."

1.2 Meaning of the term" virtual"

The adjective "virtual" has both a pre-computer, traditional meaning and a computer-based meaning (Brey 2008, p. 365). The pre-computer, traditional meaning of the adjective "virtual" is twofold. Firstly, virtual in this sense can mean "quasi" or "pseudo" (Søraker 2010, p. 20). Secondly, virtual in this sense can mean "imaginary", "make-believe" or "fake" (Brey 2008, p. 365).

There is no consensus on the computer-based meaning of the adjective "virtual." There are countless definitions, each focusing on a particular context (Søraker 2010, p. 21). What the adjective "virtual" means precisely, seems to be dependent on its context. Below I will discuss the computer-based meaning of the term "virtual" in different contexts that will prove of importance for this paper.

In principle, the term "virtual" can refer to "anything that is created or carried by a computer and that mimics a "real" entity", e.g. virtual memory (Brey 2008, p. 363). Virtual memory is memory that is not actually built into the computer. It is a computer simulation of physical memory and can effectively function as such (Brey 2008, p. 365).

The term "virtual" can also be used in the specific context of a "virtual world". A virtual world is an interactive, computer-simulated environment that is accessed by multiple users at the same time (Søraker 2010, p. 44). The first virtual worlds began to appear in the late 1970s. They were text-based online computer games known as MUDs (Multi-User Dungeons). MUD players created a fantasy world only using text. The next stage, graphical MUDs, started in the mid-1980s. They were image- rather than text-based fantasy worlds. In the twenty-first century graphical MUDs evolved into MMORPGs (massively multi-player online role-playing games). The increased internet access speed and the improved computer-processing power allowed for more complicated graphics, such as 3-D visuals. The vast majority of MMORPGs can still be described as fantasy worlds (Brenner 2008, pp. 20-23). But over the last decade a few virtual worlds have arisen that eschew the fantasy-based role-playing game play common to MMORPGs. They offer "an augmented version of reality" (Ibid., p. 32). Such virtual worlds are called "metaverses" (Ibid.).

The users of virtual worlds represent themselves by means of an "avatar". In graphical virtual worlds an avatar is a graphical object, which usually has a human-like form. In text-based virtual worlds it is a nick-name. Through their avatars users interact with each other and with virtual objects. Virtual objects are merely images that represent certain physical objects, e.g. cars.

Lastly, the term "virtual" can be used in the context of "virtual reality." Virtual reality consists, just like a MMORPG, of an interactive, computer-simulated environment with 3-D visuals. But virtual reality differs from MMORGPs in two important aspects. First of all, users do not experience the three-dimensional, interactive, computer-simulated environment through an avatar, but through their own eyes. Secondly, virtual realities do not offer multi-access yet, at least not beyond a very limited degree, so users will mainly interact with objects instead of other users (Søraker 2010, pp. 52, 55). Virtual reality is designed to exploit the sensory systems of human beings so as to produce a sense of presence in those environments (Allen 2010, p. 220). Virtual reality technology first emerged in the 1980s. It consists of a head-mounted display and a dataglove or datasuit attached to a computer. As the user navigates through and interacts with the computer-simulated environment, the computer gives sensory feedback through the dataglove or datasuit (Brey 2003, p. 362). Highly advanced datagloves can, for instance, make the user feel resistance when the user grabs a computer-simulated object in the computer-simulated environment (Søraker 2010, p. 54). Virtual reality technologies are used to simulate both real and imaginary environments. In medicine, they are for instance used to simulate anatomical structures and medical procedures, for example for the training and education of surgeons (Brey 2003, p. 364).

In his dissertation, Søraker has done extensive research on the computer-based meaning of the term "virtual". He comes to the conclusion that "computer simulation" and "interactivity" constitute the essence of the computer-based meaning of the term "virtual" (Ibid., p. 30). Søraker provides the following generic definition of the term "virtual": a virtual x is an "interactive, computer-simulated x (or, x made possible by interactive computer simulation)" (Ibid., p. 55). This definition focuses exclusively on virtual worlds and excludes from its scope things that are created of carried by a computer and mimic a real thing, such as virtual memory, because they are not interactive. Since these things should, for the purposes of this paper, be included in the scope of the definition of the term "virtual" I will make use of a generic definition of the term "virtual" that does not necessarily include interactivity. I will take "virtual" to mean computer-simulated or made possible by computer simulation. The computer simulation may or may not be interactive.

1.2.1 State of the art: virtual cybercrime

Applying the above definition of the term "virtual", virtual cybercrime can be described as cybercrime that is carried out through the use of a specific feature of computers and computer networks, namely computer simulation. It is computer-simulated crime or crime, made possible by computer simulation. Virtual cyber-

crime thus consists of a computer-simulated human act or a human act made possible by computer simulation, that is prohibited by law.

The distinction between a computer-simulated human act and a human act made possible by computer simulation is an important one and should, therefore, be highlighted. A computer-simulated human act is an act that is virtual in itself. When someone performs a computer-simulated act, he acts in a virtual environment through an input device (Søraker 2010, p. 147). An example of a computer-simulated human act is the shooting of a bear in the virtual environment of a computer game. Such a computer-simulated human act consists of three steps. First, a human being performs a bodily action, e.g. the pressing of a button. Second, the computer simulation interprets the bodily action as a particular command, e.g. "shoot the bear". Third, the computer simulation makes the changes to the virtual environment (and possibly to the non-virtual world as well) that are required by the command, e.g. the bear in the virtual environment is death (Ibid., p. 137). A human act made possible by computer simulation is an act that is not virtual in itself, but that is defined in terms of a virtual object. Computer simulation is the condition of possibility for such an act and the nature of that act is partly determined by features of the computer simulation (Ibid., pp. 33-34). The production, possession or distribution of virtual child pornography is an example of a human act made possible by computer simulation. The above act is not virtual in itself, but defined in terms of a virtual object: virtual child pornography. Virtual child pornographic images are child pornographic images which, although realistic, do not involve a child really engaged in sexually explicit conduct. They are either morphed pictures of real children or entirely computer-generated images (Convention on Cybercrime, Expl. Report § 101). Virtual child pornographic images are thus made possible by computer simulation. The nature of the act of producing, distributing and possessing them is partly determined by the features of the computer simulation, because it does not involve (the profiting from) child abuse, as opposed to the production, distribution and possession of non-virtual child pornographic images.

In fact, the production, possession or distribution of virtual child pornography is the only human act involving computer simulation that is commonly prohibited. The Convention on Cybercrime's prohibition on child pornography, as was discussed in section 1.1.1, includes the production, possession and distribution of virtual child pornography in its scope (Convention on Cybercrime, article 9 (2) c). Not all signatory states to the Convention on Cybercrime have criminalized the production, possession and distribution of virtual child pornography, however. Iceland, Scotland and the United States of America have reserved the right not to apply the prohibition on virtual child pornography (List of declarations made with respect to treaty No. 185 Convention on Cybercrime, retrieved from

<http://conventions.coe.int>). The production, possession and distribution of virtual child pornography is thus not as commonly prohibited as the production, possession or distribution of non-virtual child pornography.

Dutch case law provides another example of a human act made possible by computer simulation that has been brought under the scope of penal law. In 2009 Dutch judges have convicted several minors of theft, because they had stolen virtual items in the virtual worlds of online multiplayer computer games. Three minors were convicted of theft for the stealing of virtual furniture in the virtual world of the online multiplayer computer game *Habbo* (Rechtbank Amsterdam, 2 April 2009, LJN: BH9789, BH9790, BH9791). *Habbo* is a metaverse and consists of a virtual hotel where players have their own room, which they can furnish. By means of deceit the perpetrators obtained the usernames and passwords of other *Habbo* players, so that they could access the other players' accounts and transfer their virtual furniture to their own *Habbo* accounts. In a similar case, two minors were convicted of theft for stealing a virtual amulet and a virtual mask in the virtual world of the online multiplayer computer game *RuneScape* (Gerechtshof Leeuwarden, 10 November 2009, LJN: BK2773, BK2764). This judgement was confirmed by the Dutch Supreme Court (Hoge Raad, 31 Janaury 2012, LJN: BQ9251). *RuneScape* is a MMORPG and consists of a virtual medieval fantasy realm in which players earn points and items, such as the aforementioned amulet and mask, through their activities in the realm. The perpetrators had violently forced another player of *RuneScape* to give them access to his account, so that they could transfer his virtual amulet and virtual mask to their own *RuneScape* accounts. The acts of stealing in these cases were not virtual in themselves, because they involved out-of-the-game infractions (deceit, violence). But they were defined in terms of virtual objects (the virtual items stolen). There have not yet been comparable penalties in other jurisdictions (Hoge Raad, 31 January 2012, Concl. Adv.-Gen., LJN: BQ9251).

Examples of computer-simulated crime are only found in the legal literature as opposed to in actual law (e.g. Brenner 2008; Clough 2010, pp. 16-21; Kerr 2008). The most well-known example of a computer-simulated crime is the virtual "rape" that was described by Julian Dibbel in a much-debated 1993 paper. Dibbel describes how a user represented by an avatar named Mr. Bungle took control over other users' avatars in the virtual environment of *LambdaMOO* and forced their avatars, through his own avatar, to engage in sexual activities they did not consent to (Dibbel 1993). *LambdaMOO* was a text-based MOO-MUD: a MUD that mainly aimed at social interaction with other users (Brenner 2008, p. 21). There have not been penalties with regard to computer-simulated crime yet.

Unlike the virtual worlds of computer games, virtual reality technologies have not yet been exploited for criminal activities, at least there have not yet been reported cases of crime instrumented by virtual reality technologies. That is because virtual realities do not yet offer multi-access or at least not beyond a very limited degree. Except for rare cases of "victimless" crimes, such as gambling or drunk-driving, crimes generally victimize another person. And thus virtual realities are not likely to provide new opportunities for crime until they become multi-accessible on a larger scale.

Finally, it is important to note that none of the virtual cybercrimes listed above concern new human activities; they are all different forms of traditional crimes. Virtual cybercrime consists either of a computer-simulated traditional crime or of a traditional crime that is defined in terms of a computer-simulated person or object. Therefore, it only requires legislators to extend existing laws and not to enact new ones.

1.2.2 Definition and scope of virtual cybercrime

Against this background, virtual cybercrime can be defined as a computer-simulated human act or a human act made possible by computer simulation that is prohibited by the extension of an existing law. The scope of virtual cybercrime is unclear, however. Currently, the production, possession and distribution of virtual child pornography is the only virtual cybercrime that is commonly prohibited, although not as commonly as non-virtual child pornography. Putative virtual cybercrimes are, for example, virtual rape, virtual killing and theft of virtual items. These computer-simulated human acts and human act made possible by computer simulation are not (commonly) prohibited yet. In the next section I will examine what the necessary and sufficient conditions are for a computer-simulated human act or a human act made possible by computer simulation to obtain in order to be prohibited under existing law so that I can ultimately determine the scope of the term "virtual cybercrime".

2. Virtual cybercrime: necessary and sufficient conditions

It was established in the last section that the production, distribution and possession of virtual child pornography is the only virtual cybercrime that is commonly prohibited. Since it would be a fallacy to make a general statement about virtual cybercrime on the basis of one specific instance of virtual cybercrime, an empirical study of the law does not suffice to answer the question what the necessary and sufficient conditions are for a computer-simulated human act or a human act made possible by computer simulation to obtain in order to be prohibited under existing law. Therefore, I will study virtual cybercrime from a different point of view. As was stated in the introduction, the study of virtual cybercrime belongs

to the field of legal ontology. Applied forms of ontology often put to use the tools of philosophical ontology in order to categorize things within a specific domain. I will make use of this method and put to use the tools of the philosophical ontology of the American philosopher Searle in order to categorize virtual cybercrime within existing law. I choose to draw from Searle's work, because he provides the most influential recent social ontology, which is an ontology that does not focus on matters of biology and physics, but on matters of society, and pays special attention to the law. I will first briefly explain Searle's ontology and then apply it to virtual cybercrime. Next I will make use of legal philosophy to reflect on the outcome of the ontological analysis.

2.1 Searle's ontology

Searle distinguishes between two types of facts: brute facts and social facts (Searle 1995, pp. 2, 5). Brute facts are matters of brute physics and biology (Ibid., p. 27). The fact that there is snow and ice on the summit of the Mount Everest is an example of a brute fact. Social facts are matters of culture and society (Searle 1995, p. 27). The fact that a certain tool is a screwdriver is an example of a social fact. The distinction between brute facts and social facts is important, because they have different modes of existence. Brute facts are ontologically objective: they exist independently of any human being. Social facts are ontologically subjective: they exist by human agreement or acceptance (Searle 2010, p. 10).

Ontological objectivity and subjectivity need to be distinguished from *epistemic* objectivity and subjectivity. Unlike ontological objectivity and subjectivity, epistemic objectivity and subjectivity do not refer to the mode of existence of entities, but to the truth or falsity of statements that can be made about them. A statement is epistemically objective if its truth or falsity can be ascertained without reference to the attitudes and feelings of human beings. The statement "Rembrandt was a Dutch painter" is an example of an epistemically objective statement. A statement is epistemically subjective if its truth or falsity cannot be ascertained without reference to the attitudes and feelings of human beings. The statement "Rembrandt was the greatest painter that ever lived in the Netherlands" is an example of an epistemically subjective statement. Its truth cannot be settled independently of the attitudes and feelings of admirers and detractors of Rembrandt's work and the work of other Dutch painters. It is important to note that epistemically objective statements can be made about ontologically subjective facts; for example, if the shopowner tells me that the screwdriver I want to buy costs three Euros (Searle 2001, p. 55).

Social facts come into being because humans have the capacity to impose functions on objects and people (Searle 2010, p. 7). Humans impose functions on

objects when they use them for a certain purpose (Searle 2010, p. 58). For example, a person imposes the function of paperweight on a stone if he uses that stone as a paperweight. Some of the objects on which humans impose functions occur naturally, such as stones. Others are artifacts, which are specifically designed to serve the function (Searle 1995, p. 14). A screwdriver, for example, is specifically designed to serve the function of driving screws and a car is specifically designed to serve the function of driving. Stones, screwdrivers and cars are all "material objects" (Ibid.). They can perform the function that is imposed on them in virtue of their physical structure. Humans can also impose functions on objects if they "cannot perform the functions solely in virtue of their physical structure" (Searle 2010, p. 7). Humans have, for instance, imposed the status of money on pieces of paper and metal. These pieces of paper and metal cannot perform the function of money (solely) in virtue of their physical structure. Functions that are imposed on objects that cannot perform the function (solely) in virtue of their physical structure create a special kind of social facts: "institutional facts". Institutional facts are special because they do not need to have a physical structure; they only exist because humans believe them to exist (Searle 1995, p. 1).

The functions that are imposed on objects that cannot perform the function (solely) in virtue of their physical structure and, thereby, create institutional facts are called "status functions" (Searle 2010, p. 7). Status functions cannot only be imposed on objects, but also on persons and other entities. Humans have, for instance, imposed the status function of President of the United States on Barack Obama and the status function of marriage on a certain ceremony (Searle 2010, p. 7). Status functions "can only be performed in virtue of the fact that the community in which the function is performed assigns a certain status to the object, person, or entity in question, and the function is performed in virtue of the collective acceptance or recognition of the object, person, or entity as having that status" (Searle 2010, p. 94).

Status functions are imposed on entities in a community by means of "constitutive rules." What constitutive rules are, can best be explained by contrasting them with regulative rules (Searle 2010, p. 97). Regulative rules characteristically have the form "Do X" (Searle 2010, p. 10). They regulate antecedently existing forms of behavior (Searle 2010, p. 9). The traffic rule that obliges people to drive on the right-hand side of the road is an example of a regulative rule (Ibid.). Constitutive rules characteristically have the form "X counts as Y" or "X counts as Y in context C" (Searle 1995, p. 28). They do not only regulate, but also create the possibility of the behavior that they regulate (Searle 2010, p. 10). The latter can be explained as follows. Constitutive rules are "Declarations": a special kind of statements (Searle 2010, p. 11). Some statements purport to represent how things are in the world, e.g. "The cat is on the mat" (Ibid.). They have

the "word-to-world direction of fit" (Ibid.). Other statements try to change the world to match the content of the speech act, e.g. if you order someone to leave the room. They have a "world-to-word direction of fit" (Searle 2010, pp. 11-12). Declarations combine the word-to-world and the world-to-word direction of fit: they have both directions of fit simultaneously in one statement. Declarations change reality to match its propositional content, but succeed in doing so because they represent the reality as being so changed. They declare that a state of affairs exists and, thereby, bring that state of affairs into existence (Searle 2010, p. 12).

Constitutive rules of the form "X counts as Y in C" can be "*standing Declarations*" (Searle 2010, p. 13). The prefix "standing" means that the constitutive rule "makes something the case, but (…) applies to an indefinite number of such somethings" (Searle 2010, p. 97). Law is a typical example where constitutive rules function as standing Declarations (Searle 2010, p. 13). Penal provisions, for instance, typically indicate that a certain human act (X) counts as a crime (Y) in a particular jurisdiction (C) and apply to an indefinite number of such acts. Standing Declarations usually specify the conditions under which certain institutional facts will be created (Searle 2010, p. 98). They take the following form: for any x that satisfies a certain set of conditions p, x has status Y in C (Searle 2010, p. 99). The US penal prohibition on murder, for instance, makes it the case that any act (x) that satisfies the conditions of unlawful killing of a human being with malice aforethought (p) counts as murder (Y) in the jurisdiction of the United States (C) (18 USC § 1111, retrieved from <http://www.law.cornell.edu/uscode/text>).

(Standing) Declarations do not only assign status to entities, but they, thereby, also regulate and create power relationships between people (Searle 2010, p. 106). That is because status functions carry "deontic powers" (Searle 2010, p. 8). Deontic powers consist of rights, duties, obligations, authorizations and so on (Searle 2010 pp. 8-9). Status functions assign rights, duties, obligations, authorizations and so on to people, because they relate them to the status function created (Searle 2010, p. 102). Searle explains: "We collectively recognize that a Y status function exists in context C, and because a human subject S stands in a certain appropriate relations R to the status function Y in C, we further recognize that S has the power to do A, the acts determined by the status function" (Searle 2010, p. 103). So, if a (standing) Declaration in the form of a legal provision, for example, assigns the status of property (Y) to an object in a certain jurisdiction (C) it, thereby, also creates property rights (A) for the property owner (S), because s/he stands in a relation of ownership (R) to the property.

The status of entities and the deontic powers they imply can be unclear (Searle 2010, p. 103). Questions like "Does this act count as a crime under the juris-

diction of this particular country and does it, therefore, give rise to criminal liability?" can arise. Such questions have to be answered by "human institutions" (Ibid.). Examples of common human institutions are: the legislature, judiciary and other governmental institutions (Searle 2010, p. 91). They have the power to decide whether a certain act, object, person or other entity falls within a certain constitutive rule (Searle 2010, p. 103). The judiciary can, for instance, decide whether a certain act falls within a constitutive rule that declares it a crime under the jurisdiction of a certain country and whether it gives rise to criminal liability.

In sum, Searle distinguishes a special class of facts: institutional facts. Institutional facts are special, because they are ontologically subjective, but epistemically objective: they only exist by human agreement or acceptance, but the truth or falsity of statements about them can be ascertained without reference to their attitudes or feelings. Institutional facts come into being, because people or authorities impose status functions on entities that they cannot perform solely in virtue of their physical structure. Status functions are imposed by means of "constitutive rules" or "declarations" that have the form "X counts as Y (in context C)." Many declarations are not applicable to one specific entity, but to an indefinite number of entities that all share the same feature(s). They are called "Standing Declarations". (Standing) Declarations have a double function: they do not only assign status to entities, but they also confer rights, duties and obligations ("deontic powers") upon people. Whether or not a (Standing) Declaration applied to a certain entity is decided by human institutions. For the purposes of this paper it should be highlighted that the (criminal) law consists of Standing Declarations. After all, penal provisions typically indicate that a human act (X) with certain features (p) counts as a crime (Y) in a particular jurisdiction (C) and can apply to an indefinite number of such acts. Penal provisions do not only assign the status of crime to certain human acts, but they also confer criminal liability upon people.

2.1.1 Applications of Searle's ontology

Following Searle, a human act is considered to be a crime when human institutions (legislatures, judiciaries) have decided that a penal provision applies to it and, thereby, have imposed the status function of crime (Y) on the act (X) in the context of the jurisdiction of a particular country (C). As was explained above, Searle claims that penal provisions generally take the following form: for any x that satisfies a certain set of conditions p, x has status Y in C (2010, p. 99). So when legislators or judiciaries decide that a particular human act (X) counts as a crime (Y) in the jurisdiction of a particular country (C) they do so because they find that the set of conditions (p) for that crime has been satisfied.

In legal terms, the conditions that a human act needs to satisfy in order to count as a crime are called elements. The specific elements required vary depending on the crime, but there are two basic elements that are required by each crime: an *actus reus* (an unlawful act or failure to act) and a *mens rea* (a blameworthy mental state, usually it is required that the actor acts knowingly, purposely or recklessly).[2] In fact, all crimes also require, implicitly or explicitly, that the actus reus must have a certain consequence, e.g. the death or injury of a person or a loss of property. This common element is called *causation*.

In the case of virtual cybercrime the basic elements of a crime can be satisfied "intravirtually" (within the virtual environment where the act takes place) or "extravirtually" (outside its virtual environment).[3] The element of actus reus can be satisfied either intravirtually or extravirtually. A computer-simulated human act satisfies the element of actus reus intravirtually, because such an act is committed within a virtual environment through an input device. A human act made possible by computer simulation satisfies the element of actus reus extravirtually, because such an act, although it is defined in terms of a virtual object, takes place outside the virtual environment. The element of mens rea can only be satisfied extravirtually, even when the element of actus reus is satisfied intravirtually. That is because the element of mens rea concerns the mental state of the human actor, who is necessarily extravirtual. Like the element of actus reus, the element of causation can be satisfied either intravirtually or extravirtually. The element of causation is satisfied intravirtually when the actus reus has a consequence within the virtual environment and extravirtually when it has a consequence outside the virtual environment. It should be noted that where the element of causation is satisfied, within or outside the virtual environment, is not dependent on where the element of actus reus is satisfied: an intravirtual actus reus can have an extravirtual consequence and vice versa.

Where the element of causation is satisfied, intravirtually or extravirtually, is of crucial importance, because it determines the context (C) in which the crime status (Y) of a computer-simulated human act or human act made possible by computer simulation (X) holds. A computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation (p) *intravirtually* cannot count as a crime (Y) in the context of the non-virtual world (C), but may count as a crime (Y) in the context of its virtual environment (C). A computer-simulated human act or human act made possible by computer simula-

2. The terms "actus reus" and "mens rea" derive specifically from Anglo-American jurisprudence. But these elements are, although under a different name, also found in other legal systems.

3. The distinction between "intravirtual" and "extravirtual" derives from Søraker 2010, p. 143.

tion (X) that satisfies the element of causation (p) *extravirtually* cannot only count as a crime (Y) in the context of its virtual environment, but also in the context of the non-virtual world (C).

Consider the following example. Most countries prohibit various aspects of the production, trade and possession of certain drugs, because they can cause severe health problems to the people who use them. Within the virtual world of *SecondLife* users can produce, trade, possess and use a drug called "Seclimine" through their avatars (See <http://www.youtube.com/watch v=OQvgWros 7TY>). The computer-simulated human act of producing, trading or possessing Seclimine in *SecondLife* satisfies the element of causation that is implicit in this actus reus intravirtually. After all, Seclimine can only be used through an avatar within the virtual world of *SecondLife* and can, therefore, not cause severe health problems to the person behind the avatar. Since the computer-simulated human act of producing, selling or possessing Seclimine within *SecondLife* (X) satisfies the element of causation (p) intravirtually, it cannot count as a crime (Y) in the context of the non-virtual world (C). If the rules of *SecondLife* prohibit the producing, selling or possessing of Seclimine, the act does count as a crime in the context of its virtual environment though.

Consider another example. Some countries prohibit gambling. Gambling can be defined as the unlawful betting or wagering of money or something else of value. The actus reus of gambling implies a certain consequence: financial gain or loss. On the Internet one can find virtual casino's within which one can gamble on virtual slot machines with real, non-virtual money. The computer-simulated human act of gambling on a virtual slot machine within a virtual casino with real money satisfies the element of causation that is implicit in this actus reus extravirtually. After all, the money gained or lost is not virtual. The act of gambling on a virtual slot machine within a virtual casino with real money (X) thus satisfies the element of causation (p) extravirtually and, therefore, counts as a crime (Y) not only in the context of its virtual environment, but also in the context of the non-virtual world (C).

Sometimes a computer-simulated human act or human act made possible by computer simulation (X) can satisfy the actus reus element and the attendant element of causation of one crime intravirtually and, thereby, satisfy the actus reus element and the attendant element of causation of another crime extravirtually. Such an act counts, therefore, as crime Y in the context of its virtual environment (C) and as crime Z in the context of the non-virtual world (C). Consider the following example. Several media reported the case of a 43-year-old Japanese woman who killed the avatar her own avatar was married to in the virtual world of the online multiplayer computer game *MapleStory*, because it had suddenly di-

vorced her avatar. The woman hacked into the account of the person behind her virtual husband and deleted his avatar. When the person found out, he called the police. The police investigated the case and even arrested the woman at her home, but she was never formally charged (see e.g. http://news.sky.com/home/world-news/article/15127170). We could say that the act of the Japanese woman satisfies both the actus reus element (killing) and the element of causation (the death of the avatar) of the crime of manslaughter, but only intravirtually. After all, both the act of killing and the death of the avatar occurred within the virtual environment of *MapleStory*. But the death of the avatar in *MapleStory* also had a consequence in the non-virtual world; for the user who was represented by the avatar lost his virtual alter ego. As was explained in section 1.1.1 countries also commonly prohibit the deterioration of computer data without right (article 4 Convention on Cybercrime). Since an avatar consists of computer data, we could say that the killing of the avatar equals the deterioration of (a set of) computer data. And since the woman illegally accessed the account of the user the avatar represented, it is also without right. By satisfying the elements of the crime of manslaughter intravirtually, the Japanese woman who killed another user's avatar in *MapleStory* thus satisfied the elements of the crime of deterioration of computer data extravirtually. In sum, the computer-simulated human act of killing an avatar (X), which counts as manslaughter (Y) in the context of its virtual environment (C), counts as deterioration of computer data (Z) in the context of the non-virtual world (C).[4]

The context (C) in which the crime status (Y) of a computer-simulated human act or human act made possible by computer simulation (X) holds, its virtual environment or the non-virtual world, determines whether or not the act can be included in the scope of an existing penal provision. I think that lawyers will commonly agree that penal law belongs to the non-virtual realm and that it, therefore, cannot be applied *within* virtual environments. An existing penal provision may thus not be stretched so far as to include in its scope a computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation (p) intravirtually and can, therefore, not count as a crime (Y) in the context of the non-virtual world (C), although it may count as such in its virtual environment. But an existing penal provision may include in its scope a computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation (p) extravirtually and, therefore, counts as a crime (Y) not only in the context of its virtual environment, but also in the context of the non-virtual world (C). And it may also include in its

4. The distinction among these three types of virtual human acts and the different contexts in which their status function holds, derives from Brey (forthcoming).

scope a computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation of one crime intravirtually, thereby satisfying the element of causation of another crime extravirtually and, therefore, counts as crime Y in the context of its virtual environment (C) and as crime Z in the context of the non-virtual world (C).

In conclusion, a computer-simulated human act or human act made possible by computer simulation that satisfies the elements of a crime can only be brought under the scope of an existing penal provision if it has an extravirtual consequence and, therefore, counts as a crime in the non-virtual world. It is thus a *necessary* condition for the computer-simulated human act or a human act made possible by computer simulation that it has an extravirtual consequence. But is that also a sufficient condition for a computer-simulated human act or a human act made possible by computer simulation that satisfies the elements of a crime in order to be brought under the scope of existing penal law? Or are there other conditions to be met? As will be explained below, the answer to these questions depends on the stand one takes in the legal philosophical debate between legal positivists and natural law theorists.

2.2 The debate between legal positivists and natural law theorists

In legal philosophy there are two main, rival, theories about the content of the law: legal positivism and natural law theory. Legal positivists, like Austin, claim that laws may have any content. They would thus say that legislators and judiciaries are free to bring any computer-simulated human act or human act made possible by computer simulation that has an extravirtual consequence and satisfies the (other) elements of a crime under the scope of penal law. By contrast, natural law theorists think that the content of laws is determined by their relation to morality. Classical natural law, which was originally developed by ancient philosophers such as Plato and Cicero and further elaborated by Thomas Aquinas, maintains that there is a necessary connection between law and morality and that an immoral law is no law. Typically, there is a particular theory of morality conjoined with that view: that the moral order is part of the natural order and that something is morally right if it is consistent with a natural purpose or end, such as survival (Murphy & Coleman 1990, pp. 12, 15). Natural law theorists would say that legislators and judiciaries can only bring a computer-simulated human act or human act made possible by computer simulation that has an extravirtual consequence under the scope of penal law if the extravirtual consequence consists of a violation of a moral principle.

The contemporary debate on the content of the law is dominated by the legal philosophers Hart and Dworkin and interpretations of their work. Their theories have developed such a level of subtlety and sophistication that the traditional labels of legal positivism and natural law theory hardly apply anymore, however (Murphy & Coleman 1990, p. 36). What has come to be referred to as the Hart-Dworkin debate will be discussed below.

Hart calls himself a soft positivist. In short, he defines law as a system of primary and secondary rules. Primary rules tell human beings how they ought (not) to act. Secondary rules allow human beings to introduce new rules of the primary type, to extinguish or modify old ones, and to apply primary rules in a certain way (Hart 1961, p. 81). The legal validity of primary rules depends on whether they have been created, modified, applied etc. in accordance with secondary rules (Ibid., p. 107). In legal terms, primary rules are called substantive law and secondary rules procedural law.

Hart explicitly rejects the naturalist claim that there is a necessary connection between law and morality, but he does not deny that law and morality overlap (Hart 1961, pp. 185, 193). Hart believes that the law contains a "*minimum content* of Natural Law" (Ibid., p. 193). He thinks that the law incorporates certain "universally recognized principles of conduct" that are also found in morality and which have their basis in central human values, such as survival (Ibid.).

Dworkin makes a general attack on legal positivism. He uses Hart's version as a target (Dworkin 1976, p. 34). Dworkin claims that judicial decision involves appeals that are moral in nature, which is a legacy of natural law theory (Murphy & Coleman 1990, p. 40). He does not subscribe to the view that morality is based upon the natural purposes or ends of human beings, however, which is typically conjoined with natural law theory. In short, Dworkin argues that the law does not solely consist of rules, as Hart claims, but also of principles. By a principle he means a standard that needs to be observed "because it is a requirement of justice or fairness, or some other dimension of morality" (Dworkin 1976, pp. 34-35). They are most prominently present in difficult lawsuits; for in hard cases judges go beyond the rules and consider principles (Ibid., pp. 41-42).

Hart does not deny the latter, however. He states:

"Neither in interpreting statutes nor precedents are judges confined to the alternatives of blind, arbitrary choice, or 'mechanical' deduction from rules with predetermined meaning. Very often their choice is guided by the assumption that the purpose of the rules which they are interpreting is a reasonable one, so that the rules are not intended to work injustice or offend settled moral principles. Judi-

cial decision (...) often involves a choice between moral values " (Hart 1961, p. 204).

The core difference between Hart's and Dworkin's theory of law is the following. Hart thinks that, in hard cases, judges appeal to moral principles, which are ultimately grounded in moral values, as a matter of their judicial discretion; he believes that they do not only consider the legal rule at stake, but also moral principles, in order to come to the best interpretation of that rule. Dworkin thinks that the moral principles judges appeal to are, although not rules, legally binding (Coleman 1982, p. 144).

For the purposes of this paper, however, not the difference, but the common ground between Hart's and Dworkin's theory of law is of importance. Hart and Dworkin agree that the law is open to arguments that are grounded in moral principles. Taking this assumption as a starting point, Van der Burg argues that the law is most strongly open to moral argument with regard to special fields or issues that are still developing, such as biotechnology or ICT (2010, pp. 22, 25). This claim can be explained as follows. As was discussed in the section 1.1, developing fields or issues such as biotechnology or ICT give rise to new and different forms of human activity that evade the reach of existing penal law, such as virtual cybercrime. It is not always clear how penal law should deal with them and this uncertainty is exhibited in the case of virtual cybercrime. Moral principles can be used to understand, analyze and evaluate arguments about how the penal law should deal with these new and different forms of human activity (Van der Burg 2010, p. 7). Yet the question arises which moral principles can help to determine how the penal law should deal with virtual cybercrime. Answering this question will be the aim of the next subsection.

2.2.1 Which moral principles can help to determine how the penal law should deal with virtual cybercrime?

The general question of what moral principles are of importance to determine which human conduct should be criminalized and which not is extensively treated in Feinberg's voluminous work *The Moral Limits of the Criminal Law*, which consists of four separate books. Feinberg points out that when legislators or judiciaries bring a certain human act under the scope of a penal provision, citizens are no longer "at liberty" to perform that act (1984, p. 7). According to Feinberg such an interference with the liberty of citizens by means of penal law is usually legitimated on the basis of one of the following liberty-limiting principles: the harm principle, the offense principle, legal paternalism or legal moralism (1985, p. ix). I will discuss each of these liberty-limiting principles below.

The first liberty-limiting principle, the harm principle, originally derives from Mill. The harm principle entails "that the only purpose for which power can be rightfully exercised over any member of a civilised community, against his will, is to prevent harm to others" (Mill 1865, p. 6). For reasons of clarity it needs to be emphasized that Feinberg, contrary to Mill, does not believe that the harm principle is the *only* valid principle for legal coercion: after all he thinks that there are also other liberty-limiting principles (1984, pp. 11-12). Clearly, the harm principle crucially depends on what is understood by harm (Holtug 2002, p. 357). Mill never explicitly defined harm, but Feinberg has done so. He distinguishes between harm in a non-normative sense, which he defines as a setback to interest, and harm in a normative sense, which he defines as a wrong, that is a violation of rights caused by morally indefensible conduct (Feinberg 1984, pp. 33-34). Conduct is morally indefensible if it cannot be justified or excused, e.g. because the victim him- or herself voluntarily consented to a setback of his or her own interests (Ibid., p. 215). Feinberg claims that only setbacks to interests that are wrongs, and wrongs that are setbacks to interests can count as harms for the purposes of the harm principle (Ibid., p. 36). He thus defines harm, for the purposes of the harm principle, as a wrongful setback to an interest. One's interests, or more accurately, the things these interests are in, are components of one's well-being (Ibid., p. 34). The interests that form the basic requisites of one's well-being are called "welfare interests" and they are protected by law. Welfare interests include: the interest in the continuance of one's life for a foreseeable interval, the interest in bodily integrity and the interest in the security of property (Ibid., p. 37). Examples of penal provisions that protect the aforementioned welfare interests are, respectively: prohibitions on murder, prohibitions on rape and prohibitions on theft. At last it should be added that harms can not only be suffered by an individual person, but also by society as a whole. Harms that are suffered by society as a whole consist of wrongful setbacks to "public" interests, such as the interest in political and economic stability or the interest in a clean environment. Examples of penal provisions that protect the aforementioned public interests are, respectively: the prohibition on treason, the prohibition on counterfeiting and antipollution ordinances (Ibid., p. 11, 63-64; Goodman & Brenner 2002, p. 178).

The second liberty-limiting principle, the offense principle, is not concerned with (private or public) harm, but with offense. Like harm, offense can be defined both in a non-normative and a normative sense. The former includes in its reference all kinds of disliked mental states, such as disgust, shame, embarrassment and fear. The latter refers to those states when caused by the wrongful conduct of others. Only offense in this latter sense is intended in the offense principle (Feinberg 1985, pp. 1-2). Offensive conduct of others is wrongful if it deprives "the

unwilling spectators of the power to determine for themselves whether or not to undergo a certain experience", which is a violation of the right to privacy in the sense of autonomy (Ibid., p. 23). The offense principle should not be invoked too easily. Legislators or judiciaries who want to prohibit wrongful offensive conduct have to balance the seriousness of the offense caused (e.g. its intensity and duration) against the independent reasonableness of the offender's conduct (e.g. if wrongful offensive conduct is performed at a location where it is common and known to be common, it is less unreasonable than it would be at a location where it is rare and unexpected) (Ibid., pp. 35, 44, 49). Examples of penal provisions that are based on the offensive principle are: prohibitions on open lewdness, indecent exposure, solicitation and the distribution or sale of pornography (Feinberg 1984, p. 13).

The third liberty-limiting principle, legal paternalism, is concerned with harm again, like the first liberty-limiting principle: the harm principle. Contrary to the harm principle, legal paternalism is not concerned with harm to *others*, but with harm to the *self*. Legal paternalism entails that it is a good and relevant reason in support of a penal prohibition that is prevents harm to the actor him- or herself (Feinberg 1986, p. 4). The interference with a person's liberty is justified by reasons referring exclusively to the welfare interests of the person coerced (Dworkin 1972, p. 65). According to Feinberg there are two types of paternalism: hard (presumptively blamable) paternalism and soft (presumptively nonblamable) paternalism. Hard paternalism justifies interference with entirely voluntary self-regarding harmful behavior of people for their own good (Feinberg 1986, pp. 5, 12). Soft paternalism "consists of defending relatively helpless or vulnerable people from external dangers, including harm from *other* people when the protected parties have not voluntarily consented to the risk (...)" (Ibid., p. 5). A person's self-regarding harmful behavior is substantially nonvoluntary when the choice to perform it stems from coercion, drugs or other voluntariness-vitiating factors and is, therefore, alien to him or her as the choices of someone else (Ibid., p. 12). Feinberg thinks that the latter type of paternalism is actually no kind of paternalism at all, because it authorizes the restraint of behavior that threatens a person with harm that, although it does not come from another person, is equally "other" from him- or herself (Ibid., pp. 13, 16). Feinberg, therefore, focuses on hard paternalism (Ibid., p. 6). Examples of penal provisions that are based on legal paternalism are: prohibitions on the possession and use of psychoactive drugs and gambling as well as requirements, enforced by criminal sanctions, such as that motorcyclists wear crash helmets and that motorists use seat belts (Feinberg 1984, p. 8). Most of these penal provisions can, however, not only be defended on the ground that the actors themselves need to be protected from the harmful consequences of their own acts (legal paternalism), but also on the ground that

social harm needs to be prevented generally (the harm principle). That is because there is always a public interest involved, at least to a small extent, when people harm themselves. Think, for instance, of tax money spent on healthcare costs (Feinberg 1986, pp. 21-22).

The last liberty-limiting principle, legal moralism, is not concerned with harm or offense, but with evils of other kinds (Feinberg 1988, p. 3). According to Feinberg there are two types of legal moralism: pure and impure moralism. Pure moralism entails that "it can be morally legitimate (...) to prohibit conduct on the ground that it is inherently immoral, even though it causes neither harm nor offense to the actor or to others" (Ibid., p. 4). Impure moralism refers to the approach of some writers in legal philosophy who are called legal moralists, although the basic appeal in their arguments is to the harm or offense principle (Ibid., p. 8). Of them Lord Devlin is the best known. Lord Devlin claims that human conduct is sometimes prohibited solely because society finds it immoral (1965, p. 7). He argues that it is legitimate for society to legislate against immorality, because society is kept together by the invisible bonds of a common morality, and would fall apart if these bonds were not protected (Ibid., p. 10). Devlin thus thinks that immoral behaviour harms the social cohesion in society and, thereby, appeals to the harm principle. Examples of penal provisions that are based on legal moralism are: prohibitions on prostitution and bigamy (Feinberg 1984, p. 13).

No writer in legal philosophy denies the validity of the harm principle as a good and relevant reason in support of a penal provision. Most writers acknowledge the offense principle as well. But legal paternalism and legal moralism are contested (Feinberg 1984, pp. 14-15). Feinberg himself thinks that "harm and offense prevention are far and away the best reasons that can be produced in support of criminal prohibitions, and the only ones that frequently outweigh the case for liberty. (...) The other principles state considerations that are at most sometimes (but rarely) good reasons (...)" (1988, p. 323).

From an empirical point of view, it can be established that the harm principle is the most commonly and the most frequently used ground for criminalization. Although there are differences across countries and societies in how criminal behaviors are viewed and treated, the core of the criminal law, across geography and across time, consists of crimes that produce direct and serious harm to individual persons or groups. The criminal law contains everywhere and at any time penal provisions defining crimes against persons, such as murder, assault, rape and battery. Almost as non-controversial as these crimes against persons are various crimes against property, such as theft, arson and fraud (Goodman & Brenner

2002, p. 178). Penal provisions that are based on the offense principle, legal paternalism or legal moralism deviate across geography and across time.

In conclusion, the following moral principles can help to determine how the penal law should deal with virtual cybercrime: the harm principle, the offense principle, legal paternalism and legal moralism. In the last section it was established that it is a necessary condition for a computer-simulated human act or a human act made possible by computer simulation that satisfies the elements of a crime that it has an extravirtual consequence if it is to be brought under the scope of a penal provision. We can now establish that that is also a sufficient condition if the extravirtual consequence consists of harm (to another or to the self), offense or an evil of another kind. Yet the question arises when computer-simulated human acts or human acts made possible by computer simulation result in harm, offense or evils of other kinds. Answering this question will be the aim of the next section.

3. When do computer-simulated human acts or human acts made possible by computer simulation result in extravirtual harm, offense or evils of other kinds?

In this section I will take a so-called top-down approach[5]: I will apply the harm principle, the offense principle, legal paternalism and legal moralism to particular examples of computer-simulated human acts or human acts made possible by computer simulation that fall under these principles. That way I show when computer-simulated human acts or human acts made possible by computer simulation result in extravirtual harm (to others or to the self), offense or evils of other kinds.

3.1 Can computer-simulated human acts or human acts, made possible by computer-simulation result in extravirtual harm to others?

As was mentioned in the last section, Feinberg defines harm, for the purposes of the harm principle, as a wrongful setback to an interest. He thinks that one's interests, or at least the things these interests are in, are components of one's well-being. He claims that those interests that are vital for our well-being, our welfare interests, are (to be) protected by the criminal law. Yet the question arises when a computer-simulated human act or a human act made possible by computer simulation causes a wrongful setback to a welfare interest. Before answering this

5. Beauchamp (2003, pp. 7-8) describes the top-down approach as one of the models of moral reasoning in applied ethics.

question, it is important to point at two supplementary principles that guide the application of the harm principle in practical contexts, however.

First, the harm principle makes sure that the criminal law does not concern itself with trivia. The harm principle can only be invoked if enough well-being is under threat (Feinberg 1984, p. 189). But how great must the infliction upon a welfare interest be in order for the harm principle to warrant the criminal law to prevent it? According to Holtug, the harm principle involves a sliding threshold, such that the quantity of well-being that is under threat varies proportionally with the severity of the coercion in question. For example, there must be more well-being under threat to legitimate a prison sentence than a small fine (Holtug 2002, p. 366). If the amount of well-being that is under threat is so minor it cannot even legitimate the imposition of a small fine, the harm principle cannot be invoked at all.

Second, and this supplementary principle is closely connected to the first, the application of the harm principle requires a conception of normalcy. "*It is the person of normal vulnerability whose interests are to be protected by coercive power; the person who, figuratively speaking, can be blown over by a sneeze cannot demand that other people's vigorous but normally harmless activities be suspended by government power*" (Feinberg 1984, p. 50). But what is a person of normal vulnerability? Since people and their situations differ, the amount of their well-being that is affected by a certain harmful act can vary. This problem is of crucial importance with regard to interactions in the virtual realm, because one generally does not know who the other person behind the screen is and, therefore, it is even more difficult than in the non-virtual world to estimate to which degree a certain harmful act affects the well-being of the other person.

The criminal law solves the above-mentioned problem by positing a "standard person" who is to be protected from "standard forms of harm" to "standard [welfare] interests" (Feinberg 1984, p. 188). It was established in the last section that the core of the criminal law protects interests of personality and interests of property. According to Feinberg standard interests of personality include absence of harmful bodily contacts or the apprehension thereof, freedom from confinement and absence of emotional distress. Interests of property include the exclusive enjoyment and possession of land, chattels and other material resources and their good physical condition. Other legally protectable interests are: interests in privacy and interests in reputation. Not all countries protect the latter interests by means of the criminal law, however, some protect them instead by compelling compensation for harm to them under civil law (Feinberg 1984, pp. 61-62). Finally, as was mentioned earlier, the criminal law often does not only protect individual interests, but also public interests, such as the interest in a clean envi-

ronment and the interest in economic and political stability (Feinberg 1984, pp. 11, 63-64).

Standard inflictions upon interests of personality consist of harm to a person's bodily health through e.g. murder or assault; harm to a person's mental health through e.g. harassment; diminutions of a person's security by the creation of threats or dangers and reductions of a person's liberty of movement through abduction or false imprisonment. Standard inflictions upon interests of property consist of depletion of a person's material resources through e.g. theft, arson or fraud. Standard inflictions upon interests in privacy consist of intrusions upon solitude e.g. through "stalking" or unpermitted disclosure of intimacies e.g. through unlawful filming (Feinberg 1984, pp. 61-62; Goodman & Brenner 2002, p. 178). It should be added that the precise definition of "stalking" differs from country to country, but in general terms it can be described as unwanted, repeated intrusions (e.g. surveillance) and communications (e.g. phone calls, letters, gifts) that are inflicted upon a victim. Standard inflictions upon interests in reputation consist of false statements of fact about a person made in public (defamation). Defamation encompasses both libel and slander: libel refers to written statements or visual depictions, slander refers to verbal statements and gestures. Finally, standard inflictions upon public interests, such as the interest in a clean environment and the interest in economic and political stability consist of, respectively, environmental crimes (e.g. pollution); certain economic crimes (e.g. counterfeiting and smuggling) and crimes against the state (e.g. treason, rioting and obstruction of justice) (Feinberg 1984, p. 11; Goodman & Brenner 2002, p. 178) . Below it will be examined which of these standard forms of harm to standard welfare interests can be caused by computer-simulated human acts or human acts made possible by computer simulation.

Remember that in section 1.2.1 a computer-simulated human act was described as an act that is performed in a virtual environment through an input device. It consists of three steps. First, a human being performs a bodily action, e.g. the pressing of a button. Second, the computer simulation interprets the bodily action as a particular command. Third, the computer simulation makes the changes to the virtual environment (and possibly to the non-virtual world as well) that are required by the command (Søraker 2010, pp. 137, 147). A human act made possible by computer simulation was described as an act that is defined in terms of a virtual object. Computer simulation is the condition of possibility for such an act and the nature of that act is partly determined by features of the computer simulation (Ibid., pp. 33-34).

Although it seems improbable at first sight, a computer-simulated human act or a human act made possible by computer simulation may result in harm to a per-

son's bodily health. Consider the following example. In 2008 hackers intruded into the nonprofit Epilepsy Foundation's website and posted a message with a legitimate sounding-title. Users who clicked on the post were redirected to a page with a computer-generated animation that consisted of a pattern of squares rapidly flashing in different colors, which was designed to trigger seizures in both photosensitive and pattern-sensitive epileptics. Several epilepsy patients were affected (http://www.wired.com/politics/security/news/2008/03/epilepsy). This was possibly the first human act made possible by computer simulation to inflict physical harm on persons and, to my knowledge, the only one. A computer-simulated human act could do the same type of harm if a user of a virtual environment, e.g. *SecondLife* or *MSN Messenger*, would, by the press of a button, make such a computer-generated animation designed to trigger seizures appear on the screen of another user, being a photo- and pattern-sensitive epileptic. And if virtual reality technologies would become multi-accessible in the future, the possibilities to do physical harm to persons by means of a computer-simulated human act would increase. As was established in section 1.2, virtual reality technology allows a computer to give sensory feedback to a user through a dataglove or datasuit. If virtual reality technology would become multi-accessible in the future, one user could press a button and, thereby, command the computer to give certain harmful sensory feedback to another user, e.g. an electric shock causing a burn. In section 3.5 I will discuss the possibilities to do harm that virtual reality technologies might allow for in the future more in detail.

Much more often than harm to the bodily health of a person, computer-simulated human acts do harm to the "bodily health"[6] of a person's avatar. For example, a person can use his or her avatar to kill, assault, rape or torture another person's avatar. This results in (intravirtual) harm to the bodily health of the avatar, but does not do (extravirtual) harm to the bodily health of the person him- or herself. Several authors (Huff, Johnson and Miller 2003; Powers 2003; Wolfendale 2007) argue that the computer-simulated human act of harming the bodily health of an avatar may not do harm to the bodily health of the person behind it, but can result in harm to that person's mental health. When a person is emotionally engaged in the virtual environment, because s/he is attached to and identifies with his or her avatar, bodily harm done to the avatar is felt as mental harm to the person (Wolfendale 2007, p. 112, 114-115). A person whose avatar is raped, for example, can feel sexually harassed. Note that this is one of the special cases as were discussed in section 2.1.1 where a computer-simulated human act

6. The term bodily health is used as a metaphor here. The bodily health of an avatar cannot literally be harmed, because an avatar does not have a physical body. But an avatar has a virtual body that can be virtually harmed within the virtual environment.

(X) satisfies the elements of one crime intravirtually and, thereby, satisfies the elements of another crime extravirtually and, therefore, counts as crime Y in the context of its virtual environment (C) and as crime Z in the context of the non-virtual world (C).

It should be added that a computer-simulated human act causing harm to a person's mental health is not necessarily aimed at the bodily health of that person's avatar; it can also be of a different nature. Consider the following example. When Ailin Graef, the woman who became a millionaire by investing in virtual real estate in *SecondLife*, appeared through her avatar on a chat show in the virtual world of *SecondLife* to talk about her success, the event was sabotaged by a group of other users. For fifteen minutes, Graef's avatar was swarmed by flying pink penises and photographs of Graef herself that were digitally altered to make her look like she was holding a giant penis. Graef felt sexually harassed (http://news.cnet.com/ 2100-1047-6147700.html). It is important to note that, in this case, the sexual harassment within the virtual world of *SecondLife* spilled into the non-virtual world, because the identity of the person behind the avatar was known to the perpetrators. The harassment was not aimed at Graef's avatar (intravirtual), but at Graef herself (extravirtual). This became especially clear, because a photograph of Graef was used.

Mental harm to persons is not only done by computer-simulated human acts, but also by human acts made possible by computer simulation. For example, many virtual worlds (e.g. *SecondLife* and *World of Warcraft*) provide a chat interface, which users can abuse to send harassing messages to other users through their avatars. It should be added that harassment cannot only cause harm to the mental health of victims, it can also cause a diminution of the victim's security, if the harassment consists of threats. It is important to highlight that the harassment should be aimed at the user of the virtual world, not at the user's avatar. As became clear earlier, this can only be the case when the identity of the person behind the avatar is known to the perpetrator(s). It may be that the person behind the avatar has revealed his or her own identity, for instance in a chat conversation. It may also be that the perpetrator has unlawfully accessed the personal details of the person behind the avatar, e.g. by means of hacking.

It seems implausible that a computer-simulated human act or a human act made possible by computer simulation can cause extravirtual reductions of a person's liberty of movement through abduction or false imprisonment, at least I cannot think of an example. But a computer-simulated human act or a human act made possible by computer simulation can definitely cause a depletion of a person's material resources through larceny. I have extensively discussed this issue in my paper *Theft of virtual items in online mulitplayer computer games: an ontological and*

moral analysis (2012). In short, if virtual property is purchased with funds having extravirtual value (value in the non-virtual world, e.g. pecuniary value), then the extortion thereof constitutes extravirtual harm. According to Brenner, the same will be true of other property deprivation crimes, such as robbery, fraud, arson or vandalism (2008, pp. 70-71).

Computer-simulated human acts or human acts made possible by computer simulation can raise privacy issues as well. One can, for example, think of stalking in a virtual world by means of following a person's avatar and repeatedly sending messages through a chat interface. One can also think of unauthorized filming within a virtual world. In *SecondLife*, for example, it is possible to film. Films made in *SecondLife* are often put on *YouTube*. Yet one could film the private moments of an avatar, for example of the avatar having sex, put the film on *YouTube* without permission and, thereby, unpermittedly disclose the avatar's intimacies. Just like with harassment, stalking or unauthorized filming in the virtual world can spill into the non-virtual world only when the perpetrator knows who the person behind the avatar is.

Computer simulation also offers new possibilities for defamation. Consider the following example. In 2010 a Dutch man was convicted for libel because he had put a digitally altered image of the then Prime Minister Balkenende online that depicted him, among other things, with a Hitler moustache and swastika's (Gerechtshof 's-Gravenhage, 16 November 2010, LJN: BO4035). One can also think of the defamation of avatars here, for example by means of a written statement on an Internet forum. Only when other users know who the person behind the avatar is, the defamation can also take effect in the non-virtual world and is, therefore, extravirtual.

Finally, computer-simulated human acts or human acts made possible by computer simulation can intrude upon public interests. It seems implausible that they can intrude upon the interest in a clean environment, but computer-simulated human acts or human acts made possible by computer simulation can definitely intrude upon the interest in economic stability. Counterfeiting, for example, can be made possible by computer simulation, for people can use graphics software to create false bank notes. And computer simulation can also play a role in intrusions upon political stability, since terrorists sometimes make use of the virtual worlds of computer games to plot attacks. For example, Anders Behring Breivik, the Norwegain accused perpetrator of the 2011 bomb attack and mass shooting in Norway, told the court that he "trained" for the shooting attacks he carried out by playing the computer game *Call of Duty: Modern Warfare* (http://www.guardian.co.uk/world/2012/apr/19/anders-breivik-call-of-duty).

3.2 Can computer-simulated human acts or human acts, made possible by computer-simulation result in extravirtual offense?

In the last section it was established that Feinberg defines offense as a disliked mental state, such as disgust, shame, embarrassment or fear, caused by the wrongful conduct of others. Offensive conduct of others is wrongful if it deprives "the unwilling spectators of the power to determine for themselves whether or not to undergo a certain experience" (Feinberg 1985, p. 23). The offense principle cannot be invoked too easily: legislators or judiciaries who want to prohibit wrongful offensive conduct have to balance the seriousness of the offense caused (e.g. its intensity and duration) against the independent reasonableness of the offender's conduct (e.g. if wrongful offensive conduct is performed at a location where it is common and known to be common, it is less unreasonable than it would be at a location where it is rare and unexpected).

According to Feinberg examples of penal provisions that are based on the offense principle are: prohibitions on open lewdness, indecent exposure, solicitation, activities and materials offensive to religious or patriotic sensibilities (e.g. blasphemous materials), racial and ethnic slurs and the distribution or sale of pornography (Feinberg 1984, p. 13). Weckert, who has done extensive research on offense on the internet, divides the aforementioned offensive behaviors into three categories. The first category concerns things that are not necessarily directed at any person or group. This category includes indecent exposure and solicitation.[7] The second category concerns the ridiculing or criticizing of beliefs and commitments. This category includes activities and materials offensive to religious or patriotic sensibilities. The last category concerns offense taken at language that is racist or sexist or denigrates people with mental or physical disabilities or the victims of accidents or crimes. This category includes racial and ethnic slurs. It may also include open lewdness insofar as the lewdness denigrates people with mental or physical disabilities or the victims of accidents or crimes (Weckert 2000, pp. 108-109).

7. It actually also includes the sale and distribution of pornography, but Weckert has excluded pornography from his discussion, because it raises issues of its own (Weckert 2000, p. 108). He probably refers to the fact that feminist authors argue that pornography does not produce offense, but harm. See pp. 153-155 of my essay on virtual child pornography: Litska Strikwerda (2011). Virtual Child Pornography Why Images Do Harm from a Moral Perspective. In Charles Ess & May Thorseth (Eds.), *Trust and Virtual Worlds Contemporary Perspectives* (pp. 139-161). New York: Peter Lang Publishing. The discussion on pornography goes beyond the scope of this paper, however.

Weckert claims that only the last category of offensive behaviors should be restricted on the Internet. This claim can be explained as follows. As was mentioned above, Feinberg thinks that we have to balance the seriousness of the offense caused against the independent reasonableness (avoidability) of the offender's conduct when we invoke the offense principle. As Weckert points out, most offenses on the Internet can easily be avoided. If one is offended by the content of a certain website, e.g. because it contains materials that one considers blaspheme, one can simply chose not to visit that website. This would be different if one was confronted with the offensive material every time one logged on to the Internet, say by a particular welcoming message or the wording of an image or icon (Weckert 2000, pp. 114-115). And it would definitely be different if one was confronted with the offensive material on the road one has to pass on one's way to work, e.g. on a billboard. Given the high degree of avoidability of offense on the Internet, only very serious offenses can tip the scales so that the offense principle can be invoked. As Weckert explains, only offenses from the third category are serious enough to do that. They are, contrary to offenses from the first category, aimed directly at (a group of) persons. They also differ from offenses from the second category, since they offend because of characteristics over which people do not have control, such as race, gender and physical appearance, where offenses from the first category offend because of characteristics over which people have at least some control, such as political and religious beliefs. Offenses from the third category are thus the most serious types of offenses because they single out individuals or groups by characteristics which they have no power to change and, therefore, there is reason to restrict them on the Internet (Weckert, pp. 116-117).

Weckert's argument does not only make sense with regard to human acts involving the use of the Internet in general, it also applies to computer-simulated human acts and human acts, made possible by computer-simulation specifically. The degree of avoidability with regard to computer-simulated human acts or human acts made possible by computer simulation is high, because one has the choice not to participate in a certain virtual world known for its offensiveness. Of course, this argument is the strongest with regard to virtual worlds with a pre-designed content. In virtual worlds where users themselves shape the virtual world, such as *SecondLife*, it might be problematic for new users to know whether or not they will find (an area of) the virtual world offensive. But ultimately, one can always turn off the computer. So, here also only offenses from the third category are serious enough to tip the scales and invoke the offense principle. Such offenses, i.e. racial or ethnic slurs and open lewdness insofar as it denigrates people with mental or physical disabilities or the victims of accidents or crimes, are most likely to consist of comments, suggestions, requests, proposals or other

communications in an environment made possible by computer simulation, e.g. a computer game with chat function. But they can also consist of computer simulated images (Weckert 2000, p. 106). In the United Kingdom, for instance, a man was sentenced to 300 hours of community service, because he had posted an offensive digitally altered image of a teenage shooting victim on Facebook (http://www.independent.co.uk/news /uk/crime/internet-ban-for-offensive-image-7575915.html). The aforementioned acts are all human acts made possible by computer simulation. Computer-simulated human acts can produce offenses from the third category as well. Think, for instance, of a person who makes his or her avatar do the Nazi salute when it meets a black avatar in a virtual world. No matter whether the person behind the avatar is black him- or herself, he or she can take offense.

It becomes clear here that offense in the virtual realm differs in one important aspect from harm in the virtual realm: contrary to harm, we cannot distinguish between intra- and extravirtual offense. In section 2.2.1 harm was defined as a wrongful setback to an interest. As was established in section 3.1, a wrongful setback to an interest can be either intra- or extravirtual. Sometimes, an intravirtual wrongful setback to one interest counts as an extravirtual wrongful setback to another interest. As was mentioned above, offense can be defined as a disliked mental state, caused by the wrongful conduct of others. A disliked mental state can only be extravirtual, because it concerns a human being and human beings are necessarily extravirtual. An extravirtual disliked mental state can be caused either by intra- or extravirtual wrongful conduct of others, but that does not make a difference for the disliked mental state: one can be as offended by seeing an avatar doing the Nazi salute in the virtual world of a computer game (intravirtual wrongful conduct) as by being shown an offensive (digitally altered) image in the non-virtual world (extravirtual wrongful conduct).

3.3 Can computer-simulated human acts or human acts, made possible by computer-simulation result in extravirtual harm to the self?

As was established in the last section, the criminal law does not only outlaw behaviors that harm others, but also behaviors that harm the *self*. Penal provisions that prohibit behaviors that inflict harm upon the self are called paternalistic. They are justified by reasons referring exclusively to the welfare interests of the person coerced. There are two kinds of paternalistic penal provisions: provisions that *prohibit* certain kinds of behavior, such as the use of psychoactive drugs and gambling, and provisions that *require* certain kinds of behavior, enforced by criminal sanctions, such as that motorcyclists wear crash helmets and that motorists use seat belts (Feinberg 1984, p. 8). Most of these penal provisions can, how-

ever, also be defended on the ground that social harm needs to be prevented generally, because there is always a public interest involved, at least to a small extent, when people harm themselves, e.g. the tax money spent on healthcare costs (Feinberg 1986, pp. 21-22).

In section 3.1 we distinguished different types of harm, i.e. harm to a person's bodily or mental health; diminutions of a person's security by the creation of threats or dangers; reductions of a person's liberty of movement through abduction or false imprisonment; depletion of a person's material resources; violations of a person's privacy; defamation and inflictions upon public interests, such as the interest in a clean environment and the interest in economic and political stability. Not all of these types of harm can be inflicted upon the self. Public harms are singled out by definition. It also seems implausible that a person reduces his or her own liberty of movement through abduction or false imprisonment or that a person violates his or her own privacy. Yet the question arises which harms inflicted upon the self can constitute crimes. As will be explained below, Dworkin provides an answer to this question.

In his influential 1972 article on paternalism, Gerald Dworkin lists the following eleven examples of paternalistic interferences by law:

> 1. "Laws requiring motorcyclists to wear safety helmets when operating their machines.
>
> 2. Laws forbidding persons from swimming at a public beach when lifeguards are not on duty.
>
> 3. Laws making suicide a criminal offense.
>
> 4. Laws making it illegal for women and children to work at certain types of jobs.
>
> 5. Laws regulating certain kinds of sexual conduct, e.g. homosexuality among consenting adults in private.
>
> 6. Laws regulating the use of certain drugs which may have harmful consequences to the user but do not lead to anti-social conduct.
>
> 7. Laws requiring a license to engage in certain professions with those not receiving a license subject to fine or jail sentence if they do engage in the practice.
>
> 8. Laws compelling people to spend a specified fraction of their income on the purchase of retirement annuities. (Social Security)
>
> 9. Laws forbidding various forms of gambling (often justified on the grounds that the poor are more likely to throw away their money on such activities than the rich who can afford to).

10. Laws regulating the maximum rates of interest for loans.

11. Laws against dueling."

(Dworkin 1972, pp. 65-66)

Not all of these examples concern the criminal law. The fourth, eighth and tenth example concern laws that are generally not part of the criminal law. With regard to the fifth example, it should be added that most countries have repealed their laws against homosexuality. The other examples all concern penal provisions that protect people from harm to their bodily health inflicted by themselves, except for laws forbidding various forms of gambling, which protect people from depletion of material resources inflicted by themselves.

As the seventh example shows, the class of people whose welfare interests are protected does not need to be identical with the class of people being coerced. In the case of professional licensing it is the practitioner's freedom which is directly interfered with and it is the would-be patient or client whose welfare interests are presumably being served (Dworkin 1972, p. 67). This can be called "impure paternalism" (Ibid., p. 68). It might be thought that it is superfluous to distinguish impure paternalism, because any such case could be brought under the scope of the harm principle. The difference between instances of impure paternalism and instances of harm to others is, however, that in the former but not in the latter cases the harm is of such a nature that it could be avoided by the individuals affected if they so choose (Ibid.). So we could say that, in the case of professional licensing, the practitioner is coerced so that the would-be patient or client cannot choose to be treated be an unlicensed practitioner, which might cause (bodily) harm.

I will now establish which of the paternalistic laws that Dworkin mentions are applicable to computer-simulated human acts or human acts, made possible by computer simulation. One can think of a computer-simulated equivalent of most of the self-harming prohibited human activities above. One can, for example, make an avatar drive a motorcycle without a safety helmet or swim at an unguarded beach. And as was mentioned in section 2.1.1 people can use a drug called "Seclimine" through their avatars within the virtual world of *SecondLife*. Also, many multiplayer computer games, e.g. *World of Warcraft*, allow players to duel against each other through their avatars. But the aforementioned activities only endanger the (intravirtual) bodily health of the avatar; they do not endanger the (extravirtual) bodily health of the person behind it. The only computer-simulated human act that can actually cause extravirtual harm to the self is the act of gambling on a virtual slot machine. As was already discussed in section 2.1.1 that is because the computer-simulated human act of gambling on a virtual slot

machine involves real, non-virtual money and can thus cause financial losses in the non-virtual world.

I can think of two examples of human acts made possible by computer simulation that can cause extravirtual bodily harm to the self. First, suicide can be made possible by the Internet and, conceivably, also by computer simulation. In the Netherlands there exists a "suicide foundation". They have a website (<http://deeinder.nl>) through which people who want to commit suicide can contact a "suicide counselor". According to the website, suicide counselors offer "information and counseling" for those wanting to kill themselves (<http://deeinder.nl>). In 2005 one of these suicide counselors was convicted for the crime of aiding and abetting a suicide. He had not only advised a "client" on fatal drug cocktails, but he had also provided her one. He had summoned people to send him all sorts of prescription drugs. Once he had collected enough of the right prescription drugs to mix a fatal drug cocktail, he sent it to the client. She committed suicide by taking the fatal drug cocktail that she obtained from him. The suicide counselor was sentenced to one year of imprisonment (Rechtbank Alkmaar, 7 December 2005, LJN: AU7519). A suicide foundation could also be set up in a metaverse, like *SecondLife.* People could then consult a suicide counselor through their avatars and maybe even trade prescription drugs among each other or through the suicide counselor so that they could save up for a fatal drug cocktail which they could use to commit suicide.

Second, unlicensed practice of medicine can be made possible by the Internet and, conceivably, also by computer simulation. People make use of the Internet as a source of health information and sometimes engage in what has been called "do-it-yourself-healthcare" (Collste 2000, pp. 119-120). Medical research shows that this can have harmful consequences (Crocco, Villasis-Keever, Jadad 2002). That is because it is difficult to control the reliability of health information on the Internet, since there is no system of licensing or another form of authorization available online (Collste 2000, p. 128-129). So far, one fatal case of do-it-yourself-healthcare by the use of health information on the Internet has been reported. A 55-year-old man with cancer found information on the Internet that promoted the use of a certain medicine for cancer treatment. After self-medicating for four months with the medicine, which he had obtained from an alternative medicine website, he died. Autopsy findings suggested an adverse reaction from the use of the medicine (Crocco, Villasis-Keever, Jadad 2002, p. 2870). In the metaverse of *SecondLife* one can find several virtual hospitals. In some of them one can also consult a virtual doctor. Here, the reliability problem arises as well. After all, it is difficult to establish whether or not the person behind the virtual doctor is a licensed doctor. Thus, taking a medical advice from a virtual doctor can be as dangerous for one's own health as relying on health information on the Internet.

3.4 Can computer-simulated human acts or human acts, made possible by computer-simulation result in extravirtual evils of other kinds?

As was established in the last section, (pure) legal moralism entails that it is legitimate to prohibit conduct on the ground that it is inherently immoral, although it causes neither harm nor offense to the actor or to others. Examples of penal provisions that are based on legal moralism are: prohibitions on deviant sexual activities, such as prostitution and bigamy, provided that they are "harmless (because voluntary or consented to) and unoffending (because not forced on the attention of unwilling observers)" (Feinberg 1988, p. 8). Note that there is much inconsistency as to prohibitions that are based upon legal moralism, because they are the product of a society's values and religious principles and are, therefore, more idiosyncratic in nature (Goodman & Brenner 2002, p. 179). In the Netherlands, for example, prostitution is legal. And in Morocco, for instance, bigamy is not prohibited.

One can find a computer-simulated variant of prostitution in the metaverse of *SecondLife*. Some people sell sex through their avatars there. They usually work for a virtual escort service or a virtual bordello. Like in the non-virtual world, they charge their clients for their services and give the owner of the escort service or bordello a percentage of their earnings. Virtual prostitution differs essentially from non-virtual prostitution, however, since no sexual activity actually occurs; it is a computer-generated animation of sex. Therefore, virtual prostitution can better be described as pornography than as prostitution (Brenner 2008, pp. 67-68). Virtual prostitution is thus one of the special cases as were discussed in section 2.1.1 where a computer-simulated human act (X) satisfies the elements of one crime intravirtually and, thereby, satisfies the elements of another crime extravirtually and, therefore, counts as crime Y in the context of its virtual environment (C) and as crime Z in the context of the non-virtual world (C). Because virtual prostitution counts as pornography in the non-virtual world the traditional concerns about morality that historically gave rise to the criminalization of prostitution do not apply (Ibid., p. 68). The offense principle, which generally offers ground to prohibit pornography, cannot be invoked either, however. As was established in section 3.2, we have to balance the seriousness of the offense caused against the independent reasonableness (avoidability) of the offender's conduct when we invoke the offense principle. In the virtual realm, the degree of avoidability is generally high. Therefore, only the most serious offenses can tip the scales so that the offense principle can be invoked. In section 3.2 it was explained that pornography is not a serious enough offense that is to do that.

Bigamy can also occur in *SecondLife*. Although the ceremonies are not legally binding, people can marry each other through their avatars there. People who are already married in the non-virtual world can, through their avatars, marry the avatar of a person who is not their spouse. They find themselves engaged in "cross-world bigamy" (Brenner 2008, p. 68). People can also marry more than one avatar, which constitutes intravirtual bigamy. Neither cross-world bigamy, nor intravirtual bigamy can be brought under the scope of the prohibition on bigamy, however, since the law does not recognize *SecondLife* unions (Ibid., p. 69). And, therefore, the underlying traditional concerns about morality that historically gave rise to the criminalization of bigamy do not apply either.

Prostitution or bigamy cannot be made possible by computer simulation, at least I cannot think of examples. Thus, neither of Feinberg's examples of penal provisions that are based upon legal moralism are applicable to the virtual realm. Nevertheless, there is one prohibition on a human act made possible by computer simulation that seems to be based on legal moralism and that is the prohibition on the production, distribution and possession of virtual child pornography, as was discussed in section 1.2.1. I have written extensively on this topic in my paper *Virtual Child Pornography Why Images Do Harm from a Moral Perspective* (2011). In this paper I argue, in short, that virtual child pornography does not do harm to others, because, contrary to non-virtual child pornography, no actual children are involved in the production (Strikwerda 2011, pp. 142-146).[8] It does not do harm to the self either, at least there is not enough evidence that it would encourage or seduce children into participating in sexual contacts with adults or that it would encourage or seduce peadophiles to commit child abuse (Strikwerda 2011, pp. 147-151). And virtual child pornography cannot be brought under the scope of the offense principle, because it is not traded in public, but secretly among peadophiles, and, therefore, there are no unwilling spectators who are deprived of the power to determine for themselves whether or not to see these images. Feinberg distinguishes a special class of cases where we are offended at the "bare thought" that the conduct occurs (Feinberg 1988, p. 15). I think that the production, distribution and possession of virtual child pornography belongs to this special class of cases. According to Feinberg, conduct that offends at bare thought is found offensive, because it is judged to be immoral. Therefore, it should be brought under the scope of legal moralism (Ibid.). In my paper I have claimed that virtual child pornographic images are generally judged to be immoral, be-

8. Note that child pornography differs essentially from adult pornography because children cannot consent to sex. Sex with children is, therefore, always considered abuse or rape. Child pornography is thus a recording of abuse and rape and is prohibited on the ground that it harms children and not on the ground that it is offensive.

cause they flout our sexual mentality, which is based on the equality norm, for sex between adults and children is per definition unequal (Strikwerda 2011, pp. 157-159). The production, distribution and possession of virtual child pornography thus results in an evil of another kind than harm (to others or to the self) or offense.

3.5 Some short comments on what the future holds

In the sections 1.2.1 and 3.1 it was noted that virtual reality technologies will probably allow for new possibilities to do harm to others when they become multi-accessible in the future. In this subsection I will first describe what kind of new possibilities for human action virtual reality technologies might allow for in the future. Then I will establish how they can be harmful to others. Next I will examine whether or not virtual reality technologies could also increase the possibilities to give offense, do harm to the self or to act inherently immoral.

Philip Zhai (1998) has written a "philosophical adventure" in which he explores, from a theoretical point of view, what kind of human experiences virtual reality technologies might allow for in the future. Zhai explains that state-of-the-art virtual reality technologies entail the following. One wears a helmet or goggles and earphones so that one is not able to see anything except 3-D animated video images on two small screens in front of one's eyes; nor does one hear anything except sounds from the earphones. One also wears a bodysuit, including gloves, that gives different amounts of pressure against different parts of one's body that are in accordance with one's changing video and audio sensations. Moreover one is situated in a motion-tracker that detects one's movements and feeds the signals into the computer that also processes all the visual and audio information so that the computer can coordinate one's movements with the images one sees and the sounds one hears. This way one is fully immersed in a virtual world, where the goggles are equivalent to one's eyes and the body suit is equivalent to one's skin (Zhai 1998, pp. 2-4).

In the virtual world one can encounter all kinds of virtual things that are the result of digital programming. One can perceive rocks, trees, animals etc., with which one can interact. One can, for example, pet an animal and the glove one wears will give sensory feedback so that it feels like one is really petting an animal. The virtual rocks, trees and animals one perceives may be equal to the rocks, trees and animals one has seen before in the non-virtual world, but they may also be different. It may be, for instance, that if one lifts one of the rocks it feels like it weighs as much as a rock would weigh in the non-virtual world, but it may also be that it feels like the rock is weightless. In the virtual world one can also meet other human beings. They may be virtual human beings whose behavior is totally programmed by the computer (Zhai 1998, p. 49). But they may also

be the virtual representations of persons who are wired to the same computer as one is oneself. When one interacts with them, one does not only get the sensory feedback belonging to the act oneself, but they also get the sensory feedback from the bodysuit and gloves they are wearing (Ibid., p. 3). One can, for example, shake hands with the virtual representation of another person wired to the same computer and this information is transformed and transmitted to (the glove worn by) the other person so that s/he feels like his or her hand is shaken. And much more complicated interactions are possible. Zhai, for example, describes how two persons wired to the same computer could have sex through "a seamless combination of digital simulation, sensory immersion, and functional teleoperation" (1998, p. 169).

Zhai does not think that human interactions mediated by virtual reality technologies can be harmful. He states: "(...) in the virtual world, nobody can physically affect us in a way our self-managed program does not allow. We set the limit in the infrastructure to prevent any serious injury." (Zhai 1998, p. 61). But what if a user hacks the program of another user and changes the settings? Then one could hit, kick or otherwise physically hurt the virtual representation of the other person wired to the same computer as oneself and the other person would get painful sensory feedback through his or her bodysuit. One would even be able to kill the other person when one would, for example, be able to impose an electric shock on him or her through the bodysuit. Bodily harm to the other person could also be done without being wired to the same computer oneself: one could hack into the program of a user of a virtual reality technology and add to it a virtual human being that hits, kicks or does another kind of bodily harm. To sum up, virtual reality technologies could allow for increased possibilities to do bodily harm to others through computer-simulated human acts or human acts made possible by computer simulation in the future. Yet the question arises whether or not virtual reality technologies could also allow for new possibilities to give offense, to inflict harm upon the self or to act inherently immoral.

It seems implausible that virtual reality technologies would allow for possibilities to give offense in the future that differ essentially from the possibilities that computer simulation offers already. It was established in section 3.2 that offense in the virtual realm differs in one important aspect from harm in the virtual realm, because, contrary to harm, we cannot distinguish between intra- and extravirtual offense. It was explained that offense is a disliked mental state, caused by the wrongful conduct of others. And that a disliked mental state can only be extravirtual, because it concerns a human being and human beings are necessarily extravirtual. An extravirtual disliked mental state can be caused either by intra- or extravirtual wrongful conduct of others, but that does not make a difference for the disliked mental state. Virtual reality technologies increase

the possibilities for intravirtual human acts to have extravirtual consequences. But since in the case of offense the consequence, a disliked mental state, is necessarily extravirtual, virtual reality technologies do not increase the possibilities to give offense.

Virtual reality technologies could allow for new possibilities to do harm to the self though. As was established above they could offer their users possibilities for hitting, kicking or otherwise physically hurting each other. Virtual reality technologies might, therefore, be used for dueling. They could also provide new ways to commit suicide, e.g. by imposing a fatal electric shock on oneself through one's body suit. Virtual reality technologies might be used for unlicensed practice of medicine as well. But I do not think that they will offer possibilities that differ essentially from the possibilities that computer simulation offers already. The same goes for gambling. It seems implausible that virtual reality technologies could increase the possibilities for other types of harm to the self. They may give one the impression that one, for example, drives on a motorcycle without a safety helmet, swims at an unguarded beach or is under the influence of drugs. But such impressions do not pose real risks to one's bodily health and there is thus no reason to bring them under the scope of the criminal law.

Virtual reality technologies could also allow for new possibilities for inherently immoral behavior. In section 3.4 it was stated that neither prostitution nor bigamy, Feinberg's examples of inherently immoral behavior, can currently be made possible by computer simulation. Virtual reality technology could make both possible in the future. As was mentioned above, Zhai claims that people might be able to have sex in the virtual world in the future. If so, they can also sell sex and thus prostitute themselves in the virtual world. And bigamy could also be made possible by virtual reality technologies in the future. In several countries, including the Netherlands, it is allowed to marry by proxy. One can marry someone who has consented to the marriage, but is not able to attend the ceremony, for instance because s/he is far abroad and not able to come over for the marriage. In other words, one marries at a distance. Virtual reality technologies could be used for marriage by proxy. Wearing the goggles, earphones, body suit and glove two persons wired to the same computer could say yes to, exchange a ring with and kiss a virtual representation of each other and the devices would make them hear "yes", make them feel like they have a ring put around their finger and make them sense like they are kissed. Once the law would recognize marriage by proxy through virtual reality technology, bigamy through virtual reality technology would also be possible.

Finally, it might be worth to point out that virtual reality technologies could lead to confusing situations. Zhai, for example, comes up with an interesting thought.

What if the body suits of person A and person B get messed up? Then person A gets, through her body suit, the sensory feedback that belongs to the actions that person B performs and vice versa. So if person B hits his leg, person A feels the pain (Zhai 1998, p. 12). That way (un)intended harm to the self can cause harm to others. One could also confuse a virtual human being with the virtual representation of another person wired to the same computer. One could then physically hurt the other person believing that it is just a virtual human being that will feel no pain. These confusing situations will not challenge the criminal law, however. As was established in section 2.1.1 one of the basic elements that is required by each crime is a *mens rea* (a blameworthy mental state, usually it is required that the actor acts knowingly, purposely or recklessly). So it depends on whether or not one knew, or could have known, that one could physically hurt another person by one's act. When not, one cannot have a *mens rea*. And if this basic requirement of each crime cannot be satisfied, an act cannot be brought under the scope of the criminal law.

4. Conclusion

In this paper I have studied the question when virtual cybercrime should be brought under the scope of the criminal law. The paper consists of three parts. The first part of the paper is an empirical exploration; in this part I have examined what virtual cybercrime is and how, if at all, it is treated within existing legal systems. The second part of the paper is a philosophical analysis; in this part I have established, drawing from ontology and legal philosophy, what the necessary and sufficient conditions are for virtual cybercrime to obtain in order to count as crime under existing law. The third part of the paper is a moral evaluation; in this part I have studied when virtual cybercrime meets the aforementioned criteria.

In the first part of the paper I have defined cybercrime as any new or different human act that is carried out through the use of computers or computer networks and is prohibited by the enactment of a new or the extension of an existing law. I have pointed out that it differs from country to country which behaviors involving the use of computers or computer networks are outlawed, but that the Convention on Cybercrime, its Additional Protocol and the Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse provide a list of new and different human acts involving the use of computers or computer networks that are commonly prohibited. This list includes: illegal access, illegal interception, data interference, system interference, misuse of devices, computer-related forgery, computer-related fraud, offences related to child pornography, offences related to infringements of copyright and related rights, acts of a racist and xenophobic nature that are committed through computer systems and

"grooming." The first five offence categories concern new forms of human activity that did not exist before the advent of computers and computer networks. That is because they can only be carried out through the use of computers or computer networks. The next offence categories concern traditional crimes where computers or computer networks are used as a tool to commit the crime in a different way.

Subsequently, I have described virtual cybercrime as cybercrime that is carried out through the use of a specific feature of computers and computer networks, namely computer simulation. It consists of a computer-simulated human act or a human act made possible by computer simulation, i.e. a human act that is defined in terms of a virtual object. Contrary to ordinary cybercrime, virtual cybercrime does not concern new human activities; only different human activities. Therefore, it requires legislators to extend existing laws, but not to enact new ones. In sum, virtual cybercrime can be defined as a computer-simulated human act or a human act made possible by computer simulation that is prohibited by the extension of an existing law. It was established that the scope of virtual cybercrime is unclear, however. Currently, the production, possession and distribution of virtual child pornography is the only virtual cybercrime that is commonly prohibited, although not as commonly as non-virtual child pornography. Putative virtual cybercrimes are, for example, virtual rape, virtual killing and theft of virtual items.

In the second part of the paper I have explained that an empirical study of the law does not suffice to answer the question what the necessary and sufficient conditions are for a computer-simulated human act or a human act made possible by computer simulation to obtain in order to be prohibited under existing law, since the production, distribution and possession of virtual child pornography is the only virtual cybercrime that is commonly prohibited and it would be a fallacy to make a general statement about virtual cybercrime on the basis of one specific instance of virtual cybercrime. Therefore, I have studied virtual cybercrime from a different point of view. As was stated in the introduction, the study of virtual cybercrime belongs to the field of legal ontology. Applied forms of ontology often put to use the tools of philosophical ontology in order to categorize things within a specific domain. I made use of this method and put to use the tools of the philosophical ontology of the American philosopher Searle in order to categorize virtual cybercrime within existing law.

Searle claims that penal provisions generally take the following form: for any x that satisfies a certain set of conditions p, x has status Y in C. So, following Searle, legislators or judiciaries decide that a particular human act (X) counts as a crime (Y) in the jurisdiction of a particular country (C) when they find that the set of conditions (p) for that crime has been satisfied. I have explained that

in legal terms the conditions that a human act needs to satisfy in order to count as a crime are called elements. The specific elements required vary depending on the crime, but there are two basic elements that are required by each crime: an *actus reus* (an unlawful act or failure to act) and a *mens rea* (a blameworthy mental state, usually it is required that the actor acts knowingly, purposely or recklessly). In fact, all crimes also require, implicitly or explicitly, that the actus reus must have a certain consequence, e.g. the death or injury of a person or a loss of property. This common element is called *causation*.

I have argued that, in the case of virtual cybercrime, the basic elements of a crime can be satisfied intravirtually (within the virtual environment where the act takes place) or extravirtually (outside its virtual environment), except for the element of *mens rea*, which can only be satisfied extravirtually, since it concerns the human actor, who is necessarily extravirtual. I have established that it is of crucial importance where the element of causation is satisfied, intravirtually or extravirtually, because it determines the context (C) in which the crime status (Y) of a computer-simulated human act or human act made possible by computer simulation (X) holds. A computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation (p) *intravirtually* counts as a crime (Y) only in the context of its virtual environment (C); a computer-simulated human act or human act made possible by computer simulation (X) that satisfies the element of causation (p) *extravirtually* counts as a crime (Y) also in the context of the non-virtual world (C). In special cases a computer-simulated human act or human act made possible by computer simulation (X) can satisfy the elements of one crime intravirtually and, thereby, satisfy the elements of another crime extravirtually. Such an act counts, therefore, as crime Y in the context of its virtual environment (C) and as crime Z in the context of the non-virtual world (C).

Subsequently I have claimed that the context (C) in which the crime status (Y) of a computer-simulated human act or human act made possible by computer simulation (X) holds, its virtual environment or the non-virtual world, determines whether the act can be included in the scope of an existing penal provision. I have explained that lawyers commonly agree that penal law belongs to the non-virtual realm and that it, therefore, cannot be applied *within* virtual environments. An existing penal provision may thus not be stretched so far as to include in its scope a computer-simulated human act or human act made possible by computer simulation that only counts as a crime in its virtual environment, but it may include in its scope a computer-simulated human act or human act made possible by computer simulation that counts as a crime in the context of the non-virtual world.

To sum up, I think that it is a *necessary* condition for a computer-simulated human act or a human act made possible by computer simulation in order to be brought under the scope of the criminal law that it has an extravirtual consequence, so that it can count as a crime in the non-virtual world, provided that it also satisfies the (other) elements of a crime. I have explained that it depends on the stand one takes in the legal philosophical debate between legal positivists and natural law theorists, whether or not that is a sufficient condition as well. Legal positivists claim that laws may have any content. They would thus say that legislators and judiciaries are free to bring any computer-simulated human act or human act made possible by computer simulation that has an extravirtual consequence and also satisfies the (other) elements of a crime under the scope of penal law. Natural law theorists would say that legislators and judiciaries can only bring a computer-simulated human act or human act made possible by computer simulation that has an extravirtual consequence under the scope of penal law if the extravirtual consequence consists of a violation of a moral principle. The contemporary debate on the content of the law is dominated by the legal philosophers Hart and Dworkin and interpretations of their work. Their theories have developed such a level of subtlety and sophistication that the traditional labels of legal positivism and natural law theory hardly apply any more. Most legal philosophers would nowadays agree that the law is open to arguments that are grounded in moral principles, especially with regard to special fields or issues that are still developing, such as ICT. Taking this assumption as a starting point, I have argued that Feinberg's liberty-limiting (moral) principles, i.e. the harm principle, the offense principle, legal paternalism and legal moralism, can help to determine how the penal law should deal with virtual cybercrime.

In the third part of the paper I have first established that computer-simulated human acts or human acts made possible by computer simulation can result in several types of extravirtual harm to others and that they can, therefore, be brought under the scope of the harm principle. Then I have argued that computer-simulated human acts or human acts made possible by computer simulation can result in extravirtual offense and that they can, therefore, be brought under the scope of the offense principle. Next I have claimed that computer-simulated human acts or human acts made possible by computer simulation can result in a couple of forms of extravirtual harm to the self and that they can, therefore, be brought under the scope of legal paternalism. Subsequently I have established that computer-simulated human acts or human acts made possible by computer simulation can result in extravirtual evils of other kinds and that they can, therefore, be brought under the scope of legal moralism. Last I have argued that, in the future, virtual reality technologies might allow for new possibilities to do harm (to others or to the self) or to act inherently immoral, but that it seems implau-

sible that virtual reality technologies would allow for possibilities to give offense that differ essentially from the possibilities that computer simulation offers already. That is because virtual reality technologies increase the possibilities for intravirtual human acts to have extravirtual consequences. But since in the case of offense the consequence, a disliked mental state, is necessarily extravirtual, virtual reality technologies do not increase the possibilities to give offense.

In conclusion, those computer-simulated human acts or human acts made possible by computer simulation that result in extravirtual harm to others, offense, harm to the self or evils of other kinds should be brought under the scope of the criminal law, provided that they also satisfy the (other) elements of a crime.

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Webcam-sex services in the adult entertainment industry: sociological, economic and legal aspects

Christos Spyropoulos

I. Introduction

Attempting to assess and understand the phenomenon of webcam-sex services being provided via the Internet, one has to take into account not only the pure invasion of the Net facilities in our daily routine, but also the new means of socialization which have recently emerged and which are based, among others, on web-interactivity.

From the point of avoiding loneliness and sexual rejection to the end of sexually satisfying oneself, using the web pages to find a solution on sexually related issues is as common as surfing the Net itself. The reasons of such a navigation vary from behavioural difficulty to corporal disability and from psychological deficiencies to mere curiosity that becomes addictive.

The factor of addiction brings up a series of consequences such as the financial exhaustion of the user of the services, his social isolation and, even more detrimental psychological effects, such as aggressiveness or depression, let alone the moral, sentimental and religious conflicts between the family members. On the other hand, the providers of the above services, in other words the "online models", also suffer from a variety of problems referring to their dignity status, their physical safety, their personal data protection and their economic reward that is not equal to the price they have to pay due to their sexual exploitation.

Apart from the above aspects, the financial motivation of the creators and the webmasters who run that business is of great importance. Gaining funds not only from the site advertisements and the visiting traffic of the page but also-and mainly- from the sexual acts which the virtual models perform in front of their web cameras, the sites' owners leave for the online workers a payment which is minimum in comparison to the huge profit made.

Furthermore, ineffective protection is provided to the net performers of sexual services in relation to the acknowledgment of the binding contractual preconditions between them and the webmasters, their right to protect their privacy and prevent the dissemination of their personal data (image, name, address, sexual preferences etc.) or their payment rights. In addition, the models' sexual exploi-

tation is often the result of blackmailing and human trafficking or is usually the beginning of child pornography for those of them that are not of legal age.

Besides that, bearing in mind that the services are bought from the customers through online transactions which, occasionally, do not guarantee neither the safety of the data transferred nor the clearance of the contracts between webmasters and customers, it becomes necessary for all the interested parties to follow specific rules and codes of conduct in order to interact safely in that particular environment.

II. The online paid-sex industry as a social, economic and legal phenomenon

A. The webcam-sex culture and its commercialization

From the early 1990s, when the Internet started to gradually invading in all houses, till today, when access to the Net and the world of instant information has become everyone's right and a common good protected by constitutional and civil law, the use of computers has spread radically. The growth of e-commerce, online banking, e-government or e-learning proves, *inter alia*, that the World Wide Web provides an alternative means of contracting and communicating with each other, thus facilitating our daily lives by saving time and money. However, this general trend has also affected the ways in which we socialize, especially supported by the new technologies that bring us close in real time, such as 3G mobile phones, i-Pads, live video conferencing, streaming video, peer to peer servers, file sharing programs and bulletin or message boards. As a result, our priority is more to interact through gadgets than to physically contact with the ones we care or love, transforming, in that way, our personal time into a "sms-texting", a"real-time synchronous communication, i.e. chat" or a "webcam-chat" schedule.

In this sense, social network sites such as Facebook or Twitter indicate how the globalization of instant sharing of ideas and feelings has shaped a Net culture and has replaced face-to-face conversation. Having thousands of "friends" or "followers" is the result of simply clicking the "like" button and has nothing to do with mutual "in the flesh" exchange of arguments and sentiments. Creating romances is also an "application" provided by the most popular social sites, which allow their members to "meet each other" online by using their web cameras or their Internet telephony devices. In that level of interaction, sexual activity based on sexual provocation of erotic acts or speech comes up to complete the puzzle of online socialization.

As a logical consequence, looking for a sexual partner to play with is the secret desire of many Net surfers and that is the feeling of which the webmasters have taken advantage so as to create a whole industry of virtual sexual services provided via the Internet. Giving their customer the ability to choose among hundreds of models the one that fulfills his standards without taking him out of his home and without asking him to reveal his real name, the owners of the online sex sites have moved one step further in comparison to the past by minimizing the time and the effort needed to make money. Thanks to the use of advanced technology devices supported by experienced staff and to the willingness of their models to gain as much as they can through the performance of all kinds of sexual acts on camera, the modern "pimps" have established a quite profitable industry which is regarded as supreme in comparison to the rest of the alternatives the adult entertainment world has to offer (porn movies, phone sex, peep shows) due to the instant face-to-face satisfaction it guarantees. Undoubtedly, online-sex sites prevail because they offer anonymity, instant gratification and choice, continents unavailable in an offline store.[1]

B. Sexual services provided online or in person: similarities and differences

Trying to find and evaluate the existing common places between traditional and modern provision of sexual services, we have to bear in mind the sociological, financial and legal parameters on behalf of the provider, the performer and the receiver of those services. Those services are part of a general industry called "adult entertainment" which consists, among others, of lapdance in strip clubs, adult magazines, sex shops, porn films, pay-tv, video on demand, sex toys, sex clubs, gay bathhouse, darkroom and so on. The common point of the above activities is the non-contact interaction between the viewer and the performer. [2]

Besides, many argue that, being an online sex-model does not differ at all from being a prostitute, as it is based on the same practice: the performer promotes her appearance to attract the customer and, while being paid with credits that the latter has already bought to pass time with her, she obeys to his instructions by imitating sexual intercourse.

Moreover, in the past, the person who facilitated the prostitute's work was the so called "pimp", who provided her with a shelter, brought her in contact with the clients and protected her from other "pimps" and, as a payback, he possessed her

1. http://en.wikipedia.org/wiki/Sex_industry, last access June 10, 2013.

2. Ibid (1).

physically (sometimes and emotionally) and gained the maximum of her profits, a method which many webmasters follow nowadays as well.

In addition, the customer, pushed by psychological or corporal frustration, attempts to relieve from his sexual stress, satisfy his inner fantasies or confirm his sexual ego by imposing on the paid performer various sexual behaviors, in the same way a brothel client behaves to the whore. Furthermore, given that buying and selling sex is a social phenomenon as old as the human race which today takes place in the online society, the similarities in the psychological and physical effects on the performers-traditional or modern- are many. Setting aside the cases in which the online models are victims of trafficking and are captivated in hotel rooms given solely food and water or being blackmailed that their online recorded shows will be disseminated to their origin countries, the main similarity is the scheme "customer"-"performer", the complex of the conducts flowing from it- varying from phrasal abuse or simple irony to pure humiliation of the performer- and the effect which those conducts cause to the latter (e.g. low self-esteem, lack of dignity, depression), in the same way the traditional street prostitute had to deal with the social degradation and rejection.

Additionally, a large number of people involved in the production of the online work such as the studio's designers, the tech experts in charge who maintain the online system's integrity and develop the site with new applications, the site owner's translators, order processors, accountants and legal advisors, not only remind us the customary mermaid of the brothel who kept it clean and tidy, the cashier who was responsible for the payment in advance, the "pimp" who exploited the prostitute and guaranteed for the safety of the place, but also indicate the economic significance of this particular industry for a great quantity of participants. [3]

However, independently of the above resemblances, the online paid sex is distinguished from the real world prostitution mainly in relation to the physical contact factor. "They may abuse our bodies but they will never own our souls" is an urban legend held by the traditional prostitutes to indicate the distinction between their corporal and mental maltreatment. Altered by the online-sex models, this opinion goes further to state that, since there is no physical contact between the "customer" and the "performer", no prostitution occurs and no harm is caused on the latter.

From a moral point of view and setting aside statements of Net models who declare that working online has caused them serious body injuries and psycho-

3. Ibid (1).

somatic damage as well,[4] this argument is an alibi both for the performers and the customers. In other words, the models try to consider themselves as freewill workers and not as prostitutes and the customers seek to believe they do nothing more than just buying services without cheating their spouses.

The physical contact criterion is also an excuse for the legislative authorities to postpone any effort on forming an international core code of rules referring to the functional regime of online paid services, based on the reason that, since there is no bodily intercourse or abuse, no danger of crime exists neither any employment comes to pass. Nevertheless, an overview of the contracts between performers and webmasters proves the existence of an "employer"-"employee" relationship as their conditions, referring to matters such as payment, broadcast schedule or compensation rights, are set in favor of the site owners and reflect their dominant position towards the models.

Undoubtedly, leaving behind the moral principles and talking in economic terms, online paid-sex services form a rather profitable business market founded on the structure of selling and buying sexual fantasies through the promotion of real women's bodies. No matter how vague the intention of the customer is, it is unambiguous that the bodily appearance and the eagerness of the models on reducing their self-respect values is an objective financial standard able to maximize the profit made, just like in the old years. As a result, when everything is translated into money, it becomes obvious that greediness for earnings leads the whole business to laboral and ethical exploitation and allows for illegal activity such as captivity, human trafficking, child pornography, data blackmailing or even homicide.

C. Function, categories and cost of services provided: a pricey online ecstasy

Intending to comprehend how online sex services have become so gainful, one has to understand their function and estimate the variety and the price of the fantasies sold through the Net. By clicking a site's domain name or even a phrase such as "webcam sex" on a search machine, the "customer" finds himself infront of thousands of sites promising to fulfill his wildest desires. Entering one of them, he is first being asked to register as a member in order to gain all the privileges of the member, such as the ability to chat free with the models and get their attention. Becoming a member usually presupposes filling a form of personal information, not necessarily true, and creating a nickname which distinguishes each member from the rest.

4. http://camgirlnotes.15.forumer.com/index.php?showtopic=2575, last access June 10, 2013.

However, being a member and not just a visitor does not allow the customer to isolate the model. In order to do so, he has to buy credits, that is to say, charge his credit card or bill his phone number with an amount of money that he will use in order to buy time for the model's show. The more credits one buys, the most time he can spend with a model privately and, in that logic, a member can become "premiere" or "golden" by spending, for example, more than 200$ everyday in the site. The reward for the "golden" members is often unlimited access to the site's nude galleries, an extra-time offer during the model's show e.t.c. Furthermore, once a member finds his favorite model, he is given the choice to join the model's fan club by buying an (in advance paid) 1, 2 or 3 month membership in a discount price. As a return, he is permitted to access all the naked photos of the model or watch all the model's recorded shows performed either for him or for other surfers or even communicate privately with the model by sending her e-mail or scanned personal photos or by commenting on her personal diary's naughty notes.

Evidently, regardless of the reason one visits those sites, they have been constructed in such a way so as to convince the visitor to consume (spend money) as much and fast as he can in order to stay alone with the model and satisfy his sexual instincts. Following the basic principles of management, the web pages' designers tickle the visitor's inner nature by bombarding him with images of perfect bodied women "ready for everything" or by offering him a free-trial visit, thus manipulating him till he considers the entire procedure as necessary part of his daily life.

Those sites' owners often adopt techniques of cyber-highjacking to misdirect or trap the Net surfers in their sites: "page jacking", which is the directing of the user to a porn site by using false key-word-descriptions so that the search engine promotes a link to that site, or "mouse-trapping", which occurs when the porn site's designers disable browser commands such as "back" or "close" so that the random viewers cannot leave the porn site, point out the economic importance of that business. [5] Given that this kind of sites are broadcasting on a 24h/7d basis throughout the Web, it is easy to guess the commercial size of many of them and the vast amount of money transferred electronically every day.

As for the communication part, the usual case is the one-to-one interaction, which contains general chat (some typical dialogues begin like that:-"hey, you look awesome today and I feel so lonely here, will you keep me company"? – "sure, honey, I am all yours here…") that, sooner or later, turns out to dirty sexual speech (e.g. –"I wanna see you totally naked there, getting dirty for me,

5. http://www.uri.edu/artsci/wms/hughes/new_tech.pdf, last access June 10, 2013.

I wanna make you mine..."- "Go on, babe, be my guest in my private room and lemme become the woman of your dreams...") and ends up with a show that starts when the customer clicks the "private show" button and terminates automatically when the credits (time bought) finish, regardless of the complete satisfaction of the customer. Apart from simply watching the model performing under his instructions, the customer can also- being additionally charged- show himself to the model by connecting his own web camera to the site in an effort to simulate real sex. Nevertheless, in an attempt to avoid loss of customers, the webcam-sex sites offer their members cheaper solutions such as group shows or happy-hour shows where the member lacks of the advantage of interacting privately with the model and merely watches the show without even publicly commenting on the performance.

Another factor to be considered is the technological architecture of that business. Although the sites' owners affirm that everyone can turn into an online sex model while working independently in his own house, in practice this becomes problematic due to technical and economic obstacles as the model, often desperate for cash, needs to invest an adequate amount of money on advanced technological devices (cameras, studio equipment, fast Internet connection, sophisticated antivirus and billing software) in order to broadcast properly and cost-effectively. [6] Thus, as a more convenient solution, the model moves on to work in a rented studio which is usually placed in a hotel and consists of separate rooms designed and equipped for the needs of broadcasting. In both cases, a central web server and a developed connection network is required to allow broadcasting through the web site and sustain the site's functionality in all levels, from page structure to transactions and from technical support to customer service. This fundamental web server, owned by a webmaster-either an individual or a company-, provides the model with a unique password which permits the latter to log in the site and perform.

The residence of that server lays usually in "tax heaven" countries such as Nauru, Belize or The British Virgin Islands, confirming in that way the struggle of the webmasters for avoiding heavy taxation. Apparently, a model working autonomously remains a theoretical possibility due to the infrastructure considered necessary for a successful corporation. Therefore, even if she works from her own house living-room, the model always retains her ability to broadcast on the webmaster's permission to use his server instead of a fee, thus becoming the weak party in the relationship established for that reason.

6. http://www.ehow.com/how_6465820_create-pay-cam-website.html, visited 14-11-2012 and http://www.camgirl-advice.blogspot.com/, last access June 10, 2013.

Referring to the categories of the shows made, except for the female models who offer one-to-one shows, there is a wide range of performance combinations according to the demand. From one or more couples who have sex separately or in a group to homosexual (gays or lesbians) or transsexual performers or single men, the performers and the spectators of the shows belong to both genders and have diverse sexual preferences. Moreover, categories of models more specific than the usual ones ("blondes", "brunettes", "tattooed", "pierced", "skinny", "tanned", "Asian", "Afro", "shaggy", "glasses", "classy", "next-door girl" e.t.c.) such as "dominant", "roleplay", "bondage-sado-mazochist", "pregnant", "granny", "teen (just eighteen)", "feet-worship", "golden shower", "oral fixation", "food play", "smoking", "drunk" and so on prove, apart from the commonplace that the human soul is an abyss full of fetishes and delinquent conducts, that the online models, in their chase of maximum and fast profit, declare ready to do almost everything in front of their cameras, underestimating the risk they run in personal and social level. The models can be nearly of any (legal) age, from "eigh"teens to grandmothers. They can also be of any marital status, from single to divorced, engaged or even "married but cheating" persons.

The true country of their origin or the country from where they actually broadcast is rarely published, not only for reasons of money laundering but also because their work is often the result of slavery and captivity and not of self-rule. Still, they can be of any race or educational status; even their appearance may sometimes differ from the characteristic type of the fit beautiful woman (or man) stereotype, as it depends on each viewer's impulse to look for his passion object.

To accomplish their mission, which consists in satisfying the customer and make him a long-term member of their fan club and a persistent viewer of their shows, the models make use of a variety of products. Attempting to become attractive and naughty, eccentric and cute, they wear outfit which scandalizes their viewers (see-through body forms, fetish shoes, all sorts of dresses such as "schoolgirl skirt", "secretary suit", "police uniform", "doctor robe") and are keen on playing with all kinds of erotic objects (dildos, handcuffs, chains) aiming at their customer's filthiest fantasies. The massive number of these products verifies the close relationship between the adult entertainment-erotica industry and the online-sex business, as a recycling of money normally takes place: the model buys erotic objects and clothes and feeds, in that way, the porn market which, after that, tempts the Internet user to enter the sex-show sites. It often happens for a porn movies' producer to be, at the same time, manufacturer of erotic objects and webmaster of webcam-sex sites where he advertises his products and services, hence making

the most of the revenue and establishing a dominant position in the relevant market that leads to oligopoly.[7]

Furthermore, aside from the above analyzed functional and category factors, the economics of the online-sex business are also important. Once a customer is interested in buying sexual pleasure, he has to prepare himself for a respectable expense depending, of course, on the intensity of his visits, the time he wants to devote to his satisfaction and the frequency of his virtual intercourses. For the occasional visitor of the site, who has inevitably become a member following the aforementioned procedure in order to be able to privately interact with any model, a ten-minute private session with a performer can cost from 25 to 70$ (20 to 60 euros), as the charge per minute for a private show varies from 2,50 to 7,00$, depending on the popularity, the beauty, the eagerness, the capacity or the professionalism of the performer. Not an insignificant amount of money, especially when compared to the average daily income in Europe which equals to 50 euros. If the visitor avoids interacting and prefers simply watching a recorded show of his adored performer, he has to pay 1$ per minute or 5$ per view. What's more, since a regular site can occupy more than 300 models broadcasting at the same time via its server on a nonstop basis, it becomes evident that hundreds of thousands of dollars flow progressively from such an investment daily.

Making our paradigm more complicated, we can assume that the customer, focusing on gaining the maximum pleasure through interaction, decides to connect his web camera to his computer and ask the model to view him. This will cost him an additional fee of 2$ per minute and the charge goes on if the visitor wants to become a member of his beloved model's fan club. In that case, he prepays some 20-30$ for a month's membership and, as a reward, he has a 10% discount every time he enters in a private session with his favorite model. For the frequent visitors, a "premier" membership is suggested based on the ability of the member to charge his credit card with unlimited amounts of money during the day. In that point, it is the addiction parameter that comes into light with all its psychological, social and financial aspects.

Giving the viewer the role of the consumer, we understand that both the performers and the webmasters capitalize on his obsession to buy virtual sex. The models tease his inner feelings, itch his libido and sell their personal time in a relatively affordable price while they target on making him come back again and again for more action. The site owners, on their behalf, by maintaining a high-quality technological level for their site and by using management tricks ("offers", "free trials", "access to nude photo galleries") to preserve their customers

7. Ibid (5).

and attract even more, benefit both from the model's work and the viewer's bill, as they have an instant income per show by charging not only the model with a high fee as a payback for the ability to broadcast they provide her with, but also the viewer's credit card. For the webmasters, the models broadcasting via their server are pure gold, because their nude photos, their recorded shows, their (private, group, "happy-hour" discount) shows or even their free chat conversations are translated into credit card or phone billing or, simply, into profitable net traffic respectively, that is to say, into money. Comparing these earnings to the operational cost of those sites, which mainly consists on the maintenance of the site's technical reliability, the wealth produced is easily predicted.

D. Being exposed and hidden: causes and consequences

Examining the reasons for participating in such a scenario either as a performer or as a viewer, one has to take into consideration the economic, social, moral, mental and psychological background of each party.

The vast majority of the models are in desperate need of cash for a variety of reasons: from the students who are financing their education[8] or the next-door housewives or the former well-paid secretaries who have the agony of paying their household's monthly expenses or their long-term mortgage to the ones used to live a luxurious life with the minimum effort or to the victims of trafficking who are forced to work in order to pay their debts to their "protectors", the common point is the frantic struggle for making the most of money through sexual exposure. In addition, apart from extreme poverty, the general lack of opportunity or serious underlying problems such as drug addiction or post trauma (e.g. child sexual abuse)[9] can lead to unhindered mistreatment.

Nevertheless, a decision on being paid for getting publicly naked on the Net could, theoretically, be obstructed by hesitation caused by religious or moral principles which vary from society to society. Self-esteem and the preservation of social dignity could also act as psychological barriers to unrestricted humiliation. However, it seems that the impact of easy and instant profit on the model's consideration is huge.

Having left behind any ethical doubt, the model focuses on performing her show in the most lucrative way. Having a "positive attitude" towards the viewer is very important if she wants to gain his attention and keep his interest warm. Additionally, she has to remain calm when confronting a stalker who harasses her

8. Ibid (5).

9. Ibid (1).

with dirty words or threats and makes her feel dumb and degraded. When it comes to harassment, being self-confident helps her tolerate such behaviors.

Nonetheless, the mere procedure of paid online sex reflects the objectification of women. Putting to one side the effect on "real world" women, who often feel unable to compete with the "ideally-bodied and ready for all" paid models,[10] we realize that being constantly called names such as "bitch" and "slut", being asked to perform shameless and harmful sexual acts and being hassled by site perverted visitors who insist on begging to view nudity for free, ends up to emotional abuse of the performers. As a defense, the models become snobbish or, assuming that "in the future, everyone will be famous for fifteen minutes", they implement a "micro-celebrity" conduct.[11]

Likewise, because a beautiful body builds a large fan club, many models undergo the anxiety of getting older [12]and the insecurity of getting extra weight or looking tired. As a consequence, similarly to the brilliant world of "haute-couture", syndromes like anorexia nervosa affect quite a few models. It is characteristic that some performers suffer from post traumatic stress disorder (PTSD) with severe symptoms such as emotional numbness, recurrent nightmares, flashbacks or sucidal ideation.[13]

Aside from the above, models have to put up with the distress of having their personal data and their shows disseminated through the Net in real time or in a recorded form. Although some sites offer the choice of blocking the broadcasting to a specific region (the model's city, state or country of origin),[14] they proclaim non-responsible for the unauthorized distribution of model's image or video as a result of hacking or unlawful copyright infringement. Therefore, in practice, if a viewer records the private show of his adored model and then uploads it on a public site or forum, the results on the latter's condition will be injurious. In other cases, the site owner himself publicizes his models' videos to popular porn sites for commercial and advertisement reasons without the models' consent.

Additionally, in a practical level, the models usually have to be patient with their payment procedure. No matter if they are considered by the webmasters as "independent workers", they are never being paid in real time, that is to say, right after

10. http://camgirlnotes.15.forumer.com/index.php?showtopic=503, last access June 10, 2013.

11. http://www.terrisenft.net/diss/synopsis.php, last access June 10, 2013.

12. Ibid (4).

13. http://www.mycamgirlsecrets.com/?zx=276eb1365c195618, last access June 10, 2013.

14. http://answers.yahoo.com/question/index?qid=20090105215712AA8YSRY, last access June 10, 2013.

their show has ended, but their payment is strictly controlled by and dependent on the site owners' will. In an ideal situation, a model is being paid through "paypal" system at the same day of her performances, but, in most of the cases, she has to wait for the 1st and the 16th of each month.[15] What makes it more anxious is the right of the site owner to retain credits from the model as a compensation for a customer's query. As a result, not knowing if, when and in what extent they will be paid, makes it a real torture for the models to work.

Moving on to the viewer's side, one realizes that a variety of reasons leads a Net surfer to look for paid online sex. Being away from home and his beloved person for some serious reason (e.g. as a soldier) or being physically or mentally handicapped, forms a category of customers who regard paid webcam-sex as the only exit from their social isolation. Moreover, the lack of social skills or the misogynistic attitudes[16] pushes many netizens to search for the ideal female thourgh the comfort of their bedroom's pc screen, hidden behind the anonimity and the sense of dominance the Internet provides them with. Problems in marital life caused by the erotic routine or by lack of communication, intense stress due to the multiplicity of daily obligations, lack of libido or sexual insecurity, are factors that play a significant role in the viewer's mood, who tries to upgrade his confidence by interacting online with stunning women. Mere curiosity, mainly met in younger users, is another parameter, rather dangerous when leading to confusion between real and online sexuality.

Independently of the particular reason each viewer choses to buy online-sex, all a sex-site's visitors run the same risk of being addicted to that sexual routine. In psychological level, the viewer tends to end up into a "porn creep",[17] namely a person who becomes unable to get an erection under circumstances that do not involve looking at porn. In a worse scenario, the viewer automatically gets sexually excited or prepares for having an orgasm solely in the thought of interacting online, in the same way the famous dogs of Pavlov got hungry and ready to eat when they listened to a characteristic sound. In addition, the "buy and sell" structure of the sites gives the viewer the false impression of dominance over the model: for him, what matters is what can be owned, and this "grabbing" conduct[18] leads him, at least, to impolite comments on the model's appearance or attitude. For the more sophisticated viewer, the above structure also proves that all this

15. Ibid (14).

16. Ibid (5).

17. Ibid (10).

18. Ibid (11).

interaction is fake as it is based on money, and this conclusion often causes a feeling of depression and lack of self-respect.

As for the social impact, many state that getting used to paid online-sex makes the viewers aggressive and desrespectful towards the women, though others consider this way of sexual satisfaction as a relaxing drug which reduces sexual assaults. Concerning family life, and inspite of any moral or religious opinion that camming equals to cheating, "webcheating" can be a mindtrap, as the viewer choses to spend all his energy and money on satisfying himself instead of showing real and active interest for the current issues of his family.

Additionally, with referrence to the financial factor, paid webcam-sex can be disastrous, especially when done repeatedly. The more a viewer is teased by the model, the greedier he gets for some hot action. Striking a fair balance between daily actual needs and virtual satisfaction is almost impossible for the addicted viewer, who consciously sacrifices his savings for the sake of imaginary stimulation, thus leading himself to economic collapsus. The existence of special clinics for the treatment of people addicted to porn and webcam sex (similarly to those addicted to gambling, alcohol or drugs) signifies the multiple dimensions of the phenomenon under examination.[19]

In a conclusion, paid webcam-sex results in mutual exploitation both for the performer and the viewer: the first gets publicly exposed and abused as a body and as a personality and takes full advantage of the latter's psychological defeciency while selling her beauty; the latter, relying on his dominant position as a customer, humiliates the performer in a hopeless effort to gain confidence and simulate actual feelings and senses into "virtuality". The result is nothing more than a mere commercial relationship promoted as a pure ecstacy for the needs of adult entertainment trade.

E. Interacting online: legal aspects and risks

The participation in online webcam sex has a legal aspect for both the viewer and the performer. The first, above all, is considered as a consumer, thus being granted the right to ask for a refund if he is not satisfied by the technical quality of the show or the way the sexual acts are performed. If compensated, the tokens (credits) are held back from the model's payment. Moreover, given that by buying credits, the consumer gives away his credit card data, he has the right to be compensated by the site owner if any revealing of those data takes place and leads to a financial damage.

19. www.forum.noorclinic.com/0/web_cam_sex_11343.htm, last access June 10, 2013 and www.sexualrecovery.com/sexual-addiction.php, last access June 10, 2013.

Nevertheless, as for the viewer's sensitive data, i.e. his sexual preferences or his favorite models, the webmasters declare that they reserve the right to collect those data by using cookies in order to create the customer's profile and achieve in maximum pleasing him.[20] The risk taken by the viewer is being harassed by spam or pop-ups sent by the sex-site as a way of pressure for consumption.

Furthermore, he is being warned by the webmaster that, by showing himself to the model during the private session through his webcam, he accepts the possibility of being recorded. He is also warned of the non-responsibility of the site for any damage caused to him by viruses contained in the site's files (nude images or recorded shows). In addition, the site owner warns the customer that his personal data will be revealed to the legal authorities and he will be prosecuted if he commits a crime such as cyber-terrorism, hacking, financial fraud or copyright infringement of the site's content (e.g. by copying the nude photos or the recorded shows or by recording the models on real time and distributing their performance instead of using it for non-commercial purpose). He is also warned that his account will be suspended or terminated if his conduct towards the models becomes insulting through the use of hate speech, racist comments, life threats e.t.c.[21] It is also important that, in some cases, paid webcam-sex, as well as "cheat-chatting", is a reason for divorce as it constitutes cheating in the meaning of law. We leave for the end the danger of access to the sex-site by minors (i.e., the viewer's children) if no content filtering or parental control is applied.

As for the performer, the situation is relatively more complicated. The model enters an agreement which the site owner tends to proclaim as "broadcasting agreement for independent models" and which is based on the principle that, between the site and the model, there is no relationship of agency, employment, joint or collaborative venture or partnership of any kind.[22] In that sense, it is stated that the site agrees to pay the model according to rates imposed by the site as full compensation for the license rights and other rights granted to the site by the model. In the best aspect, the model gains 30% of the credits spent by the viewer. This agreement begins when the model completes and e-mails an online application with her personal data to the site and when she certifies a "release" in which she allows the site to "use her appearance" and grants and assigns the site all rights, title, interest and copyrights associated with her appearance. With the same "release", the model discharges the site from any claim she may have due to violation of her right of privacy or publicity and states that all the information

20. http://cams.com/go/page/privacy.html?, last access June 10, 2013.

21. http://cams.com/go/page/terms_of_use.html?, last access June 10, 2013.

22. http://camgirlnotes.15.forumer.com/index.php?showtopic=3165, last access June 10, 2013.

given to the site is true. After posting or e-mailing under a digital signature her personal documentation (original identification card, name, gender and face) to the site, she is granted access to the site in order to broadcast.

In addition, the model, though regarded as an "independent performer", is obliged to obey to strict rules in order to avoid being refused access to the site. She assumes all risk of loss or harm arising through the use of the site. She should also keep her sound always on and be present on camera. She should never ask the members for money, beg them for entering private shows, log into customer's accounts, hack member's or site's accounts, spam, communicate with the customer outside the site through email or in social network sites (Yahoo, MSN, Facebook), "fish" users from public chat sites or "split-cam" (broadcasting via another site at the same time). A code of conduct is also obligatory: a model should never sleep on cam, allow pets or children to appear on cam or satisfy their corporal needs (urine, fecal) on camera.

Furthermore, although the model should work "in good faith and in the best interest" of the webmaster, the latter declares non-responsible for risks such as recording, piracy, unauthorized dissemination or publicity of the model's nude photos or shows. In addition, the model should keep confidential information, such as software, employees, customers, programming code or profitability, secret for a period of 10 years after the termination of her broadcast and is taxed in line with her country's system. Any controversy arising from the agreement between the model and, for instance, an American webmaster, shall be settled exclusively and finally by binding arbitration in the webmaster's State (e.g. Chicago, Illinois, California US) before one arbitrator selected by the American Arbitration Association in accordance with the commercial rules then existing.

Moreover, the porn industry has imposed a desire for "young flesh and blood", the "Lolita ecoomy", consisting on the exploitation of girls that just have become eighteen. This idea not only provokes the sexual instincts of the customers, but also creates a delinquent ideation on those girls about the utility of their beauty. As a result, many of them have already applied as cam-girls using their elder sister's or cousin's identification card, thus shaping a strange commercial child-pornography category.

Trafficking also feeds the webcam-sex industry. The Russian mafia tends to captivate the models in hotel rooms after providing them with drugs, promising them a better future in the civilized Europe and forcing them to work online and offline to pay for the issuing of their passport and ticket, although they never manage to travel. But even if they ever travel, this will come as a part of more

trafficking.[23] For instance, according to a case of human smuggling and trafficking which was uncovered in Hawaii, USA, in 2000, Japanese women were trafficked into Hawaii (Honolulu) to make pornographic films and perform live on the Internet for audiences in Japan. As the Japanese law on pornography is quite restrictive, the traffickers used a server located in California to transmit there the live shows made in Hawaii and recorded by digital cameras, while the Japanese men, located in Japan, accessed the performance through the Californian server.[24]

III. Final remarks

In a nutshell, it becomes palpable that, because the appearance of the performer, her chat conversation, her nude images and her recorded shows are all translated into money and their management belongs exclusively to the webmasters, the economic size of the webcam-sex industry is enormous. Among 70.000 online-sex sites, millions of dollars are flowing everyday as a result of the mere buying and selling of virtual pleasure.

From the one side, the viewers find it easier to look for sexual fulfillment by clicking their button and buying time-credits than entering an actual relationship. On the other side, the models choose to be publicly exposed with the risk of having their sensitive data distributed worldwide instead of a low reward in comparison to the damage suffered. In the middle, the webmasters take advantage of both the above, investing on the firsts' social deficiencies or sexual delinquencies and the seconds' desperate call for money or a better life.

The risks taken for both parties are remarkable and the effects on their social, economic and personal life detrimental. However, as paid online-sex is another expression of virtual socialization which has marched into our daily life and has shaped our Net culture, living in "the world of the lonely orgasm" seems unavoidable. At least, we need to minimize the harassment made and the pain caused by behaving ourselves in any aspect of our social and private life. Following a human rights code of conduct and keeping an open eye on the possible crimes committed, we shall strike a fair balance between chasing pleasure or money and abusing ourselves or others.

23. http://camgirlnotes.15.forumer.com/index.php?showtopic=499, last access June 10, 2013 and http://uk.reuters.com/article/2008/07/02/uk-britain-trafficking-idUKCOO24 8236200 80702, last access June 10, 2013.

24. Ibid (5).

6. Libraries and open access

The contribution of libraries in bridging of digital divide and ensuring equal and free access to information

Maria Doukata & Dimitris Politis

Introduction

Today we experience the era of information revolution as a result of the rapid development of new applications of technology and communications, spanning almost the entire business and everyday life. In the information society and knowledge, the core of gravity shifted from the production of material goods in the production, reproduction and transmission of information. The information revolution is causing profound changes in thinking about societies and in organizing and structuring.

The main danger lies in creating a two tier society, made up of the haves and the haves not, where only a portion of the population has access to new technology, and uses readily benefit fully from its effects. There is a risk individuals will reject the new age of information and tools provided. The distance (gap) between those people who have effective access to digital and information technologies and those without access to these technologies is called digital divide. and involves various forms of unequal distribution of technological resources, economic surplus, social opportunities, cultural products, infrastructure development, access and use of ICT.

This creation of the digital divide separates the community into information rich and information poor Libraries, because of their mission and organization at the international level, are considered suitable institutions that guarantee the right of universal access to citizens. The goal of access to information is an essential duty of every library, located at the top of the aims of the existence and operation of a library. Libraries have the potential to be the main providers to ensure equal and open access to information of their users through the application of Information and Communication Technologies. In this context shall implement information literacy programs through specific services such as Library 2.0.

1. Information Revolution

In general, we can define as information any given environment perceived, consciously or not, actively or passively, with the help of various sensory and cognitive processing covered by the individual. The data or information, depending on the content and method of recruitment will then be reclaimed, in the cognitive process. Thus, knowledge and foremost, information consists a prerequisite and the key to solving problems (Bokos 2001).

As a term information both in Greek and other languages has been used with multiple meanings. The definitions which are given by the three most prestigious Greek dictionaries are the following:

- "item, message which contains and transmits knowledge to someone or something" (Institute of Modern Greek Studies 1998)
- "every element of knowledge or judgment that is transmitted by means of speech, sound or image, as well as with the total of symbols that are understandable to people in order to inform them about any fact or matter" (Kriaras 1995)
- "Each item with interest for someone, something that somebody would particularly like to know. Anything unusual, non-banal or expected told. 2. Each item that is transmitted from a source to a receiver, every informative element. 3. The content of the signals transmitted through various media and information" (Babiniotis 1998).

1.1 Types of information

Through the multiple meanings with which the term information is used in science and everyday practice, the interest is focused on the category of information that a man takes from his environment, processes mentally and uses appropriately .

Information can be classified in different ways and on basis of different criteria. Such a basic classification can be based on how information is engaged or, more accurately, on basis the sensor with which information is assumed (Bokos 2001).

- Vision → visual information
- Hearing → audio information
- Touch → tactile information
- Smell → olfaction information

1.2 Necessity of information

The necessity and importance of information becomes more readily apparent in science and technology. Today's life is dominated and dependent on the activities and applications of science and technology. A rapid and accurate information enables the development and supremacy of a social group or society over another.

The importance and necessity of information could be put forward in conclusion and summary with the statement that information is necessary:

- ✓ To address the practical problems
- ✓ For the practical application of scientific and technological breakthroughs
- ✓ For further advancement of science and technology
- ✓ For education at any level or its form (Bokos 2001).

1.3 Century of information

The century of information is a technological standard and is related with technology and not with the social organization and statute. The century of information provides the basis for a certain type of society, the network society. Without the century of information the online community cannot exist, although this new social structure is not produced by the century of information, but from a broad framework of social development. The characteristic of the century of information is not the central role of knowledge and information in the production of wealth, power and ideas. Knowledge and information had a central role in many, if not all, historically known societies. In many cases there were different forms of knowledge, but knowledge, including scientific knowledge, always presents a historical relevance. Over the past two centuries there has been closer interaction between science, technology, wealth, power and communication in comparison to the past. Throughout history, knowledge and information as well as their technological background had close relationship with the political - military dominance, economic prosperity and cultural hegemony. So in a sense, all economies are based on knowledge and all societies are, in fact, societies of information (Castells 2005).

1.4 Internet: a unique media of communication

The Internet consists of a set of different technologies and infrastructure. These elements form a non-physical location where people can communicate. It offers individuals, educational institutions, businesses and non-governmental organizations an opportunity to exchange ideas and promote scientific, cultural and economic progress. No other technology can cross national boundaries and eliminate

barriers to free flow of information to the extent that Internet achieves (Declarations of the Global Internet Liberty Campaign, undated). It connects many different forms of information and provides interaction among users and services that until now did not exist.

The Internet could serve as a strong democratic tool. But is this something which happens in reality? The disparities which were apparent in earlier forms of political expression are likely to be reproduced on the Internet. As the amount of available information and of the material which is presented on the Internet grows, the proportion of attention that is expected to attract each site will decline and thus the value of the means will fall. Citizens' expectations that the Internet will promote the democratic process by increasing in this way the influence of ordinary citizens is more than optimistic. The greatest profit is that whichever failure of democracy will mitigate, to a certain point, due to Internet technology.

The Internet, being tackled as a whole, is (Stamoulia - Polyzou A. & Tsoli T. 2006):

- ✓ Global: provides direct access to information from around the world
- ✓ Decentralised: was designed to be decentralized and competitive in many access points
- ✓ Open: set low barriers to access and the service is affordable. Expenditure on creation and dissemination of information is extremely low.
- ✓ No end: digital form of information and the ability to be transmitted through the telephone network, are characteristics, typically combined with the decentralized nature of the Internet suggest that it has unlimited capacity to hold information.
- ✓ Interactive: is designed for two-way communication where all users are speakers and listeners, collectively and individually.
- ✓ Controlled by the user: the user moves without commitments by the disposer of the information. User controls the content that reaches the computer or decrypts communications in order to protect them. The material can almost always be published outside the control of governments.
- ✓ Independent Infrastructure: is not associated with any other structure except for the telephone system or even with it.

Apart from all these features which generally present the framework within which the Internet is developed and operates, the Internet presents two more elements of internationalism and populism. It connects people of different nations, strangers to each other but with similar characteristics. The use and exploration of the Internet ignores international boundaries. There are a number of contacts and partnerships controlled by the states in minimum. The popularity of the In-

ternet based on the fact that access to it has no restrictions other than the equipment and know-how, equipment costs fall continuously and expertise becomes more accessible. The new publishing environment integrates into a united space of information and evidence to the designer and the user. The creator interacts constantly with the informational pool that feeds him and with the readers who are now partners and co-authors (Gordon 2001).

The services which are offered by the Internet can be divided into two categories, each with two subcategories:

- ✓ Communication between individuals and teams
- ✓ Information from personal information centers and sources (Sartzetakis N. 1998).

1.5 Information and Internet

"Information is not a new issue – it is as old as the hills and mountains. The value of information is growing as it becomes digital, and thus accessible to many and valuable" (Severson 1997).

The term information describes any form of data moving through the Internet. This format can be text or other audiovisual material. As information may be considered and data which are addressed in many as well as an email. On the Internet the various forms of information provided by the means in all the world's citizens regardless of their geographic location. There are four laws that describe the entropy of information. Entropy is called the trend information to grow, to spread and become increasingly complex.

Below these laws of the entropy of information:

- ✓ As information passes from one person to another, it multiplies, creating information products. That is, a growing, non-stop explosion of information is produced.
- ✓ The size of the structure of the diffusion of information is increasing. As the structure grows, the content is multiplied to fill the gaps.
- ✓ The more sophisticated, complex place, means and storage and search of information we have, the more ephemeral it is.
- ✓ Can we really manage such an amount of information? Even as the creation, do we have the requisite mental and emotional capacity to absorb, understand and use it? (Pearce 1997).

An important feature of the information on the Internet is its origin. It can be derived and presented by a commercial (news agencies), government (ministries, agencies), corporate (companies informative nodes), science (universities,

research organizations) node. And this distinction is not always possible for all kinds of information.

Digitized information becomes more flexible, easily retrievable and investigated in more ways. But the definition does not change, the essence remains the same. New features of information and the unprecedented media capabilities make us confront concerns which describe the modern societies of the Internet age. Internet is a vast storehouse of information. In the term "digital information", "information" is used in the most simplified sense. It does not mean anything more than providing a text and some images on a screen. Information given by this technique carries no real meaning and knowledge that makes it misleading. In everyday speech, "information" is a scientific regulatory term. This implies that for someone to gain information means that he learned something that did not previously know. But the "digital information" can store disinformation and truth. So in this way a text or a picture can be misleading and lead to false impressions. Internet, no doubt, is a source of knowledge and a wealth of information. This is true but only if we are able to set what we find under control like other sources. All the advantages of the Internet undoubtedly make it a very strong tool. With both sides though. Of deception and disinformation, but also of knowledge and learning (Gordon 2001).

2. Information Society

Technological advances give us the opportunity for treatment, storage, retrieval and transmission of information in any form - oral, written or visual- regardless of distance, time and volume (Doukata et al. 2006).

2.1 Concept and Content Information

Information Society is now one of the major priorities of states and governments of the developed world. Europe, while behind the United States in terms of technological developments, however, has made several important steps towards active participation in the new context shaped by increasing productivity, improving economic indicators, the efficiency of capital invested

In Europe the term "Information Society" is dominant while the United States prefer the term "highways" (Bangemann 1994, Kubicek & Dutton 1997). In both cases the great importance of information in our lives, utilizing the revolution which take place in communications and new technologies, eliminating time and distance, is emphasized.

The main feature of the new structures is their ability to produce and manage efficiently the huge volume of accessive information they have. The familiarity of new structures in relation to technological changes gives them a comparative ad-

vantage which is the constant search product. Access to relevant users facilitated by dynamic processing of huge amounts of information. One of the major issues directly related to the modernization of telecommunications and network infrastructure development.

We could search the information in the book, newspaper, radio or television. But now we can recover information either as text, sound, image, or all three together by the computer. Until now, the sources of information were stored in a geographical point of the planet. Which means that a person had to move towards them. This had as a result the high cost of travel and long time procedures. Information now travels through the network for people who are searching for them from a fixed geographical point.

The facilitating of wider populations to approach the information, while reducing recovery time and access costs, the actual annihilation of distance, the beneficial effects on the environment by drastically reducing paper consumption or any kind of movement, is a first recording some of the significant impacts which will occur. In recent years, the Information Society is one of the first issues on the political agenda in the European Union (European Commission 1994). This fact demonstrates clearly the importance and the relevance attributed to new applications and services they offer.

2.2 Current reality

The speed of introduction of technologies of Information and Communications (on ICT) through the use of new networks and services varies depending on countries, regions, industries and businesses. The most important aspect introduced by the Information Society is the fact that the production of goods and services is increasingly based on knowledge. The Information Society is the society of learning in the sense that knowledge, especially the development of cognitive skills can not be a piecemeal process of maturing, but must become a systematic and sustained effort.

The widespread availability of new tools and information services provide new opportunities for building a more just and balanced society and enhancing the integration of personality. The Information Society has the potential to improve the lives of citizens, the effectiveness of socioeconomic organization and support of cohesion. The information revolution is causing profound changes in thinking about societies and in organizing and structuring.

The possibility of creation and existence of a large number of citizens who will be on the sidelines of the Information Society should be avoided through the creation of lifelong learning, which will impart the necessary knowledge and skills

in order to continuously adapt to rapid changes. In the era of network user conducts seeks any kind of information on every topic the human mind can imagine.

If the network is the means, this information is the driving force, and everyone spent time and money to reach it first, gaining a competitive advantage. The dangers and risks must be converted into usable opportunities. To do this the infrastructure that will transform scattered information into knowledge must be created (Doukata et al. 2006).

In the information society, a global and multicenter society, the state is forced to diversify the way by which it acts and how it performs its duties. The development of information society is continuous and dynamic. The democratic development of the information society requires the participation of civil society. The task of government is to create structures and procedures to protect the rights and ensuring the communication participation and autonomy of individuals (Mitrou 2006).

"Science and technology should increase, not reduce individual freedom and choices . This means that they must try to alleviate the inequality, injustice and discrimination. What more, science and technology should not introduce new inequality, injustice, subjugation, coercion and discrimination" (European Group on Ethics and New Technologies, undated).

3. Digital divide

3.1 Definition of Digital Divide

The term of digital divide refers to the distance (the gap) between those people who have effective access to digital and information technologies and those without access to them. The digital divide concerns various forms of unequal distribution of technological resources, economic surplus, social opportunities, cultural products, the gap in infrastructure development, access and use of ICT (Mossberger et al. 2003).

At the OECD, the term digital divide refers to "the gap between individuals, families, businesses and geographic areas at different socioeconomic levels in terms of opportunities to have access to information and communication technologies (ICTs) and use of Internet for a wide range of activities. The digital divide reflects the differences between and among countries" (Gurstein 2003).

The term "digital divide" first appeared in the 1990's when the adjustment process and the penetration of the Internet population begun.

The invention of the Web (World Wide Web - WWW) and the mass membership of large segments of the population in cyberspace highlighted the inequalities in

access rights and use of new Information and Communication Technologies), and later many talk about forming a global society, divided the haves and the have-nots guaranteed access to information and in Information and Communication.

Such gaps include the rich in information people opposite the poor, those with the right skills over those with few or no skills, those who have Internet access at home compared to those who access from sources outside the home, for example, in the workplace in cybercafes, e.t.c. (Caslon undated).

The digital divide exists between those cities and those in rural areas. It is presented so among non-educated and among different economic classes, and generally among the more or less industrially developed nations (Gurstein 2003).

The digital revolution progresses, the digital divide is broken down into specific sections, such as gap in Internet use, or in use of non-broadband services (among users), differences in the way of adoption of ICTs observed between urban and rural areas or and in individual countries and continents.

In an attempt to describe the broad term, the digital divide may include both technological issues, the availability of access to digital technologies and the Internet, and social issues such as (Electronic Integration and Measurement, undated):

- ✓ Equal access of both sexes
- ✓ Access and use by elderly and disabled
- ✓ Access and use by minorities (ethnic and social)
- ✓ Use based in education
- ✓ The availability of applications and content-based language
- ✓ The use of professional groups like teachers, doctors e.t.c.

The reference to different levels of digital divide indicates the complexity of the problem and the need to show that the penetration of ICTs and in general the new economy is a new model of action at the political, social, economic and business environment (Kamaras 2004).

In summary, we can say that there are three broad categories of digital divide:

- ✓ The global gap between developed and developing worlds
- ✓ The gap between countries
- ✓ The intrasocial divide within a country

3.2 Indicators of the digital divide

The digital divide is measured by a series of indicators due to the complexity and the spherical relating thereto. For this need, in context, of collecting and processing statistical data to exam whether this concerns the collection and processing of the world or the intrasocial gap between countries.

3.2.1 Indicators Measuring the digital divide

Here are the indicators which are commonly used in general to measure the gap:

- ✓ Teledensity: number of telephone lines per square kilometer or per person. This can be used for fixed or mobile telephony. Used to measure general technological state as a precondition for the use of ICT
- ✓ Number of PCs: we can obtain the statistics calculated from sales figures. This number is used to measure the digital divide in access to ICT
- ✓ Number of sites (by country only): number of DNS (Domain Name Service) records. This number is used to measure the local increase in IT (information technology). Because there is no accurate way to find where a host is in the world, researchers use two main elements to guess: a) The area (domain) of the site in accordance with either the typical extension of any country (specific domain, for example, gr, fr, us) or considering the origin of the general area (generic domains such as edu,. com), b) The address of the owner of the site in international registries, and distribution of large groups of IP (Internet Protocol) address in each country
- ✓ Number of hosts (country only): a number of computers connected to internet with static addresses - This numbering loses the computers large organizations behind firewalls and protect individual users connected through ISPs (Internet Service Providers). Used to measure the 'access' to ICTs and the number of actual users of ICTs
- ✓ Number of Internet users is calculated through statistical sampling and composition of several smaller studies and country, or to guess the number of users than the number of ISP accounts, hosts of web, computers e.t.c. Used to measure how many people are actively using the new technologies
- ✓ Bandwidth (bandwidth): the amount of information that can travel from one place to another on the network per second. Technologies such as modem dialup, ISDN, DSL, cable modems, fiber optics offer increasing levels of bandwidth. Because the structure of Internet more bandwidth often means higher speeds and is used to measure "speed" and "quality access" to ICT

- ✓ Language of users is calculated by number of users and the languages used per country
- ✓ Language of sites is calculated by sampling sites with direct calculation. It is also used to measure the "language of the users' content relevancy and usefulness of ICT
- ✓ Size of the ICT sector: Determined by percentage of GDP (undefined national product) produced in the ICT sector, the number of jobs, the share of exports in ICT products

3.3 Types of digital divide

It is obvious that are many kinds of digital divides, at local, national or global level, where each has its own background, trends, developments, prospects and their own solutions-initiatives to bridge. In particular, we can distinguish the following classifications: (Research Institute for Development and Promotion of Digital Access).

- ✓ Global Digital Divide: under this term is meant the difference of Access to Information and Communication between developed and developing countries or societies, thus creating information “rich and poor areas”
- ✓ Social Digital Divide: social stratification, hierarchical structures and geographic distribution factors such as class, gender, age and region. Specifically, a new form of social exclusion is emerging and threatens to degrade people, groups and entire societies (with criteria of social segregation).
- ✓ Democratic Gap: differences between those who use technology and Internet to participate and be active in public life, and to those who do not use it. It is very difficult to be approached because it concerns the possible influence of the digital world in the distribution of power and influence in the political systems.
- ✓ Geographical Gap: this illustrates the potential for access to information, which is observed between the capitalist center and the regions (rural towns), and an information gap that is often created within the same city. But above all forms of discrimination are characterized by particular cultural features, those ways in which modern societies incorporate and adopt in their daily lives the benefits of new technologies. The different cultures characterize the technological revolution, explain the distinction between technology development and content value of their society.

3.3.1 Global digital divide

The main factors of the digital divide in developing countries, apart from the low level of economic activity that separates them from developed are the following:

- ✓ The abnormal or absent electrical supply is a common feature and an important obstacle to the use of ICTs, especially outside the major cities of a country
- ✓ The leaks of able people abroad and the low levels of literacy and education among the population have created a serious shortage of human skills and experience at all levels, from policy making to the end user
- ✓ There are many cases where political reasons increase the gap between developed and developing worlds.
- ✓ There are countries where people do not have Internet access because governments want to control the flow of information
- ✓ Low educational level, which severely affects the usage and learning of ICT. Just as there is illiteracy, there is electronic illiteracy as well
- ✓ An additional problem which is associated with the level of education is language. Internet is only available in some languages, while the largest source of information is in English (Jenser 2008).

3.3.2 Domestic divide

The dissemination of new information and communication technologies creates the need to ensure equal opportunities for all citizens in access to information and access to education and training in new technologies. Lack of this is a risk of creating new discrimination between those who have access and will be users of new technologies and those who do not have. This creates the so-called gap intrasocial (domestic digital divide) ie, the digital divide between social groups and individuals of a country, which breaks down into individual gaps between economically active and non-population, age, income, gender, urbanization, educational attainment, people with special needs groups which must be addressed with appropriate measures and policies.

It has been found that various forms of exclusion are created when the level of skills which are required to manage the tools of knowledge rises. By this way new forms of digital and functional illiteracy are raised which intensify the differences between those who have access and can use and manage information and those who can not.

3.3.3 Democratic divide

There is a class of citizens who consciously refuse to engage in the digital that the "digital divide"... not due to all cases, at economic failure or other external factors, but may be a matter of choice of the individual not everyone is connected to the Internet, or would not want to be (Mylonakis 2003).

3.3.4 Geographic Divide

Residents of rural areas have systematically less access to ICT compared to urban residents. This difference can exacerbate existing inequalities in education, income and food security among the citizens or rural and urban areas. But the Information and Communication Technology can be powerful tools to give voice to marginalized groups in rural areas, when are used properly (UNESCO 2004).

Governments, regional and international organizations, NGOs and other stakeholders should pay attention to:

- ✓ Rural Education plays a key role in developing countryside
- ✓ Rural primary education in developing countries should acquire universal significance (general education to pursue the necessary skill for all citizens)
- ✓ Institutions for rural-agricultural education should be more supported
- ✓ ICTs offer many opportunities for rural development

When used properly, ICT are powerful tools to give voice to marginalized groups in rural areas, including women, girls, youth, ethnic minorities, to increase access to formal, non formal, informal education, while improving the quality education and finally can help in rural development by transferring knowledge of rural and agricultural technology.

3.4 What benefits the bridging of the digital divide

The challenge of bridging the gap of information and knowledge cannot be underestimated. It is a matter of priority for many developing countries. However there are many other serious problems that continue to adversely affect a large part of the so-called developing world and which could equally be the focus of international attention, for example, fair working conditions, mortality, poverty, illiteracy and many other nations and between people.

The fact that the gap between ICT access in developed and developing countries are now on the agenda at international conferences and summit talks around the world does not necessarily reflect the importance of the gap itself in world affairs.

What it shows is a great convergence of interests and their ability to collectively set the policy agenda so that the digital divide be considered today as a serious and important social problem (Luyt 2004).

According to conducted studies that support the promotion of the digital divide as a policy issue benefits four major groups: the digital section (information capital),the governments of developing countries combined with some groups of citizens, the 'industry' development (development "industry"), and global civil society (civil society).

4. Libraries and ICT

Information and communication technology has facilitated networking, creation and accessing of remote electronic data base, putting at the disposal of libraries and library users a wide range of information services and product. Use of information technology and access to electronic information networks is slowly transforming libraries from book-centered to information-centered institutions.

A library is dependent on life and change. Without the human and organizational changes that occur, the library would neither function properly nor meet its purposes. Dr. S.R. Ranganathan, the father of library and information science, formulated the five famous laws of library and information science. The fifth law- "Library is a growing organism" is now being challenged by the tremendous progress of ICT and its speedy application in all fields, especially in the field of library and information science.

4.1 Concept and meaning

ICT incorporates a range of technologies used to support communication and information. ICT includes both networks and applications. Networks include fixed, wireless and satellite telecommunications, broadcasting networks. Well-known applications are the Internet, database management systems and multimedia tools. By implication, a holistic understanding of ICT necessarily includes consideration of telecommunications policies, information policies and human resource development policies.

Information and Communication Technology (ICT) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information (Blurton 1999).

The ICT sector is a heterogeneous collection of industry and service activities including information technology equipment and service, telecommunication equipments and services, media and broadcast, Internet service provision, librar-

ies, commercial information providers, network based information services and related professional specialized services (Shariful & Nazmul 2006).

ICTs are those technologies that enable the handling of information and facilitate different forms of communication. These include capturing technologies (e.g. camcorders), storage technologies (e.g. CD-ROMs), processing technologies (e.g. application software), communication technologies (e.g. Local Area Network) and display technologies (e.g. computer monitors).

So, we can define ICT as 'the use and application of computers, telecommunications and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information.

ICT is not a panacea for all the problems of developing countries. However, the digital divide has important implications for these countries as the uneven distribution of ICTs access may mean that segments or groups who have no or limited accessibility to these technologies may be denied of socioeconomic opportunities such as:

- ✓ Social equality. ICTs have the potential to dispel disadvantages that may be associated with cultural barriers. For example, ICTs may be used to improve gender equality in education. Through ICTs, girls may undertake their education through e-learning at home in a society where cultural barriers isolate girls. In addition, they may be empowered to utilize high-end technology in their economic participation in later years. (Daly, 2003, K. Chen, 2004).
- ✓ Social mobility which refers to the upward movement in status of individuals or groups based on wealth, occupation, education, or some other social variable in a society where one status is not dictated or decreed by birth of origin. Advancements in ICTs are capable of bestowing advantages in education, job-training, health-care as well as social networking and quality of life that they could make a difference between upward social mobility and a declining standard of living. In other words, ICTs could improve life for those who are within reach of these technologies.
- ✓ Economic equality. Bridging the digital divide has implications in terms of fostering economic equality, educational potential, and earning potential.
- ✓ e-democracy. ICTs can be a powerful tool for increasing transparency and facilitating information and communication processes among stakeholders. ICTs may lead to increased democratization by enabling citizens or constituents to participate in the decision making process of policymakers and government through the electronic channel. However, e-democracy has yet to reach its ideal level of actualization in the political participation process.

✓ Economic Growth and Innovation. Long-term economic growth has often been associated with technological progress (Fong 2009).

4.2 Components of ICT in Libraries

ICT came about as a result of the digital convergence of computer technologies, telecommunication technologies and other media communication technologies (Chisenga 2004).

The components of Information Technology (IT), which frequently used in library and information center are as follows:

✓ Computer Technology

✓ Communication Technology

✓ Reprographic, micrographic and printing technology (Patil, Kumbarand & Krishnananda 1994).

A brief account of these Information and Communication Technologies is discussed below:

✓ Computer technologies: The dramatic development in the information transmission process in every field of human endeavor has been made by the widespread use of computer technology that can further be divided into following categories:

➢ Workstations: These are expensive and powerful computers used mainly by engineers and scientists for sophisticated purposes. These include following:

✓ Mainframe computers

✓ Super computers

✓ Mini computers

✓ Personal Computers (PCs)

✓ Microchip technology

✓ Artificial Intelligence

➢ Software technology: Software consists of the step-by-step instructions that tell the computer what to do. Many software packages for various applications in the field of library and information services and management are commercially available. Some of the important library packages available are:

✓ Cds/isis(computerized documentation system/integrated set of information system)

- ✓ In magic
- ✓ Book
- ✓ Minisis
- ✓ Libsys
- ✓ CD-ROM technology
- ✓ Communication technologies: Communication or telecommunication technologies are used to transmit information in the form of signals between remote locations, using electrical or electromagnetic media as carriers of signals. Communication technologies comprise the following:

➢ Audio technology: The outmoded AM (Amplitude Modulated) radio receivers are being replaced by the modern FM (Frequency Modulated) receivers. The recent development is the production of Compact Discs (CDs). Audio technology can be used in libraries and information centres for a wide variety of purposes such as story telling to children, imparting education, knowledge, recreation, etc.

➢ Audio-visual technology: AV technologies are those by which things can be understood by listening as well as seeing. AV technologies include the following:

- ✓ Motion picture
- ✓ TV
- ✓ CATV
- ✓ Videodisc
- ✓ Videotext
- ✓ Teletext
- ✓ Telephone
- ✓ Cell phone or mobile phone
- ✓ Fax (facsimile transmission)
- ✓ E-mail
- ✓ Voice Mail
- ✓ Teleconference
- ✓ Satellite technology
- ✓ Internet

- Network technology: The important function of network is to interconnect computers and other communication devices so that data can be transferred from one location to another instantly. Generally computer network is of following two types:
  - ✓ WAN (Wide Area Network)
  - ✓ LAN (Local Area Network)

4.3 Why is ICT needed in libraries?

Various factors have contributed to bring about change from traditional to ICT based library operations. Basically ICT is needed in libraries for the following two main reasons:

- In terms of various problems faced by the traditional library systems: The manual performances of library functions were getting difficult because of the following main reasons:
  - ✓ The size of recorded information is ever growing whereas space available at the disposal of each library is limited. No library can "think" of getting additional space every year, although the collection will grow continuously
  - ✓ Due to knowledge explosion, the society is faced with multifaceted and multidimensional information to such an extent that not only its storage has created challenge, but the organization of this bulk of information has also become unwieldy

✓ Library operations, due to potential growth of information, could take many hours to perform manually

✓ Due to information explosion, all sorts of house keeping jobs and information works can be performed by manually with less effective and less accuracy

- In terms of various facilities provided by computers and related technologies: The advantages of using computers and other telecommunication media/devices in managing libraries are manifold. Some of the advantages are as follows:
  - ✓ Speed: A computer can carry out an instruction in less than a millionth of a second. Searching of information, compilation of bibliographies, preparation of current awareness bulletins, indexing and sorting can be processed by a computer in a few hours
  - ✓ Storage: Human brain can store pieces of information to some limitation whereas computers can store voluminous data

- ✓ Accuracy: Computers can perform functions very accurately
- ✓ Reliability: Computers and all related technologies have long life if maintained properly. The data gathered in it are reliable
- ✓ Repetitiveness: A computer can be used repetitively to process information
- ✓ Compactness: The present day computers are laptop/waptop/palmtop, which do not occupy more space

4.4 Functions and benefits of ICT based library system

Traditionally, computers in libraries have been used and in most cases are still being used to automate the following functions: (Chisenga 2004)

- ✓ Acquisition and budget
- ✓ Cataloguing and short loans
- ✓ Circulation
- ✓ Serial control (Periodicals)
- ✓ Provision of access to online catalogue.

Since the 1950s, use of ICT in libraries has basically gone through four stages, corresponding to the major reasons for automating: (Shariful & Nazmul 2006)

- ✓ Improving the efficiency of internal operations
- ✓ Improving access to local library resources
- ✓ Providing access to resources outside the library
- ✓ Interoperability of information systems.

ICT is used in various fields of library activities. Some of the areas where new technologies can perfectly be used are as follows:

- ✓ Acquisition: Acquisition/Accession list, Order file/report
- ✓ Serials management: Serials cheek-in/out and claiming, Union/holding list
- ✓ Cataloguing/classification: Catalogue card/label production, Retrospective conversion, On-line catalogue
- ✓ Circulation: Issuing, Inter library loan, Reservations, Over dues
- ✓ Audio-visual management: AV acquisition/cataloging
- ✓ Management: Accounting/budgeting, Word processing/mailing, Scheduling/planning, Statistics/report

✓ Information storage/retrieval: Database construction, Online database searching, Down loading/uploading, Indexing and abstracting

✓ Reference/Information services: Bibliographic listings, Library instructions, Public access/computer literacy.

4.5 ICT – Based user services

Use of ICT in libraries enhances users' satisfaction. It provides numerous benefits to library users. Some of the benefits are:

✓ provide speedy and easy access to information

✓ provides remote access to users

✓ provides round the clock access to users

✓ provides access to unlimited information from different sources

✓ provides information flexibility to be used by any individual according to their requirements

✓ provides increased flexibility

✓ facilitates the reformatting and combining of data from different sources.

Libraries are also providing various ICT-based services to their users, including the following (Shariful & Nazmul 2006):

➢ Web access to OPACs: Libraries are providing access to Web-based Online Public Access Catalogue (OPAC) interfaces. This is making it easier for OPAC users to learn and use these resources since they only have to learn how to use one universal access client, the Web browser.

➢ Electronic document delivery: Libraries are implementing ICT-based interlibrary lending system using electronic networks to deliver copies of journal articles and other documents in digital format [mainly in Portable Document Format (PDF)] to library users' desktops.

➢ Networked information resources: Libraries are providing their users with access to networked information resources, i.e. databases, electronic scholarly journals, encyclopedias, public government information, etc, provided by various publishers or suppliers.

➢ Information delivery to users: Library and information users are now getting access to electronic information resources from the computer desktops in the computer laboratories, Internet cafes, offices and even at home. This is resulting in librarians and other information specialists investigating and imple-

menting systems that can deliver customized information to users' desktop computer environment, irrespective of their geographical location.

- Online instructions: Libraries are also implementing online based bibliographic or library use programmes. These include online tutorials on searching online resources and virtual tours of library collections.
- Online readers advisory services: Libraries are implementing Web-based versions of readers' advisory services and reference services. These include services such as informing users via the Web about new acquisitions, providing reviews and recommendations, providing facilities for readers to interact with the reference staff (Virtual Reference Desks), etc.

4.6 Impact of ICT on Libraries and Librarians

The computer has brought in a new impact to the library and information usage. In libraries, information technology has assisted library professionals to provide value added quality information service and give more remote access to the internationally available information resources. Today's highly sophisticated information technology to facilitate the storage of huge amounts of data or information in a very compact space. Information technologies promise fast retrieval of stored information and revolutionize our concept of the functions of a traditional library and a modern information center. Recently technological developments have dramatically changed the mode of library operations and services.

Modern ICT is impacting on various aspects of libraries and the information profession. Advancements in ICT and the wide spread use of ICT is resulting in digital information sources and digital media replacing and becoming the dominant form of information storage and retrieval.

The term "library" no longer refers only to physical buildings located in a specific geographic location but also to electronic or digital or virtual libraries that can be accessed from anywhere. Library collections consist not only of physical information resources such as books, periodicals, videos, films and many more, stored in physical library buildings, but also include digital resources. Access to digital information resources is not restricted to specified hours and days of the week at one physical library building. The proliferation of digital information available over the Internet, intranets and extranets is resulting into libraries and information centers losing their former place as the focus of the information environment in many organizations. Libraries are becoming one of the many information systems available to information end-users (Chisenga 2004).

ICT also survives and makes true the rules of Library Science-"Every reader his/her books/information", "Save the time of the readers" and "Library is a grow-

ing organism". ICT with its tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, break down the distance barrier and shortened the time required and ensure the right information to the right reader at the right time. It also increases and solves the library's demand of collection development. It is really an excellent tool for the library and information centres.

4.7 New skills and knowledge required for Information Professionals

Information sources and services being provided by libraries to their users need to adapt to the electronic information environment being experienced by most information end-users. In addition to the traditional library and information management skills, librarians now need to possess additional skills and expertise, more so in the use of modern information and communication technologies, automated information service, electronic publishing, digital information management and knowledge management (Chisenga 2004). New informational professional should acquire technological systems thinking, commitment to continuous improvement of skills, techniques and strategies and sensitivity to network environment.

In modern ICT based library services, the information professionals handle various types of activities in relation to the use of computers and other new information technologies. Some of these are: handling and developing information storage and retrieval systems of specialized/local data and materials, managing different types of housekeeping operations, carrying out on-line searches for information users using modern equipment, exchanging local databases and sharing of resources through networking (Shariful & Nazmul 2006).

For the modern information services, technically qualified personnel will be required to provide access to databases and databanks and to work in the exploitation of the resources of libraries. In a studyless system, the information personnel, who are familiar with the resources available in machine-readable form and with vocabularies, query languages, indexing and search strategies will be needed to exploit these resources most effectively and efficiently.

4.8 ICT in Libraries: various challenges

The use of ICT in libraries has raised a number of challenges. These include:

✓ Changing role of libraries and librarians: More and more library users are using digital technologies and have access to global information resources via the Web. Unfortunately, the huge amount of information available on the Web is generally overwhelming information users. Further, a large number of Web users are still not able to use the Web efficiently.

- ✓ Funding for libraries: Due to severe budget cuts and high prices for books and journal subscriptions, libraries are faced with no options but to reduce expenditures on books and journal subscriptions. The introduction and use of ICTs in libraries has not made the situation any better. Money is required to maintain and upgrade the equipment and software, pay software license fees, pay for access to electronic journals and online databases, pay for Internet connections, etc
- ✓ Copyright management: Digitization and provision of access to digital collections accessed via electronic networks, especially the Internet, is presenting bigger challenges to librarians. Unlike print-based documents, digital-based information resources can be accessed from anywhere via electronic networks, copied several times, manipulated (i.e. edited, modified, repackaged, etc) or deleted. The ease at which digital information resources can be copied and manipulated may result in governments, under pressure from information producers, to put in place rigid copyright laws in which the rights of the right-holder are increased at the expense of users and this may affect the provision of access to digital information sources in libraries.
- ✓ Information access: Whereas libraries generally contain and provide access to selected information resources, this is not the case with information accessed on the Web. Distribution of pornographic materials and information produced for deliberate disinformation is very easy to do on the Web and this presents problems to many librarians on how to exclude access to such types of information, especially on Internet workstations located in libraries.
- ✓ Preservation of digital information resources: The print-based library and archives environment, as opposed to the digital information environment, has evolved over centuries.Preservation methods and formats for print-based documents have also been developed and tested. There are print-based documents that are over 2000 years old in the world today and can still be read. The digital information era is in its infancy and already some of the information is stored in formats or media that cannot be accessed or read.
- ✓ Legal deposit: In the print-based environment, producers of publications are required by law to deposit copies of their documents with the national library or national archives, or any agency designated to receive and preserve such publications. In the digital information environment, the situation in many countries is still not clear as to who is responsible for the long-term preservation of digital information resources (Shariful & Nazmul 2006).

5. Libraries and Digital Divide

Libraries, because of the mission and organization at an international level, are considered suitable institutions that guarantee the right of universal access to citizens.

The goal of access to information is an essential duty of every library, located at the top of the aims of the existence and operation of a library.

Libraries, regardless of category, are a group of organizations which are involved actively in shaping the Information Society due to the organization and especially of their mission. Libraries have been pioneers in the use of computers, information exchange, the use of telematics, creating an appropriate infrastructure to meet the challenges of the new era. Depending on their type contribute to the integration of citizens-users, the IS. This contribution has two axes a) Infrastructure issues, free use of computers, media, automated information systems b) access to information (Fragedakis 2003).

Libraries have the potential to be the main providers to ensure equal and open access to information of their users through the application of Information and Communication Technologies. In this context shall implement information literacy programs through specific services such as Library 2.0 and Open Access which is included in a new design for the broadest and full access to knowledge and information.

5.1 Free and equal access to information

"Everyone has the right to freedom of opinion and expression, which means the right not to suffer adverse consequences for the opinions and the right to seek, receive and impart information and ideas through any media and around the world (General Assembly, undated)

This is the nineteenth of the thirty articles of the Universal Declaration of Human Rights adopted by the General Assembly on December 10, 1948.

"Chapter II: Freedom (right to liberty and security, respect for private and family life, protection of personal data, right to marry and right to found a family, freedom of thought, conscience and religion, freedom of expression and information, freedom of assembly and association, freedom of the arts and sciences, right to education, professional freedom and right to work, freedom to establish business, property rights, asylum, protection in case of removal, deportation and refoulement)" (Charter of Fundamental Rights 2000).

Freedom of expression is "a fundamental element of the principles of genuine democracy, the rule of law and respect for human rights."Freedom of expression and information, according to the Declaration, "necessary for social, economic, cultural and political development of every person and is a condition for the harmonious progress of social and cultural groups, nations and the international community."

From the above it appears clear the importance of the freedom of expression and information in the proper development of society and human effort and the establishment and protection of these principles by all European countries.

There are several different levels at which the free flow of ideas can be impeded. At the societal level, legislative bodies of all kinds are expected to consider the legal and regulatory frameworks they put in place to support the free flow of information and ideas about the interests and concerns of citizens. At the institutional level, library and information services are expected to encourage the free flow of information and ideas within the scope of their roles and responsibilities. At the individual level, citizens are expected to make informed decisions in exercising their rights and responsibilities.

The Australian Library and Information Association believes that library and information services have particular responsibilities in supporting and sustaining the free flow of information and ideas including:

- ✓ Assertion of the equal and equitable rights of citizens to information regardless of age, race, gender, religion, disability, cultural identity, language, socioeconomic status, lifestyle choice, political allegiance or social viewpoint
- ✓ Adoption of an inclusive approach in developing and implementing policies regarding access to information and ideas that are relevant to the library and information service concerned, irrespective of the controversial nature of the information or ideas
- ✓ Ensurance of that their clients have access to information from a variety of sources and agencies to meet their needs and that a citizen's information needs are met independently of location and an ability to pay
- ✓ catering for interest in contemporary issues without promoting or suppressing particular beliefs and ideas
- ✓ protection of the confidential relationships that exist between the library and information service and its clients;
- ✓ resisting attempts by individuals or groups within their communities to restrict access to information and ideas while at the same time recognising

that powers of censorship are legally vested in state and federal governments;

✓ observation of laws and regulations governing access to information and ideas but working towards the amendment of those laws and regulations which inhibit library and information services in meeting the obligations and responsibilities outlined in this Statement.

5.2 Information Literacy

Information literacy first appears and introduced as a term in 1989 as the ability to recognize one's need for information, to identify, evaluate and use effectively the needed information (Bokos 2001).

In 2000 the Association of College and Research Libraries (ACRL) adopts the definition of the American Library Association and publishes the Information Literacy Competency Standards for Higher Education to promote and use in education. Under such an information literate person is able to:

✓ Identify the extent of necessary information

✓ Have access to needed information effectively and efficiently

✓ Evaluate information and its sources critically

✓ Incorporate selected information to the student's knowledge base

✓ Use information effectively to accomplish a specific purpose

✓ Understand the economic, legal and social issues surrounding the use of information

✓ Have access and use information ethically and legally

According to the Institute of Professionals of Information and Libraries (CILIP) is necessary to know when and why we need the information, where to find it and how to evaluate,to use it and to share in a proper and ethical manner.

For this to happen it is necessary to understand the following:

✓ Needs for information

✓ Available resources

✓ How to find Information

✓ Need for evaluation of results

✓ The process of evaluation results

✓ The ethics and responsibility to use

✓ The notification and dissemination of results

✓ The way of findings

Information literacy as a core of lifelong learning and as a fundamental human right in the digital world contributes decisively to the inclusion of all individuals and communities.

It is the key to the realization and expansion of the knowledge society so that everyone, without exception, citizens to develop a satisfactory way of the learning ability in their lifetime.

In the environment of information technology and communication as learning how to learn, adapt to change and understanding the wealth of information are skills to be acquired by all. Particularly important is emerged the role of libraries through the development and implementation of information literacy programs for users who are to serve effectively and efficiently exploit the abundance of information available.

5.2.1 Information Literacy: The role of the librarian

Information literacy is a basic skill which should be developed by all citizens. Librarians should be involved in the development of information literacy by helping users in proper use and application of information contributing thereby to reduce the gap between information poor and information rich.

Librarians need to learn to items such as learning theories, teaching techniques and methods of transferring knowledge to be gained through various forms of education not available today and that will give the opportunity for enhancement of the contribution of librarians in the educational process (Coropili et al., undated).

It is necessary to know informative needs of people who will train, which can be very different and very specific.

Librarians to be able to teach their users must:

✓ To find out what is information literacy and critical thinking skills that

✓ To understand the theories of learning and motivation

✓ To know and use various teaching techniques (Killcullen 1998).

Libraries serving as access points to important information is the best source of lifelong learning as they provide the knowledge necessary for effective use of resources available and the best defence against the control mechanisms of information.

The right of information to the right person at the right time is key to success for any organization. Libraries need to employ suitably qualified personnel with the necessary knowledge to identify, retrieve and utilize information in order to:

✓ Allow easy access to all forms of information

✓ Identify and offer the most interesting of these

✓ Organize information in an accessible and friendly to the user

✓ Lead to increased literacy levels in the organization

5.3 Web 2.0 Model

5.3.1 Definition of Web 2.0

The Web 2.0 is the advanced version of the original Web (Web 1.0), the new generation of Web, characterized by increased interaction between users and in which blogs have a leading role, RSS Feeds, the tags, the wikis and social bookmarking services (social bookmarking services), etc. The latter (bookmarking services) allow users to participate actively in the organization and the enrichment of new electronic services and have full control over their personal data (Andreou et al. 2008).

5.3.2 History of Web 2.0

The phrase Web 2.0 was said for the first time in 2004 during a conference between the companies O'Reilly Media and Media Live International where ideas for upgrading the web. The Dale Dougherty and O'Reilly VP, noted that the Internet was becoming very popular and important part of life growing percentage of people. We are constantly coming out new applications and sites that were recognized by the general public shortly. Furthermore, more companies began to focus their business activities online and to try to bring their customers to this channel.

Having all this data as looked at Web 2.0 as a second generation Internet-based services. They used this phrase as the title for a series of conferences titled Web 2.0 Summit. These conferences continued until today to clarify the term and to promote the idea to all interested parties.

5.3.3 Characteristics of Web 2.0

The Web 2.0 goes beyond the limited boundaries of a computer platform. The user can operate the Web so far as he was acting on his computer. Most experts talk about a new way of web design which is based on user interaction. It allows the user to change both the environment page and interfere with the content. The most principal features of Web 2.0 are:

✓ social networking

✓ Co-operation – collegiate

✓ The interaction

- ✓ (Participation)
- ✓ (Sharing)
- ✓ Usability)
- ✓ Consists of modules (Modularity)
- ✓ User control
- ✓ Communication and facilitate community building (communication-communities)
- ✓ Low cost
- ✓ Free access
- ✓ Decentralization

Typical applications of Web 2.0 is social media, the wiki and blog (blogs). Many of the commands of interaction that characterize the operation of Web 2.0 is already known from various websites and social media networks like facebook or youtube for example. Such expressions are searching, the tag, the quote links or authoring such works on many wiki where users can create articles and to renew or delete existing ones.

"The Web 1.0 has led people to information, the Web 2.0 information leads to people" (Miller 2005).

How does the Web 2.0 is changing the way people live, work and participate in the applications? How are experiencing the information in this post? What is the impact of the information needs of citizens and practical information search from within applications Web 2.0? How does the way in which libraries provide support and information literacy programs?

5.3.4 The Web 2.0 challenge to Information Literacy

In the Society of Information the question of how the Web 2.0 applications can affect us, is raised to change the content of information literacy and the understanding we have of it. The rapid growth of technology has made information literacy more or less important? Response to the above questions highlight the important role of educational background, the importance of information literacy in the environment of new Web 2.0 combined with the growing use of applications by the younger generations (Godwin 2007).

Therefore an update on the training of scientists to new information technology applications, and how teaching users to use the new tools of Web 2.0 is required.

5.4 What is Library 2.0?

Library 2.0 is "a model for library service that encourages constant and purposeful change, inviting users to participate in the creation of physical and virtual services they want, supported by on going evaluation of services. Also, trying to reach new users and better serve existing and enhanced through user-directed offerings. Each piece in itself is another step towards improved services. But only through the combination of the above we can reach Library 2.0" (Casey and Savastinuk 2006).

In the early stages of adapting to the Library 2.0 model the planning of the changes is made and the process is mapped out on a theoretical level. If goals are properly defined there is a bigger chance of reaching them. It is also an important part of justifying the manpower and resources needed for an adaption to the Library 2.0 model. The digital divide is one factor that decision makers may consider.

When the process of changing has begun there is a chance that patrons and staff take to it in different ways. The Library 2.0 model affects the values, resources and services libraries. The goal is to satisfy patrons by recreating the library in their image. It might however confuse or upset those opposed to change, whether positive and justified or not. As the library becomes more modern, some might ask for traditional service. As it becomes online some will be intimidated by the suddenly needed computers. As it reaches out to the needs of the local community some will feel left out of the new decisions. To keep the question of access in mind is important, both physical access, difference in degree in access between groups and the general degree of motivation to gain access to the library. Support in questions of ICT and an interest in how changes are seen are also important if the library should be accessible to both sides of the digital divide.

It has in any case become clear that libraries are important for creating a common and open environment for exploring the potential of electronic resources. This makes it possible to create a bridge over the digital divide or quietly point out the possibility to learn more about what is going on at the different sides of it. For libraries to do this for their local communities would be very exciting and important as knowledge of electronic resources is becoming increasingly important to be a part of society.

5.4.1 Library 2.0, the application of web 2.0 technologies in libraries

Library as an entity lacks spatiotemporal constraints but it is everywhere (Papazoglou 2010). The library becomes an area where action human web dominant role played by the provision of information literacy. That way users do not get "only" the information they need. But learn, especially how to develop self-sufficiency with their information skills in preparation for the Information Society (Tsiboglou 2004).

5.4.2 Features of Library 2.0

The Library 2.0 is the space where the growing technological applications of Web 2.0 and is governed by the following characteristics:

- ✓ The user is at the center (user - centered): This means that the user not only makes use of library services, but actively participate in creating content and services that are accessible through the Internet.
- ✓ Provides multimedia (multi - media experience): The collections and services of the library containing 2.0 using audiovisual media.
- ✓ Interactivity: The library's website incorporates user presentations. There are synchronous and asynchronous modes for users to communicate with each other and with librarians
- ✓ Innovation: This is probably the most important aspect of the characteristics that make up the concept of Library 2.0. In the modern social process with far-reaching social changes that libraries do not stay aloof but accepted them, but going one step further and gives users the ability to change (Maness 2006).

5.4.3 The librarian in the age of Web 2.0

The changes in the landscape of librarianship shape and define the new role of the librarian. The model of Web 2.0, digital reality, new technologies, developing new trends, competition, the modern mode of production of knowledge, information and services-and other-recombine and redefine the skills and abilities to be the scientist has the information.

The librarian in the 21st century, the era of information and Web 2.0 must:

- ✓ Learn and use the tools offered by Web 2.0
- ✓ Utilize and implement appropriate applications of Web 2.0 model at the library
- ✓ Combine well with skill to manage printed and electronic material

✓ Provide electronic and digital services

✓ Educate users in understanding and use of new technological innovations

✓ Accept the usefulness of non-print but audiovisual information (images, video)

✓ Encourage online communication with users to resolve queries

✓ Use the latest communication tools like MSN, gtalk and Skype

✓ Develop social networks

✓ Allow user intervention in content creation (wikis)

✓ Understand the power and the potential of the blogsphere and wikisphere.

5.5 Open Access

In recent years a new global trend has been developed in favor of free distribution of scientific research especially when financed by public funds. This potential power, finds many supporters and has been initiated by depositing any research output in digital repositories accessible via the Internet. Open access is free, immediate, durable and free from most fees and copyright restrictions, online access to digital scientific and scholarly content (Open Access, undated). Readers can use the available material for research, educational and other purposes. The primary purpose is to facilitate the exchange of scientific information. An example of the philosophy of open access is the MIT OpenCourseWare (http://ocw.mit.edu/ MIT OpenCourseWare, OCW), where the MIT view to promoting free access to knowledge, provides a full educational course materials at the University free.

The MIT OCW supports the goals of the university, namely the development of education, dissemination of knowledge and serve the global community. The MIT OCW is a large-scale electronic publishing program, which amounts to 1800 courses. The potential user has free access to a set of educational materials and even polymorphic. Technology has made such progress while it has become quite affordable, so there is now an urgent need for highly qualified to be created and maintained an online publication. The need for rapid dissemination of information is a serious business, open access can help improve the lives and work of potential community as a whole.

5.5.1 Users and benefits

The academic, research community (professors, researchers, students, teachers) may:

✓ Have direct and free access to full texts of scientific content

- ✓ Enhance the readability and impact of their work world acquiring more references (citations) from other members of scientific community
- ✓ Monitor (tracking) the course of their work through statistical tools that provide open access infrastructure
- ✓ Bring together in one central point of their work
- ✓ Manage and control their work online without any geographical limitation with the help of user-friendly web applications
- ✓ Be certain to maintain their scientific material to be consistent with international standards
- ✓ Have reduced costs through the free and free access to Journals
- ✓ Have more direct contact with members of the scientific community

In academic and research institutions and libraries, Open Access offers:

- ✓ Reduced costs of diffusion of the scientific content
- ✓ Scope for cooperation and concerted action
- ✓ The provision of more modern and high quality services
- ✓ Projection of the validity and value
- ✓ Opportunities for securing funding
- ✓ Potential exploitation of innovative ideas
- ✓ Control and maintenance of scientific content through one centralized system.

Business and profit organizations may:

- ✓ Develop innovative products and services
- ✓ Connect science with production
- ✓ Strengthen competitiveness at national and international level
- ✓ Cooperate and discuss with the scientific community

In society Open Access:

- ✓ Makes scientific results public good
- ✓ Promotes creativity and making the research results
- ✓ Supports a network of transnational collaborations and contacts
- ✓ Offers to modern developing countries and at no cost creating opportunities and access to scientific content

✓ Offers direct and free access to patents (patents), making innovative products for the benefit of society as the Office U.S. Patent (United States Patent and Trademark Office, PTO) grants patents which provides free access and search all patents issued in IPA.

5.6 Repositories

Repositories are digital databases on the Internet that provide free and unrestricted access to scientific and research material (full text and metadata). There are two types of repositories:

✓ Thematic repositories (eg arXiv covering the discipline of physics)

✓ Institutional repositories, which are usually implemented and supported by an academic institution or research institution (eg repository eSholarship Repository of the University of California).

Electronic Repositories of Open Access have their roots in some initiatives which are related to the free disposal of files and content as the Open Archives Initiative and the "self-archiving initiative."

The repositories do not work as a means of publication of articles or material for which the author expects to be paid, nor is it a means of personal publishing (self publishing).

The services of the repositories are:

✓ Collection and storage of research material and scholarly

✓ Organization

✓ Long-term maintenance

✓ Distribution and Access

5.7 Open Source software

In the phrase "open source", the term refers to the source code, computer readable code, which is also the source of each program. The term refers to open access regulations that accompany such a code. Thus, "open source" software is software whose source code is freely available.

According to the definition provided by the official website of the open source, Open source software promotes the reliability and quality of software, supporting the independent review and rapid evolution of source code. To certify a product as open source, you must license the program to guarantee rights of free reading, re-distribution, modification and use.

The term open source software has several levels of interpretation. First, this software is created and maintained by developers across corporate and national boundaries, working using communication tools and development tools on the internet.

Secondly, the products produced in this way is a kind of free products. In most cases, each application is accompanied by a license that makes it clear that software is free to use, modify and re-distribution. Any redistribution must also be provided on the same terms set by the permission of the original system.

The fact that the code of these products may be freely distributed, leading to the creation of successful applications faster, with greater responsiveness to user needs, who can easily use and evaluate these applications. As for users, no distinction is made between persons or groups. The open source products are available to everyone.

5.7.1 Features of open source software

To qualify a product as open source system, there are five criteria - freedoms that must be met:

- ✓ The program should be freely available for use
- ✓ It should enable anyone to study how the system and adapt it to your needs.
- ✓ It should give the freedom to redistribute copies of any system to assist anyone who wishes.
- ✓ There must be freedom to improve the program and release improvements to the public so as to benefit all the (scientific) community.
- ✓ Finally, the system must be accompanied by a free software license in order to promote the redistribution.

5.7.2 Digital libraries and open source

The ease in finding ideas, code and software on the internet led the developers of programs to the conclusion that the creation of commercial software is actually not so efficient work. One important reason is probably that many of the stakeholders will want to enter the sales process, market and support software. Another reason is that the more people involved in the development of a system, the faster its upgrade.

But how can the open source software be useful in the development and operation of a digital library? The answer is that the characteristics and potential of the open source does not exist in commercial systems, while fully satisfying the

needs and functions of a digital library . The main reasons why open source digital libraries are preferred by most private plans are as follows:

- ✓ The open source systems have little or no financial cost: These programs are usually inexpensive, whether for use by one or thousands of users. It also significantly reduces the cost of construction, as the developers of the systems have access to software libraries that are needed at no cost.
- ✓ Supporting an open source system can be done from within: Support for open source products do not belong exclusively to a single organization. Anyone knowledgeable individuals can work to develop such a system. Having this flexibility, any library staff able to understand the source code can be found that is able to use their own people in order to adapt the system to its environment, as members know far better than any other organization and needs.
- ✓ An open source digital library can serve the needs of different user groups: Open source systems, the responsibility for meeting user needs can be shared throughout the community libraries. A commercial system, for example, can both support and non-X Window X Window user interface. The developers an open source program, but can cooperate with other development teams in order to create alternative interfaces. These environments are then free online in order to integrate other systems and open software. In this way, programs developed much faster and more efficiently than ever.

Nowadays software products are distributed freely on the Internet. This allows global cooperation between members of the scientific community, resulting in faster development of increasingly efficient systems. Based on the above, one realizes that open source software can perform a key role in developing a digital library system, as well as systems based on open software and digital libraries are aiming to better serve their users.

The libraries are to perform a social mission: to provide adequate training to users which will allow them to be citizens of a strong, capable, independent, cooperative and free society. We encourage the use of free software in the same way that we encourage research and learning. The aim is to create responsible, critically thinking active citizens.

Conclusion

This paper presents the important role that libraries play in addressing the digital divide caused by lack of access to digital and information technologies. Libraries are organizations that utilize information and communication technologies,

promote the interest in knowledge and new skills and provide effective access and use of new technologies. By this way technologies can meet the needs of citizens, ensuring them an easier life and contributing decisively to the creation of an open society with more opportunities for citizens.

Today we experience the era of information revolution. Libraries in the frame of new design which materialize for wider and full access to knowledge develop information programs and services (information literacy, library 2.0, repositories) aiming to bridge the digital divide reclaiming the advantages of new technology for the benefit of their users. Free, immediate, continuous and free of charges and from the most restrictive copyright online access to digital, academic and scientific content which is obtained from the open access and use of open source software bridges effectively towards digital inclusion.

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Open educational resources and freedom of teaching in college education in Greece: rivals or fellows?

Elisa Makridou, Iliana Araka & Nikos Koutras

At both the European (initiatives, programs, decisions, recommendations, directives and partnerships) and the international level there is an ever-increasing interest for the development and operation of open access repositories (Koutras, 2012). In our days, one can easily understand why information, both in theory and in practice, should always be provided in the best possible way to all end users as regards its size and quality.

As members of the Information Society, we constantly attempt to overcome - at the national and international level- all existing obstacles to information access. Information should be acquired more easily. Access should not be delayed by red tape and legal adversities. This is why a modern development strategy founded upon the three pillars of knowledge (education-research-innovation) needs to avoid mere statements and opt for a series of actions and initiatives that facilitate information access.

Historical Review

In 1994, Wayne Hodgins invented the term "*learning object*", which quickly started to surface in discussions among educators and educational bodies. One of the roles that this term served in relation to OERs was the "popularization" of the idea that digital information may be designed and promoted in such way that it may be easily reused in a vast number of educational models (Polsani, 2003). Focusing on this ability to reuse information, numerous efforts have been devoted to the creation of detailed models that facilitate metadata description, content exchange and the maximization of end-user satisfaction in relation to the identification and reuse of digital educational resources (e.g. ARIADNE, IMS, IEE LTSC, SCORM, etc.).

Four years later, David Wiley invented the term "open content". Having as a main goal to instigate the interest of the educational community (and especially educational tool designers), Wiley managed to integrate this term into everyday lan-

guage and discussions among internet users. Combined to the progress and history of OERs, this concept managed to diffuse the notion of open source/open code software. It was also used for content creation and was a main structural element for the creation of the first Open Publication License (OPL).

In 2001, a new operational framework regarding the issue of intellectual property and information diffusion started to emerge. With the support of the *Center for the Public Domain* and under the leadership of an administration board comprising technocrats, education experts, legal experts and investors, the Creative Commons licences were created, managing to add more credibility to the information provided while protecting intellectual rights. In the same year, MIT with its *OpenCourseWare* (OCW) initiative aimed for the publication of as many university courses as possible in a digital, open and non-commercial form. This particular initiative had great potential and managed to create a characteristic example of commitment at the institutional level (University of MIT) in the history of OERs, triggering the creation of similar projects for free information diffusion.

Definitions

In a 2002 UNESCO forum, a group of experts coming mainly from developing countries was asked to evaluate the potential impact that a new action (already mentioned above), the OpenCouseWare initiative by MIT, would have on higher education institutions. Having invented the term "educational repositories" during this Forum, the experts provided the following definition: Repositories that provide free access to educational resources activated by Information and Communication Technologies (ICTs) for information exchange, use and adaptation by a community of users for non-commercial reasons (UNESCO, 2002).

The definition provided in the online encyclopedia Wikipedia (2012) is also very interesting: they are digital materials freely available and accessed by educators, students, pupils and end-users, used and reused in teaching, learning, and research.

As initiatives regarding OERs are constantly increasing, other attempts to define and describe their role and content have been undertaken. Definitions are no longer limited to mere descriptions of the elements/materials included in the necessary OER support tools, but opt for a more reflective approach.

The William and Flora Hewlett institute, which is a pioneer agent and main funder of the OER initiative, provides the following definition: They are high-quality resources and free access online learning items which provide to every person at any time the ability to share, use and reuse knowledge (William and Flora Hewlett Foundation, 2008).

Atkins, Brown and Hammond provide the following definition: OERs are educational resources which reside in the public domain and have been published under a specific intellectual rights license which allows for their free use and reuse by others. They include course lectures, learning tools, models, textbooks, written tests, software, techniques and a series of other applications which are used to support information access (Atkins et al., 2007).

With regard to other definitions and discussions that have taken place on the matter, it is worth focusing on one more definition included in the OLCOS project report: OERs comprise the teaching content and tools that are based on a specific software and services, as well as licenses which allow for the development and reuse of content, tools and services (Guntram, 2007).

In their simplest form, OERs can be described as educational sources/resources (textbooks, course lectures, papers, educational seminars, multimedia applications and generally "tools" designed for and used in education and learning) which are freely available and used by students/pupils and teachers/educators with no need to pay any license fees.

In conclusion, any attempt to define this specific concept (OERs) should be based on three main premises. Repositories should provide:

1. Free content access (including metadata) for educational institutions, information services, end-users, educators and students,
2. Their content should have a license for use and reuse in educational activities and educational models without adaptation/re-adaptation restrictions, and
3. They should be able to be reused as a source code in educational systems/open-access software (e.g. Open Source software).

Reflections

The main general obstacles in relation to OERs are probably related to a series of legal issues as well as to the framework of Open Licensing that regulates these resources.

The upcoming open access content "system", which is not very popular in Greece, will be the "Achilles' heel" of potential partnerships among bodies, institutions and generally organizations that are already protecting the intellectual rights of their data via older legal frameworks.

As regards eventual partnerships between educational institutions/educational resources: Shouldn't there be a pre-existing kind of "contract/mutual agreement" on the intellectual property rights and obligations regarding the content and diffused information?

At the same time, there may be intellectual property rights on content owned by an educational institution. Consequently and in view of a potential cooperation: Shouldn't use and reuse rights on this specific content be redefined and reconsidered?

There are many considerations about open access seeking for answers. It is time we passed from theory to practice. That is why Greece's case is being studied here. Every country that participates in the open access movement, one way or another, presents certain differences (e.g. funding sources, educational tools etc.).

Open access and freedom of teaching are either rivals or fellows. Within this framework and in order to find out what is going on in Greece with the open access phenomena in education we conducted a survey trying to identify whether freedom of teaching is infringed by open educational material or not.

Methodology

An online survey is being conducted aiming at monitoring the current situation as far as the Open Educational Resource usage and freedom of teaching in college education in Greece are concerned.

The survey objective is to identify whether academia in Greece creates OERs or not, in which way OERs are being used by academics of all disciplines and how they are related to freedom of teaching.

In order to reach the goals of this attempt, information has been collected through an online questionnaire since March 2012. The questionnaire was based on one used by OECD in 2007 (OECD, 2007) for a survey about OERs in higher education – that stems from the challenges that education faces within the globalization framework – among the participant countries of OECD. Before the actual survey took place, a pilot study was conducted in order for questionnaire weaknesses to be identified and ameliorated. In this pilot study, Dr. Aphrodite Malliari and Dr. Maria Bottis provided us with constructive feedback. Some necessary changes were applied to the questionnaire until March 2012, date of questionnaire release. The survey is still in progress and here are presented the preliminary results only.

The questionnaire consists of 13 questions, all closed but one, that is open-ended. The questionnaire is addressed to all academics of all public universities in Greece. The sample analyzed here, in the preliminary results, is random and it was collected on May 14th 2012. At the time, there were 154 completed ques-

tionnaires and 189 partial answered. The sample was extracted randomly from the 154 completed questionnaires and gave 50 out of 154 questionnaires. The number of the completed questionnaires keeps growing as the survey is still running. The sample covers all scientific fields and academia levels of 11 public colleges all over Greece; according to official data provided by the competent ministry, the total number of public colleges in Greece is 38. In this first attempt it wouldn't be safe to generalize, not only because of the sample size but because of some controversial percentages that resulted from some questions so far, as it gets clear later on the preliminary result analysis.

This is a quantitative study. It concerns all Greece, all academia levels and all scientific disciplines. The collected data, as well as those that are to be collected, have been processed using SPSS 20 and have produced descriptive statistics. In this first phase of the analysis, the correlations among data, through variable cross tabulation, were done taking into account the qualitative factor of scientific field rather than the factor of the academia level, because it is safer as the participants present more smooth fluctuations within scientific field than academia level.

Preliminary results

Table 1 shows the faculty level. So far, there is no significant divergence among faculty level percentages, as shown in table 1, adjunct lecturer 30%, assistant professor 20%, associate professor 20%, lecturer 16%, professor 14%.

	Valid Percent
Lecturer	16,0
Assistant professor	20,0
Associate professor	20,0
Professor	14,0
Adjunct lecturer	30,0
Total	100,0

Table 1: Faculty level

Faculty becomes from all disciplines as is evident in table 2. Humanities and arts assemble the largest percentage (24%) and follow Natural sciences, mathematics and informatics (20%).

	Valid Percent
Humanities and Arts	24,0
Social and Economic sciences	10,0
Business administration and management	12,0
Natural sciences, mathematics and informatics	20,0
Mechanics and engineering	10,0
Earth science, agriculture and veterinary	6,0
Life sciences	8,0
Other	10,0
Total	100,0

Table 2: Scientific field

Later in the analysis of the results the scientific field is correlated with other factors producing more specific data.

After the information presented in the above mentioned tables, follows the main part of the questionnaire. The first question concerning the participation of the surveyed in OER initiative and/or program results in a negative answer giving the overwhelming percentage of 82% (table 3, chart 1).

	Valid Percent
Yes	18,0
No	82,0
Total	100,0

Table 3: Participation in OER initiative and/or program

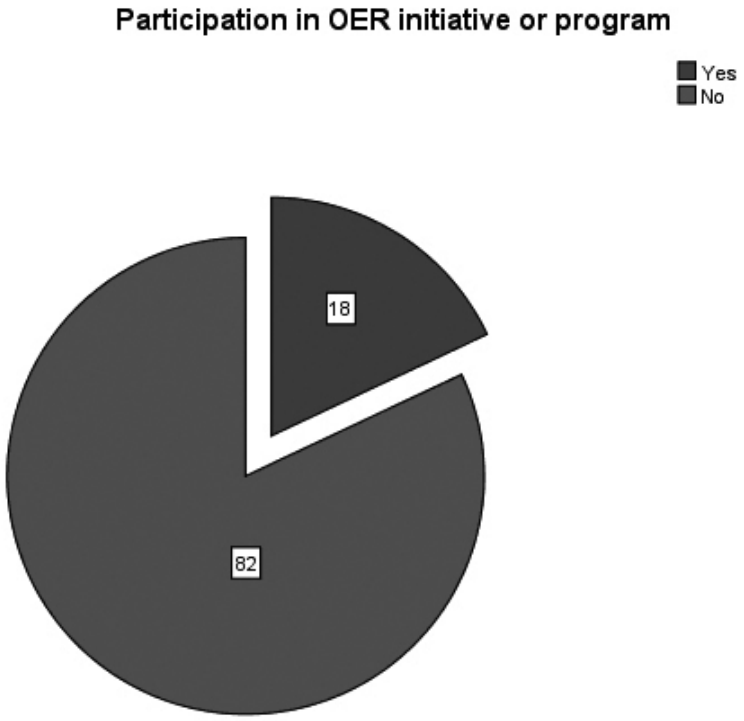

Chart 1: Participation in OER initiative or program

Whether the participants create or not OERs, half of them answered "yes, but to a limited extent". 28% answered "no, not at all" and 22% "yes, extensively" (table 4, chart 2).

	Valid Percent
No, not at all	28,0
Yes, to a limited extent	50,0
Yes, extensively	22,0
Total	100,0

Table 4: OER creation

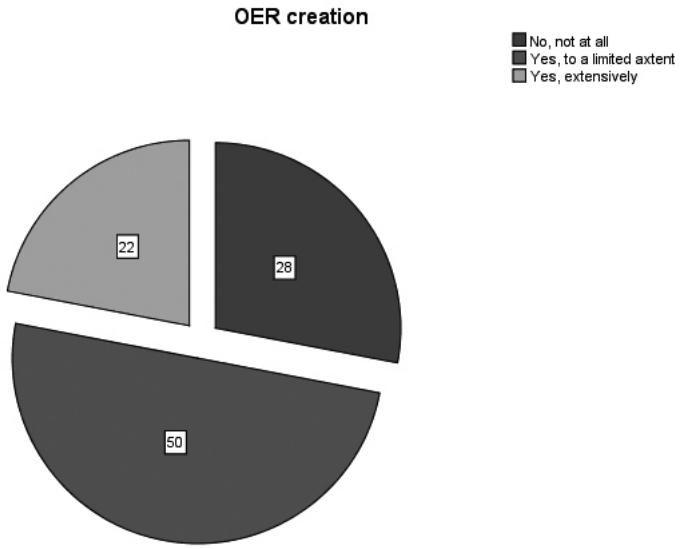

Chart 2: OER creation

Most of the disciplines consider that the main inhibitors that prevent professors from using OERs among others are the following, as shown in table 5:

- Lack of interest in new pedagogical methods
- Lack of administration support

The main inhibitor for the disciplines humanities and arts and social and economic sciences are lack of time and lack of equipment unlike the other disciplines. Natural sciences, mathematics and informatics are the only disciplines that stated that lack of time prevent professors from using OERs much. It is interesting that the same disciplines consider that lack of administration support prevents professors from using OERs little (30%), while at the same time consider in a percentage of 28,6% that prevents them from it a great deal. It is remarkable that health sciences chose as the only inhibitor the lack of administration support (table 5).

	Lack of information about OER creation and use	Lack of time	Lack of equipment	Lack of interest in new pedagogical methods	Lack of a model for open content initiatives	Lack of administration support
Humanities and Arts	✓	✓	✓			✓
Social and economic sciences		✓	✓			✓
Business administration and management	✓		✓	✓	✓	✓
Natural sciences, mathematics and informatics		✓		✓		?
Mechanics and engineering				✓		✓
Earth science, agriculture and veterinary	✓			✓		
Health sciences						✓
Other				✓	✓	

Table 5: Inhibitors that prevent professors from using OERs

Apart from the barriers presented above, this survey is interested in the benefits that result from OER use in classroom. Particularly, the next table (table 6) rates the importance of those benefits according to each scientific field.

	Gain access to best possible resources	**Promotion of scientific research and education as publicly open activities**	**Reducing cost for students**	**Reducing costs of course creation for the university**	**Outreach to disadvanta-ged Communi-ties**	**Becoming indepen-dent of publishers**	**Creating more flexible educa-tional Materials**
Humanities and Arts	Of little importance	Neutral	Neutral	Of little importance	Neutral	Neutral	Neutral
Social and economic sciences	**Very important**	**Very important**	Neutral	**Very important**	**Very important**	Neutral	Neutral
Business administration and management	**Important**	Neutral	Neutral	Neutral	**Very important**	Unimportant	**Very important**
Natural sciences, mathematics and informatics	**Important**	Of little importance	Unimportant	Neutral	Unimportant	Of little importance	Neutral
Mechanics and engineering	Very important	**Very important**	**Very important**	**Very important**	**Important / Very important**	Neutral	**Very important**
Earth science, agriculture and veterinary	Neutral	Neutral	**Important**	**Very important**	**Very important**	**Important**	**Important**
Health sciences	Unimportant	Of little importance	Of little importance	Unimportant	Of little importance	Unimportant	Neutral
Other	**Important**	**Important**	Of little importance	Neutral	Unimportant / Of little importance	**Very important**	**Very important**

Table 6: Importance of benefits that result from OER use in classroom

Humanities and arts are indifferent to almost all benefits and find of little importance access to best possible resources and the cost reduction of course creation for the university. Social and economic sciences find very important access to best possible resources, promotion of scientific research and education as publicly open activities, cost reduction of course creation for the university and outreach to disadvantaged communities. Business administration and management find the latter very important and the creation of more flexible educational materials; consider important the access to best possible resources and unimportant the independence of publishers. Natural sciences, mathematics and informatics find unimportant the cost reduction for students and the outreach to disadvantaged communities, consider of little importance the promotion of scientific research and education as publicly open activities and the independence of publishers; the only important benefit for this discipline is access to the best possible resources. Mechanics and engineering find very important all benefits but one, which is the independence of publishers. Earth science, agriculture and veterinary consider among others as important and very important benefits the following:

- cost reduction for students
- cost reduction of course creation for the university
- outreach to disadvantaged communities
- independence of publishers and
- the creation of more flexible educational materials.

Health sciences are presented indifferent to the creation of more flexible educational materials and consider all other benefits unimportant and of little importance. Other disciplines consider as very important the independence of publishers and the creation of more flexible educational materials. They also consider important access to the best possible resources and the promotion of scientific research and education as publicly open activities and last, they find of little importance the cost reduction for students and the outreach to disadvantaged communities.

To sum up, according to all disciplines, the very important benefit that results from OER use in classroom is the outreach to disadvantaged communities. Next important values are the cost reduction of course creation for the university and the creation of more flexible educational materials. The most unimportant benefit appears to be the outreach to disadvantaged communities. However, the same benefit resulted as a very important one too. There is a contradiction observed, but this benefit is considered more very important than unimportant because it

brought together higher percentages as a very important one. The other unimportant benefit resulted to be the independence of publishers. For more detailed information about the percentages of this table, please see annex, table (%) II.

After having analyzed the benefits and barriers of OER use, it is time to ascertain whether academics use OERs in their lectures or not. In this question 40,8% answered "yes, to a limited extent" and 30,6% "yes, extensively". Only the 28,6% doesn't use OERs in classroom at all (table 7).

	Valid Percent
No, not at all	28,6
Yes, to a limited extent	40,8
Yes, extensively	30,6
Total	100,0

Table 7: OER use in classroom

To analyze OER origin variable set with scientific field variable cross tabulation was implemented. The results of this analysis appear in table 8. In the sector of humanities and arts the OER used has been bought from some editor (50%) and has been created by colleagues of their institution (42,9%) among others. In social and economic sciences the OER used has been retrieved freely on the internet (4,8%). Among others, 28,6% of business administration and management academics state that the OER used has been created by colleagues of their institution. Academics from natural sciences, mathematics, informatics (10,7%), mechanics and engineering (14,3%) have created the OER used in classroom by themselves among others. The same percentage for mechanics and engineers stands for the OER used in classroom that has been retrieved freely on internet. Earth science, agriculture and veterinary academics said that the OER used comes among others from collaborations with other educational institutions. Academics from Health sciences answered that, among others, the OER used has been bought from some editor.

Next for the questionnaire was to identify the changes that the academia was willing to accept to its educational material.

		The OER used has been created by you	The OER used has been created by colleagues of your institution	The OER used has been retrieved freely on internet	The OER used comes from collaborations with other educational institutions	The OER used has been bought from some editor etc.
Humanities and Arts	within OER origin	21,4%	42,9%	14,3%	25,0%	50,0%
Social and economic sciences		3,6%	0,0%	4,8%	0,0%	0,0%
Business administration and management		10,7%	28,6%	9,5%	0,0%	0,0%
Natural sciences, mathematics and informatics		10,7%	0,0%	9,5%	0,0%	0,0%
Mechanics and engineering		14,3%	0,0%	14,3%	0,0%	0,0%
Earth science, agriculture and veterinary		10,7%	0,0%	9,5%	50,0%	0,0%
Health sciences		10,7%	14,3%	14,3%	25,0%	50,0%
Other		17,9%	14,3%	23,8%	0,0%	0,0%
Total	of Total	80,0%	20,0%	60,0%	11,4%	5,7%

Table 8: Scientific field and OER origin cross tabulation

According to question 10, whether the academy would grant to other colleagues its educational resource unaltered for educational purposes, 68% answered "yes, but only when my quality as main creator is kept" (table 9).

	Valid Percent
Yes, without restrictions	26,0
Yes, but only when my quality as main creator is kept	68,0
No	6,0
Total	100,0

Table 9: Grant unaltered ER to other colleagues for educational purposes

Academia willingness to grant their educational material is also clear in the next question, where the majority (46%) answered that would allow changes to their educational resource content and republish of a new version for educational purposes only when their name is acknowledged (table 10).

	Valid Percent
Yes, without restrictions	16,0
Yes, but only when my name is acknowledged	46,0
Yes, but only when my rights as the primal creator are protected by some license.	26,0
No	12,0
Total	100,0

Table 10: ER content change and republish of a new version for educational purposes

To examine whether use, sharing and reuse of OERs influence positively and/or negatively freedom of teaching the participants were asked to agree or disagree with the following statements (table 11).

Most of the disciplines agreed that they do not like all students to have access to their educational material but only those they choose so. Humanities and arts have the same percentage of agreement and disagreement on this statement (33,3% in each). Earth science, agriculture and veterinary and health sciences disagree. For the statement "I don't like all professors to have access to my educational material but only those I choose" natural sciences, mathematics and informatics have no opinion while humanities and arts, social and economic sciences and business and administration sciences express their agreement. On the other hand, mechanics and engineering, earth science, agriculture and veterinary and health sciences disagree. Social and economic sciences express no opinion concerning changes to their educational material content. Humanities and arts, business administration and management, natural sciences, mathematics and informatics and health sciences appear to agree on changes to their educational material content. Those who believe that nobody should apply changes to their educational material content belong to mechanics and engineering, earth science, agriculture and veterinary and other disciplines. The majority of the disciplines that gave an answer about the following statement agree that supplemental changes to their educational material by other colleagues of the same field would enhance its quality. Most of the disciplines believe that the disposal of their material for open use would not benefit a lot of students all over Greece. Disciplines that believe the opposite are social and economic sciences, mechanics and engineering and earth science, agriculture and veterinary; while natural sciences, mathematics and informatics keep a neutral attitude. Most of the scientific fields do not believe that whatever interference with their educational material by other colleagues would alter its initial content and purpose. Of those, business administration and management and health sciences believe also the opposite. Again, most of the disciplines but humanities and arts and natural sciences, mathematics and informatics believe that whatever change to the content of their educational material would not constitute plagiarism. Finally, most of the disciplines believe that use and reuse of educational material generally promotes new ideas and enhances scientific research. Humanities and arts and health sciences appear to disagree with that statement.

	I don't like all students to have access to my educational material but only those I choose	I don't like all professors to have access to my educational material but only those I choose	I don't want anybody to apply changes to the content of my educational material	I believe that supplemental changes to my educational material by other colleagues of the same field would enhance its quality	I believe that the disposal of my material for open use would benefit a lot of students all over Greece	I believe that whatever interference with my educational material by other colleagues would alter its initial content and purpose	I believe that whatever change to the content of my educational material would constitute plagiarism	I believe that use and reuse of educational material generally promotes new ideas and enhances scientific research
Humanities and Arts	Mostly disagree/ Strongly agree	Mostly agree	Strongly disagree	Strongly disagree	Strongly disagree	Strongly disagree	Strongly agree	Mostly disagree
Social and economic sciences	Strongly agree	Strongly agree		Mostly disagree	Mostly agree		Mostly disagree	
Business administra-tion and manage-ment	Mostly agree	Strongly agree	Mostly disagree		Mostly disagree	Mostly disagree/ Mostly agree	Mostly disagree	Mostly agree
Natural sciences, mathema-tics and informatics	Mostly agree		Strongly disagree / Mostly disagree			Strongly disagree	Mostly agree	
Mechanics and engineering	Strongly agree	Strongly disagree	Strongly agree	Mostly agree	Strongly agree	Strongly agree		Strongly agree
Earth science, agriculture and veterinary	Strongly disagree	Mostly disagree	Mostly agree	Mostly agree	Mostly agree	Mostly agree		Mostly agree
Health sciences	Mostly disagree	Mostly disagree	Mostly disagree	Strongly agree	Strongly disagree	Mostly disagree/ Strongly agree	Mostly disagree	Mostly disagree
Other	Mostly agree		Strongly agree	Strongly agree	Mostly disagree	Mostly disagree	Strongly disagree	Strongly agree

Table 11: Factors that influence the Freedom of Teaching (agreement/disagreement statements)

Conclusions

All levels of academia are informed about OERs and they use it, or at least, they express their opinion about their use, sharing and its interference or not to freedom of teaching. This small sample covers all disciplines. Although academics do not participate in any OER initiative, however, they use and they create by themselves, individually, OERs mainly to a limited extent (50%) as well as extensively (22%) as it is evident in table 4.

Obviously, health sciences are well informed as far as OERs are concerned, since the only obstacle they find is lack of administration support. On the other hand, business administration and management considers all factors appearing in table 5 as barriers, except from lack of time.

It is not surprising that humanities and arts present a neutral attitude to most benefits of table 6 because, actually, they consider "information about OER creation and use" as an inhibitor. Social and economic sciences identify most of the benefits of OER use, since one of their problems was quite personal, that is lack of time. Business administration and management recognize the need for strengthening the educational process, as well as the quality of scientific research and education as a whole through the use of OERs, since they ascertain deficiencies in equipment, pedagogical methods, in a model for open content initiatives and administration support. Natural sciences, having had experience in releasing open content traditionally (see e.g. arxiv.org), recognise the importance of gaining access to the best possible resources as a benefit resulting from the OER use in classroom. Very positive is the fact that mechanics and engineers as well as their colleagues from earth sciences, agriculture and veterinary see the importance of all benefits that stem from the OER use. Last but not least, health science academia find no benefit at all from the OER use in classroom, though they appear to have a different opinion later on the question 12, since they express, in general, a positive attitude towards open content and material sharing (see table 11).

Even more encouraging is the fact that, despite the benefits and mostly the barriers that exist, the majority of academic community in Greece uses OERs in classroom as it is shown in table 7.

Academics of all disciplines create their own OERs among others. Though this is not expressed by the majority of the percentages in each scientific field, however remains a stimulating factor as far as the OER popularity and use among academia of all disciplines. Finally, it seems that academia uses OERs that have been retrieved freely on internet, a lot, meaning that they trust OERs and probably consider important the low cost of such action (table 8).

As far as educational material sharing is concerned, it is found that academia is willing to grant its educational material to colleagues for educational purposes, if it is about material that has not been altered and where the attribution of the author as the main creator is observed. Furthermore, academia is willing to accept changes and republish of educational material mostly in the case when the name of the writer is acknowledged (46,0%) and less when the rights of the primal creator are protected by some license (26%) (table 9 and 10).

As for the freedom of teaching and its relation to the use, reuse and sharing of OERs, it is found that academics of the majority of the scientific fields like to have the control over who should access their educational material. However, they do not seem to face the same concern about changes, supplemental or not, to the content of their educational material, as they think of them as something positive that enhances its quality.

Precisely, academia of almost all disciplines does not believe that the use of OERs violates freedom of teaching, though they would like to control who uses their materials. On the contrary, it is important that they see that the use, sharing and reuse of educational material promote new ideas and enhance scientific research (table 11).

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ANNEX

	Highest values
	Values that are close to each other but state opposite opinions
	Medium values

Note I

	Lack of information about OER creation and use	Lack of time	Lack of equipment	Lack of interest in new pedagogical methods	Lack of a model for open content initiatives	Lack of administration support	
Humanities and Arts	0,0	42,9	12,5	36,4	33,3	50,0	Not at all
	33,3	16,7	33,3	44,4	14,3	10,0	Little
	16,7	15,4	16,7	0,0	42,9	21,4	Somewhat
	27,3	10,0	30,8	8,3	10,0	25,0	Much
	27,3	50,0	50,0	37,5	38,5	28,6	A Great Deal
	24,0	24,0	24,0	24,0	24,0	24,5	Total
Social and economic sciences	0,0	0,0	0,0	0,0	0,0	0,0	Not at all
	0,0	0,0	11,1	11,1	14,3	10,0	Little
	8,3	15,4	5,5	10,0	0,0	0,0	Somewhat
	0,0	20,0	15,4	16,7	10,0	25,0	Much
	18,2	12,5	50,0	12,5	15,4	14,3	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total
Business administration and management	0,0	14,3	12,5	18,2	0,0	0,0	Not at all
	0,0	8,3	0,0	0,0	0,0	10,0	Little
	0,0	23,1	11,1	0,0	0,0	7,1	Somewhat
	27,3	0,0	23,1	25,0	15,0	16,7	Much
	13,6	12,5	0,0	12,5	23,1	14,3	A Great Deal
	12,0	12,0	12,0	12,0	12,0	10,2	Total
Natural sciences, mathematics and informatics	0,0	28,6	37,5	27,3	33,3	0,0	Not at all
	66,7	8,3	11,1	11,1	28,6	30,0	Little
	25,0	0,0	16,7	30,0	14,3	21,4	Somewhat
	27,3	50,0	23,1	0,0	20,0	16,7	Much
	9,1	25,0	0,0	37,5	15,4	28,6	A Great Deal
	20,0	20,0	20,0	20,0	20,0	20,4	Total
Mechanics and engineering	50,0	0,0	12,5	9,1	33,3	0,0	Not at all
	0,0	16,7	22,2	0,0	0,0	10,0	Little
	16,7	15,4	11,1	30,0	28,6	21,4	Somewhat
	0,0	10,0	0,0	8,3	10,0	8,3	Much
	9,1	0,0	0,0	0,0	0,0	0,0	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total

Earth science, agriculture and veterinary	0,0	0,0	25,0	0,0	0,0	0,0	Not at all
	0,0	25,0	0,0	0,0	28,6	20,0	Little
	16,7	0,0	5,6	10,0	0,0	7,1	Somewhat
	9,1	0,0	0,0	16,7	5,0	0,0	Much
	0,0	0,0	0,0	0,0	0,0	0,0	A Great Deal
	6,0	6,0	6,0	6,0	6,0	6,1	Total
Health sciences	50,0	0,0	0,0	9,1	0,0	0,0	Not at all
	0,0	16,7	22,2	33,3	14,3	10,0	Little
	8,3	7,7	11,1	0,0	14,3	21,4	Somewhat
	9,1	10,0	0,0	0,0	5,0	0,0	Much
	4,5	0,0	0,0	0,0	7,7	0,0	A Great Deal
	8,0	8,0	8,0	8,0	8,0	8,2	Total
Other	0,0	14,3	0,0	0,0	0,0	50,0	Not at all
	0,0	8,3	0,0	0,0	0,0	0,0	Little
	8,3	23,1	22,2	20,0	0,0	0,0	Somewhat
	0,0	0,0	7,7	25,0	25,0	8,3	Much
	18,2	0,0	0,0	0,0	0,0	14,3	A Great Deal
	10,0	10,0	10,0	10,0	10,0	10,2	Total

Table I (%): Inhibitors that prevent professors from using OERs

Positive highest values
Negative highest values

Note II

	Gain access to best possible resources	Promotion of scientific research and education as publicly open activities	Reducing cost for students	Reducing costs of course creation for the university	Outreach to disadva-ntaged Communities	Becoming independent of publishers	Creating more flexible educational Materials	
Humanities and Arts	0,0	0,0	0,0	33,3	0,0	0,0	0,0	Unimportant
	100,0	0,0	0,0	100,0	33,3	33,3	0,0	Of little importance
	44,4	40,0	33,3	0,0	50,0	50,0	44,4	Neutral
	17,4	28,6	33,3	28,6	21,4	16,7	31,8	Important
	20,0	13,3	20,0	16,7	6,7	11,1	5,6	Very important
	24,5	24,5	25,0	24,5	24,5	24,5	24,5	Total
Social and economic sciences	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	0,0	10,0	16,7	0,0	8,3	14,3	0,0	Neutral
	8,7	4,4	5,6	10,7	7,1	8,3	13,6	Important
	20,0	20,0	15,0	16,7	20,0	11,1	11,1	Very important
	10,2	10,2	10,4	10,2	10,2	10,2	10,2	Total
Business administration and management	0,0	0,0	0,0	0,0	0,0	50,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	33,3	0,0	Of little importance
	11,1	30,0	33,3	20,0	8,3	14,3	0,0	Neutral
	17,4	4,8	11,1	14,3	14,3	8,3	9,1	Important
	6,7	13,3	10,0	8,3	20,0	5,6	22,2	Very important
	12,2	12,2	12,5	12,2	12,2	12,2	12,2	Total

Natural sciences, mathematics and informatics	0,0	0,0	100,0	33,3	50,0	0,0	0,0	Unimportant
	0,0	33,3	33,3	0,0	0,0	33,3	0,0	Of little importance
	11,1	0,0	0,0	40,0	16,7	14,3	44,4	Neutral
	21,7	28,6	22,2	14,3	28,6	8,3	9,1	Important
	20,0	13,3	15,0	16,7	13,3	27,8	16,7	Very important
	18,4	18,4	18,8	18,4	18,4	18,4	18,4	Total
Mechanics and engineering	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	11,1	0,0	0,0	20,0	16,7	0,0	0,0	Neutral
	0,0	9,5	5,6	3,6	7,1	16,7	9,1	Important
	26,7	20,0	15,0	25,0	13,3	16,7	16,7	Very important
	10,2	10,2	8,3	10,2	10,2	10,2	10,2	Total
Earth science, agriculture and veterinary	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Unimportant
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Of little importance
	11,1	10,0	0,0	0,0	0,0	0,0	0,0	Neutral
	8,7	9,5	16,7	7,1	7,1	25,0	13,6	Important
	0,0	0,0	0,0	8,3	13,3	0,0	0,0	Very important
	6,1	6,1	6,2	6,1	6,1	6,1	6,1	Total
Health sciences	100,0	0,0	0,0	33,3	0,0	50,0	0,0	Unimportant
	0,0	66,7	33,3	0,0	16,7	0,0	0,0	Of little importance
	0,0	0,0	16,7	0,0	0,0	0,0	11,1	Neutral
	8,7	0,0	5,6	7,1	7,1	16,7	9,1	Important
	6,7	13,3	5,0	8,3	13,3	5,5	5,6	Very important
	8,2	8,2	8,3	8,2	8,2	8,2	8,2	Total
Other	0,0	0,0	0,0	0,0	50,0	0,0	0,0	Unimportant
	0,0	0,0	33,3	0,0	50,0	0,0	0,0	Of little importance
	11,1	10,0	0,0	20,0	0,0	7,1	0,0	Neutral
	17,4	14,3	0,0	14,3	7,1	0,0	4,5	Important
	0,0	6,7	20,0	8,0	0,0	22,2	22,2	Very important
	10,2	10,2	10,4	10,2	10,2	10,2	10,2	Total

Tables II (%): Importance of benefits that result from OER use in classroom

	Positive highest values
	Negative highest values
	Medium values

Note III

	I don't like all students to have access to my educational material but only those I choose.	I don't like all professors to have access to my educational material but only those I choose.	I don't want anybody to apply changes to the content of my educational material	I believe that supplemental changes to my educational material by other colleagues of the same field would enhance its quality	I believe that the disposal of my material for open use would benefit a lot of students all over Greece	I believe that whatever interference with my educational material by other colleagues would alter its initial content and purpose	I believe that whatever change to the content of my educational material would constitute plagiarism	I believe that use and reuse of educational material generally promotes new ideas and enhances scientific research	
Humanities and Arts	21,9	22,7	66,7	100,0	50,0	62,5	20,0	0,0	Strongly disagree
	33,3	10,0	0,0	60,0	25,0	0,0	0,0	50,0	Mostly disagree
	25,0	33,3	9,1	12,5	30,8	11,1	14,3	20,0	Neutral
	20,0	50,0	22,2	16,7	13,0	25,0	42,9	27,3	Mostly agree
	33,3	16,7	29,2	0,0	37,5	37,5	50,0	8,3	Strongly Agree
	24,0	24,5	24,0	25,0	24,0	24,0	24,0	24,0	Total
Social and economic sciences	12,5	9,1	0,0	0,0	0,0	0,0	20,0	0,0	Strongly disagree
	0,0	10,0	0,0	20,0	0,0	0,0	22,2	0,0	Mostly disagree
	0,0	0,0	36,4	0,0	7,7	22,2	7,1	20,0	Neutral
	0,0	12,5	11,1	4,2	17,4	12,5	0,0	9,1	Mostly agree
	33,3	16,7	0,0	14,3	0,0	0,0	0,0	8,3	Strongly Agree
	10,0	10,2	10,0	6,2	10,0	10,0	10,0	10,0	Total
Business administration and management	9,4	9,1	0,0	0,0	0,0	0,0	10,0	0,0	Strongly disagree
	16,7	10,0	33,3	20,0	50,0	25,0	22,2	0,0	Mostly disagree
	0,0	0,0	9,1	25,0	7,7	5,6	14,3	10,0	Neutral
	40,0	0,0	22,2	12,5	13,0	25,0	14,3	18,2	Mostly agree
	0,0	33,3	8,3	0,0	0,0	12,5	0,0	8,3	Strongly Agree
	12,0	10,2	12,0	12,5	12,0	12,0	12,0	12,0	Total
Natural sciences, mathematics and informatics	15,6	22,7	33,3	0,0	0,0	37,5	20,0	0,0	Strongly disagree
	16,7	10,0	33,3	0,0	0,0	25,0	22,2	16,7	Mostly disagree
	75,0	33,3	27,3	50,0	30,8	16,7	21,4	40,0	Neutral
	20,0	25,0	11,1	20,8	21,7	25,0	28,6	18,2	Mostly agree
	0,0	16,7	16,7	14,3	12,5	0,0	10,0	8,3	Strongly Agree
	20,0	20,4	20,0	20,8	20,0	20,0	20,0	20,0	Total

Mechanics and engineering	12,5	18,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Strongly disagree
	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	Mostly disagree
	0,0	0,0	9,1	0,0	7,7	11,1	21,4	10,0		Neutral
	0,0	0,0	0,0	16,7	8,7	0,0	14,3	9,1		Mostly agree
	33,3	16,7	16,7	14,3	25,0	37,5	10,0	16,7		Strongly Agree
	10,0	10,2	10,0	10,4	10,0	10,0	10,0	10,0		Total
Earth science, agriculture and veterinary	9,4	0,0	0,0	0,0	0,0	0,0	0,0	0,0		Strongly disagree
	0,0	30,0	0,0	0,0	0,0	0,0	0,0	0,0		Mostly disagree
	0,0	0,0	0,0	0,0	7,7	11,1	14,3	0,0		Neutral
	0,0	0,0	22,2	12,5	8,7	12,5	0,0	9,1		Mostly agree
	0,0	0,0	4,2	0,0	0,0	0,0	10,0	8,3		Strongly Agree
	6,0	6,1	6,0	6,2	6,0	6,0	6,0	6,0		Total
Health sciences	9,4	4,5	0,0	0,0	50,0	0,0	0,0	0,0		Strongly disagree
	16,7	30,0	33,3	0,0	0,0	12,5	22,2	33,3		Mostly disagree
	0,0	0,0	0,0	12,5	7,7	11,1	0,0	0,0		Neutral
	0,0	0,0	11,1	8,3	0,0	0,0	0,0	0,0		Mostly agree
	0,0	0,0	8,3	14,3	25,0	12,5	20,0	16,7		Strongly Agree
	8,0	8,2	8,0	8,3	8,0	8,0	8,0	8,0		Total
Other	9,4	13,6	0,0	0,0	0,0	0,0	30,0	0,0		Strongly disagree
	16,7	0,0	0,0	0,0	25,0	37,5	11,1	0,0		Mostly disagree
	0,0	33,3	9,1	0,0	0,0	11,1	7,1	0,0		Neutral
	20,0	12,5	0,0	8,3	17,4	0,0	0,0	9,1		Mostly agree
	0,0	0,0	16,7	42,9	0,0	0,0	0,0	25,0		Strongly Agree
	10,0	10,2	10,0	10,4	10,0	10,0	10,0	10,0		Total

Tables III (%): Factors that influence the Freedom of Teaching (agreement/disagreement statements)

7. Varia

A retrieval system of Greek legal documents

Angeliki Plati & Theodore Kalamboukis

1. Introduction

Information of text and its accessibility play a crucial role in the legal domain. The amount of available legal documents and other legal material, however, is enormous and continuously growing, making it more and more difficult to efficiently deal with it. Authors often speak about information overload (Wahlgren, 1999) and the information crisis of law (Simitis, 1970). Thus, it is not surprising that the legal domain was one of the first fields where IR techniques were employed. Recently legal retrieval tracks have been introduced in the context of international conferences such as TREC (trec) and CLEF (clef).

The most important applications of IR techniques to the legal domain are

a) litigation support where IR techniques are used in searching large and heterogeneous data-sets. These data-sets may consist of e-mails, bills, reports and other legal material that might be important for a trial, and

b) computer-assisted legal research (CALR), where IR techniques are implemented in order to allow legal professionals to access legal sources via the computer.

There are some considerable retrieval systems of Greek legal documents that belong in the second category of the legal research. These retrieval systems are implemented in Greece and they are really useful to lawyers and professionals. Their applications specialize in law categorization (Civil Law, Criminal Law, Price Control Code etc). The user of these systems should know from the beginning in which "law-section" to look in before he starts his search.

The retrieval system of Greek legal documents, which is implemented within this project, belongs also in the second category of the legal research but it could be mainly used by common people that they are not lawyers, legal practitioners etc. The legal documents that the system retrieves are in the form of "Official Government Gazette of the Hellenic Republic" (O.G.G.).

2. State of the art

2.1 National

There are some noteworthy retrieval systems of Greek legal documents. These platforms have been developed in Greece and they are mostly the legal professionals' "right hand". These are "Nomos" (Nomos), "Legal Information Bank, Isokratis" of "Athens Bar Association" (Isokratis), "Digital Legal Library" (Digital Legal Library) e.tc. Access to the most of these systems is not free, on the contrary they are quite expensive. In addition, "Nomos" is subject to time charge and "Isokratis" is free only for lawyers. Despite of their charges, they are really helpful to those who use them because of their great utilization of law categorization. Their applications provide complete thematic indexes of the legal material.

The above platforms are completely updated. When the user is searching for a specific legislation, the system brings back its latest modification, but there are also links at the top of the result pages that lead to the initial legislation. The searching brings back articles of the laws and it should be started by selecting a topic from the thematic index. The user can also search for articles by selecting the year, the issue and the number of the O.G.G. he is interested in. In addition, the user can start his research by choosing the European Law field. The above platforms give also the ability of textual searching but in any case, the user should be able to start the searching process by following one or more of the aforementioned ways. Otherwise, the textual searching may not be sufficient and the results may be redundant and indiscriminate.

It is obvious that if someone wants to use the applications that these platforms provide, he should be aware of the legal matters and the legal material. These systems are mostly useful to lawyers who encounter statutes on a daily basis. Additionally, many times the user-lawyer may need to combine two or more of these legal systems to find what he exactly needs because sometimes there is a lack of Government Circulars in some of them (e.g. "Nomos"). Moreover, "Nomos" for example, which is mainly used by professionals, does not bring back results that contain internal links to the pages of the O.G.G. to which they belong. So, the user cannot navigate through an O.G.G.'s pages. This ability could be quite useful though. Furthermore, in "Nomos" textual searching may be complicated, occasionally. This happens because the user has to clarify to the system whether the words he is using in his research are related -or not- to each other, and this cannot be always clear. In addition, in "Nomos" once more, if the user desires to find not only the words written as such but also their derivatives or other words that include them, in the legal documents, then he has to write the

words that he looks for by replacing the last letter of them with "*". So, this procedure may not be that manageable.

We can easily understand that a user, who is not a legal professional or a lawyer, would use a simple and effective textual searching application much more effortlessly than by initially choosing, for example, the kind of legislation or the kind of the code in order to move to the right direction and use a complicated textual searching, the way the above systems require. Usually, it is quite difficult for a user, who is not a legal practitioner and who is not acquainted to the legal matters, to comprehend which "part" of the law what he looks for belongs in. Thus, a simpler mechanism could be more effective. Moreover, links inside the legal documents indicating previous and next pages of the O.G.G.s would be very useful to the common user. The above platforms provide links indicating only relative legislation. The common user is likely to prefer simpler, more accessible, google-like and undoubtedly free or at least less expensive applications.

3. Pilot application

This application is a search engine for Greek legal documents, accessible and easy to use (Plati, 2012). It is Google – like and it offers a simple and pleasant environment. The returned results of the search are pages of the respective O.G.G.s, in which probably the legal information, the user looks for, is found. Those pages have the same form like the ones in the original pdf document. This system provides the ability of searching legal documents by choosing – if required by the user – the number of the O.G.G. issue or/and the year of the publication and, surely, by performing textual searching with one or more key words.

The returned results of the search, which are in html form, satisfy the terms that are given, by choosing the issue and the year of the desirable O.G.G. and secondly they constitute the pages of the O.G.G.s that contain the most numerous occurrences of key words the user has written in the field of textual searching. The words written by the user do not need to be in a special form or contain special characters or symbols. The more often the term-occurrences are in one page, the "higher" this page is found in the list. Those words and their derivatives, as well as words including them, are highlighted inside the html pages of the results. Additionally, html pages contain links to the next or previous respective page (if there is any) in the O.G.G. where they belong, so that the user can easily navigate in it. There is, also, a link leading directly to the page of the total search results. Moreover, the page of the returned results provides a pager for navigating through the list of the results. There is, also, one more possibility, though. The user can, if desired, download the equivalent pdf document of the O.G.G. by

clicking on the link located next to the one of the individual O.G.G. page, on the list of the results.

This system is a first step to the creation of a full, ergonomic and effective tool for people with little knowledge on legal matters and who need to find exactly what they ask for, simply by typing it. If this easy-to-use information retrieval system improves and is accomplished, it could satisfy the needs of the professionals and be absolutely complete and trustworthy.

In order to make the system functioning, a database was created, in which the O.G.G. file paths (both in html form and pdf form) have been stored. Their identities, their name and some other necessary information for the navigation and data are stored as well. There has also been an edit on all the pdf files by special tools in order to convert them in html pages, after being firstly converted to txt files, so that some important and necessary information is collected. Open source tools like these, are pdftohtml (pdftohtml) and HtmlAsText (HtmlAsText) respectively. Tailored to our problem software was also developed, as for example, the removal of hyphenation at the end of lines. There had been though several problems during the conversion of the files into various forms. This occurred due to the unstructured and not rigorous form of the original files. The original forms contain many scanned pictures, signatures, different text formats, for instance tables etc. Some other times, a steady structure and formatting are not maintained in every document. This, as it can be easily understood, toughens up almost all the conversions and consequently, later on, the creation of the indexes from the txt files, that followed. After these quite difficult preprocessing procedures, the creation of the web application followed, as well as the implementation of the textual searching in through the pages of a document and the procedure of the development of the graphic environment. Precious functions of the Lucene (Lucene) search engine have been used for the tokenization and the creation of indexes, in which the search is done, as well as for the search of key words that the user is looking for in them. Before the indexing, stopwords removal was applied and stemming, a procedure to reduce words to their morphological roots, by stripping off suffixes, with the help of GreekStemmer (Kalamboukis, 1995), concerning that the Greek language has many peculiarities. All the above mentioned tools, functions and libraries were optimized through the use of the Java [Java] programming language.

The retrieval was based on the classical vector space model (Manning, 2008) and the TF*IDF (Term Frequency times Inverse Document Frequency) weighting scheme was used for terms in the documents. To face the problem with the size variability of legal documents, which varies from one to several tens of hundreds of pages, we have applied retrieval on portions (passages) of the original texts. In

this work we have define the size of a passage equal to a page. Passage retrieval (Rosso, 2011) apart of a kind of document normalization acts as a filter of non-relevant information because it reduces the original document collection to a set of passages in which the user information needs are satisfied. For a query, Q, and a document D, of k pages, $D=(P_1,P_2,\ldots,P_k)$, the score of relevance of the document is defined by:

A page not retrieved by the query Q, will have zero score. The default similarity measure of the Lucene search engine was used to calculate to score of a passage, based on the cosine measure.

Concerning the functionality of the system, the user initially can choose, if desired the year or/and the issue of the O.G.G. considered to be related to the information required. Then, the only thing that the user can do is to type the key words that he thinks that are related to the topic of the legislation required and click on the button "Find". The user could use the choices that are provided, individually. That is, he could if he would like to, to complete only the field of the year or/and only the field of the issue and get the results. Alternatively he could complete only the key words that he wants, or/and the year, or only the key words e.tc. The results that satisfy the user needs return in descending order of relevance with the keywords that the user has introduced. What appears on the screen is a list of the titles of the O.G.G.s that are links to the HTML pages with the highest score. Beneath the names there is a description, an indicating part of what is included in the respective page of the O.G.G. and a link for the respective pdf file of the O.G.G.. If the user clicks on any link of an html page, then the respective page of the O.G.G. appears on screen in exactly the same form as the pdf's form. Inside this page, the query words are highlighted. There are also on this page, as mentioned before, the links for navigation in previous and next page of the O.G.G. (if there is any) as well as the link to return to the initial page of the results. On the initial page of the results, the pager can be found, so that the user can go to the sequel of the results list.

4. Conclusions and future plan

The retrieval of legal documents is a recent development of Information Retrieval and Natural Language Processing for mining useful information from such documents. In this article we have presented a passage retrieval system of Greek documents in the Law domain. Emphasis was given to keep the interface as simple as possible for non-experienced users and on browsing the returned documents by the system, in such a way, that the user gets exactly the same look and feels as in the case of the printed version of the same documents. This was achieved by producing, in a fully automatic way, HTML documents with exactly

the same format as their printed counterparts. The access to a retrieved document is realized through a page, the one with the highest score. Currently a user may move forwards and backwards in a document via automatically assigned links.

Several extensions of this research are currently under investigation. These include the application of natural language processing for the semi-automatic assignment of links inside a document as well as between documents. Thus the user will have the ability to jump directly to a legislation he is interested and from there, using only his mouse, could visit other related legislation or legislation that affects or is affected by the document he is visiting. In concluding, information retrieval is an active and hot research area and best practices have yet to emerge.

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Information law: Transdisciplinarity of its study

Alicia Siller

In general, México has had a positive institutional environment that allows the effective development of our young Information Law (IL), through the commitment of different actors that reinforce it. Since 1994, a network of citizens and nongovernmental organizations (NGO's) composed by communication experts, academics and opinion leaders, promoted the development and creation of the Federal Law of Transparency and Access to Government Public Information in Mexico (Gómez Hermosillo & Herrera, 2008). In the international economic context prior to this law, we find that in 1999 the International Monetary Fund (IMF) published the Code of Good Practice and Transparency of Monetary and Financial Policies.

Among other international recommendations, in late 2000, the World Bank presented a development agenda for Mexico, with proposals for economic and social reforms, standards of public accountability of government and much higher citizen participation (Guigale, Lafourcade & Nguyen, 2001). In Mexico, information law emanates from the sixth article of the Constitution, it was established since 1977 and it is guaranteed by the state. In 2000, the political change takes place after 70 years of paternalistic government and opacity to promote the availability of access to information, however, as part of the democratic transition, in 2002 was approved the Federal Law of Transparency and Access to Public Information, which specified the guidelines for its exercise and created the Federal Institute for Access to Information (IFAI), the agency in charge of this right.

By the year 2007, the 32 states of the country and the Federation had their own information law, but with marked differences in content from one state to other and in consequence, with repercussions for the exercise of this right. As result of the sustained effort and commitment to protect information law and accountability in México, researchers from different academic institutions conducted a complete analysis of the system of transparency in the country; it is, of the infrastructure that guarantees this right (CIDE-COMAIP, 2010). The results indicate that main challenges for coming years are: a) To avoid differences in content of the laws, b) improve the quality of information and c) promote stronger diffusion campaigns.

However, today Mexico (Ackerman & Sandoval, 2007) is among the 12 of the 62 countries with information law that counts with independent commissions along the national territory. The regulations of access to information contain numerous guarantees as procedures and periodical publications of a large amount of information by the obligated agencies. The prices for prints are accessible and especially, all aspects to prevent human rights violation are constantly supervised.

With the above, we can see that there is a continuous development to protect the information law, however, citizens are the actors who motivate the creation of this fundamental right; they are also the subject of this study and the ones that lead to the following questions: Is information law effective for the citizens? How can be measure the impact of this law in citizenship?

In order to know some answers, a detailed statistical analysis was performed based on Telephone Survey conducted in Mexico City from July 2007 to November 2011 by the Institute of Access to Public Information and Personal Data Protection of Mexico City (Inodf, 2012). Databases obtained in those periods, were integrated, completing a total of 10.888 sample surveys, these, were directed to general public, regarding information law as well as the services provided by the agency.

According to *Transparency Metrics* (CIDE-COMAIP) study, in 2010 and 2011, Mexico City was recognized with the first place in transparency and access to public information, that is why, for this research are taken into account the actions applied by the Infodf. Also, evidence from the number of citizens requests to the agency compared with the budget spent in diffusion, make possible consider that the institution have generated confidence over the past six years, even when the investment budget have not been on the rise (Table 1), demonstrating the optimization of financial, technological and human resources.

Table 1. Media spending and number of applications received in the Infodf (2007-2012)

Year	Share of Spending on Social Communication in the total budget	Requests for Access to Public Information and Personal Data
2007	21.0 %	19,044
2008	14.8 %	41,164
2009	9.2 %	94,163
2010	8.9 %	89,377
2011	8.6 %	93,898
2012	7.2 %	35,994

The main objective of this analysis was to explore the knowledge and use that people have of information law as well as the knowledge of the institutions related to it and obtain some of the possible reasons of which depends that citizens make use or not of the information law in Mexico City.

The results indicate that: Nearly 10% of the sample requested information, but it's unclear whether it was to the Infodf or the Federal Institute for Access to Public Information (IFAI), there is confusion. In general, users have schooling higher levels, 54% are men and 46% women; primary reasons for consultation are related to research, public spending, public works, safety and education. The majority of users reported that they knew the institutions from radio or TV. The 90% of this sample, non-users, few know of the information law, institutions and its benefits, therefore massive diffusion is required with a clear and familiar language to the public.

It is possible to observe that the infrastructure around the protection and enforcement of the information law has been carefully followed, but there is still work to be done to carry this law to citizens and be able to recognize it as their right and what it means.

From the results, hermeneutic and methodological proposals were submitted for the Federal Information Law Agency and the Mexican Conference on Access to Public Information (COMAIP). The main objective is to study some of the dynamics of social aspects related to information law with a transdisciplinary perspective and the adaptation of Bronfenbrenner's Ecological Model (1994).

The model integrates different strata or systems related to each other that include some of the actors related to information law and their dynamics, in order to obtain a panoramic reference from the individual (microsystem), the immediate environment (mesosysem), society (exosystem) and, up to the one that includes ideology, laws, customs and culture (macrosystem) (Figure 1).

For this work, the strata or levels include some of the issues related to information law to improve:

Microsystem: Person, citizens = Lack of information law diffusion and citizens recognition

Mesosystem: Institutions Guaranteeing, government = Budgets optimization, diffusion and all states to count with the same regulations.

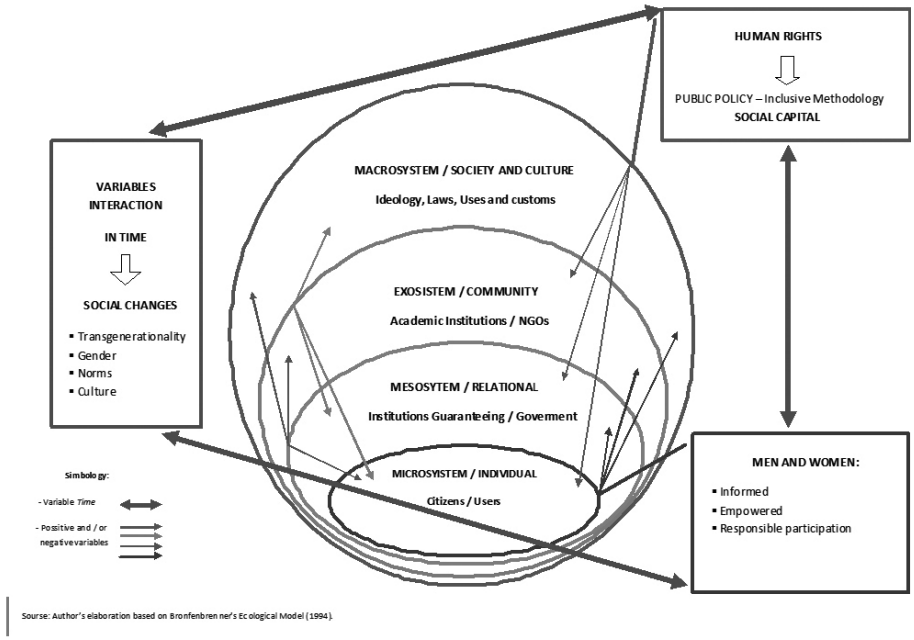
Exosytem: Academic institutions and NGOs = Needs detection, development of methodologies and indicators, study and promote the same regulations, projects tracking and costs.

Macrosystem: Ideology, Law, uses and customs = information law Culture, citizen participation and extension of regulations.

The arrows represent the positive or negative impact of the variables from one strata or level to another.

The arrow surrounding the ovals represents the *Time variable*, and includes the evolution of all variables through time, and can be related to monitoring the development or evolution of each of the projects, programs established by actors, the impact in each strata as well as social mattes.

Figure 1. Ecologyc-dynamic model: information law and citizens



The benefits of the ecological model basically are:

It can explain social phenomena in a dynamic and integral form by a quantitative and/or qualitative method depending on the objectives of the study and variables definition. This integral approach leads to better diagnosis and therefore, the formulation of better proposals. Also, promotes common language between disciplines and actors.

The Institute of Mathematics of the National University of Mexico (IIMAS) is also collaborating to adapt the Ecological Model to a mathematical structural

model, which apparently, can be very precise to evaluate costs and benefits of social programs.

To improve the correlation between information law and citizens it is also proposed the transdisciplinary approximation since into this law dynamic, there are involved diverse disciplines: Law, Sociology, Social Psychology, Statistics, but also institutions, NGO's, government, users and general citizens. These actors deal with different issues as diffusion strategies, regulations, coordination and follow of programs, projects, economical and in kind costs, needs detection and more.

Conceptually, transdisciplinarity is concerned as indicated by the prefix "trans", which is at once between disciplines, across different disciplines and beyond all discipline, promoting too, a common language for all. Its purpose is to understand the present world and one of the imperatives is the unity of knowledge. Transdisciplinarity involves a process of communication, interaction with other groups, which are not necessarily professional and/or specialists in the field. Engage more actively in this process between all interested ones: professionals, authorities and others (Rist, 2005).

In this context, for the transdisciplinary study of information law, a team of researchers from various disciplines and people form NGO's must represent each stratum of the ecological model, all in turn, would act as *mediators* between information law and citizens to make an exercise of *interpretation* by defining and analyzing indicators and variables included in the model.

The purpose is to obtain an holistic vision, which therefore, could produce better sustained proposals directed to provide a systematic monitoring of results and contributions of each actor, which together, can optimize efforts and resources towards active citizens' participation.

Transparency through accountability and information law, means revealing data as well as spread this law, in order that citizens appreciate it clearly, without fractions, as a whole and by all. The spread of information law transcends to other areas such as Human Rights; it builds confidence that even impacts on international matters and economics. The fact that individuals know the information law, encourages citizen participation and also important, it could be printed on the social representations, as an intervener in civic pride.

Citizen recognition, giving social reward and empowerment with information, promotes corresponsibility in a democratic and modern society, as, an advanced attitude. The diffusion of rights have a determinant role in shaping our social capital, since ideally, it should motivate citizens, to take part in the construction of a democratic country, aware that it begins with the actions of each citizen,

conscious that for the exercise of democracy as for freedom, our rights open the doors, but it is our participation that sets us free.

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Blowing the whistle: ethical and legal issues

Stavros Togias

1. The concept of whistleblowing

Whistleblowing is an emerging *sui generis* field of law, which integrates disparate elements of the law of privacy, labour and employment, civil procedure, contracts, ethics, defamation, the constitutional rights of freedom of expression and conscience, professional responsibility and administrative law, criminal law, confidential information and privilege, business organizations and corporate governance, codes of conduct, dispute resolution and various regulatory instruments (Haigh/Bowal 2012). "Whistleblowers sound an alarm from within the very organizations in which they work, aiming to spotlight neglect or abuses that threaten the public interest" (Petersen/Farrell 1986). It has been further suggested that "organizations are traditionally viewed as rational, hierarchically oriented entities". Correspondingly, "employee behavior exists only within the formally defined role boundaries and is regulated by the norms and goals of the organization". It follows that, from the organization's point of view, whistleblowing –as an act which effects a breach in the structure of the organization by detouring internal channels of dissent and seeking for help outside its boundaries– is typically irrational (Petersen/Farrell 1986). A whistleblower usually attracts widespread public attention: one need only recall the famous quotation of Diogenes the Cynic: "Discourse on virtue and they pass by in droves; whistle and dance the shimmy, and you've got an audience" (Leiter 2009). For purposes of this discussion, the relevant provisions of international and European legal instruments will serve as a starting point for conceptualizing whistleblowing (Banisar 2006).

The Parliamentary Assembly of the Council of Europe in its Resolution 1729 (2010) on "Protection of 'whistle-blowers'" expressly recognized the importance of whistleblowers –concerned individuals who sound an alarm in order to stop wrongdoings that place fellow humans being at risk– while it adopted the definition of protected disclosures as "all *bona fide* warnings against various types of unlawful acts, including all serious human rights violations which affect or threaten the life, health, liberty and any other legitimate interests of individuals as subjects of public administration or taxpayers, or as shareholders, employees or customers of private companies".

Moreover, the Parliamentary Assembly urged all Member States to review their legislation at issue in order to cover both public and private sector whistle-blowers, including members of the armed forces and special services, and expand its regulatory scope to fields such as (i) employment law –in particular, protection against unfair dismissals and other forms of employment-related retaliation– (ii) criminal law and procedure –in particular protection against criminal prosecution for defamation or breach of official or business secrecy, and protection of witnesses– (iii) media law –in particular protection of journalistic sources– and (iv) specific anticorruption measures such as those foreseen in the Council of Europe Civil Law Convention on Corruption.

The dominant criterion of good faith is therein two-fold approached: "Any whistle-blower shall be considered as having acted in good faith provided he or she had reasonable grounds to believe that the information disclosure was true, even if it later turns out that this was not the case, and provided he or she did not pursue any unlawful or unethical objectives". Regarding the criterion of reasonable grounds, the Technical Guide on article 33 of the United Nations Convention against Corruption (2005) on "Protection of reporting persons" invites States Parties to adopt an ex ante approach. Hence they may question whether the reporting person had reason to believe that information existed to support a report. However, this bona fide norm seems to ignore the fact that whistleblowing is conceptualized as a form of pro-social behaviour, thus instigated by both selfish (egoistic) and unselfish (altruistic) motives (Rauhofer 2007).

Further, the Parliamentary Assembly encouraged whistleblowing as "a safe alternative to silence" by relieving the employee of the burden of proof in the sense that it shall be up to the employer to establish beyond reasonable doubt that any measures taken to the detriment of a whistleblower were motivated by reasons other than the action of whistleblowing.

Addressing the controversial question, whether whistleblowers have an obligation to exhaust internal channels of dissent before going public, the Parliamentary Assembly adopted a realistic approach: where internal channels either do not exist, have not functioned properly or could be reasonably expected not to function properly given the nature of the problem raised by the whistleblower, external whistleblowing, including through the media, should likewise be protected. Therefore it is of utmost importance that journalistic sources are provided sufficient protection. The foregoing guidelines were also referred to in the Parliamentary Assembly's related Recommendation (1916) 2010 on "Protection of 'whistle-blowers'" which stressed the importance of whistleblowing as a tool to increase accountability and strengthen the fight against corruption and mismanagement.

In this regard, Appendix to Article 24 of the Revised European Social Charter on "Valid reasons of termination of employment" specifies that as such shall not serve "the filing of a complaint or the participation in proceedings against an employer involving alleged violation of laws or regulations or recourse to competent administrative authorities". The above formulation *is verbatim* adopted in Article 5 of the Termination of Employment Convention of the International Labour Organisation (1982).

Further provisions of international instruments addressing the protection of whistleblowers in the context of the fight against corruption are Section II.9 of the OECD Guidelines for Multinational Enterprises (2000), article 22 of the Criminal Law Convention on Corruption (1999) on "Protection of collaborators of justice and witnesses" and particularly article 9 of the Council of Europe Civil Law Convention on Corruption (1999) on "Protection of employees" which reads as follows: "Each Party shall provide in its internal law for appropriate legal protection against any unjustified sanction for employees who have reasonable grounds to suspect corruption and who report in good faith their suspicion to responsible persons or authorities".

2. What happens inside the mind of a whistleblower?

According to the findings of a resent survey titled "Inside the Mind of a Whistleblower" [A Supplemental Report of the 2011 National Business Ethics Survey, Ethics Resource Center, 2012] the percentage of employees who reported the misconduct they witnessed in 2011 was at an all time high of 65%. Below are set out the dominant motivating factors in the reporting process:

2.1 Awareness

In many cases, although employees observe misconduct in work environment, they do not report it, because they are no attuned to the ethical dimension of workplace conduct and thus do not recognize a behavior violating corporate standards and values as such. What separates those who choose to disclose such information from those who look the other way?

2.2 Agency (or Can I Make a Difference?)

Agency is perceived in two senses: (a) objectively, namely the company's commitment to moral integrity expressed either by rewarding ethical conduct or by taking corrective action, and (b) subjectively i.e. those who consider themselves more influential on the way things are done in their company are more likely to expose organizational malpractice or misconduct than those who feel their voice

too weak to be heard. That explains why managers report at a higher rate than non managers.

2.3 Security and Investment (or Should I Be the One to Do Something?)

Employees are more likely to raise the alarm over workplace irregularities, when they feel both confident in their company's financial situation and *per se* financially secure and not concerned of being subjected to retribution, varying from minor harassment or marginalization at the workplace to unjustified termination of employment or forced resignation. In some cases, their life has taken a Kafkaesque turn. That explains why union employees, who as a rule enjoy certain contractual protections, have considerably higher rates of stepping forward and reporting of specific wrongdoing than non-union employees.

2.4 Support and Correctedness (or Who can I Rely on for Help?)

The more primary sources of personal (e.g. family, religious community, neighbors, classmates, online friends, social clubs and public resources) or workplace support an individual has, the more encouraged he or she is to report.

2.5 I Have Decided to Report. Who Should I Tell? Where Do Most Employees Report?

According to the findings of the survey, the majority of employees would rather sacrifice anonymity (provided by a hotline) and report their witnessing of wrongdoing to someone they already know and trust: their immediate supervisor and/or someone in a higher rank of the organizational hierarchy.

2.6 I Can't Trust Them. Why Do Some Employees Go Outside their Organization?

A potential internal reporter is more likely to turn to an external whistleblower, if the overall culture or the ethics of the top managers or supervisors is perceived to be weak. Furthermore, the seriousness of the issue at hand is an important motivating factor for reporting.

2.7 The Impact of Whistleblower Bounties: Does Money (Get Employees to) Talk?

The issue of financial rewards reveals a sharp contrast in the mentality of reporters and non-reporters: in essence, bounties do not really matter to the people who are most likely to report. On the contrary, non-reporters can be motivated by money, particularly if they face financial constraints.

3. The case of *Heinisch v. Germany*. The whistleblower on the verge of duty of loyalty and public interest in information

The European Court of Human Rights ("the Court") in its landmark ruling in the case of *Heinisch v. Germany* (no. 28274/08, 21 July 2011) had the opportunity to address most ethical and legal tension points in whistleblowing (Branahl 2012).

3.1 The principal facts

The case concerned the dismissal without notice of the applicant, Brigitte Heinisch, from her employment as a geriatric nurse by Vivantes Netzwerk für Gesundheit GmbH. Vivantes was a limited liability company specializing in health care, geriatrics and assistance to the elderly, which is majority-owned by the Land of Berlin. Heinisch was dismissed because she had brought a criminal complaint against her employer alleging deficiencies in the institutional care provided, and the refusal of the domestic courts in the ensuing proceedings to order her reinstatement, a practice that according to the applicant's allegations had infringed her right to freedom of expression pursuant to Article 10 of the Convention for the Protection of Human Rights and Fundamental Freedoms ("the Convention").

Ms Heinisch and her colleagues repeatedly indicated to the management that they were overburdened due to staff shortage and thus encountered difficulties carrying out their duties; they further mentioned that services were not properly documented. The applicant on several occasions fell ill as a result of overwork and was partly unable to offer her services. Following an inspection of the nursing home, the medical review board of the health insurance fund noted serious shortcomings in the care provided, substantiating the foregoing concerns of Ms Heinisch. Thereafter, the applicant's legal counsel, in a letter to the company's management, pointed out that, on account of the lack of staff, patients' hygienic care could no longer be guaranteed and asked the management to stipulate how they intended to avoid criminal responsibility –also for the staff– and ensure that sufficient care could be taken of the patients.

Following the rejection of those accusations on behalf of the management, Ms Heinisch brought a criminal complaint through her counsel against Vivantes on account of aggravated fraud. According to the complaint, owing to the lack of staff and insufficient standards, the company knowingly failed to provide the high quality care promised in its advertisements and paid for and was putting the patients –partly bedridden, disoriented and generally dependent on special assistance– at risk. The applicant also alleged that the company had systematically attempted to cover up those deficiencies and had urged staff to falsify service

reports. However, the public prosecutor discontinued the preliminary investigations against the company instigated by the applicant's complaint on grounds of lack of sufficient reason for bringing public charges.

Ms Heinisch was dismissed with prior notice a few days later on account of her repeated illness. Together with friends and supported by a trade union, she issued a leaflet which denounced the dismissal as a "political disciplinary measure taken in order to gag those employed" and brought to Vivantes' attention the aforesaid criminal complaint. The company subsequently dismissed her without notice, on suspicion of having initiated the production and dissemination of the leaflet. Preliminary inquiry proceedings against Vivantes were resumed at Ms Heinisch's request, but discontinued again.

The applicant challenged her dismissal without notice before the Berlin Labour Court (*Arbeitsgericht*), which found that the leaflet –the content of which was attributable to the applicant– albeit polemical, was covered by her right to freedom of expression and did not amount to a breach of her duties under the employment contract, since it had been based on objective grounds and had not upset the "working climate" in the nursing home. This judgement was quashed by the Berlin Labour Court of Appeal (*Landesarbeitsgericht*), stating that the applicant's criminal complaint had provided a "compelling reason" for the termination of the employment relationship without notice as provided by Article 626(1) of the Civil Code and had made continuation of the employment relationship unacceptable. It found that the applicant had frivolously based the criminal complaint on facts that she could not prove in the course of the proceedings. The Labour Court of Appeal further held that the criminal complaint amounted to a disproportionate reaction to the denial of Vivantes to recognise shortcomings as regards personnel, since the applicant had never attempted to have her allegation of fraud examined internally and since, moreover, she had intended to put undue pressure on her employer by provoking a public discussion of the issue. In any case, the applicant could have awaited the outcome of the on-going inquiry of the medical review board and therefore her reaction constituted an unnecessary breach of her duty of loyalty towards her employer. That decision was upheld by the Federal Labour Court (*Bundesarbeitsgericht*), while the Federal Constitutional Court (*Bundesverfassungsgericht*) refused to admit Ms Heinisch's constitutional complaint.

3.2 The decision of the Court

The Court in its reasoning noted that it was undisputed between the parties that the criminal complaint lodged by Ms Heinisch fell within the concept of whistleblowing, thus within the ambit of Article 10 of the Convention. It was also common ground that her dismissal, as confirmed by the domestic courts, amounted to an interference with her right to freedom of expression, which is guaranteed

as well in the sphere of relations between individuals [see *Fuentes Bobo v. Spain*, no. 39293/98, § 38, 29 February 2000]. Therefore the crux of the matter was whether such an interference (a) was "prescribed by law", (b) pursued a legitimate aim under second paragraph of Article 10 and (c) was necessary in a democratic society" for the achievement of such aim.

As regards the first issue, the Court shared the German Government's view that the said interference had been "prescribed by law", as the German Civil Code allowed the termination of an employment contract with immediate effect by either party if a "compelling reason" –a criminal complaint amounting to a "significant breach" of the employee's duty of loyalty should be perceived as such– rendered the continuation of the employment relationship unacceptable to the party giving notice. It was further undisputed that the dismissal had pursued the legitimate aim of protecting the business reputation and interests of the applicant's employer. Therefore it remained to be determined whether a fair balance had been struck by the domestic courts between those interests and Ms Heinisch's right under Article 10. The Court has summed up its standpoint in the following rationales:

The information disclosed by the applicant about the alleged deficiencies in the care provided was undeniably of *public interest*, in particular given that the patients concerned might not have been in a position to draw attention to those shortcomings on their own initiative. As regards the question, whether the applicant had in her disposal *alternative channels* for making the disclosure –pursuant to her duties of loyalty, reserve and discretion– instead of external reporting by means of a criminal complaint, the Court referred to the jurisprudence of the Federal Labour Court, which also applied in the case at hand: "Seeking a previous internal clarification of the allegations could not be reasonably expected of an employee, if the latter obtained knowledge of an offence of which the failure to report would result in him or her being liable to criminal prosecution. In addition, previous internal clarification of the matter was not required if redress could no legitimately be expected". Regarding the *authenticity* of the information disclosed –in the sense that any person who chooses to disclose information must carefully verify, to the extent permitted by the circumstances, that it is accurate and reliable– the Court concluded that it was not devoid of factual background and there was nothing to establish that she had knowingly or frivolously reported incorrect information. The fact that due to lack of evidence –which is primarily attributable to the law enforcement authorities– the preliminary investigations were discontinued, exercised no influence to the Court's assessment.

As convincingly emphasized by the Court, even assuming that the amelioration of her own working conditions might have been an additional –*egoistic* in accord-

ance to the concept of whistleblowing as a pro-social behaviour– motive for her actions, nevertheless there were no sound reasons to doubt that Ms Heinisch acted in *good faith* and in the belief that it was in the public interest to disclose the alleged workplace malpractice to the prosecution authorities and that no other, more discrete means of remedying the situation was available to her.

Ms Heinisch's allegations had certainly been *prejudicial* to the –worth protecting according to the Court's jurisprudence– company's business reputation and commercial interests. However, the Court found that the public interest in being informed about shortcomings in the provision of institutional care for the elderly by a State-owned company outweighed the interest in protecting the latter's commercial success and viability for the benefit of shareholders and the wider economic good.

Finally, the Court noted that the heaviest *sanction* possible under labour law – namely a dismissal without notice– had been imposed to the applicant. It not only had negative repercussions on her career but it could also have had –in view of the media coverage– a serious *chilling effect* on other employees of Vivantes or other companies in the nursing service sector and discourage them from reporting any shortcomings to the detriment of society as a whole. In a nutshell, the domestic Courts had failed to strike a fair balance between the need to protect the employer's reputation and rights on the one hand and the need to protect the applicant's right to freedom of expression. There had accordingly been a violation of Article 10 [similarly see *Guja v. Moldova* (GC), no. 14277/04, 12 February 2008 concerning the applicant's dismissal from the Prosecutor General's Office for divulging two documents which disclosed interference by a high-ranking politician in pending criminal proceedings].

4. Whistleblowing and Data Privacy

4.1 The Sarbanes-Oxley Act

The allegation of a whistleblower against an individual on grounds of perceived violations, e.g. of a company's code of ethics, will necessarily entail the collection and processing of certain information related to that individual (e.g. his or her name and position inside the company) and the whistleblower himself [Fahring 2011] provided that the latter takes no recourse to anonymity. As far as that information can be defined as "information relating either to an identified person or a person who can be identified, directly or indirectly, by reference to a reference number or by one or more factors specific to him" [see Article 2(a) of the Data Protection Directive], then the collection and processing of that *personal* data by an organization and the further transfer thereof to associated or external

organizations within or outside the EU should be compliant with EU data protection rules.

The *Sarbanes-Oxley Act* (2002) –which was named after its architects, Senator Paul Sarbanes and Congressman Michael Oxley, and enacted following the disclosure of Enron accounting scandal by its own Vice President of Corporate Development, Sherron Watkins– requires publicly held US companies and their EU-based affiliates, as well as non US companies listed in US stock markets, to establish procedures for dealing with confidential, anonymous employee submissions regarding questionable accounting or auditing matters. Enterprises which fail to comply with these whistleblower requirements are to encounter heavy sanctions. However the SOX is subject to severe criticism among legal scholars, deriving from its two most prominent failings. First, over the last decade, the Act simply did not protect whistleblowers who suffered retaliation. Second, despite the massive increase in legal protection available to them, whistleblowers did not play a significant role in uncovering the financial crisis that led to the Great Recession at the end of the decade [Moberly 2012].

In 2005 *Commission national de' l informatique et de libertés* –the French Data Protection Authority– prevented a French subsidiary of McDonalds from establishing anonymous whistleblowing procedures on the grounds that it involved the transfer of personal data of the person incriminated for malpractice without its consent [Rauhofer 2007]. Some legal scholars detect "a deep cultural unease about the whistleblowing itself" underlying that sceptical ruling –which was succeeded by similar decisions of the German Courts– since the bitter experience of informers and denunciators recruited by Gestapo in Third Reich and Stasi in the former GDR has assigned the whistleblower a heavy social and historical stigma [Tinnefeld/Rauhofer 2008]. In 2006 the US Court of Appeal refused to extend SOX provisions on the protection of whistleblowers to employees of publicly-traded American enterprises operating abroad [Carnero v. Boston Sci. Corp., 433 F.3d 187 (1st Cir. 2006) [Cohn 2007, Jacob 2009].

4.2 The Article 29 Data Protection Working Party's Opinion 1/2006

The Article 29 Data Protection Working Party with its *Opinion 1/2006* on the application of EU data protection rules to internal whistleblowing schemes in the fields of accounting, internal accounting controls, auditing matters, fight against bribery, banking and financial crime, attempted to settle the potential *conflict of duties* on part of companies which, while complying with SOX whistleblowing requirements, they risk breaching EU data protection rules and national constitutional and labor laws [Rauhofer 2007].

Addressing the issue of *legitimacy* of whistleblowing systems according to Article 7 of Data Protection Directive, the Working Party considered as a suitable legal basis for internal control procedures obligations deriving either from EU Member States regulations ruling the activities of credit and investment companies, or provisions set in national law as a result of the implementation of the OECD *Convention on Combating Bribery of Foreign Public Officials in International Business Transactions* (1997). On the flip side, "an obligation imposed by a foreign legal statute or regulation [...] may not qualify as a legal obligation by virtue of which data processing in the EU would be made legitimate. Any other interpretation would make it easy for foreign rules to circumvent the EU rules laid down in Directive 95/46/EC. As a result, SOX whistleblowing provisions may not be considered as a legitimate basis for processing on grounds of Article 7(c)".

If the employer, as is usually the case, operates the whistleblowing system by establishing a hotline, then the collection and processing of employee personal data through this system is permitted, provided it is for the purpose of complying with a *contractual obligation*. The employer's right to collect and process the aforementioned data for the purpose of fulfilling the requirements of a code of conduct must therefore be an integral part of the employment contract as a clear indication of the employer's explicit consent thereto. In case that the contract remains silent on this issue, the establishment and operation of a whistleblowing system should be examined in the light of Article 7(f), i.e. its necessity for the purposes of a legitimate interest pursued by the controller provided that the latter are not overridden by the counterbalancing interest of the employee that his personal data should not be collected or processed [Rauhofer 2007].

According to the Working Party, the principles of *data quality* and *proportionality* in pursuance of article 6 of the Data Protection Directive are cornerstones of that balance of interest assessment. The number of persons entitled to sound the alarm or potentially incriminated through a whistleblowing scheme –particularly taking into account the seriousness of the alleged offences reported– is an issue coherent to the proportionality principle, albeit subject to a rather wide margin of data controllers' appreciation [Schmidt 2009].

Admittedly, the more an individual blows the whistle in the shadow of *anonymity*, the more he or she is exposed to informer-related criticism [Momsen/Grüzner/Oonk 2011]. While anonymity is intended to shield the whistleblower from reprisal, it is highly questionable whether it actually obstructs the successful guessing about the identity of the individual who raised the concern. On the other side, as the Working Party asserted, anonymity precludes both the interactive manner of investigation following the report and the comprehensive protection of the whistleblower against retaliation, while it is a fertile ground for

biased or false allegations promoting a climate of suspicion among employees. Consequently, anonymous internal reports are justifiable under the notion of *fair* processing as an exception, while the rule should be the identified and confidential concerns. Nevertheless, if the person reporting to the scheme insists to stay anonymous, the report should no be rejected, but it should be examined –due to risk of abuse– with extreme caution, in a speedy manner and under the reservation of a subsequent disclosure of the whistleblower's identity before the competent public authority conducting an enquiry related thereto.

Furthermore, Article 6(1)(b) and (c) of the Data Protection Directive sets the pace of the *proportionality* and *accuracy* of data collected and processed; given that the purpose of the reporting system is to ensure proper corporate governance, the data collected and processed through a reporting scheme should be adequate, relevant and not excessive in relation to that purpose.

In addition, a comprehensive whistleblowing scheme should serve the need for *dual* protection of both the whistleblower from retribution and the target of the allegation from false or unjustified accusations. The person accused in a whistleblower's report should be competently *informed* as soon as practically possible after the data concerning him or her in accordance to Article 11 of the Data Protection Directive. "However, where there is substantial risk that such notification would jeopardize the ability of the company to effectively investigate the allegation or gather the necessary evidence, notification to the incriminated individual may be delayed as long as such risk exists".

5. Conclusion and perspective

Whistleblowers feel compelled to act, after difficult reflection upon the issue of the *right course of action*, and, weighing the consequences, they usually proceed in the face of likely retaliation. It is the aspect of doing "good" or "justice" –in the face of a strong potential for retaliation, in any form and degree– which most connects whistleblowing with conscience. At the same time, *freedom of conscience* provides an effective analytical tool to assess genuine whistleblowing: a person who proceeds to blow the whistle, without engaging in a conscience-based assessment prior to doing so, should not be protected [Haigh/Bowal 2012, Tinnefeld/Rauhofer 2008].

On the other hand, the emerging establishment of codes of ethics and Whistleblowing hotlines illustrates a highly questionable corporate trend, as far as management can thereby sharpen its own "panoptic view" over the company's employees paving the way to strengthened social control and lack of social confidence inside an enterprise [Tinnefeld/Rauhofer 2008]. Most notably, the recruitment of individuals and the assignment of traditional police tasks thereto is a

widespread –albeit dubious in terms of the rule of law– trend in modern criminal policy [Hafendehl 2009].

From Mark Felt –the "Deep Throat" of the Watergate scandal– to Thomas Tamm –the US Justice Department lawyer who disclosed his concerns about the Bush Administration's warantless surveillance program to New York Times [Leiter, 2009]–, whistleblowing has been perceived rather as an element of free speech and the right of individuals to express dissent [Banisar 2006], than as "a detachable burden easily shifted to foreign shoulders" [Tinnefeld/Rauhofer 2008]. Overall, whether the relevant legal regimes are sufficient to protect those who blow the whistle from reprisal or those instruments should rather be referred as "The Good Citizen Elimination Act" [Sawyer/Johnson/Holub 2006] is a question of perspective.

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The e-citizen in the cyberspace – a journalism aspect

Andreas Veglis & Andreas Pomportsis

1. Introduction

In the last thirty years we have witnessed a tremendous growth in Information and Communication Technologies (ICTs). The most significant outcome of this growth is considered to be the Internet along with its services. The invention of the Internet has affected almost all aspects of human activities. The media industry as well as the journalism profession has been altered considerable (Veglis, 2009). Nowadays the journalist is expected to have the ability to exploit many tools in order to be informed about the current events. He must also be capable of using a variety of tools and platforms in order to prepare and deliver news. The 24 cycle of producing news does not exist anymore. News stories are produced and disseminated 24 hours per day. They are also updated in regular intervals in order to include all the latest developments (Veglis, 2010a).

As a result today's internet user can be characterized as an e-citizen - that is, a person that resides in Cyberspace. In the Cyberspace, which is the electronic medium of computer networks, in which online communication takes place (The American Heritage Science Dictionary, 2005), e-citizens interact, exchange ideas, share information, provide social support, conduct business, direct actions, create artistic media, play games, engage in political discussion with various information, services, etc. But the information available in the cyberspace is not properly organized and of course there are other problems that relate to various illegal activities (that constitute the electronic or cyber crime).

Every e-citizen acts as a receiver of information but he can also become a transmitter of information by generating and disseminating content. Social media are perhaps the most popular service of cyberspace today. Facebook, a social networking service, is considered to be the best representative of social media. The main characteristic of social media is that they offer to every e-citizen the ability to add content in the cyberspace, and thus contribute to participatory journalism. Participatory journalism can be defined as the concept of members of the public playing an active role in the process of collecting, reporting, analyzing and disseminating news and information (Bowman and Willis, 2003).

Through social media every e-citizen can publish / disseminate content that he has created / reproduced or discovered. This paper attempts to give an overview of the previous mentioned issues, and to highlight legal issues that may arise through the use of social media. It also discusses methods that can be employed in order to alleviate any side-effects that the rapid adoption of social media has created.

The rest of the paper is organized as follows: Section II discusses the concept of the information space. Social media and in particular social networking are discussed in section III. Section IV defines participatory journalism. The types of participatory journalism are briefly discussed in the following section. Section VI addresses legal issues that may arise from the utilization of participatory journalism. Section VII presents the methods that can be employed in order to alleviate such problems. Concluding remarks and future extensions of this work can be found in the last section.

2. The information space

The introduction of ICTs in the media industry resulting, in its complete digitalization, has changed considerable the work process but it has also offered new paths for delivering and creating content. For a long time, media organizations were occupied only with the distribution of their products through one delivery channel. But over the past twenty years, while the readership of traditional print newspapers has declined rapidly, the consumption of news over the Internet has increased significantly. 2009 was the first year in which the Internet topped the newspapers for readership. Surveys indicate that people are shifting from traditional media (printed newspapers, traditional TV and radio broadcasts) to the Internet as their main source for staying informed. Internet newspapers and magazines, web-TVs, web-radios, news-portals, social media, as well as news metasearch engines are only some examples internet-based information delivery. And this tendency is expected to continue. Thus, trends in the worldwide media industry have clearly shown that in order to guarantee long-term success with audience in the future, it will be vital to change from a single product oriented to a multimedia, content and user-oriented approach.

The citizen of today is expected to stay connected continuously via a variety of devices. Various types of computers, varying from desktop to netbooks, tablets and smartphones, can be employed in order to achieve this constant interconnectivity. Mobile telephone networks, as well as Wi-Fi networks, can be utilized for sustaining data communication. This continuous interconnectivity can guarantee the steady flow of news information. The later can be accomplished via a variety

of delivering paths, services and tools that can range from web page to RSS feeds, to a tweet or to posts in a social network.

3. Social Media – Social Networking

There is a growing trend of people shifting from the traditional media (newspaper, TV, Radio) to social media in order to stay informed. Social media has often scooped traditional media in reporting current events. Although the majority of original reporting is still generated by traditional journalists, social media make it increasingly possible for an attentive audience to tap into breaking news (An et al., 2011).

Social media can be defined as Internet-based applications that belong to Web 2.0 (Spyridou el al., 2011), which support the creation and exchange of user-generated content. They include web-based and mobile based technologies which are used to turn communication into interactive dialogue between organizations, communities, and individuals (Kaplan and Haenlein, 2010). Social media technologies take on many different forms including magazines, Internet forums, weblogs, social blogs, microblogging, wikis, podcasts, photographs or pictures, video, rating and social bookmarking (http://en.wikipedia.org/wiki/Social_media).

A classification scheme for different social media types includes six types (Kaplan and Haenlein, 2010):

- collaborative projects,
- blogs and microblogs,
- content communities,
- social networking sites,
- virtual game worlds,
- virtual social worlds.

One of the most widely used types of social media is social networking. A social networking service is a website that facilitates the building of social networks or social relations among internet users that share similar interests, activities, backgrounds, or real-life connections (http://en.wikipedia.org/wiki/Social_networking_service). They are web-based services that allow individuals to construct a public of semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system (Boyd and Ellison, 2008). Many newspapers and other media companies have established a presence in the most popular social networks (for example, Facebook) in order

to publish their news articles and attract other members of the social network to their web site. They have also integrated social media links in their web articles in order for users to link to them through their social network profiles. Users have also the ability to interact with the media companies by leaving comments (Veglis, 2012). The most well known and employed social network is Facebook. The latest data indicate that the number of Facebook users is above 800 million (http://www.internetworldstats.com/ facebook.htm) and is expected to reach 1 billion in 2012(http://www.purdueexponent.org/features/article_8815d757-8b7c-566f-8fbe-49528d4d8037.html).

Although it appeared later than Facebook, Twitter is another example of social media that became quickly very popular among users (An et al., 2011). Twitter is a social networking and micro-blogging service that enables its users to send and read other users' updates, known as tweets. Twitter is often described as the "SMS of Internet", in that the site provides the back-end functionality to other desktop and web-based applications to send and receive short text messages, often obscuring the actual website itself. Tweets are text-based posts of up to 140 characters in length. Updates are displayed on the user's profile page and delivered to other users who have signed up to receive them. Users can send and receive updates via the Twitter website, SMS, RSS (receive only), or through applications. The service is free to use over the web, but using SMS may incur phone services provider fees. Many media companies are using twitter in order to alert their readers about breaking news (Veglis, 2012).

4. Participatory journalism

The concept of participatory (or citizen) journalism derives from public citizens playing an active role in the process of collecting, reporting, analyzing, and disseminating news and information (Bowman and Willis, 2003). Another term used is "user-generated content" (Singer et al., 2011). ICTs (social networking, media-sharing websites and smartphones) have made citizen journalism more accessible to people all over the world, thus enabling them to often report breaking news much faster than professional journalists. Notable examples are the Arab Spring and the Occupy movement. However, it also worth noting the unregulated nature of participatory journalism has drawn criticism from professional journalists for being too subjective, amateurish, and haphazard in quality and coverage(http://en.wikipedia.org/wiki/ Citizen_journalism).

Bowman and Willis (2003) characterize participatory journalism as "a bottom-up, emergent phenomenon in which there is little or no editorial oversight or formal journalistic workflow dictating the decisions of a staff". As a substitute there are various concurrent conversations on social networks, as depicted in figure 1.

Figure 1: Participatory journalism (Bowman and Willis, 2003).

The problem is that in the traditional media journalists are responsible for the news. They decide the stories to cover, the sources to use, they write the text and choose the appropriate photographs. Thus they act as gatekeepers, deciding what the public shall receive (White, 1950). But being gatekeepers constitutes them responsible for the quality of the news content. The new media gives journalists the possibility to provide vast quantities of information in various formats. However, journalists are responsible not only for how much information and in what form they include in the news stories but also for how truthful the information is (Singer et al., 2011).

In the case of participatory journalism journalists contribute only part of a news story. Thus they feel responsible for users' contributions and they attempt to check the validity of the user generated content. However, that is not an easy task, especially in the case that they receive a substantial volume of information from users (Singer et al., 2011).

5. Types of participatory journalism

The participatory journalism can be achieved with the variety of tools and services, namely: discussion groups, user generated content, weblog, collaborative publishing, Peer-to-Peer, XML Syndication (Bowman and Willis, 2003). The format for the user participation may vary and in the majority of the cases is under some kind of moderation by professional journalists (Hermid and Thurman, 2008). Table I includes the formats as well as a small description of the content and the conditions under which these formats are employed by users.

Table I: Formats for User participation (Hermida and Thurman, 2008)

Format	Description
Citizen blog	Users' Blogs hosted on the media website.
Citizen multimedia material	Photos, videos and other multimedia material submitted by users (usually checked by journalists)
Citizen stories	Users written submission on topical issues, suggestions for news stories (selected or/and edited by journalists and published on the media website)
Collective interviews	Chats or interviews contacted by journalists, with questions submitted by users (after moderation)
Comments	Views on a story submitted by users (by filling a form on the bottom of the web page)
Content ranking	News stories ranked by users (for example the most read, or the most emailed news story)
Forums	a) Discussions controlled by journalists, with topical questions posed by the newsroom and submissions either fully or reactively moderated (usually available for a limited number of days. b) Forums where users are able to engage in threaded online conversations on debates (usually available for long periods-weeks or even months). The users are given the freedom to initiate these forum topics.
Journalists blogs	Also known as j-blogs, include journalists' posts on specific topics and are open to user comments.
Polls	Topical questions related to major issues, with users asked to make a multiple choice of binary response. They are able to provide instant and quantifiable results to users
Social networking	Distribution of links to stories through social platforms, for example Facebook and Twitter.

6. Legal issues

There is a great concern about legal issues that may arise from user generated content. But the overall conclusion is that the introduction of participatory journalism in media organization has resulted in a cost, related to the need of moderation of the content and very little to legal fees. If we try to outline the basic areas from which problems may arise concerning user generated content we can identify (Singer, 2011):

- Defamation: Defamation (or libel for written, broadcast, or otherwise published words) is the communication of a statement that makes a claim, expressly stated or implied to be factual, that may give an individual, business, product, group, government, or nation a negative image (http://en.wikipedia.org/wiki/Defamation).
- Hate speech: This is any, outside the law, communication that vilifies a person or a group on the basis of race, color, ethnicity, gender, disability, sexual orientation, nationality, religion, or other characteristic (Nockleby, 2000).
- Intellectual property: It refers to creations of the mind: inventions; literary and artistic works; symbols, names and images used in commerce. Intellectual property is divided into two categories: Industrial Property that includes patents for inventions, trademarks, industrial designs and geographical indications, and Copyright that covers literary works (novels, poems and plays), films, music, artistic works (drawings, paintings, photographs and sculptures) and architectural design (WIPO – World Intellectual Property Organization - http://www.wipo.int/freepublications/en/intproperty/450/wipo_pub_450.pdf).

Although all the aforementioned areas are considered to be of the same importance, the most usual problems that are uncounted in user generated content fall in the third category, the intellectual property. This can be explained by the fact that the digitization of information makes very easy the process of copy-paste and thus resulting in violation of intellectual properties.

Based on the type of participation included in table I, in table II we present the degree of probability of legal issues that may arise with the incorporation of each type of participative journalism.

Table II: Types of participative journalism versus probability of legal issues.

Type of participative journalism	Probability of legal issues that may arise
Citizen blog	high
Citizen multimedia material	Medium - high
Citizen stories	high
Collective interviews	high
Comments	medium
Content ranking	small
Forums	Medium - high
Journalists blogs	medium
Polls	small
Social networking	small

It is obvious that some types of participative journalism may cause very small legal issues (for example polling, social networking or content ranking) and other types may be prone to high possibility of legal issues (for example, citizen stories and citizen multimedia material). Thus a media company may choose to implement, at least initially, only the types of participative journalism that appear to attract less legal problems. The types of participative journalism that a media company may choose to implement are related to many parameters, many of which are outside the scope of this study.

7. Mechanisms for avoiding legal issues

As far as the methods that can be employed in order to deal with the above legal issues are concerned, these can be summarized in user identification and moderation or other oversight of user material that can guarantee a certain degree of quality (Singer, 2011).

User registration

User registration involves the procedure in which the user provides his credentials, effectively proving his identity upon accessing a website. Every user can become a registered user by providing some credentials, usually in the form of a username (or email) and password. After the registration of the user, he can access information and privileges unavailable to non-registered users, usually referred to simply as guests. The action of providing the proper credentials for a website is called logging in, or signing in (http://en.wikipedia.org/wiki/Registered_user). Figure 2 includes a typical user registration window.

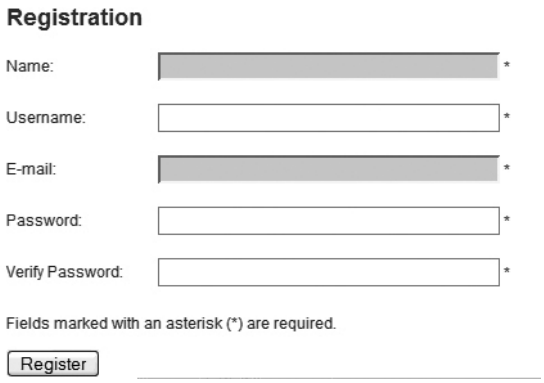

Figure 2: A typical user registration window http://docs.joomla.org/Help17:Menus_Menu_Item_User_Registration).

CAPTCHA

Another mechanism applied in tools for participatory journalism is CAPTCHA. It is an acronym based on the word "capture" and standing for "Completely Automated Public Turing test to tell Computers and Humans Apart" (Grossman, 2005). It is a type of challenge-response test used in computing as an attempt to ensure that the response is generated by a person. The process usually involves a computer asking a user to complete a simple test which the computer is able to grade. These tests are designed to be easy for a computer to generate, but difficult for a computer to solve, so that if a correct solution is received, it can be presumed to have been entered by a human. A common type of CAPTCHA requires the user to type letters or digits from a distorted image that appears on the screen, and such tests are commonly used to prevent unwanted internet bots from accessing websites (http://en.wikipedia.org/wiki/CAPTCHA; http://www.captcha.net). This is especially useful in case of comments from unregistered users to blogs, forums, etc. The CAPTCHA technology is widely used in media websites but sometimes the images that the user is called to identify is much distorted thus resulting in frustration on the part of the user.

CAPTCHA is usually employed in the process of user's registration and in the cases that unregister users are allowed to post comments or upload user generated content in the media web site.

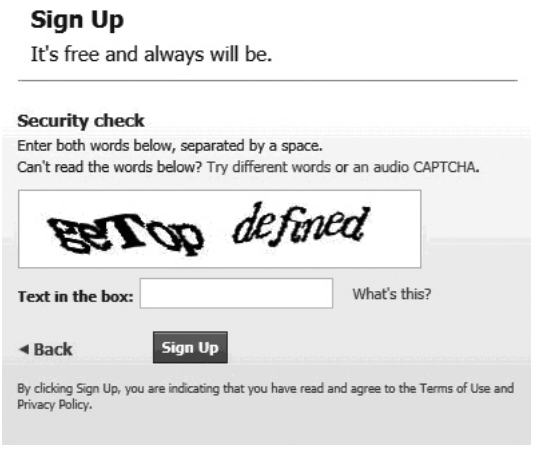

Figure 3: Captcha identification procedure (depicted from Facebook registration process) (http://www.register-facebook.com)

Moderation

A moderation mechanism is the method where the webmaster of a media web site chooses to sort contributions which are irrelevant, obscene, illegal, or insulting with regards to useful or informative contributions. Depending on the site's content and intended audience, the webmaster will decide what kind of user comments is appropriate, and then delegate the responsibility of sifting through comments to lesser moderators. The purpose of the moderation mechanism is to attempt to eliminate trolling, spamming, or flaming, although this varies widely from site to site (http://en.wikipedia.org/wiki/Moderation_system).

The moderation can vary depending on the material and on the country. It can involve pre-moderation (that is the content is checked before publishing) that can result in a substantial reduction of the mount (40% to 50%) of user generated content. Another method is to publish the user generated content and moderate it within the next 24 hours. The latter method may result in problems due to the fact that non appropriate content will be published for a limited period of time. Some media companies use both methods of moderations and others outsourced moderation, by enlisting journalists to moderate the vast amount of comments the user post on various services (blogs etc) offered by the media companies. In many media companies the approach is to over-moderate the user generated content in order to avoid being criticized for trying to manipulating the conversation on various subjects. (Singer, 2011).

Based on the methods of moderation previously presented, we propose a mixed approach. This mixed moderation method could involve both pre-moderation and post moderation methods. More precisely users will be obliged to register to the media web site in order to add user generated content. In case that a user has a record of good quality user generated content, its contributed content can be assigned for post–moderation since there is a high probability that his content is of adequate quality. In the case that the user has no prior history of good quality user generated content or has submitted in the past inappropriate content, its contribution is published only after it has passed the moderation process. The hybrid moderation process is depicted in figure 4.

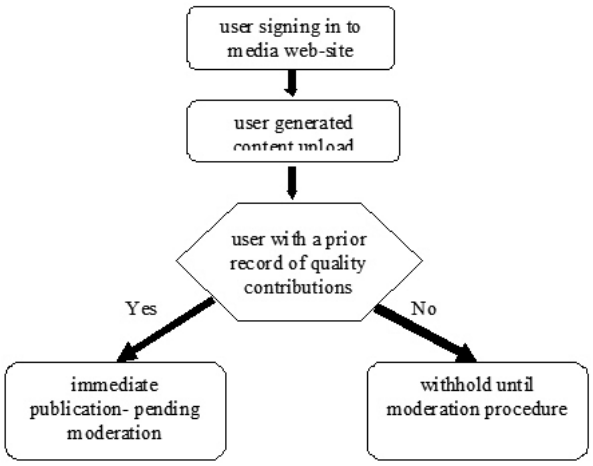

Figure 4: Hybrid moderation procedure.

Distributed moderation

One other type of moderation is Distributed moderation. This is a form of comment moderation that allows users that participate in the process of participatory journalism to moderate each other. Distributed moderation comes in two types: *User Moderation* and *Spontaneous Moderation* (Lampe and Resnick, 2004).

User moderation allows any user to moderate any other user's contributions. This method works fine in web sites with large active population (for example Slashdot). More precisely each moderator is given a limited number of "mod points," each of which can be used to moderate an individual comment up or down by one point. Comments thus accumulate a score, which is additionally bounded to the range of -1 to 5 points. When viewing the site, a threshold can be chosen from the same scale, and only posts meeting or exceeding that threshold will be displayed (http://en.wikipedia.org/wiki/Moderation_system).

In the case of *spontaneous moderation* no official moderation scheme exists. Users spontaneously moderate their peers through posting their own comments about others' comments. One variation of spontaneous moderation is meta-moderation. This method enables any user to judge (moderate) the evaluation (voting) of another user (Momeni, 2012).

It is obvious that moderation is a complicated issue. Media companies usually employ various types of moderation depending on the type of user participation. Table III includes the type of participative journalism versus the moderation type that can be employed. It is worth noting that in types of participative journalism in which the probability of arising legal issues is high, pre-moderation and hybrid

moderation in some cases are the ideal types of moderation. On the other hand, in types of participatory journalism that do not usually arise legal issues, distributed moderation can be applied. In any case, it is worth noting that all types of distributed moderation can be applied in case the media web site has a large active population of users (Momeni, 2012).

Table III: Types of participative journalism versus type of moderation.

Type of participative journalism	Type of moderation
Citizen blog	Distributed moderation or post moderation
Citizen multimedia material	Pre-moderation or hybrid moderation
Citizen stories	Pre-moderation or hybrid moderation
Collective interviews	Pre-moderation
Comments	Distributed moderation
Content ranking	Spontaneous moderation
Forums	Pre-moderation or hybrid moderation
Journalists blogs	Pre-moderation or hybrid moderation
Polls	Spontaneous moderation
Social networking	Not applicable*

**any comments that may accompany a link to a news article can be moderated only by the social network. Usually social network moderate user content only after a user's complaint.*

8. Conclusions and future extensions

The modern ICTs have changed journalism considerably. Participatory journalism is one of the most profound changes that have occurred. Every user has now the ability to become content producer. There is a great variety of tools that can be employed in participatory journalism. Of course this new type of journalism has many negative issues that raise many concerns (defamation, hate speech, intellectual property). The solution to these problems is the control of the user generated material. This can be achieved with the registration of the users that contribute material and with the moderation of the user generated material. The registration process is a well known process to the users, since it has been employed for many years by many internet services (for example, e-mail services, social networks, etc.). On the other hand, moderation can be very time consuming and the media company may have to dedicate many human recourses to this task. Of course there are many different types of moderation (post-moderation, distributed moderation, or even the proposed hybrid moderation) that may alleviate this problem to some extent.

There is no doubt that participative journalism is an issue that no media company can choose to adopt or disregard without great consideration. As usual the solu-

tion to this problem is a compromise. The media company chooses to implement some type of citizen participation, usually gradually, by imposing strict moderation in order to prevent legal issues. Of course this means that a great deal of user generated material that may be rejected will be of good quality, but it will be rejected just in case it might produces legal problems for the media company, thus resulting in a negative effect on its credibility.

One solution to this problem is the training of the users that contribute in participative journalism in order to act as responsible e-citizens. One other proposal involves the careful selection of the issues that are being developed with user generated content. A future extension of this work will involve the detail study of the moderation mechanism employed in participative journalism in order to locate steps in the process that may improve.

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The patient-doctor relationship in the era of the Internet and e-health

Georgia Vrachni

A. Introduction: The performance begins!

1. Variations in role distribution

Often enough we discuss the role of the patient and the doctor in the sector of health care. The use of the word "role" allows us to use a metaphor to describe the stages of the evolution of the patient-doctor relationship over the centuries. Let's imagine that the doctor and the patient participate in a play with the title "The treatment of a disease". Over the centuries this film has got different versions (Truog, 2012). The central axes of the play, however, remain stable: there are the four generally admitted moral principles that govern ethical acting in the field of medicine and health care: respect for autonomy, non-maleficence, beneficence and justice. The comprehension of each of these principles permits a plethora of philosophical analyses. Only sententiously can we say that the first refers to the obligation to respect the (ethical) right of everyone to determine his preferences, his values and to act according to them. The second principle entails the obligation of refraining from harming others, whereas the third describes the positive obligation of contributing to their benefit. Finally, the principle of justice concerns mostly the macroscopic regard of health care services and tries to define the fairer distribution of the resources in this field. (Beauchamp, Childress, 2009). In respect to the hierarchical relation between these principles, there is no unanimous position among philosophers. Although autonomy appears to obtain a priority, the acceptance of the four principles is philosophically founded and in case of a collision, the ethically right decision is defined *ad hoc*.

In the real world, every patient-doctor relationship is found on a specific socio-economic environment, in which the ethically "right" is adapted or degraded. The different versions of role distribution between doctor and patient depict the main forms of pragmatic mixture of these principles, influenced by the difference in time and space, so that the "author", who distributes the roles and defines the protagonist, seems to be the socio-economic environment and the historical context.

In the first historical version the doctor is the sole and principal protagonist who battles and copes with the disease. The doctor is presented as a hero or as a God

whereas the patient is just the supernumerary, the intermediary that gives the doctor the opportunity to fight against "evil", namely the illness. The paternalistic model of the doctor's authority was developed when the number of doctors was limited, the alternative treatments restricted, the majority of patients not well-educated and the access to healthcare services difficult. The common aim of both parties is the treatment. The mission of the patient is limited to the visit to the doctor's office who then undertakes everything as there is no room for shared decision making. The patient decides on the visit and the doctor decides on the treatment. In this context, the principles of beneficence and non maleficence dominate whereas the principle of autonomy is exhausted in the seeking of medical help. There is no reason to mention the principle of justice, which refers to the macroscopic vision of the fair distribution of resources, since the treatment is a personal issue not related to the obligations of the state.

As the role of the supernumerary is not so complimentary and as the principle of autonomy is dominated in the western democracies, the patient follows the paradigm of the active consumer and demands a more active role in the play. The increase of the number of doctors, the existence of different possible treatments for the same illness and the improvement of the education of the population facilitated the actual transmission of the principle of autonomy in the field of medicine. The existence of alternative treatments entails a choice. The choice presupposes criteria that cannot be only scientific. When there are more alternatives that lead to the same result, the choice of the way is a matter of appreciation and of hierarchy of personal values and preferences (Truog, 2012). The outcome of patient's demand is the consolidation of the idea of informed-consent, as "a new entry" in the scenario, which tried to take account of situation's complexity: The patient does not dispose medical knowledge, but disposes a concrete and individualized system of values, which rules his lifespan. In respect to the four principles, this model remains devoted to the principle of autonomy of the patient, but simultaneously appears to weaken the principles of beneficence and non maleficence, since the doctor is obliged to obey the patient's refusal of treatment.

Although the informed consent model serves the autonomy principle better than the paternalistic one, the protection that it offers has a deficit: a big disadvantage of the informed consent concept is its fragmentary character. The participation of the patient is limited to his consent about a specific intervention, ergo obtains an active role only for one moment, whereas in the rest of the duration of the patient-doctor relationship remains passive. This is reflected in every law text that fortifies this model, just like in article 5 of the European Convention on Human Rights and Biomedicine "*An intervention in the health field may only be carried out after the person concerned has given free and informed consent to it. This person shall beforehand be given appropriate information as to the purpose and nature of the*

intervention as well as on its consequences and risks. The person concerned may freely withdraw consent at any time". That is to say, that in the informed consent model, the patient is not an autonomous decision-maker, but only an autonomous "decision- acquiescent". The role of the patient in the entire play remains secondary.

Additionally, this deficiency relative to the protection of autonomy of the informed consent model has a pragmatic explanation. The informed consent is based on the flow of information from the doctor to the patient. The patient still depends on the doctor because he does not have the specific knowledge and the expertise to take on a more active role. Therefore, he can act virtually autonomously when he acquires the adequate information, namely after being informed by the doctor. And even then his autonomous action is limited to his consent or refusal in a concrete intervention. A previous uninformed action of the patient would, in reality, offend the ethical principle of autonomy because he would act without having the "capacities of self governance, such as understanding, reasoning, deliberating, managing, and independently choosing" (Beauchamp, Childress, 2009). Under these circumstances, despite the empowerment of the patient, the doctor still remains the protagonist and the patient becomes the deuteragonist, obtaining only the second role. This happens because the patient acts, that is, consents, but his consent depends on the information that is obtained with the help of the doctor. The doctor informs, suggests and in reality decides on the adequate treatment alone and the patient comes later and can only say "yes" or "no". In this context, the reference in a shared decision making is not accurate. Nonetheless, this exact shared decision making remains desirable for the patient. What is the reason that deprives the patient of becoming the co-star of the film? It is the preeminence of knowledge that makes the doctor necessary. Without him the patient has nothing to say. His words depend on the question of the doctor: "Do you agree with this treatment?".

The way to become the only protagonist or at least the co-star in this film passes through the transformation of the scenario which permits the independent acting of the patient and which gives him the opportunity to act without or at least in parallel with the doctor. This obstacle could be overcome only in a new environment where the patient would have the qualification to participate actively from the beginning of the relationship and where the patient would not only be helped by the doctor, but would also help him.

The intrusion of "Information and Communication Technology" (ICT) seems to be the last important factor that has influenced not only the social environment, but also everyday life at home. If liberalism with its central notion of autonomy offered the step-up of the patient from the role of the supernumerary to the role of the deuteragonist through the informed consent process, is ICT able to lead the

ethical biomedical principles to a new mixture, to emancipate the patient and give him the opportunity to become the co-star next to the doctor, or even, the only protagonist? In other words is e-health the right way or one of the right ways to achieve this outcome? We are going to answer this question later on. Before that, we should make some notional clarifications that are going to help us understand the particularities of the new scene.

2. E-health: A potential new scene?

The term "health" is used each and every day, but in reality nobody can define it. From the maximalistic definition of World Health Organization (WHO) that "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" to the more minimalistic definitions that academics propose in order to define the content of the social health care services into the states (Kremalis, 1987), what "health" means remains a mystery which is out of the focus of the present.

Recently, a new composite word has appeared: "e-health". Since the second composite is difficult to define, we are going to deal with the first one. The use of the adjective "electronic" as the first composite concerns not only the word health, but a great number of notions which have been influenced by the emergence and the development of the so-called "Information and Communication Technology" (ICT), whose intrusion changed fixed relationships and created new fields of economic evolution. In this context, it is not peculiar that the term "e-health" does not come from a classroom of a university, but was created by the industry which –additionally to e-commerce and e-learning– perceived the sector of health care services as an economic lucrative field to utilize the new technologies and to expand its activity (Eysenbach, 2001). The ICT, applied in different fields in a certain point in time is on the one hand given, but its application is influenced by the peculiarities of each field, so that it is crucially important to interpret the first composite "electronic" always in combination with the second which describes the sector which becomes the recipient of this technology. So, an attempt to define the term "e-health" as a whole is necessary.

Precisely because e-health is narrowly bound with ICT, its content is not static and changes whenever a new achievement of ICT can be applied in the field of medicine and health services. This dynamic character of the notion of e-health is reflected in the following definition of Eysenbach "e-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care lo-

cally, regionally, and worldwide by using information and communication technology" (Eysenbach, 2001). This definition resembles a mathematical juncture: the content of e-health depends on the content of medical informatics, business, the evolution of the Internet and related technologies, namely on elements that change rapidly. So if we want to have a less abstract picture of e-health, we must opt for a more descriptive and casuistic definition. For now, the term "e-health" principally contains the following: internet information platforms, interactive self-help groups and decision aid sites, electronic commerce of medications, electronic medical records, telemedicine, interactive sites for administrative reasons (visit scheduling), email communication with the doctor, home monitoring.

What do these applications mean for the configuration of the relationship between patient and doctor? Can ICT influence the allocation of roles between doctor and patient and lead to a renegotiation of their relationship? And if so, do the miscellaneous applications have the same, different or even opposite influence over the patient-doctor relationship?

B. The multi-application of ICT and e-health: e-health with and without the doctor

As we saw earlier, ICT offers a vast amount of applications in the sector of health care (Harrington, 2012), that can at any time and very easily be developed further, change, weaken or even disappear in order to give their place to new applications. Each of these applications serves different needs and for this reason it may involve different persons, therefore, their common and indistinctive analysis would be problematic. This becomes explicit, regarding the issue of the influence of ICT in the patient-doctor relationship. Some applications of e-health presuppose a "typical" already formed patient-doctor relationship, whereas others sometimes function without or, even more so, independently of this relationship. Nonetheless, even in the case of "independence", ICT manages to exert impact on the usually parallel existing patient-doctor relationship by influencing the mixture of biomedical ethical principles. In order to see the new forms obtained by the patient-doctor relationship in the era of the Internet and new technology, we are going to examine the consequences of e-health applications, which presuppose the necessary contribution of the doctor in comparison with the different consequences of e-health applications, which seemingly do not presuppose the necessary contribution of the doctor.

1. E-health with the doctor: new channels of communications

From the moment that a patient decides to visit a doctor and to create a relationship with him and until the end of this relationship, the traditional communication model of the patient-doctor relationship entails some concrete stages.

The patient must call the doctor's office during office-hours so as to schedule an appointment. It is very possible that the doctor's office is far away from the residence of the patient who is obliged to make a long journey so as to visit the doctor, and may therefore be in an inconvenient situation. When he arrives at the doctor's office, he may have to wait for hours, because there are other patients who have arrived before him. During the examination the doctor takes down the history of the patient, asks for antecedent illnesses, for medications that the patient is already taking and proposes a number of tests and examinations so as to be sure of the health condition of the patient. After having done the proposed examinations the patient schedules another appointment with the doctor, makes a new journey, waits for hours and at last gets the diagnosis and receives a prescription on a piece of paper. After a couple of months when the medication is consumed, the patient must follow the same procedure so as to get a new prescription. The same happens when the patient needs a change in medication in the case of developing side effects.

By this general description, it can be easily understood that the center of the typical way of communication between doctor and patient takes place at the doctor's. The patient is fully dependent on the doctor's time, place, and schedule. Several ICT applications bring new methods that allow the shift of the communication center of this relationship (Ahern et al., 2011). These communication systems concern not only the administrative part but also the medical part of the patient-doctor relationship.

a) Administrative facilities: e-mail and on-line scheduling

The easiest and simplest new form of communication concerns *e*-mails which are absolutely compatible with *e*-health. The use of e-mails is not going to replace the visit to the doctor's office, that is, the necessity of face-to-face appointments, but it is rather going to increase, facilitate and upgrade the remaining contact between doctor and patient, which does not presuppose physical presence. Contrary to a hurried telephone communication, the use of e-mail offers the possibility to ask a question whenever needed, to expose it analytically, to read the answer of the doctor many times and to go back to it when something is forgotten, or even to attach photos important for the diagnosis, without having to wait for hours (Ball, Lillis, 2001). This form of communication is particularly useful for patients who suffer from chronic diseases and need a flexible advisor continuously (Dedding, van Doorn, Winkler, Reis, 2011). Similarly, is the advantage of on-line scheduling of appointments through a web site of doctors which is accessible 24hours per day, remains up-dated and permits the self-acting confirmation of the appointment.

The patients have noticed the advantages of the provision of both e-services and conclude them among the criteria for choosing a doctor (Andreassen, Bujnowska et al., 2007). Indeed, the development of such e-services presupposes the willingness of the doctors who, however, particularly regarding e-mail communication, are reluctant to collaborate. As a justification they appeal to the time constraints and the fear that their already pressed schedule is going to be burdened with an overrun inbox (Forkner-Dunn, 2003). As a counter argument we could say that e-mail communication is going to reduce the unnecessary visits to the doctor's office and provide the doctor with a larger time flexibility to answer. Moreover, through e-mail communication, or even only through its possibility, the patient-doctor relationship is reinforced and obtains characteristics of interactivity and finally of partnership (Street- Gordon, 2006).

b) Electronic Medical Record (EMR)

Online scheduling and e-mail communication concern principally administrative and secondary medical issues, namely the periphery of the patient-doctor relationship. On the contrary, the electronic medical record (EMR) is connected to the heart of the medical provision and can change not only the micro-level of the patient-doctor relationship, but the whole system of health care services radically. Primarily, the EMRs aim at the replacement of the paper based records and the computerization of the history of a patient (Fairweather, Rogerson, 2001). This method can resolve a great gamut of stiffness of the traditional paper system, which begins from the amusing and common problem of the illegible hand writing of doctors and results in the redundant duplication of examinations, since there is not a central accessible record concerning a particular patient anywhere (Mourtou, 2006).

The basic form of electronic medical record allows access only to the doctor and the rest of the medical personnel of a heath care institution. When there is net compatibility, there may be a central system that connects different local nets. This connectivity may concern the computerized records of one hospital, of all national hospitals or of hospitals from different countries.

Despite the plethora of advantages, the EMR presents a considerable and substantial deficiency: the violation of a computerized system is easier than that of a paper-based system. Simultaneously, because of the nature of e-record, which entails the whole history of a patient and which is enriched every time that the patient visits a doctor or a health institution, the harm caused by a violation is much more serious in comparison to a violation of a written archive, which presents only fragmentary data of the clinical situation of a patient and which is locked in an office (Fairweather, Rogerson, 2001). The acquisition of such data is extremely useful for insurance and pharmaceutical industries, which with such

information can build the profile of a patient. This is, however, a pragmatic problem, that cannot impoverish the great usefulness of EMR. Regarding the ethical dimensions of this issue, it is a fact that the violation of the EMR harms the right to privacy, which is further based on the autonomy of the person. However, it is the violation of the EMR and not the EMR itself that harms the patient (Chang, Chang, 2008).

Even more so, within the scope of biomedical ethics, the use of EMR serves if not the autonomy, at least the principles of beneficence and non-maleficence, since it relieves the patient from unnecessary duplication of tests, and therefore additional interventions on his body. Simultaneously, it provides the doctor with a detailed, global and individualized image of a patient, a priceless trump-card, when trying to make a diagnosis. The importance of this parameter becomes clearer in cases of emergencies when the patient is unconscious and the doctor cannot obtain any information about the medical history. In any case, the saving of time means further, faster treatment, less visits to doctor's and therefore saving of money (Shomaker, Ashburn, 2000). The last benefit is not meaningless and, seen within the macroscopic level of the survival of the health care systems, serves the fourth biomedical principle, namely the distributive justice. The saving of money wasted on redundant testing can be used to allow the access of more people in the health care system.

c) Advanced EMR

The only ethical principle that the traditional EMR does not seem to enhance is the principle of autonomy, since the records are controlled by the health care institutions and the patient usually has no access. Nonetheless, there are health care institutions that not only allow the access of the patient to his personal records, but also give him a more active role by permitting him the input of data, which arise from measurements that the patient makes alone at home (blood pressure etc.) (Lo, Parham, 2010). This version of EMR presupposes the use of another possibility that ICT offers in the field of medicine: home-monitoring. The patient takes on the responsibility to measure his blood pressure or glucose level and enters the measurements in the EMR. The doctor checks the data that the patient inputs directly, then marks the improvement or deterioration of the health condition of the patient and decides on the continuation, the modification or even the pause of the treatment. This system presupposes the collaboration of doctor and patient, renders the latter as an important agent of the procedure of the treatment and it is very important in the field of chronic diseases, where the incessant observation of the crucial input ensures the maintenance of a concrete health level of the chronic sufferer (Tang, Lee, 2009). Apart from time-saving, this method upgrades the patient but burdens him with serious responsibilities.

The correctness of the diagnosis is immediately connected with the measurements of the patient, who in the field of decision making contributes not only with his values and preferences but also with the objective medical data that he gathers. Simultaneously, the doctor has an assistant on whom he is dependent. Without the patient's collaboration the doctor cannot practice his knowledge adequately. When previously presenting the informed consent model, we argued that the doctor still remains the protagonist because he is the one who holds the monopoly of knowledge. In a system of home monitoring, the monopoly of knowledge is shared: the doctor disposes the scientific knowledge and the patient the practical-measurable information. The disposition of the first kind of knowledge is absolutely inutile without the second.

Despite all the above described advantages of home monitoring and interactive EMR, we cannot overlook some disadvantages related with the capacities of the patient. The measurement of medical data is not such an easy task, and in any event it presupposes a familiarization and sedateness that the patient does not always dispose. Furthermore, the assignment of a vital part of the diagnosis and treatment process may overwhelm him and can influence the life of the patient's family (Dedding, van Doorn, Winkler, Reis, 2011). The house is slowly converted into a mini-hospital.

d) Telemedicine

The EMR represents a subgroup of the application of telemedicine. The term telemedicine is exactly like the term e-health: difficult to define, since its content is immediately influenced by the evolution of ICT. For this reason a simple definition like "telemedicine is the use of telecommunications for medical diagnosis and patient care" limits the width of this application to a great extent. Regarding the actual possibilities of ICT, the following definition of Coeria is satisfactory: "The essence of telemedicine is the exchange of information at a distance, whether that information is voice, an image, elements of a medical record, or commands to a surgical robot. It seems reasonable to think of telemedicine as the remote communication of information to facilitate clinical care" (Stanberry, 2000). Telemedicine connects not only the communication between doctor and patient by allowing the transmission of pictures or videos containing data pivotal for a diagnosis, but also between doctors. It even permits the performance of a surgery from afar with the use of robot surgeons, who follow the instructions of real surgeons. It is also used within the medical society as an effective way of training young doctors, since they have the possibility to watch a surgery in real time through video-conferencing.

Through the use of telemedicine, in some medical fields, a physical examination appears to be unnecessary at first. Nonetheless, we cannot overlook the techni-

cal dangers that such a replacement bears. Although scientific data affirm that thanks to the high resolution of the used devices the digital image which is transmitted to the doctor agrees with the real image of the patient, the doctor lacks the privilege of physical touch which is very important for the diagnosis. Furthermore, the eventuality of an alteration of the transmitted image because of a technical error is always an existing factor (Stanberry, 2000).

Apart from the technical problems, the opponents of telemedicine raise questions related with the quality of the doctor-patient relationship. A face to face communication seems to be more qualitative in comparison with telecommunication. According to research, in the case of telecommunication the time spent for consultation is significantly shorter and the patient centered behavior patterns, such as discussions related with the emotional situation and the psychological support of the patient significantly fewer (Liou, Sawada, 2007). Another disadvantage mentioned by the opponents of telemedicine relates to the confidentiality and the inability of the patient to have control over who watches his "video-examination". The lack of these elements in communication can hinder the development of trust which is supposed to be an important element of the patient-doctor relationship.

However, these disadvantages cannot weaken the great advantages that telemedicine offers as it can connect a doctor and patient who are separated by time and space enabling the observation of a patient from a distance. Secondly, this means that the time of stay in hospital can be reduced, since the observation of the recuperation of a patient, can be operated from a distance (Felt, Gugglberger, Mager, 2009). This means cost reduction and available beds for the treatment of patients for whom the applications of telemedicine are not effective and need a physical examination and treatment from close up. Regarding the fact that the chronically ill are the most costly group of patients in the health care system, the use of telemedicine can be life-saving for the survival of health care systems (Dworkin, 2002).

Telemedicine functions not only as a supplement and as a successor of traditional medicine, but it can also completely replace it, since it can be the first and the last door for a person to enter the health care system. This concerns cases of patients who live in remote areas where no hospital and no medical personnel exist and the transfer of the patient from the periphery to the center cannot take place. By allowing the access of more persons in the health care system, telemedicine contributes to the fairer and wider distribution of health care, ergo in the promotion of the biomedical principle of distributive justice (Felt, Gugglberger, Mager, 2009).

The importance of telemedicine as a medium to allow the provision of health care services in remote areas is more important in the low income countries (Ruxwana, Herselman, Pottas, Ouma, 2010). While in the western countries the cases of people in remote areas who are objectively excluded from the health care services are not so common, in the developing countries it is routine. The limited number of doctors and other experts is concentrated in the big cities of such countries where there is also limited and rudimentary infrastructure. In the periphery where the majority of the (principally low income) population lives, there is no possibility of provision of health care services. The unsatisfactory hygiene conditions and the poverty under which the population lives intensify the apparition of illnesses whose treatment presupposes medical support.

The use of technological mediums allowing video-conferencing is not enough to ensure the treatment of a patient. Apart from these mediums, a distribution of knowledge and expertise is needed. The dazzling speed of technological development and of evolution of medicine presupposes the continual information and education of doctors. Such possibility is not offered in the limited and technologically secluded environment of the third world. Doctors need the help of the librarians of the western world who can provide them with access to digital information resources to say the least (Chanda, Shawt, 2010). Such collaboration can contribute to the qualitative improvement of health care delivery and to the promotion of the principle of distributive justice in a global perspective.

e) Intermediate conclusion: ICT in an already existing patient-doctor relationship

To sum up, in the case of an already existing patient-doctor relationship, ICT can facilitate the communication of the participants, since it means, among others, saving of time so much for the patient as for the doctor. Another factor of great importance is also the implementation of electronic health recording which in its more advanced version permits the active participation of the patient through the entry of the results of "home-made" measurements. The patient as the provider of medical data has a responsibility. The diagnosis of the doctor is based on the information that the patient gives. The patient is not merely a supernumerary. He is an actor who speaks. The question is whether the patient has the proper education to become a really good actor.

Even in the case of a simple and not an interactive record, in which only the medical personnel has access, the patient has indirect advantages. When there is a net that contains EMR and many different national and international organizations have access to it, they have a global idea of patient's history. A detailed history is a great presupposition of a good diagnosis and contributes to the saving of time and money for duplicated tests. All these are some implications of telemedi-

cine that enforce the doctor-patient relationship. The core-idea of telemedicine and the greater revolution that it has brought is connected with the possibility of creating a patient-doctor relationship from the beginning, namely a form of relationship which permits even surgical treatment with the use of video-conferencing, without the doctor even touching the patient. This sort of communication may have some disadvantages on the part of the emotional approach of doctor and patient. However, for the patient living in remote areas, who without telemedicine would be excluded from any sort of medical treatment, this is not a great problem. Besides, according to research, successful telecommunication depends on the development of some abilities and skills from the part of doctors which can be taught.

By all these ICT implementations the patient remains in "the play of treatment" a simple actor, he may obtain the second role or in some scenes become a co-star. Nevertheless, he is still not the protagonist. The doctor has the first and the last say. Which scenario-version of the patient-doctor relationship permits an inversion of this role-distribution?

2. E-health without the doctor: new interlocutors of the patient

a. Do ICT create a new ideal world without doctors?- or- Can we manage it without doctors?

i) The Internet as resource of preventive health information

Above, we had the opportunity to see some more or less specified uses of the Internet contributing to the development of communication between doctor and patient. From e-mail communication to electronic scheduling of appointments, the Internet seems to make the relationship of the two more functional, more standardized and more pioneering.

However, we have still not discussed the most common use of ICT, the Internet as a resource of information of any kind. With one click you can enter many different worlds; you can find information about anything you need. How does this source of information function in the sector of health? Can its use influence the relationship between doctor and patient?

The first reaction to the last question would be that the search of information on the Internet is a lonely process-activity. All you need is elementary knowledge of using a PC, an Internet connection and mere curiosity to learn more about an issue, a person, a situation, so why not, about health (Freyne, 2009).

Regarding health issues, internet selected information can function preventively (Gold, 2011). While the above mentioned uses of ICT presuppose a health problem or at least a person who is supposed to be patient, the use of the Internet

for the search of health information does not presuppose any of them. The most common internet activity concerning health is simply reading about health (Wanberg, Andreassen, Kummervold, Wynn, Sørensen, 2009). Health information refers to everyone and offers specific healthy lifestyles and warns about the risks that some habits have. Everyone has the opportunity to get informed about the dangers that his life-model bears. When you know, you can decide and so you can become the health manager of yourself. Never before was it so easy to learn about the consequences of your habits, never before was it so easy to find alternative life style models and ways to change your bad routine. With all this in mind, the seemingly passive situation of reading information on the Internet can lead to an activation of the population who can opt for a healthier life. The individual sensitization to a precautionary protection of health through better information, can contribute to the reduction of the illnesses caused because of false life models and so to a macroscopically fairer distribution of the health care resources in illnesses caused with no responsibility of the patient.

The counter argument in this macroscopic analysis would be that the knowledge of the increased possibility of an illness because of a harmful habit does not entail the choice of a person to refrain from it. In any event, this knowledge permits him to choose after having taken under consideration the pros and cons of every alternative. The knowledge of the dangers simultaneously creates a responsibility. When you know that something is harmful and all the same you do not refrain from it, you must sustain the consequences, which do not refer only to the potential disease, but also to the financial cost of your treatment. The trend of the private health insurance industry to raise the premiums of persons who follow an unhealthy lifestyle and similar discussions in the domain of social security and of the reconstruction of national health care systems which are on the brink of bankruptcy are indirectly related with the easy access to the information (Winkler, 2002). You are responsible not only because you follow an unhealthy habit, but more so because you *know* that this habit is unhealthy. Then, even the choice of the harmful activity is a product of autonomic-thinking. Through internet information, the principle of autonomy is promoted. This thought can further ethically legitimate the pay of the treatment's cost from autonomous patient himself and so promote the principle of distributive justice in the field of health services.

And how does this kind of internet information affect the doctor-patient relationship? In reality the aim of this preventive use of the Internet in the field of health is the non-creation of such a relationship. The reasoning is to get informed about healthy lifestyles so as not to become ill and not to visit any doctor. In this sense, the Internet can function as a shield that keeps the citizens outside of hospitals and away from medical personnel. In this concept of internet use, professionals can take the role of the internet consultant, being the ones who enhance internet

sites with useful information about a healthy life. There is no doubt, that preventive action and the warning for harmful habits is based on research and scientific reports. In a precautionary acting society, experts and the medical community in general are adapted accordingly by adopting a more theoretical, a more intellectual role. Technology facilitates experiments, prognoses, which presuppose a capable preventively acting medical society. The narrow relationship between doctor-physician and patient is converted into a wider relationship between a doctor-researcher and citizen.

Nonetheless, the preventive action from both sides cannot always be successful. Citizens are autonomous and may select a harmful lifestyle, the doctors-researchers cannot foresight all potential causes of every illness and lastly the illness and the choice of its victims sometimes depend on luck. Under these circumstances, the information obtained through the Internet cannot exclude the potentiality of the creation of a doctor-patient relationship. Anyhow, even in this case, the preventive action is not excluded but obtains a specific content: A patient can search for information on the Internet about some symptoms that have already appeared and so realize that something is wrong with his health (Andreassen, Bujnowska et al., 2007). In the field of medicine, time is a priceless factor and delay can cost a human life. Many times people depreciate or do not correctly appreciate some warnings of their body, they give them no importance and they go to the doctor only when the pains or the symptoms have become very serious. But then it is sometimes too late. The facility of internet research can prevent such cases. It is easier for a patient to search on his computer for some information a bit before deciding to go to the doctor. Whether internet search in a specific case is finally positive or negative for the existence of an illness, the search is always related with an advantage: In the first case, patient and doctor can cope with an illness in time and effectively in its initial stage. In the second case, by realizing that nothing wrong is happening, the patient saves the time of an unnecessary visit to the doctor and the doctor has the time to see another patient, who does needs help. Therefore, regarding the doctor-patient relationship the “home tried diagnosis” can be in favor of both the patient and the doctor. In this sense, internet information influences the time of the beginning of the doctor-patient relationship.

Nonetheless, we cannot overlook the possibility of a negative result of this patient initiative: The non-expert citizen does not always have the knowledge to understand the information provided through the Internet. Information does not mean knowledge. The misconception of some information can lead either to a devaluation of some symptoms, to a false reassurance of the potential patient that everything is ok, or to an overvaluation, which can negatively influence the psychological condition of the patient without good reason (Lo, Parham, 2010). The simple reading of some information does not mean its comprehension.

ii) The Internet as a resource of health care information

Up until now, we have seen how internet information can hinder the creation of a doctor-patient relationship and how it can accelerate or decelerate the time of its beginning. Going further and for the most familiarized with ICT patients, internet information can be a guide to choose the best doctor. Through new technologies the patient is transformed into a demanding customer, who selects information, compares services, reads the comments of other users of the same service or the same service-providers and then decides.

And what happens once the doctor-patient relationship has been created? Can internet obtained information serve any use? Even at this moment, the Internet, as a medical information resource, can have various functions with different reflective effects in the doctor-patient relationship. The patient can, with the stroke of a computer key, find a great deal of information about every illness and every medication. Before the visit to the doctor, the patient can obtain a generic idea of his health condition by "googling" the symptoms that appear. In this way, upon the first visit he may more easily and more quickly comprehend the recommendation of the doctor and can have a more active role in the meeting, transforming the doctor's monolog into a dialogue. Many times doctors do not have the time, the disposition and the patience to clarify in detail the health condition of the patient and they are limited to a brief description of the diagnosis and in the prescription of medications, whereas the causes of the disease are not always satisfactorily analyzed. Thanks to the Internet the patient has the possibility and the time to search the issue that preoccupies him on his own and more extensively and then visit the doctor with more precise and substantial questions (Quallich, 2005). A dialogue with a "thorough" interlocutor is much more effective and constructive in comparison with a dialogue with a patient, who is based only on the generic information of his doctor. Even if the knowledge asymmetry between doctor and patient remains, his extent is reduced over time. The patient can obtain information independently and in parallel to the information adopted by the doctor in a way that the paternalistic model shrinks and the model of partnership emerges step by step. The seemingly active participation of the patient in the traditional informed-consent model with an only consent, which is confined to a simple yes or no to the propositions of the doctor with respect to a concrete intervention, now becomes virtually active: The consent or dissent of the patient is based on the information that he has obtained himself, by searching on the Internet, by dedicating time and by trying to become truly informed. The global image of his health situation can reflectively influence the informed consent process, without which no medical intervention is legal. Until now, the consent of the patient was based on the - due to a lack of time - brief and often hazy inform-

ing provided from the doctor, whose first preoccupation was the typical reassurance of the consent of the patient, written on a sheet, as a legal safeguard in the case that something should go wrong. Now, the patient has the opportunity to select all the information that makes a consent truly informed by himself (Bovi, 2003). Although at present it is too early to speak about an absolute inversion of the informed consent process and although the doctor still remains the central provider of the information related to the consent, the patient living in the era of e-technology has, at least ethically, co-responsibility and cannot always hide behind the unfamiliarity of health related issues.

The above described situation of a patient seeking on his own for the necessary information with respect to a treatment seems to bear no difference from the picture of a consumer seeking via the Internet information in order to buy a car or a CD-player (Rogers, Mead, 2004). The patient-consumer knows what he wants and he demands it. He seems to be the powerful part of the relationship and when he does not find what he needs he changes the kind of service (the kind of treatment) or even the provider of the service (the doctor). The doctor is dependent on the desires of the patient-consumer so as to satisfy his client and to cope with the competition. Under these circumstances, the patient-doctor relationship is economized and seems to need no special "treatment" in relation to the remaining transactions, concerning provision of services or the purchase of products.

iii) Decision aid platforms and social networking as special internet contributions

In order to go from a system where the patient has practically affirmed the choices of the doctor to a system where the latter simply performs the autonomous decisions of the first, the Internet, apart from the indication of medical information offers more substantial and dynamic help. The decision-aid platforms are one of these innovative offerings (Duffin, 2010). As the site of the most well-known international database for support in medical choices "MED-DECS" (www.meddecs.org) mentions: "a decision aid gives support in making decisions about medical treatments. A good decision aid informs the patient about the suitable treatment options", while clarifying that each disease has its own decision aid. In reality, the decision aid platforms are an intermediate situation between the generic information offered on information sites about the x or z disease and the specified information offered by the doctor during the patient visit. Since such databases are created by scientists, medical professionals and other academic institutions, they provide the appropriate scientific level and in reality they take on a big part of the task of the traditional doctor-patient relationship. The typical relationship between doctor and patient remains but becomes more impersonal. The patient communicates to his doctor the decision that has been made before,

thanks to the general aid provided by databases. Maybe ultimately, because of the difficulty of the more modern model of informed consent to practically surpass the traditional paternalistic model of the decider-manager-dominant doctor, the internet decision aid offers external help to the patient in order to participate in the traditional relationship in a more active way. In reality, in the traditional concept of the dominant doctor, the relationship was not more personal because the patient simply had no free space to develop his personality. The decision aid databases are a new scene which allows the patient to have an autonomous say.

Decision aid platforms like all the other mentioned internet applications treat the patient as an ordinary consumer seeking for health services. Nonetheless, none of these applications pay any attention to the particularity of the patient's condition, which is not exactly the same as the condition of a simple consumer. The patient is in need and he is facing life and death issues. A simple consumer is not as emotionally feasible as a patient, who needs support and special emotional treatment (Stein, 2006). Apart from the family and the friends of the patient who try to support him, but in reality many times need more psychological support than the patient himself, the only person who can calm and encourage the patient is the doctor. The Internet asserts this capability and appears to have the tools to replace the doctor even at this emotional level. Expect for the sites that contain medical-scientific information, there are also sites that contain more "humane" information, namely the personal experience of persons affected by the same disease. The most characteristic site of this kind is "Patientslikeme"(www.patientslikeme.com). Social networking with persons with similar problems and concerns offers psychological benefits. Learning of not being the only one suffering from a specific disease and getting ideas of how others cope with the problem is a relief (Lo, Parham, 2010). The communication with and the support from "fellow-sufferers" evades on the one side the cold, neutral and more distant way of a doctor who perceives even the support of the patient as a part of his professionalism and on the other side the emotionally charged, subjective and turbulent attitude of the family, which, in reality, is part of the problem.

Social networking has the additional advantage of anonymity. The patient can express his fears; he can show his feasibility without facing the danger of stigmatization. He can express himself freely and he can share thoughts and emotions that in a face-to-face communication he could not. Because of this anonymity, the Internet is especially attractive for persons who suffer from diseases not sociably acceptable (Martin, 1999). Psychiatric diseases and several kinds of addictions belong to these categories (Gustafon, Boyle, Shaw et al., 2011). Social networking is a refuge for these persons since it contributes to a decrease of the feeling of anxiety and isolation, and therefore to their healing, which also depends on emotional and psychological factors (Klose, Szmukler, Lloyd, Koivunen, et al.,

2010). The Internet allows patients to be more sincere in respect to social blameworthy habits and actions, which they perform and which cause the disease. Even persons who would not visit the doctor to ask for help because of the danger of stigmatization and social exclusion find a confident helper via the internet.

iv) Intermediate conclusion: Internet information as a resource of patients' independence and doctors' hostility

In the above descriptions and scenarios related to the Internet, the patient seems to obtain a relative autonomic role in respect to the doctor. Until now, the patient participating in the film "The treatment of a disease" was in the scene only with the attendance of the doctor. His "lines" were always an answer or a succession of the doctor's "lines". Now, due to the Internet this set seems to have changed. There are scenes where the patient plays alone. He uses his computer to find the necessary information and he visits interactive sites to find the emotional support that he needs. If we observe this new condition more carefully, we are going to realize even here the patient does not play alone; he has simply found new interlocutors who aspire to replace the doctor. Behind medical information stand scientists and professionals who give the technocratic aspects of treatment. Behind the psychological support stand other people, fellow-sufferers who undertake the emotional encouragement of the patient.

And what about the doctor? He seems to remain one of the interlocutors of the patient, but he obtains a more passive role, performing what the patient needs, answering his questions and apologizing for his proposal to follow the first and not the second kind of treatment. The doctor is not merely the unchangeable ruler, but the eternal fighter who always has to defend his opinions against the patient-consumer, who has made his decisions without the doctor's contribution. Under these circumstances it is not peculiar that, in all the research performed until now about the influence of the Internet in the patient-doctor relationship, doctors appear to be negative (Henwood, Watty, 2003). It is thought that an already informed patient challenges their power, their knowledge and their expertise. The more confident the patient becomes the more challenged the doctor feels.

Another fear of the doctors -which they, however, do not admit- is the danger of having patients who are going to be better informed than themselves. It is a fact that doctors do not always have the time to take in all the evolutions of medicine rapidly or to know every possible treatment of a concrete illness. The patient, who has a concrete problem concerning him personally, has the time and the motivation to seek for more information (Gilmour, 2007). In this context, the challenge of the doctor's power and for the same reason the resistance of the medical

society in the use of the Internet as an information resource of the patient can be explained.

But is this actually the situation? Are patients so capable of understanding the medical information, so as to decide on the right treatment and propose it to the doctor? Is the negative position of doctors only a reaction against the threat of their monocracy or an expression of their anxiety about the protection of patients?

b. Return to the real world or why the use of the Internet as an information source is not so ideal and the doctors not so redundant

In the typical paternalistic scheme, the whole process of patient's healing takes place "within the four walls" of the physician's office. ICT offers an additional scene, where the patient can act and cope with the illness without the presence of a physician. Informing the patient, his emotional support, the elucidation of his questions can now take place on the World Wide Web. Although this alternative appears to enhance the autonomy of the patient, emancipation from the doctor is not really secure.

i) Danger of information's incredibility and break of confidentiality

Apart from the fact that the possession of a computer is not self-evident for every person but dependent on his economic and social situation (Rogers, Mead, 2004) and that the use of ICT can cause additional disparities and inequalities in the provision of health care services, the greater problem related to the use of the Internet for the seeking of information concerns the difficulty of controlling its credibility. The Internet offers everyone the possibility to read but simultaneously offers everyone the possibility to write without demanding the registration of their name (Gilmour, 2007). Anonymity loses the sense of responsibility in the case of provision of inaccurate or false information. The lack of central control of the data transfers the burden of checking to every internet user individually. In the case of medical information uploaded on the Internet, the patient as an individual user must take the responsibility to judge the credibility of the information himself. This seems unattainable when we speak about specialized data referred to treatments, substances of medication and side effects. In any event we cannot ignore the fact that the volume of information offered on the Internet increases but in parallel increases the complexity of medical knowledge, therefore the difficulty of its interpretation and comprehension (Berger, 2011). So the danger of misinterpretation is present, since the patient does not have the knowledge to judge the quality of the content of the medical information.

Even more dangerous is the provision of deliberately misleading information, which is often related to financial interests and the medication industry. The provision of medical information and advice is often related to the proposal of some medication of a concrete pharmaceutical industry which is not the only appropriate. Many times health issue websites contain advertisements of medication and health services. Internet advertising can be targeted and based on the personal health information of a patient. In general, the advertisements of pharmaceutical companies is the only way of funding for internet sites which offer free information about health issues to patients. Even in the case that internet sites do not propose a specific product or health service institution directly, there is the danger of disclosure, in reality of selling the personal data of web site visitors to pharmaceutical industries and private health organizations, which may then expose the patients to another danger: e-buying of medication. Pharmaceutical industries are organizations with financial interests, which promote their product even if it is not the best for a concrete patient. Although their product has particularities related to the risk of direct maleficence of the buyer, these industries do not obey like physicians or nurses under ethical codes, which pose some limits in order to protect the vulnerable nature of the patient. When a patient orders a drug, a pop-up can present an additional drug, which is not necessarily better or even appropriate (Lo, Parham, 2010). An impulsive purchase by a simple consumer may lead to monetary damage, an impulsive purchase by a patient, however, can cause much more important damage, which may even lead to death. This lack of control brings the pharmaceutical industries in a beneficiary position, which the patient, who is already in the backseat because of the illness, cannot manage. The dangers and the risks of influence is the price that the patients may have to pay in order to obtain the free information.

Similar problems are created by the use of social networking as a tool of support for patients. There is no doubt that the psychological benefits of opinion exchange with people who face similar problems and want to share their personal stories in order to animate their fellowmen is of great importance. But there is no guarantee that it will always be successful. The presentation of a story with no clinical details can lead to misunderstanding and false auto-diagnosis on the side of the patient who thinks he is suffering from the same disease or who is convinced that the appropriate treatment for another person is also ideal for him, overlooking the particular and individual character of the illness. Moreover, a sad or a sadly presented personal story may negatively influence the patient and provoke depression, reducing the probability or the rapidity of healing, many times without reason. Additionally, there is also no guarantee for the credibility and the veracity of the stories presented (Hordern, Georgiou, Prgomet, 2011). Social

networking is also uncontrollable and nothing can exclude the fact that it may be supported or guided by financial-industrial interests.

In order to reduce these dangers, some initiatives have been developed like Health on the Net Foundation, which among others have created some informal codes of ethics, like Health On the Net (HON) Code (http://www.hon.ch/HON-code/Patients/Visitor/visitor.html) and E-Health Code of Ethics, which aim to guide site managers to use some mechanisms which do not guarantee the quality and accuracy of medical information presented on the site, but the possession of HON certification after voluntary application demonstrates the intention of site owners to contribute to the attempt to e-publication of credible medical information. The certification depends on the fulfillment of some criteria, by the application of which the users of the Internet can judge the credibility of a site containing health issue information (Castelló-Zamora, 2010). Among the criteria is the disclosure of its owner, supervisor and sponsor, the frequency of updating of information, the prevision of information consent of the user in respect to his personal data, the clear distinction between genuine medical information and advertisement related to medical products and services, the reference of legitimate licenses and other credentials of the professionals that upload the medical information on the Internet. The lack of these elements does not mean the incredibility of the sites, but it makes it difficult for the patient to ascertain this credibility (Abdel-Karim and others, 2012). Even the use of these criteria presupposes a degree of familiarization and computer literacy of the users. According to researches, even when a site accomplishes the above criteria of quality, the majority of users do not pay attention to them but when choosing internet resources they are influenced by external and unimportant criteria, like the lay out or the modern design of the site simply because they cannot judge the quality of such a specified field like medical information (Abdel-Karim and others, 2012).

The new interlocutors of the patient do not seem to be so harmless and their help is not always altruistic. Under these conditions, the doctor's community hostile-unfriendly attitude against e-health is not so inexplicable or incited by subjective motives related to the maintenance of the primacy of doctors. Internet information is not reliable and can harm the patient (Fokner-Dunn, 2003). It is not a groundless fear of doctors, that the patient is going to ask for an inappropriate treatment just because he has read somewhere on the Internet that a certain concrete therapy is the best or because some fellow-sufferer has used it successfully (Kim, Kim, 2009). Taking under consideration internet sites offering generic information and controverting the opinion of the doctor who has come to a result after a face-to face examination, it leads to a loss of trust and it is therefore, reasonable to harm the relationship between doctor and patient (Kaslow, Patterson, Gottlieb, 2011).

Unfortunately, the average visitor of the Internet with his elementary computer knowledge, lack of medical knowledge and charged emotional condition because of his illness, cannot cope with these difficulties alone. He needs support provided by another interlocutor, who cannot be other than his personal physician, whose task in the era of new technologies ultimately increases. The doctor should not only give the right diagnosis and inform -through a monologue- the patient about the nature of proposed intervention and treatment in order to ensure the informed consent -both tasks (even the traditional implementation of the informed consent process) are principally related to the biomedical ethical principle of beneficence and non maleficence- and ignore the principle of respect of autonomy, which also obliges medical professionals. The use of internet technology gives the opportunity of promoting the autonomy of the patient. The patient alone cannot manage this opportunity properly. For this reason, doctors should undertake the additional role of educators and consultants of the patient in his «walkabout» on the Internet. An example of this is the proposal to the patient of some internet sites, the credibility and accuracy of which is controlled by the doctor himself. This is of great importance and very functional in the case of chronic patients who inevitably have to manage their problem every day alone. The empowerment of such patients in order to make independent living feasible demands an expertise from the side of the patient, which can be obtained only under the supervision of his physician (Gortzis, 2009). These extra tasks of medical professionals presuppose firstly their own familiarization with new technologies (Murray, Burns, 2011), which is not self-evident, especially for the paramedical personnel (Warm, Thomas, 2011), who offer help not only to the doctor, but also to the patients (Adams, Adams, Thorogood, 2007).

ii) The willingness of both parts as necessary presupposition of interactivity

Apart from the technological capabilities, a willingness of both parts to communicate sincerely and effectively is also needed (Murray-Burns, 2011). The choice of some patients not to talk to doctors about information found on the Internet, due to the hostile attitude of doctors, does not favor the configuration of a real relationship (Dedding, van Doorn, Winkler, Reis, 2011). On the other hand, the doctor should realize that the print-outs of the Internet that the patient brings do not mean a contestation of his authority but reflect the anxiety of the patient to find out about and resolve his problem. Moreover, the patient should not persist on a treatment and opinion read on the Internet in a way that shows challenge or defiance against doctors. In any event, it is clear that information brought by the patient does not mean knowledge brought by the patient. The doctor is the only one who can interpret and decode simple health information and transmit it to useful knowledge and effective treatment for the concrete patient. A doctor-

patient relationship is first of all a relationship of mutual trust and respect of the difficulties of both parties. There is no doubt that the patient is the vulnerable part because of his illness. Simultaneously, the doctor is also a vulnerable part who has to fight against time, the sudden and the ethical and legal responsibilities he undertakes when he is treating a person. The Internet equips the providers of information with anonymity and irresponsibility, privileges which the personal physician does not enjoy when facing the patient.

If we wanted to place the contribution of the Internet as an information provider in its real dimensions, we would conclude to the following: The Internet appeared as a new interlocutor of the patient who could emancipate himself against the authority of the doctor. Ultimately though, the possibility of obtaining medical information outside the doctor's office does not lead to a real emancipation of the patient, but gives him the opportunity of empowerment only with the help of his personal physician. Not only the treatment process, but also the real information process takes place in the doctor's office. The increasingly reduced tolerance to the paternalistic model does not correspond to a reduced presentation of the doctor. To come back to our theatrical play, the Internet as an information provider increases the scenes of the patient's appearance. In this sense, his role becomes more active but also increases the time of the doctor's presentation who undertakes not only the role of the healer, but also the role of the interpreter, educator and consultant of the patient in his association with new technologies. The new role of doctors presupposes skills and is in favor of really talented doctors, who can encourage the activation of really responsible patients.

C. Conclusions: The performance ends

At the beginning of this presentation, we presented ICT as a new theatrical scene which could add a new version of role distribution in the classical and diachronic play called "The treatment of a disease". During our consideration, we realized that the impact of ICT on the doctor-patient relationship is not always successful, not equally useful for every situation, and not always self-evident.

The utility and potentiality of use of these new technologies by regulating health care issues depends on a great range of factors (Rozenblum/Jang/Zimlichman et al., 2011). Macroscopic thinking, the use of ICT in form of telemedicine would be very useful firstly for the population of the developed western countries who lives in remote areas. Such use of ICT promotes the principle of distributive justice within the borders of a country. Similar thoughts can be made for the third world countries, where the few doctors are concentrated in the center and the majority of the population living in the periphery has no access to health care services. In this case the application of telemedicine can obtain a broader char-

acter by permitting the treatment of the population of disadvantaged countries by the best doctors of Europe and the USA. The principle of distributive justice is enforced further at a global level, since it heals the inequities created by the incidental element of being born in a poor country. In all these cases, ICT do not simply influence the doctor-patient relationship. Even more so, it creates it.

The impact of ICT on health issues depends further on the kind of illnesses faced. The importance and utility of new technologies is not identical in every form of health problems. In case of illnesses which are socially stigmatized, like alcohol addiction and schizophrenia, medical advice through the Internet facilitates patients who would otherwise refrain from treatment. The contribution of ICT in case of chronic diseases is enormous. The technical possibility of insertion of "home-made" measurements of pressure or glucose in interactive EMR allows the continual adaptation of the healing process in updated medical data. In this way, patient and doctor contribute to the promotion of the principle of beneficence, share the responsibility and interact in a way that reinforces their relationship. Furthermore, in the case of chronic patients, the use of the Internet as a simple source of medical information helps with the familiarization with the problem, in its smoother incorporation in the everyday personal and family life of patients. A conscious patient is a much more associable and competent interlocutor of the doctor than a patient who skulks from the problem.

The reference to a triadic relationship between doctor, patient and computer (Pearce, Arnold, Philips, et al., 2011) overprices the role of the computer and is a little exacerbated. Health care remains a "tango for two" even in the environment of ICT. In any event, the initial question about the new role distribution that ICT provokes does not only have one answer. ICT offers not only one new set of acting but several, since each of their applications, when used, can have a different influence on a doctor-patient relationship: others presuppose the simultaneous acting of doctor and patient (telemedicine) and others permit the lonely acting of the patient (information seeking), which is transformed into an autonomous acting only with the posterior contribution of the doctor. If we want to take a general position we would say that ICT offers the possibility of a more active role for both parts. The doctor does not lose the first role that he had in the traditional paternalistic model and in reality had maintained in the informed-consent model, but shares a part of it with the patient, while undertaking some new tasks. In this context we could support that ICT enhances the shared-decision making model and its greater impact does not concern the empowerment of the one or the other part but of the relationship.

The real impact of new technologies on the patient-doctor relationship is, at length, a question of temperament, national and personal (Andreassen, Bujnows-

ka et al., 2007). Regarding this issue from a national perspective, it is evident that the culture of the USA is more liberal and traditionally opts for the priority of the principle of autonomy, whereas Europe follows a more protective model which does not devaluate the paternalistic model in all forms of relationships. And when we want to include in our cadre-reflection the developing countries, we would add that there the paternalistic model is the only realistic choice: the patients are not only computer illiterate, but face problems of general illiterate and the few existing doctors have no time for many explanations (Norman, Aikins, Binka, 2011). ICT, of course, democratizes information and knowledge, but only from those that have internet access. The ideal world, sometimes, refrains so much from real life…

In any case, the modulation of the patient-doctor relationship depends on the personality of both parts. There are doctors who seek for the patient's participation and others who find it unnecessary. The patients have the freedom to choose a doctor autonomously, one whose personality corresponds better to their needs and wants. There are also patients who want to participate actively in the decision making, undertaking responsibility. There are others, who only want to be completely informed about their condition but refuse their involvement in the decision making process. Lastly, there are those who do not even want to be informed because they know they cannot face a negative diagnosis (Lo, Parham, 2010). But even this choice is an expression of autonomy. That simply means that even the same application of ICT does not have an identical impact on every doctor-patient pair. The personality of the doctor and patient is the element that principally modulates the relationship. In this sense, the reference to relationship models is not so useful or may even be misleading. In reality, the doctor-patient relationship has not obtained only two or three versions in the whole history of humanity. The play "The treatment of a disease" is written afresh every time that a doctor and a patient begin a partnership. What is more interesting is the fact that patient and doctor with their socioeconomic condition, their personality, their values and preferences are not only the actors but also the authors, and the directors of their common story.

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The value of measuring intellectual capital (IC) in higher education – a new challenge of our days

Konstantinos Kalemis, Roni Bou Saba & Elpida Alhazidou

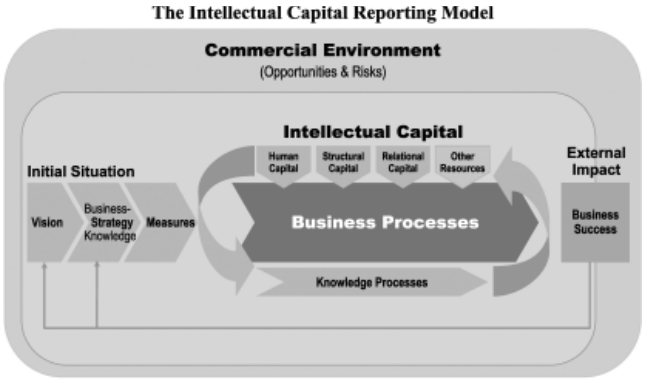
1. Introduction: Intellectual capital and higher education

Over the past decade, the rapidly growing realization of the importance of intangible assets and intellectual capital as a whole in the operation of organizations has led to the need to manage companies in a new way and to measure their performance in a new way.

In the business world, where most of the organizational value is based on intangible assets, the ability to recognize and estimate the sources of this value has become vital for companies. In order to manage intellectual assets we have to recognize where this value is coming from and how it is created in an organization. It has become very popular to define and study intellectual capital, and several authors have tried to define it in a unique way and propose their own measurement methods.

Though the definitions of intellectual capital are all very similar, describing more or less the same source of intellectual assets, the approaches to measure them differ substantially. They differ primarily in the purpose of the measurement, where some methods are more appropriate for external communication and some for internal use. But what is common to all the methods is their difficult implementation in practice. There are several problems with the implementation of different measurement methods, such as the lack of necessary data, of accounting standards for intellectual capital, and of detailed method descriptions. Some of these limitations can be overcome by approximation, by subjective evaluation or simply by choosing a different method.

The key elements have evolved through just being there, to physical capital dominated to organizational capital dominated and now to human capital dominated. It could be argued that agricultural and industrial societies required human capital too, however, in these societies the use of humans tended to be as extensions of machines rather than as assets employing the intellectual capital attributes of humans such as intellectual agility and creativity.



Source: AK-WB, www.akwissensbilanz.org

Figure 1: The IC Reporting Model

Management models have also evolved but there has been a key difference in the transition to the knowledge economy. The difference is not that yet further items have been added to the balance sheet or recorded as costs in the profit and loss statement but that people are now also assets with an indeterminable value as far as standard accounting is concerned. Furthermore, the knowledge they have embodied into processes has a value that may be known as far as the owning company is concerned but, when traded, has a value dependent on the context of use of the buyer and this varies from buyer to buyer.

One obvious approach to management and measurement is to try to retain as much of the rigour of conventional accounting by adjusting its traditional instruments. Where people believe this to be impossible, they have resorted to measuring new things but retaining the forms of conventional accounting.

The alternative to this is to abandon traditional accounting and base measurement and management on the attributes of the value generating processes of individual companies. The question is whether either of these approaches can meet the need in an auditable, useful and secure way. This means a measurement regime that gives managers the levers necessary to guide the business while not instilling unwanted behaviors through measuring the wrong things nor imposing a heavy burden of measurement of people who have better things to do.

The strategic management criterion reaches to the heart of the problem. If a measurement and management scheme is to be of any real value, then it must give managers a means of translating their strategic intent into appropriate actions and feedback information showing whether these actions are working or not. Managers can affect the performance of their businesses at two levels:

- Firstly, at the organizational level where they affect how the processes of value creation in the company are interconnected.
- The second is that they can encourage improvements in individual or groups of processes at an operational level.

Examples of the first are through strategic alliances and positioning while examples of the second are investments in soft assets and conditions. If measurement is to support management effectively then the measures have to be dominated by those that look forward (Van Buren, 1999). Here lies one of the principle weaknesses of accounting-based methodologies of intellectual capital management. Accounting is based on historical transactions and is thus dominated by lagging measures. In contrast, methodologies for managing intellectual capital based on a business approach should suffer from none of the intrinsic weaknesses of financially based management methods.

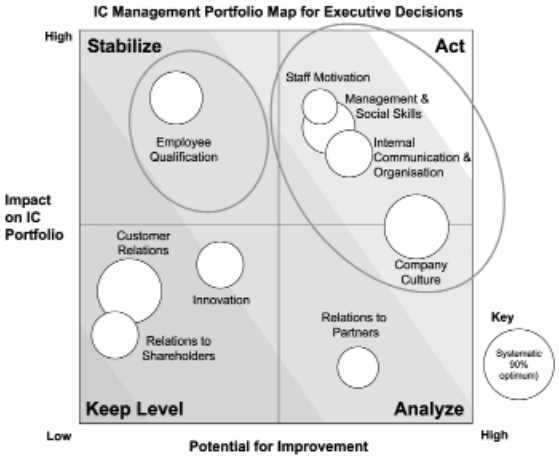


Figure 2: Management Portfolio Chart

There are, however, serious deficiencies that can considerably degrade the usefulness of these approaches. The most common of these is the measurement of stocks of intangible assets in the belief that they constitute value. Stocks represent the potential to create value and unless the measurement of potential is the specific and limited aim (Pulic, 2000) then management will be misguided in using such approaches to manage intellectual capital. Value is created when stock is employed (and degrades when it remains unused) so the attributes that must be measured are either influence if the importance of value creation pathways are the goal or influence and flow if some attempt is to be made at relative or even absolute value.

For-profit organizations compete on product differentiation or cost efficiency, using their core competencies to improve market share and profit margins. For-profit organizations measure and monitor their core competencies to maintain a competitive advantage. Traditionally, this has focused on financial and physical measures. However, recently, many for-profit organizations have realized that the expertise of their employees represents their most valuable resource or core competency. The rationale is that expertise, if used properly, leads to innovation in products and services, and improved customer satisfaction. Therefore, they have recently focused on measuring intellectual capital in the firm. Similarly, higher education institutions compete for students, faculty, and funding. In contrast to many for-profit organizations, their major product is their intellectual capital, making its measurement and management even more crucial to organizational effectiveness.

By understanding and measuring their intellectual capital, higher educational institutions can better understand where their core competencies lie, thus potentially allowing a better allocation of resources, potential synergies, and ultimately, achievement of strategies and goals. This potentially translates into greater student and faculty acquisition, retention, and achievement of research or teaching goals. Furthermore, by maximizing the efficiency of intellectual capital *via* teaching or research using a "production possibilities frontier" economics approach, colleges and universities can potentially significantly improve the quality and effectiveness of their endeavors in teaching and research. Liu (2007) reported a study showing the relationship of human capital as a value creation indicator that can be used to help formulate organizational strategy, provide some evaluation base, and allocate some resources in the context of Universities.

While this paper discusses the evaluation of intellectual capital in academic organizations, these organizations are not the only institutions whose primary function is knowledge creation. Both private sector and government research and development centers have a similar focus.

2. Measuring Intellectual Capital: Common measures

In current knowledge economy, it is often not the financial and tangible assets that drive company success and value, but rather intangible elements such as employee expertise, customer loyalty, operational effectiveness or innovation. These factors depend ultimately on employees, the ability to measure employees' knowledge and skills, and to align them with an organization's mission and goals. Some argue that measuring intellectual capital more accurately reflects the true value of a company and provides insights into core competencies which create sustainable competitive advantage.

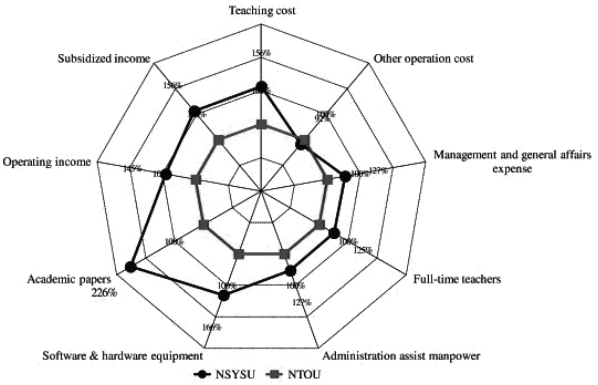


Figure 3: Measuring cost and teaching and research performances

Furthermore, it can be argued that a knowledge firm, such as a University, has several basic and essential functions: knowledge creation, knowledge extraction, and knowledge transmission. The ability to identify and measure the intellectual capital represents a way to allocate and develop it as well as to institutionalize the effective management of it. In terms of universities specifically, competition to attract talented faculty, staff and students remains significant. The ability to identify and manage strategic intellectual capital to respond to changing needs in local, state, national and international economies and societies represents an important method to sustain or improve the competitive advantage of the firm.

Tom Stewart's (1997) Ten Principles for Managing Intellectual Capital:

1. Companies do not own human and customer capital. Companies share ownership of human assets with employees. They share ownership of customer capital with suppliers and customers. An adversarial relationship with employees destroys wealth.
2. To create human capital it can use, a company needs to foster teamwork, communities of practice, and other social forms of learning.
3. To manage and develop human capital, companies must unsentimentally recognize that some employees, however intelligent or talented they are, are not assets. Invest in proprietary and strategic knowledge workers; minimize all other costs.
4. Structural capital is most easy to control because companies own it, but customers are where the money comes from.
5. Structural capital serves two purposes: to amass stockpiles of knowledge that support the work customer's value, and to speed the flow of that infor-

mation inside the company. Just-in-time knowledge is more efficient that knowledge stored in the warehouse.

6. Substitute information and knowledge for expensive physical and financial assets.
7. Knowledge work is custom work. Mass production does not yield high profits.
8. Analyze your value chain to see what information is most crucial. The knowledge work is generally downstream, close to the customers.
9. Focus on the flow of information, not the flow of materials. Information once supported the real business; now it is the real business.
10. Human, structural and customer capital work together.

Therefore, there has been a strong movement over the past few decades to not only measure a firm's physical assets, but also their intangible intellectual assets. In the next section, we review only two of the more popular models that have been developed in the business world to measure intellectual capital (Bontis, 2001, Leitner, 2005 and Van den Berg, 2002).

2.1 E-Learning as a knowledge management approach for IC utilization in adult education

Knowledge is commonly distinguished from data and information. Data represent observations or facts out of context, and therefore not directly meaningful. Information results from placing data within some meaningful context, often in the form of a message.

Knowledge is that which we come to believe and value based on the meaningfully organized accumulation of information (messages) through experience, communication or inference. Knowledge can be viewed both as a *thing* to be stored and manipulated and as a *process* of simultaneously knowing and acting - that is, applying expertise. As a practical matter, universities need to manage knowledge both as object *and* process.

Knowledge can be *tacit* or *explicit:*

- Tacit knowledge is subconsciously understood and applied, difficult to articulate, developed from direct experience and action, and usually shared through highly interactive conversation, story-telling and shared experience.
- Explicit knowledge, in contrast, can be more precisely and formally articulated.

Therefore, although more abstract, explicit knowledge can be more easily codified, documented, transferred or shared. Explicit knowledge plays an increas-

ingly large role in organizations, and it is considered by some to be the most important factor of production in the knowledge economy. Imagine an organization without procedure manuals, product literature, or computer software.

Knowledge may be of several types, each of which may be made explicit. Knowledge *about* something is called declarative knowledge. A shared, explicit understanding of concepts, categories, and descriptors lays the foundation for effective communication and knowledge sharing in organizations.

Shared explicit causal knowledge, often in the form of organizational stories, enables organizations to coordinate strategy for achieving goals or outcomes.

Knowledge in a university environment, especially the academic knowledge, can relate to the above three types of knowledge, and therefore make it hard for the universities to manage it properly.

Knowledge also may range from general to specific (R. M. Grant 1996). General knowledge is broad, often publicly available, and independent of particular events. Specific knowledge, in contrast, is context-specific. General knowledge, its context commonly shared, can be more easily and meaningfully codified and exchanged, especially among different knowledge or practice communities. Codifying specific knowledge so as to be meaningful across a university requires its context to be described along with the focal knowledge.

Effective performance and growth in knowledge-intensive organizations requires integrating and sharing highly distributed knowledge. Although tacit knowledge develops naturally as a by-product of action, it is more easily exchanged, distributed, or combined among communities of practice by being made explicit. However, appropriately, explicating tacit knowledge so it can be efficiently and meaningfully shared and reapplied, especially outside the originating community, is one of the least understood aspects of knowledge management. Yet organizations must not shy away from attempting to explicate, share and leverage tacit, specific knowledge. This suggests a more fundamental challenge, namely, determining which knowledge *should* be made explicit and which left tacit. The issue is important, as the balance struck between tacit and explicit knowledge can affect competitive performance.

Knowledge may be inherently tacit or may appear so because it has not yet been articulated, usually because of social constraints. Articulating particular types of knowledge may not be culturally legitimate, challenging what the firm knows may not be socially or politically correct, or the organization may be unable to see beyond its customary habits and practices.

And of course, making private knowledge public and accessible may result in a redistribution of power that may be strongly resisted in particular organizational

cultures. Knowledge also may remain unarticulated because of intellectual constraints in cases where organizations have no formal language or model for its articulation.

3. What is Intellectual Capital?

OECD (1999) defines intellectual capital as the economic value of two categories of intangible assets of a company: organizational ("structural") capital; and human capital. Structural capital refers to things like proprietary software systems, distribution networks, and supply chains. Human capital includes human resources within the organization and also customers and suppliers of the organization. Often, the term "intellectual capital" is treated as being synonymous with "intangible assets" or "knowledge assets." However, OECD considers 'intellectual capital' as a subset of overall 'knowledge assets' and this study propose an identical perspective.

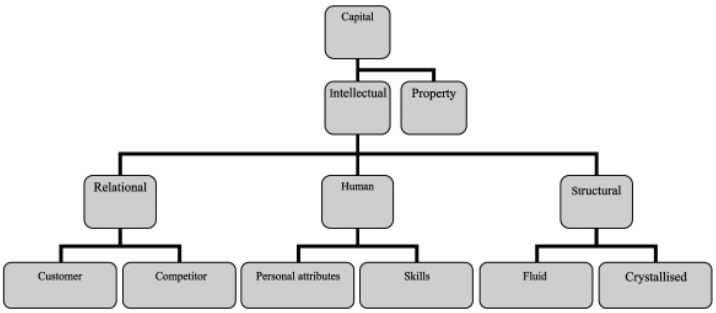


Figure 4: Common representation of the structure of IC

Stewart (1997) defines intellectual capital (IC) as "the intellectual material -- knowledge, information, intellectual property, experience - that can be put to use to create wealth". Alternative definitions (at firm level) interpret IC as the difference between the firm's market value and the cost of replacing its assets. Existing conceptualizations of IC and its various models share some common overall characteristics while maintaining substantive differences in details of implementation (Malhotra 2003c). Some of the more popular measurement frameworks and models used for assessing firm level and national knowledge assets are discussed later. The differences between the current models arise from their effort at managing the complexity of measuring the intangibles. Some models focus primarily on financial metrics and offer a restricted notion of knowledge assets. Others take a more holistic view but require subjective judgment in determining a composite index that may be used for objective comparisons.

4. Measuring and Improving Performance: Changing Institutional Capacity, Culture, and behavior

To instill a culture of measuring and improving performance, institutional leaders need to:

- develop performance measurement and improvement strategies that nurture an action analytics culture and behavior;
- examine and reinvent existing business practices and processes that incorporate analytics;
- execute these performance strategies in an expeditionary manner, adapting to changing conditions and opportunities; and
- navigate and lead a change process to build organizational capacity, change the organizational culture, and foster new behaviors that both enable and reflect evidence-based decision-making and action.

The last area—changing institutional capacity, culture, and behavior—encompasses four capabilities: technology, information, analytics and innovation. Most colleges and universities have achieved the greatest sophistication in changing technology capability, with lesser levels of sophistication and achievement in information, analytics, and innovation capabilities. At any time, institutions are likely to be developing all four of these capabilities simultaneously, following intertwined paths. The field of Knowledge Management (KM) has rapidly gained popularity both in academia and in industry. From a practical point of view, KM encompasses processes and techniques for the creation, collection, indexing, organization, distribution, access to and evaluation of institutional knowledge for *reuse*. An important feature of KM is to show and highlight the importance of *tacit knowledge*. This is one of the main objectives of this research paper. Since Knowledge is the core asset of any university, we will focus on the "*Intellectual Capital-IC*" that is the knowledge embedded within the university academic environments. Figure: 1 shows a module of IC utilization at the university environment.

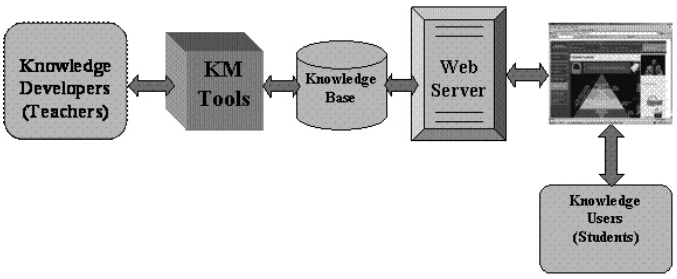


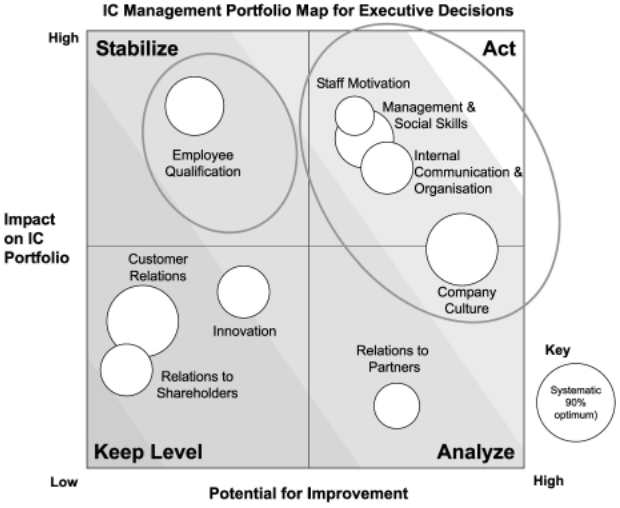
Figure 5: Intellectual Capital Utilization

To develop the knowledge management process in academic institutions that includes all these aspects, it is important to consider cultural and human resource issues as well as intelligent systems that facilitate IC knowledge (teachers) to perform their teaching duties. With regard to such systems, current practice concentrate on e-learning systems that extensively depends on search engines and database techniques, and hence looking forward to adopts the potential benefits that Artificial Intelligence (AI) techniques (Russell & Norvig, 2003) might deliver for core knowledge management activities like knowledge discovery, indexing, organization, and knowledge fusion. In order to address the above priorities, e-learning systems that can be developed under the umbrella of Knowledge Based Systems (KBS) aims to address the use of AI techniques in any KM processes. Many approaches were used to find a solution for this problem. Below are some of themes:

- Knowledge integration processes using Intranets/Extranets
- Intelligent Agents for Knowledge Discovery and Sharing
- Intelligent indexing mechanisms for multi-media
- Framework for measuring the benefits of KM
- Natural language understanding for context management
- Human Computer Interaction processes in KM

To develop e-learning systems, *Knowledge Engineering (KE)* is the way that aims for the processes involved in building e-learning systems: planning, knowledge acquisition, system implementation, system installation, and system evolution.

For systems that embedded academic material, KE involves the following steps.



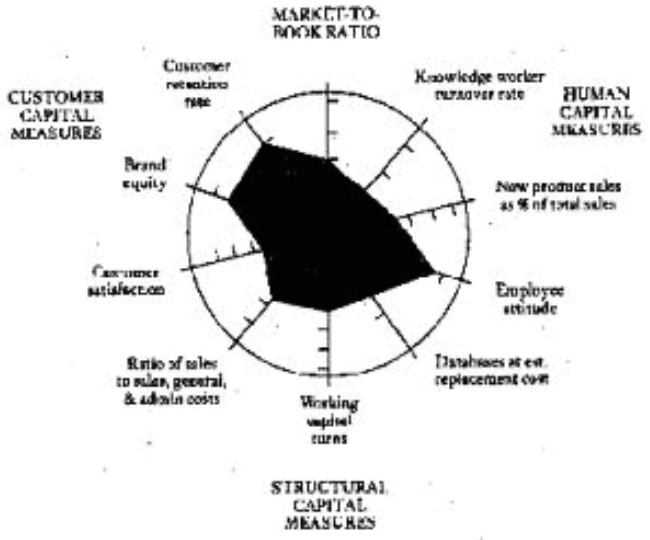
Source: EnBW AG (2005) and Fraunhofer IPK, Berlin

Figure 6: IC Management Portfolio for Executive Decisions

Measuring intellectual capital is a growing area of interest in the knowledge management field. Metrics are being developed and applied by some organizations, but there needs to be more research throughout the international community to better define these measures. One limitation of the current measures is that they do not necessarily address the "knowledge level" and the types of value-added knowledge that individuals obtain.

5. Intellectual capital in higher education

Faculty and staff represent knowledge workers since they work with ideas, explicit, and tacit knowledge for knowledge creation, knowledge transfer, and the effective use of knowledge. This occurs in every discipline; from the sciences to the humanities to the professional and social sciences (Gould, 2006). As universities and colleges compete and seek to differentiate themselves, they must understand their core competencies in terms of their intellectual capital.



5.1 Measuring Intellectual Capital In Higher Education

There has been little research on measuring intellectual capital in higher education. However, it makes sense to do so because institutions of higher education can gain a competitive advantage by identifying its intellectual capital and integrating it with its strategies and goal. While students and the state represent several important stakeholders, it did not make sense to examine their satisfaction for the purposes of this study, which was to simply measure the intellectual capital of the University. Therefore, our measurements focused almost exclusively on

the human capital component that was very similar in the two models presented above.

The common measurements in the human capital component include:

- Balanced Scorecard: Innovation and learning: patents, new products (would potentially translate into publications in academics)
- Skandia Navigator: Human Capital (Educational degrees, cross-training, training per employee, attendance at seminars) and Innovation Capital; similar to Balanced Scorecard.
- Technology Broker: Human Assets (employee expertise, academic degrees) and intellectual property assets: similar to innovation above.

The third millennium society has workers who are valuable because of what they know. Intellectual capital is the term given to the combined intangible assets which enable the company to function efficiently.

The components of intellectual capital are:

- Market assets are those which are derived from a company's beneficial relationship with its market and customers.
- Intellectual property assets include know-how, trade secrets, copyright patents and various design rights.
- Human-centered assets comprise the creative and problem-solving capability, leadership, entrepreneurial and managerial skills embodied by the employees of the organization.
- Infrastructure assets are those technologies, methodologies and processes which enable an organization to function efficiently on the long run.

6. Conclusion: invest in education

Managers all over the world are making capital investment decisions. It is necessary that the employees should have an adequate education so that the managers could thus appreciate them at their right value. The amount of education acquired by workers has an important impact on their earnings, these two elements being equally important. The more education individuals acquire, the better they are able to absorb new information, acquire new skills, and familiarize themselves with new technologies, thus their earnings being considerably higher.

Another aspect worth mentioning and which is closely connected to education is the quality of our life. Persons with higher levels of education tend to have better health than those with lower levels, because they have made an investment

in themselves, an investment that they protect by taking preventive measures to increase the probability of better health.

The contribution of education to economic growth occurs through two mechanisms. The first, and most highly publicized, is through the creation of new knowledge, known as Schumpeterian growth. More highly educated individuals will translate into more scientists, and investors working to increase the stock of human knowledge through the development of new processes and technologies. This leads us to the second way that education affects economic growth and this happens through the diffusion and transmission of knowledge.

In his 1962 classic "Capitalism and Freedom" Nobel laureate Milton Friedman described some of the effects associated with education: "A stable and democratic society is impossible without a minimum degree of literacy and knowledge on the part of the citizens and without widespread acceptance of some common set of values. Education can contribute to both."

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Can we develop e-pedagogy by enhancing the new technologies involved?

Konstantinos Kalemis, Panagiota Mamfeda & Maria Georgopoulou

1. Introduction

Teaching is extremely complex. Teaching well requires practice, skill development and refinement, constant reflection, persistence, striving in spite of conditions that may encourage mediocrity or discouragement, tenacity, organizational abilities and insights required of few other professions. When you have gifted and talented students, the curriculum must be enriched in many ways: high level science, more distinguished exercises, e.tc. (Salmon 2004). Adaptable teachers will be excited by new and creative ways to use technology effectively, and by the promise of unlimited possibilities. This does need to be balanced by the premise that the role of schools is to effectively integrate students into the dynamic social systems we call communities as positively productive and contributing citizens.

Our influence on students is immense. Teaching is an awesome responsibility that directly affects students in myriad ways. Student learning is the key focus of teaching. Effective teaching stands at the centre of student learning. To create entire new learning environments that may involve the extended community and new technologies are challenging. All of this is so even without the overlays of curriculum, assessment and reporting. People rarely underestimate the difficulties of learning. Having had to learn, we know it is a complicated and unpredictable business. Many of us, educators and lay people alike, however, tend to underrate the complexity of teaching. It often tends to be treated mechanistically- as something someone does to somebody else that can be easily measured, and on which macro-decisions tend to be made. This level of refinement takes time and genuine support. One rarely becomes a great teacher in a single school year. Outstanding teachers recognize their fundamental obligation is to help each student learn as effectively as possible and to support the ongoing learning of their peers.

Despite an increased interest in the use of e-learning to enhance students' learning, it is surprising that so little research has been conducted to justify these claims. Goodyear (2001) concluded: 'the literature on learning in higher education is surprisingly quiet with respect to what both lay people and practitioners might expect to be a key construct—that of "understanding"'. Another confir-

mation was put forward by Spector (2002), who reported: 'the big lesson about technology and learning from the 20th century is that less is known about how people learn than many educational researchers are inclined to admit'.

It is therefore critical to find out how effective e-learning practices are achieved. An effective 21st century classroom teaching and learning relies on a number of tools and one of these tools is technology.

In their review of 100 published research reports completed in the period 1991–2001, Coomey and Stephenson (2001) found little if, any, definitive evidence of the overall effectiveness of 'e-learning' compared with more conventional methods. This is not to say that this medium is ineffective but rather to say that there is little systematic and empirical work to show evidence of its evaluation. Laurillard (2002) added that "we may not have an established set of characteristic forms of effective e-learning; however, we could identify some effective existing learning activities and produce a model that captures the good practices embedded in the activity regardless of the tool utilized".

As a result, if we are to unravel the various components of effective e-learning practice, we need to consider pedagogy. Pedagogies are connected with students' learning and outcomes, and have been widely accepted for epistemological and empirical reasons. In this way, the issue of integrating e-learning into the pedagogical system has recently emerged as an important and pressing. The importance of e-pedagogy and learning is the enabler for e-learning but what could be discerned from the term e-pedagogy?

To some educators, this term may not be of any difference to the term traditional pedagogy. On the other hand, some educators view e-pedagogy as new challenges of teaching a 21st century classroom. The most critical understanding of e-pedagogy is that it ensures a successful implementation of online teaching focus for research. Many scholars view e-learning as a way forward for one aspect of e-pedagogy which is collaborative teaching. This is because all too often educators put technology first rather than pedagogy.

2. "Have you switched on your mobile phones?"

This could be the first question teachers will ask students in class (Garrison & Anderson 2003) sometime in the near future. Although, there is resistance from educational organizations to let mobiles intrude into campus, educators are taking the view that they need to be more adaptive. And rather than reject a trend, embrace it. Besides, why not let students use a mobile – which they have already paid for – and take advantage of it? In many schools and educational institutes around the globe, many researchers are setting an example of how mobile tech-

nology can be used in education – and it did not even wait for students to purchase their own mobiles. The college distributes low-cost handsets to students after disabling services such as gaming and uses them to administer multiple-choice tests, record attendance e.tc. The system allows the college to create and administer tests, track results and evaluate students. At the end of each day, students return the handsets to the college administration. For a small college it is a brave and visionary step to integrate mobile technology into formal education.

A July 2011 study showed that more than half (52 percent) of 18 to 29-year-old US adults owned smart phones of the most recent technology; this is indicative of a global trend. Not surprisingly, educators are attempting to integrate mobile technology in a blended learning environment that includes multimedia tools, computers and the Internet to create new teaching methods. Mobile Assisted Learning is helping young people today use voice recognition, text, multimedia, NFC, GPS, downloadable education apps, Bluetooth and browsing capabilities of mobiles to pick up languages and subjects, like math and history. Mobile technology is also helping them record observations and complete assignments. Practically anything in a classroom can be enhanced using a mobile phone, if educators invest adequate time and attention to the design. Mobiles can be used for listening, interacting, recording, questioning, reporting and responding – which is what learning is about. Mobile technology can also be used for other purposes on campus: to send a message to parents of students who have been missing classes; send reminders to students about due dates for returning library books; report and prevent bullying on campus using imaging and texting tools; and alert students on changes in lecture locations.

Educational institutions can also utilize mobiles for sending alerts for campus disturbances and intrusions and incidences that can place life at risks. Ironically, it is incidents of violence on campus that have led educators to begin considering the advantages of using mobiles. Many colleges have taken mobility to the next step: they have begun to manage communication for fresh intakes and applications over mobiles. The scope for innovation in the area of education using mobile technology is immense and remains under exploited. There are four distinct areas for innovation in the education space:

1. Given the shortage in the trained number of teachers and the lack of classrooms in several parts of the world, innovation in mobile technology can be an ameliorating factor.
2. Underserved students can be provided a better quality of education using mobile technology through innovative education design that not only improves delivery but cost as well.

3. Using mobile technology, innovators can enhance and improve current education processes, making it more interactive, engaging and interesting.
4. Finally, innovative mobile applications can be developed to assist in routine administrative and marketing functions of educational organizations.

The question is truly simple for those who want to ride the mobile wave: What can you do as an innovator to ensure that cell phones – and not only - currently hidden in school satchels and student pockets, are brought out to aid education?

3. Curriculum planning for the gifted students

Special subject teachers enhance the gifted learner through student talents, which include artistic, dramatic, musical (vocal and instrumental) and athletic. Through the use of rubrics, portfolios, and teacher observation, the special subject teachers are able to identify those students with exceptional talent. In the regular education art classes, bringing students to the next level in their artistic development challenges the individual potential of the exceptional student.

Through the program, students continue to develop critical thinking, increase creative problem solving skills, and broaden the skills of fluency, flexibility, originality and elaboration through a variety of creative activities.

Much like immigrants who leave the cultural comfort of their home societies and move to places with very different cultures and social practices, those who teach online leave the familiarity of the face-to-face classroom for the uncharted terrain of the online environment, whose constraints and affordances often lead to very different practices. The trans-classroom teacher who moves between the two environments, transferring ideas, strategies, and practices from one to the other, is a mental migrant. The transformations- of the teacher and of the course- that occur in these migrations and the two-way interactions between face-to-face and online teaching are the focus of this study.

As teachers adapt their courses for the online environment, they are forced to re-examine the course design, reconsider curriculum strategies, and make many decisions about what to take out and what to keep, what to add and what to substitute.

Video games used in learning fall into four categories, ranging from purpose-built edutainment to commercial games integrated as-is into the curriculum. Games that come into contact with the educational establishment often become “teacherized” by the need to embed, add, or refer to educational content linked to performance-related outcomes within the curriculum. A good game designer gives his players continuous challenges, each of which leads to another chal-

lenge, to keep them "hooked" on playing a game. This can be done by setting clear, short-term goals appropriate to the level of the player and the context within the game. Each challenge should satisfy some kind of learning objective. However, a good storyline can liven up a competition still further. In various Internet forums and game-magazine columns about video and board games, a good plot or storyline is cited as essential to a good game. Oddly enough, a fantasy context makes players more motivated to succeed at a game. So instead of having students memorize types of ores, have them play as miners prospecting for minerals and needing to identify profitable sources. Rather than using games to escape from their studies, encourage students to use games to escape into their studies. Make sure that there are many different ways to accomplish each goal. Simply plotting out a step-by-step progression through the goals can be stifling. As much as possible, let each player (or team) works out their own strategy to the endpoint while still keeping the game challenging and achieving the learning objectives.

Using technology for learning in ways that are relevant, meaningful, challenging, and hands-on is not an easy task. It requires a rethinking of curriculum and pedagogy as well as the spatial and temporal boundaries of education. It necessitates a re-evaluation of learning in areas of engagement, individualization, and collaboration. Rethinking teaching and learning should move education away from conventional methods by which kids are told what to learn, when, where, and how. Instead, knowledge should be actively constructed and students should be made responsible for their own learning. The process of curriculum and pedagogy transformation is complex, cumulative, and long term in scope, but one way to initiate the process is to change the curriculum from within. In addition, the curriculum should be stripped of outdated and irrelevant content and replaced by a model of learning that recognizes that virtually any information can be accessed and manipulated anywhere, anytime, and by anyone. Just adding more content is not the answer. While technology plays an important role in this respect, the greatest obstacle to be overcome is human; parents, teachers, students, and other stakeholders need to come to understand school as a process, not a place.

3.1. Matching Games to the Curriculum - Teaching with games

> "Although games can be effective learning environments, not all games are effective, nor are all games educational. Similarly, not all games are good for all learning or for all learning outcomes. The key is how games are used. Simply adding games to a curriculum does not mean they are integrated with it. Consider how best to add games to the educational tool set, blending them with other activities. Integration requires understanding of the medium and its alignment with the subject, the instructional

> strategy, the student's learning style and the intended outcomes. Game can be integrated into education through a range of approaches such as allowing students to create their own games, integrating commercial games into the curriculum, or critiquing games to find what is incorrect or lacking which allow students to explore not just the subject but how the games is structured". Dr Diana G. Oblinger (2006).

Imagine a scene in which groups of tech-savvy students wander among dusty library stacks seeking the books and articles from the recommended hard-copy lists given to them by their professors. With iPods and smart phones intact, they do one-handed text messaging and then plunk down their wireless laptops and check their e-mail before earnestly hunting down a book's call numbers. Eventually, they go searching for those texts, finally reach the right floor, but are frustrated when the text is not there or is not what they thought it would be. They go back to their laptops, and using online databases, and interactive Web sites, they locate what they need. Then they instant message their classmates to ask for clarification about the assignment, and dialogue ensues about their respective research efforts along with exchanges of Web addresses for several popular political blogs. Perhaps this scenario, although fabricated, is a familiar one in schools and libraries today, when students from all over the world can easily communicate and share ideas, lessons and do inter-active plans in the same time.

At this point, let us suggest some practical ideas concerning teaching with games such specific groups of students as migrants and ethnic minorities. Games are useful tools for teaching for several reasons. First, they engage. Second, they are a language that most immigrant bilingual students speak fluently; immigrants, of course, speak "game" only rudimentarily if at all, and so distrust the medium. Third, games can in many instances present traditional content in previously unavailable ways that facilitate understanding, such as simulation games about resource management and scientific principles. It couldn't be ignored as a potential teaching tool a phenomenon that attracts millions of paying customers and has up to one million players collaborating and competing online at once, which is what massive multiplayer online games do around the world, major corporations, the U.S. military, and other government institutions are all in the process of incorporating various types of learning games into their methodologies and curricula. But not for all purposes, of course, and not as the only pedagogical medium they are using the games not only for "training," but also to enhance deep understanding. Understanding all the ways in which computers can help students learn is a much longer discussion than any single citation or paragraph can deal with.

The field of literacy across the curriculum can be achieved in many ways with very positive results as well as the digital literacy by the use of all mobile and computer technology. It makes teaching and learning more participatory; students generate ideas and develop sub-skills which help their essay-based examinations.

We may see very good results in a major percentage of what we call School Literacy and the us of games based teaching will assist the teacher in a multi – cultural school to accomplish most of the targets of the curriculum in lessons like Math's, History, Geography and of course Language lessons (grammar, text writing, e.tc).

3.2 Our aims and goals from an enhanced curriculum plan

The primary purpose of the Enrichment/Gifted and Talented Curriculum is to challenge eligible students to think differently and critically through a variety of instructional approaches. Such instructional approaches may include brainstorming, cooperative learning, oral demonstrations and presentations, creative analytical writing, and creative problem solving techniques.

The primary goal for the teacher/facilitator is to determine a particular area of study. Such study may include short term tasks as well as long term projects. Instruction then focuses on refining and expanding previously learned skills through practice and application.

3.2.1 Goals for Enrichment

- Students will develop the ability to analyze and react to literature.
- Students will develop the ability to think and reason logically.
- Students will develop more adequate self-concepts by utilizing small group cooperative learning strategies with other students.
- Students will develop their intellectual and creative abilities through challenging instructional activities.
- Students will learn to appreciate their values, worth, potential and achieve a sense of pride in work accomplished.
- Students will develop improved task commitment.
- Students will develop self-motivation and consistently produce quality work.

3.2.2 Goals for the Gifted and Talented Program

Students who are gifted and talented are found in full-time self-contained classrooms, magnet schools, pull-out programs, resource rooms, regular classrooms, and every combination of these settings. No matter where they obtain their education, they need an appropriately differentiated curriculum designed to address their individual characteristics, needs, abilities, and interests. An effective curriculum for students who are gifted is essentially a basic curriculum that has been modified to meet their needs. They need time for in-depth exploration, they manipulate ideas and draw generalizations about seemingly unconnected concepts, and they ask provocative questions. A program that builds on these characteristics may be viewed as qualitatively (rather than quantitatively) different from the basic curriculum; it results from appropriate modification of content, process, environment, and product (Maker, 1982).

Content consists of ideas, concepts, descriptive information and facts. Content, as well as learning experiences, can be modified through acceleration, compacting, variety, reorganization, flexible pacing, and the use of more advanced or complex concepts, abstractions, and materials. If they master a particular unit, they need to be provided with more advanced learning activities, not more of the same activity. Their learning characteristics are best served by thematic, broad-based, and integrative content, rather than just single-subject areas. In addition, such concept-based instruction expands opportunities to generalize and to integrate and apply ideas. Middle and secondary schools are generally organized to meet student needs within content areas. Jacobs and Borland (1986) found that gifted students benefit greatly from curriculum experiences that cross or go beyond traditional content areas, particularly when they are encouraged to acquire an integrated understanding of knowledge and the structure of the disciplines.

To modify process, activities must be restructured to be more intellectually demanding. Activity selection should be based on student interests, and activities should be used in ways that encourage self-directed learning. Bloom's Taxonomy of Educational Objectives (1956) offers the most common approach to process modification. His classification system moves from more basic levels of thought, such as memory or recall, to more complex levels of analysis, synthesis, and evaluation. Every teacher should know a variety of ways to stimulate and encourage higher level thinking skills. Group interaction and simulations, flexible pacing, and guided self-management are a few of the methods for managing class activities that support process modification.

Gifted students learn best in a receptive, nonjudgmental, student-cantered environment that encourages inquiry and independence, includes a wide variety of

materials, provides some physical movement, is generally complex, and connects the school experience with the greater world. Although all students might appreciate such an environment, for students who are gifted it is essential that the teacher establish a climate that encourages them to question, exercise independence, and use their creativity in order to be all that they can be. A primary reading goal is for students at all grades to read independently with fluency and comprehension so that they become lifelong readers and learners. In order to achieve this goal, students benefit from "*daily opportunities to read books they choose for themselves, for their own purposes, and their own pleasures*" (Calkins, 2001). In early reading instruction, children need to know about sounds, letters and words, and their relationships. Systematic phonics instruction typically involves explicitly teaching students a pre-specified set of letter-sound relations and having students read text that provides practice using these relations to decode words (National Reading Panel, 2000). In this point come the Web 2.0 services: they often, make better understanding and practicing tools than traditional teaching systems. It has been argued that e-Learning 2.0 and Assessment 2.0 are inevitable evolutions of current practice (and will replace it); that traditional VLEs and e-assessment systems are unnatural to students and cannot keep up with the rapid change (and growth) of Web2.0 tools and services. The reading process requires readers to respond to texts, both personally and critically, and relate prior knowledge and personal experiences to written texts. In particular, the problem of how to teach and deliver content has been insufficiently attended to on the assumption that the technology itself will explain the many facets of teaching and learning (Bignell S.2008). This is because all too often educators put technology first rather than pedagogy. In particular, the problem of how to teach and deliver content has been insufficiently attended to on the assumption that the technology itself will explain the many facets of teaching and learning. Many school principals note that appropriate channels for content delivery are as important as the selection of appropriate materials. The traditional custodians of knowledge, the teachers, now find that the possibilities of technology are outstripping advancements in pedagogical and psychological theory. Students are not getting the experiences crucial for their development of critical, analytical and independent learning at tertiary level.

4. That means that we need a new pedagogy for e-pedagogy?

Since, the invasion of digital technologies in classrooms three decades ago, many education providers has been streamlining their education philosophies. Further as new technologies allow for democracy in education for all, Information Communication technologies (ICTs) have become the enabler to ensure access to edu-

cation. Revolutions affect all parts of society, and education is not exempt from the on-going cultural revolution of which technological change is an intrinsic part. Connectivism may not be the answer or, at least, not the complete answer but it does add something to our thinking about teaching and learning in the 21st century.

While the new technologies may eventually lead us to develop a new understanding of effective pedagogies that are specific to these learning contexts, a good place to start is to look for well-established pedagogies that extant research tells us are effective for the purpose of this study, pedagogy is any effective behaviour or activities designed to impart knowledge, it is used in the process of teaching and learning, and has an association with students' learning and outcomes. Of particular interest to many e-learning researchers have been those pedagogies associated with social interactions (Stephenson 2002) and online discussions (Henri 1997) in other teaching and learning contexts and tie in well with students' outcomes.

A pedagogy that fosters deep learning, undertaken in collaboration with fellow learners, would require a commensurate assessment system. Such a system would exhibit some or all of the following characteristics.

- Authentic: involving real-world knowledge and skills.
- Personalised: tailored to the knowledge, skills and interests of each student.
- Negotiated: agreed between the learner and the teacher.
- Engaging: involving the personal interests of the student.
- Recognise existing skills: willing to accredit the student's existing work.
- Deep: assessing deep knowledge – not memorisation.
- Problem oriented: original tasks requiring genuine problem solving skills.
- Collaboratively produced: produced in partnership with fellow students.
- Peer and self assessed: involving self reflection and peer review.
- Tool supported: encouraging the use of ICT.

Information and communication technology (ICT) has a major impact on the world in which young people live. Similarly, e-learning (that is, learning supported by or facilitated by ICT) has considerable potential to support the teaching approaches outlined in the above section. Schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning.

5. How children learn, using e-technologies and enhanced web 2 facilities?

5.1 Encouraging reflective thought and action

Students learn most effectively when they develop the ability to stand back from the information or ideas that they have engaged with and think about these objectively. Reflective learners assimilate new learning, relate it to what they already know, adapt it for their own purposes, and translate thought into action. Teachers encourage such thinking when they design tasks and opportunities that require students to critically evaluate the material they use and consider the purposes for which it was originally created.

5.2 Enhancing the relevance of new learning

Students learn most effectively when they understand what they are learning, why they are learning it, and how they will be able to use their new learning. Effective teachers stimulate the curiosity of their students, require them to search for relevant information and ideas, and challenge them to use or apply what they discover in new contexts or in new ways. This encourages them to see what they are doing as relevant and to take greater ownership of their own learning.

5.3 Facilitating shared learning

Students learn as they engage in shared activities and conversations with other people, including family members and people in the wider community. Teachers encourage this process by cultivating the class as a learning community. In such a community, everyone, including the teacher, is a learner; learning conversations and learning partnerships are encouraged; and challenge, support, and feedback are always available. As they engage in reflective discourse with others, students build the language that they need to take their learning further.

5.4 Making connections to prior learning and experience

Students learn best when they are able to integrate new learning with what they already understand. When teachers deliberately build on what their students know and have experienced, they maximize the use of learning time, anticipate students' learning needs, and avoid unnecessary duplication of content. Teachers can help students to make connections across learning areas as well as to home practices and the wider world.

5.5 Providing sufficient opportunities to learn

Students learn most effectively when they have time and opportunity to engage with, practice, and transfer new learning. This means that they need to encounter new learning a number of times and in a variety of different tasks or contexts. It also means that when curriculum coverage and student understanding are in competition, the teacher may decide to cover less but cover it in greater depth. Appropriate assessment helps the teacher to determine what "sufficient" opportunities mean for an individual student and to sequence students' learning experiences over time.

5.6 Teaching as Inquiry

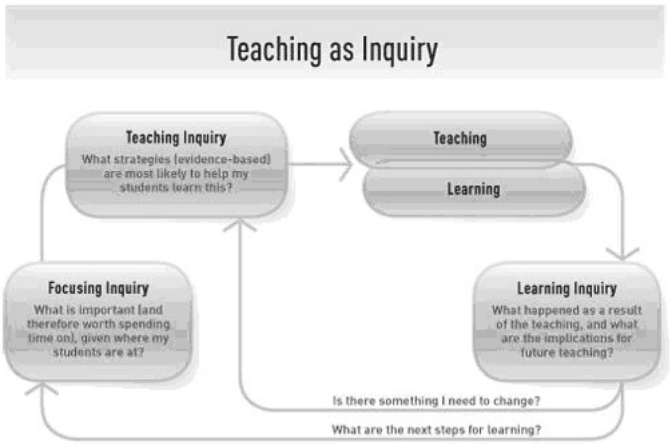

Table 1: More details can be found at http://nzcurriculum.tki.org.nz/Curriculum-documents/The-New-Zealand-Curriculum/The-school-curriculum-Design-and-review

6. Conclusion

Some academics have misunderstood the concepts of learning by doing. It is not about organizing student activities in a classroom or arranging classrooms to create a scene of busy groups of students working on allocated tasks. Many do believe that if we increase the role of all electronic devices involved in the classroom, then we will have the ultimate result. This is not true: the most essential element is that the teacher should have vision, humor, be an investigator at all times and then use the digital appliances in his classroom. Rather the starting principle is to create a classroom situation in which students are intellectually active. Physical arrangements and curriculum can promote this kind of learning

but they are no substitute for the overall learning environment which must create a discourse among students, and among teachers and students in order to discuss why particular understandings have emerged and whether these understandings represent an accurate and sophisticated view of whatever problem is before the class. In this way, the gifted student should easily reach both literacy across the curriculum as well as digital literacy.

The use of games in teaching is desirable not only in teaching children but also in the Secondary School. In fact, the idea of using games in teaching essay writing skills is already extended to the university system. Morris (2009), quoting The Economist (2008) notes that: 'Recently, several universities, including Cambridge, have pointed out that a significant number of students are not well prepared for the academic burden that awaits them ..... Foundation programmes are more essential than ever to ensure that students' academic abilities meet university requirements .... one of the most essential skills academic writing'.

Morris (2009) further notes that academic writing may be one of the more difficult skills to master as it demands a new approach to register and generic structure. Similarly, research works, observations, experience and examiners' reports in Nigeria signify that students, especially at the primary and secondary levels need more and better improved teaching of essay writing skills. It is therefore necessary that deliberate efforts must continue to be made at further enhancing the teaching and learning of essay writing (and other language skills).

Learning experiences provided by games will need to rely on collaboration between educators and game designers and should become more commonplace both within commercial spaces and in education as digital technologies reshape established approaches to curriculum delivery. Through meta-teaching, we require students to make explicit connections about technology both as prospective teachers and as current and future learners. After each lesson, students and instructors critique both what went on in the lesson and why. We encourage students to ask important *why* questions about technology: Why did we ask you to do that activity? How is that activity enhanced with the use of technology? When we think of games, we think of fun. When we think of learning we think of work. Games show us this is wrong. They trigger deep learning that is itself part and parcel of the fun. It is what makes good games deep. If games are to stay complex and yet sell to more and more people, then learning as a lens for game designers may be significant. It is often said that what stops games from spreading to educational sites is their cost, where people usually have in mind the wonderful "eye candy" that games have become. But it is the cost to implement the above principles that is the real barrier. And the cost here is not just monetary. It is the cost, as well, of changing people's minds about learning—how and where it is done.

This may also change some people's minds about computer and video games, as well.

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Introducing new technologies in the classroom: Is that a way to achieve "active learning"? Let's see deeper into curriculum development for the gifted students

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1. Introduction

Let's imagine the following scenario*:*

Mustafa, a 16-year-old college boy, woke up early Friday morning to download this week's History pod cast to his iPod. As he got into his car for the one-hour commute to campus, he put on his ear buds and began to listen to his professor's test review session. The lecture ended as he entered the student parking lot. Before exiting the car, Mustafa received a text message on his smart phone from Lian; his study partner just arrived from China. She had some questions and wanted to meet up with him in the library before the test. He pulled out his laptop and backpack before locking the car door. By the time he reached the library, Lian was already connected and online at her favourite table. She was busily transferring the professor's lecture notes from the course Web site to her pen drive. "What's the answer to question number three?" she asked as Mustafa sat down. "I don't know," he answered; "Why don't you Google it to find out?" "I've got a better idea," she responded. "Why don't you IM the professor? He's online right now."Professor Davis was on his way back to his office from Media Services when a familiar chime let him know that someone was IMing him. He pulled out his PDA and read the message. With stylus in hand, he typed the response, "Call me." Ten seconds later, his cell phone rang. "Hello?" "Hi, Dr. Davis. Mustafa and I are in the library and we are having a hard time answering question number three." "Are you in front of your computer?" Dr. Davis asked. "Yes, we are." "Go to this week's lecture notes and review the section on Western Expansion. You'll find what you are looking for there." "Thanks a lot," Lian answered. "We'll see you in class."

Often, educators' use of the term "active learning" has relied more on intuitive understanding than a common definition. Consequently, many faculties assert that all learning is inherently active and that students are therefore actively in-

volved while listening to formal presentations in the classroom. Analysis of the research literature (Chickering and Gamson 1987), however, suggests that students must do more than just listen: They must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Use of these techniques in the classroom is vital because of their powerful impact upon students' learning.

Several studies have shown that students prefer strategies promoting active learning to traditional lectures. Other research studies evaluating students' achievement have demonstrated that many strategies promoting active learning are comparable to lectures in promoting the mastery of content but superior to lectures in promoting the development of students' skills in thinking and writing. Further, some cognitive research has shown that a significant number of individuals have learning styles best served by pedagogical techniques other than lecturing. Therefore, a thoughtful and scholarly approach to skillful teaching requires that faculty become knowledgeable about the many ways strategies promoting active learning have been successfully used across the disciplines. Further, each faculty member should engage in self-reflection, exploring his or her personal willingness to experiment with alternative approaches to instruction.

2. Today's classes are multicultural

Wherever one looks, evidence of mobile penetration is irrefutable: cell phones, PDAs, MP3 players, portable game devices, handhelds, tablets, and laptops abound. No demographic is immune from this phenomenon. From toddlers to seniors, people are increasingly connected and are digitally communicating with each other in ways that would have been impossible only a few years ago. Consequently, it comes as no surprise that sooner or later people would begin to look for ways to integrate mobile computing into e-learning to make courses more accessible and portable. Personal digital assistants (PDAs) are also seeing more use in the classroom. New educational software programs (such as quizzing and trivia programs, along with grade- and assignment-tracking tools) show great benefits for both students and teachers. The increase in use is attributed to the affordability and portability that PDAs offer, making it possible for each student to have access to a computer at any time and any place. No longer dependent on computer labs for computing capability, students can work on PDAs right at their desks. Students can also take PDAs on field trips to collect, store, and analyze data on site. As the market for portable computing devices continues to expand, e-books are predicted to grow with them. In response, online bookstores have increased their holdings of e-books, with some publishers now including e-book versions of their printed college textbooks. Currently, companies are working on

adding audio, video, and text-to-speech components for e-book software, which might-along with new usability standards-eliminate the barriers to their widespread adoption within the next few years. Portable computing/communication devices such as laptops, PDAs, and smart phones connected to wireless networks enable mobility and facilitate mobile learning. Mobility allows teaching and learning to extend beyond the traditional classroom; in the case of distance learning, users of portable devices can break the tether of the home computer. Within the classroom, portable computing/communication devices give instructors and students increased flexibility and provide new opportunities for interaction. Mobile technologies also support learning experiences that are collaborative, accessible, and integrated with the world beyond the classroom.

3. Digital literacy across the curriculum

Enrolment and achievement data frequently show an overrepresentation of migrant and ethnic minority groups in educational institutions with lower academic demands, an overrepresentation in special education, as well as disproportional early dropout and expulsion rates. Given the lack of research in this area, it is rather difficult to assess the extent to which educational underachievement of migrants and ethnic minority groups can be traced back to forms of discrimination. Many factors influence their educational attainment, e.g. language competency, socio-economic factors, parents' educational background, and cultural values. Still, among signs of discriminatory attitudes and practices are that minority students are faced with low teacher expectations, assignment to special education for reasons other than disability, placement in lower than age-appropriate grades, and restricted admittance into more prestigious or private institutions. In addition, disadvantages exist when there is a lack of or low quality of compensatory programs, a lack of effective language programs and of specifically trained language teachers, a lack of intercultural curricula and minority education programs as well as a lack of religious pluralism. Differentiated data shows that great differences exist in achievements between various migrant and ethnic minority groups. While some ethnic groups achieve significantly above average results or even outperform majority students on some educational levels, others are very much behind.

PISA study results of students' reading, mathematical and scientific literacy skills show that in most countries, native students perform better than students with a foreign background (born in the country or abroad). Reports on non-migrant ethnic minority groups (national, autochthonous or linguistic minorities) show underachievement in education of several groups, among them Roma (and Sinti) in several countries, or the Muslim minority in Greece. The reasons for the lower academic achievement of these groups vary and are manifold. Overall, there is

a lack of research and data concerning the reasons for the educational underachievement of non-migrant ethnic minority groups. It seems fair to say that in many cases, a history of social exclusion, assimilationist tendencies, and a monocultural orientation in education lead to distrust in the educational system and to low expectations about the benefits of educational attainment. Since a large proportion of the groups' older generation has not met basic educational standards, it has been problematic to increase the educational attainment of the younger generation. Some consider schooling of their children even as harmful since, in their view, it deprives children of their family and socializes them into different cultural values and norms. Most basic cell phones today can send and receive text messages, voicemail, and e-mail. E-mail is a convenient way to communicate information to the learning community, so the instructor can begin by sending class-wide "broadcast" e-mails that students can access via a variety of mobile devices.

With the challenge of new mobile technologies for podcasting comes a great opportunity for providing new types of services for traditional and distant learners. The potential offered by podcasting makes it worth the effort of learning and using. The implications of mobile learning are far-reaching, and its potential effect on education profound. The next few years will see a period of rapid growth for mobile learning, with evolutionary rather than revolutionary changes. Mobile learning capabilities will continue to expand with the introduction of smaller, more sophisticated and powerful gadgets capable of delivering data in a variety of formats anywhere, at any time. Today's mobile computing devices have more computational power than the largest computers of a generation ago, and this trend continues. Whether mobile learning will be adopted by faculty and students will depend to a great extent on how efficient and necessary they consider the services and features. For example, if students like to be informed via SMS every time a new message is posted on the announcements pages of their online courses, they would likely subscribe to such a service if it were offered as an option. By the same token, if faculty could easily facilitate their online courses and respond to individual student queries while travelling, many would gladly take advantage of it. This – with no doubt – facilitates the use of language and reduces the barriers between the different language students. Most of the immigrant students today can communicate in English; even if the level of language achievement is not so high, this enables them to participate in the digital class.

4. Can we incorporate active learning in the classroom?

The modification of traditional lectures (Penner 1984) is one way to incorporate active learning in the classroom. Research has demonstrated, for example, that if a faculty member allows students to consolidate their notes by pausing

three times for two minutes each during a lecture, students will learn significantly more information (Ruhl, Hughes, and Schloss 1987). Two other simple yet effective ways to involve students during a lecture are to insert brief demonstrations or short, ungraded writing exercises followed by class discussion. Certain alternatives to the lecture format further increase student level of engagement: (1) the feedback lecture, which consists of two minilectures separated by a small-group study session built around a study guide, and (2) the guided lecture, in which students listen to a 20- to 30-minute presentation without taking notes, followed by their writing for five minutes what they remember and spending the remainder of the class period in small groups clarifying and elaborating the material.

Recently, a new idea comes on: the educational use of QR Codes. A quick response (QR) code is a two dimension bar code that can be read on devices such as a mobile device (camera phone) or a laptop computer which, once accessed, will allow you to complete an action. For instance, reading some text, accessing a web site or texting a number. As an illustration the QR code opposite will open a web page. A useful way of thinking of QR codes is that they link the physical world (the poster, print out, room, or physical object) to the electronic (web resource, text information) or facilitating communication (SMS message, phone call). This adds value through improving the potential of making access to information more efficient and effective. What tasks can be completed through a QR code? Technology QR codes are evolving rapidly. This is evident from the increasing number of activities that can be achieved using a QR code. However, in the context of this introduction there are four core content types or actions associated with QR codes. As mobile learning and technology is more readily integrated within classroom settings, QR codes can be used as an interesting method to capture a student's attention and make lesson material more interactive. Quick response codes, also known as 'QR' codes, are simple, scannable images that are a form of barcode. By scanning a QR code image through a mobile device, information can be accessed including text, links, bookmarks and email addresses. In the classroom, QR codes can be used in a variety of ways - from conducting treasure hunts to creating modern CVs. One of the most effective ways the QR code could be used is in mail order catalogs. In the catalog it would have information on each of the products, pictures and then a QR code with a call to action to scan it. When scanned, the code would pull up a promotional video that explains the product further and shows examples of the product being used. When the video finishes, it will prompt the user to directly add the item to their shopping cart. Additionally, because the catalog could have the QR code link to a URL of their choice, they can track all scans and conversions to measure effectiveness and make necessary changes. Other ways to use QR Codes:

- to assign homework assignments
- to link to important forms

• to give feedback
• for polls, surveys, e.tc

In adult education, QR Codes may be used for examinations, certification and many other applications. Because of their unusual design, the QR codes would certainly draw the viewers eye, the problem is, these codes are meant to be viewed (primarily but not exclusively) on a mobile phone. If they have a PDF to fill out, it would be much easier to download it to a computer than a mobile phone.

4.1. Visual Literacy across the Curriculum

Learning science, technology, social studies, health and nutrition, history and geography, mathematics, arts and crafts all rely on visual texts such as maps, diagrams, graphs, timelines or tables.

• Visualizing is thinking

Drawing information, as a diagram, map or table, helps children to see how facts are connected, whereas «making notes» often provides only a collection of isolated pieces of data. Visual texts do some things better than verbal texts; verbal texts do some things better than visual texts. Verbal texts (texts made of words and sentences) are ideal for recording details and examples. Visual texts tend to simplify and generalize a topic and may omit minor details. But they are best at capturing the connections between the key details and show the structure or organizing principle of a topic.

• Re-composing helps understanding

«Re-composing» means reading information in one form (such as words and sentences) and summarizing it in another form (such as a diagram or table). If you ask students to re-compose the information, they can no longer simply copy their source. They need to think about what a paragraph means before they can summarize it as a visual text. Re-composing is a key strategy in aiding comprehension.

• Visual texts are graphic organizers

1. Visual texts, such as flow charts and tree diagrams, are ideal for providing a framework for writing.
2. Information report: use a table or tree diagram to organize the order of the paragraphs (“Which comes first? What goes next?”).
3. Recount: recall the key events along a timeline before starting to write.
4. Explanation: use a flow chart to sequence the steps in an explanation.
5. Procedure (instructions): organize the steps in the right order using a timeline or flow chart.

6. Argument (persuasion): use a flow chart to sequence in the best order all the reasons for a point of view

7. Discussion: draw up a table of reasons "for" and "against" before making a decision about which side of a discussion you support

Most young readers can interpret ("read") diagrams and maps long before they can read the same information in words and sentences. Support their reading with nonfiction books that cue the unfamiliar words with clear diagrams, not just photographs.

• Reading and writing

1. Use a diagram ("picture glossary") to provide key vocabulary when introducing unfamiliar or "technical" language.

2. Flow charts, timelines and tables can help students to plan an essay (such as explanations, recounts, reports).

3. Sometimes it is more helpful to summarize a text as a diagram or a table, instead of writing disconnected "notes".

• Science and technology

1. Many scientific concepts are more clearly grasped when visualized as a visual text, such as a cross section (for example to explain how we breathe) or flow chart (to show an animal's life cycle).

2. Relationships in nature can also be summarized as a web diagram (such as a food web) or flow chart (such as the water cycle).

3. Step-by-step procedures ("how to...") can be followed more easily when arranged as a flow chart, storyboard, or timeline.

• Social studies

1. Social relationships can be understood quickly if you sometimes use a web diagram (sometimes called a sociogram) or a tree diagram.

2. Flow charts are useful in explaining topics such as recycling, habitats, interdependence and responsibilities.

• History

1. Use timelines to summarize sequences of events

2. Flow maps (maps with arrows showing journeys) help children to visualize exploration and migration themes

3. Changes over time, causes of key events, and sequencing of events can be shown clearly using flow charts

4. Line graphs help visualize economic and other changes over time

• Geography

1. Graphs (line, bar, and pie) help students to grasp concepts such as climate, population change, and public opinion
2. Flow charts help visualize topics such as the water cycle, climate change, globalization, and Earth processes
3. Maps can be used to visualize political states, climate, vegetation, wealth and poverty, trade, war, and so on.

• Mathematics

1. Young children can benefit from visualizing addition and subtraction using simple bar graphs.
2. Spatial concepts are best shown in maps and diagrams.
3. Some children can interpret problems more successfully if they are encouraged to visualize the key elements in a map or diagram.
4. Graphing assists work in measurement and recording of data.

Discussion in class is one of the most common strategies promoting active learning with good reason. If the objectives of a course are to promote long-term retention of information, to motivate students toward further learning, to allow students to apply information in new settings, or to develop students' thinking skills, then discussion is preferable to lecture (Mc Keachie et al. 1986). Research has suggested, however, that to achieve these goals faculty must be knowledgeable of alternative techniques and strategies for questioning and discussion (Hyman 1980) and must create a supportive intellectual and emotional environment that encourages students to take risks (Lowman 1984). Several additional strategies promoting active learning have been similarly shown to influence favorably students' attitudes and achievement. Visual-based instruction, for example, can provide a helpful focal point for other interactive techniques. In-class writing across the disciplines is another productive way to involve students in doing things and thinking about the things they are doing. Other active learning pedagogies worthy of instructors' use include cooperative learning, debates, drama, role playing and simulation, and peer teaching. In short, the published literature on alternatives to traditional classroom presentations provides a rich menu of different approaches faculty can readily add to their repertoire of instructional skills. Academic administrators can help these initiatives by recognizing and rewarding excellent teaching in general and the adoption of instructional innovations in particular. Comprehensive programs to demonstrate this type of administrative commitment (Cochran 1989) should address institutional employment

policies and practices, the allocation of adequate resources for instructional development, and the development of strategic administrative action plans. Equally important is the need for more rigorous research to provide a scientific foundation to guide future practices in the classroom. New qualitative and quantitative research should examine strategies that enhance students' learning from presentations; explore the impact of previously overlooked, yet educationally significant, characteristics of students, such as gender, different learning styles, or stage of intellectual development; and be disseminated in journals widely read by faculty. In retrospect, it appears that previous classroom initiatives and written materials about active learning have all too often been isolated and fragmented. The resulting pedagogical efforts have therefore lacked coherence, and the goal of interactive classrooms has remained unfulfilled.

5. What Is Integrated Curriculum for the Gifted Students?

5.1. Defining Integrated Curriculum

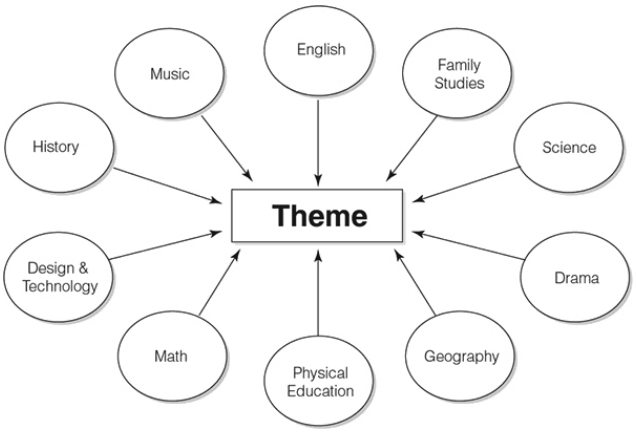
Innovative educators concerned with improving student achievement are seeking ways to create rigorous, relevant, and engaging curriculum. Teachers maintain accountability while designing learning experiences that are relevant to student interests. Interestingly, two of the schools serve populations of diverse students. In each case, teachers have developed intriguing curriculum that pushes beyond the boundaries of traditional disciplines to produce positive results. Comprehension, for example, is comprehension, whether taught in a language class or a science class. When students are engaged in learning, whether they are taking part in the arts or role playing in a microsociety, they do well in seemingly unconnected academic arenas. These are only a few of the countless examples of students involved in interdisciplinary studies at all grade levels. The examples highlight the potential of integrated curriculum to act as a bridge to increased student achievement and engaging, relevant curriculum. Defining integrated curriculum has been a topic of discussion since the turn of the 20th century. Over the last hundred years, theorists offered three basic categories for interdisciplinary work; they defined the categories similarly, although the categories often had different names. Integration seemed to be a matter of degree and method.

5.2. Multidisciplinary Integration

Multidisciplinary approaches focus primarily on the disciplines. Teachers who use this approach organize standards from the disciplines around a theme. Figure 1 shows the relationship of different subjects to each other and to a common theme. There are many different ways to create multidisciplinary curriculum, and they tend to differ in the level of intensity of the integration effort. The

following descriptions outline different approaches to the multidisciplinary perspective.

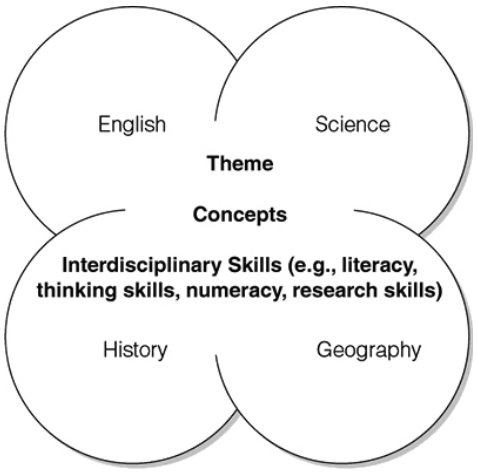
Figure 1 The Multidisciplinary Approach



5.3. Interdisciplinary Integration

In this approach to integration, teachers organize the curriculum around common learnings across disciplines. They chunk together the common learnings embedded in the disciplines to emphasize interdisciplinary skills and concepts. The disciplines are identifiable, but they assume less importance than in the multidisciplinary approach. Figure 2 illustrates the interdisciplinary approach.

Figure 2. The Interdisciplinary Approach

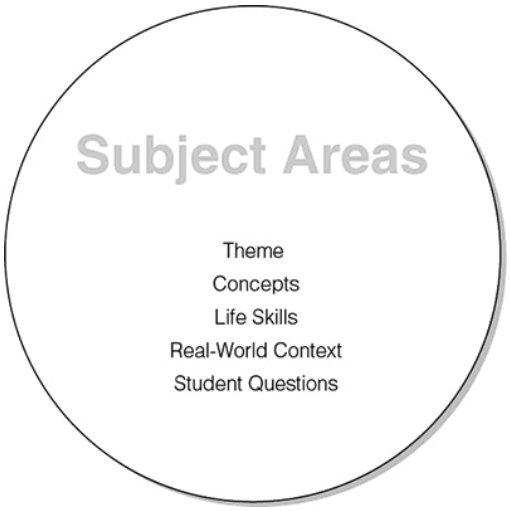


Teachers integrate computer use into the curriculum, rather than adapting curriculum to the use of computers.

5.4. Transdisciplinary Integration

In the transdisciplinary approach to integration, teachers organize curriculum around student questions and concerns (Figure 3). Students develop life skills as they apply interdisciplinary and disciplinary skills in a real-life context. Two routes lead to transdisciplinary integration: project-based learning and negotiating the curriculum.

Figure 3. Transdisciplinary Approach



In project-based learning, students tackle a local problem. Some schools call this problem-based learning or place-based learning. According to Chard (1998), planning project-based curriculum involves three steps:

1. Teachers and students select a topic of study based on student interests, curriculum standards, and local resources.
2. The teacher finds out what the students already know and helps them generate questions to explore. The teacher also provides resources for students and opportunities to work in the field.
3. Students share their work with others in a culminating activity. Students display the results of their exploration and review and evaluate the project.

Studies of project-based programs show that students go far beyond the minimum effort, make connections among different subject areas to answer open-ended questions, retain what they have learned, apply learning to real-life problems, have fewer discipline problems, and have lower absenteeism (Curtis,

2002). Standards-based approaches further blur the boundaries of these categories. Multidisciplinary integration might remain somewhat distinct because the procedures of the disciplines are dominant. Current thinking, however, suggests that even interdisciplinary projects should include math and literature/media to be rich and vibrant (Erickson, 1998). Interdisciplinary approaches offer an excellent fit for standards when educators approach them through a backward design process. Although teachers might organize transdisciplinary curriculum around a real-world context, the reality of covering the standards and grading in distinct subject areas quickly brings them back to the disciplines.

Is there an evolutionary continuum? We suspect that obvious differences will continue to exist in the extent to which educators choose to integrate and for how long. We believe that educators will continue to experience deepening connections as they become more experienced in this area. In an era of standards and accountability, no one approach seems preferable. Indeed, they seem more and more alike as teachers integrate standards-based planning with effective teaching and learning practices. The multidisciplinary, interdisciplinary, and transdisciplinary perspectives offer different maps to begin the design process. Teachers can use any of the approaches at any level of education, in a single classroom or in a team approach. In order for the students to be inspired enough to question the content of the module, I decided that the economic content should include contemporary issues highlighted in the media. The more the topics are discussed in the media over the year of study then the greater the likelihood of students recognizing the usefulness of the content of the module and to engaging in study of the subject. The integration of topics into a logical structure would meet part of the psychological criteria, but this proved to be incredibly difficult. Many of the topics required others to be discussed in advance. The organization of the module would be key to a logical progression and for the development of logical thought over the duration of the module. Modules with similar content taught at other universities were perused, while discussion with peers and frequent reflection and redrafting were undertaken to tighten the line along which the module would develop.

An important criterion for any final year module is that it should provide a sound foundation for advanced study, should the students wish to progress to study the topic at postgraduate level (or use the knowledge in their work or social life). This means that the content of the module should include a breadth of issues that may be required at other universities for progression to the Masters level, but also some areas involving greater analysis to ensure that the content has the required depth. Content should be updated each year. As research is undertaken across the world, it is vitally important to update our modules to make sure they are relevant, interesting and contemporary. Perhaps the ideal time for reflection

and updating is at the end of the academic year despite the fact that new publications, case studies and theoretical developments are continuously occurring. The lecturer can reflect on how an individual session went and the level of student engagement and understanding immediately after the lecture. This knowledge and reflection will be lost the greater the period of time between the presentation and the modification of the content. So to ensure an effective and interesting module for the next academic year, it was my intention that the re-writing of lectures would be most effectively carried out on a continual basis, with literature integrated into lectures throughout the year, and the rewriting and reordering of lecture and seminar content immediately after lessons.

Conclusions

This paper has presented reflections on curriculum development, pedagogy and assessment within a multi-national classroom focusing on the gifted students. We had presented basic points on essential lessons, but it is important to keep in mind that the final word is "the teachers' word. He knows his students, their capabilities and interests. It has detailed and discussed experiences of writing and compiling the module and has presented reflections based on knowledge and readings gathered on a Development Programme. Particular emphasis has been placed on my experience of designing and implementing the module, with particular foci on intentions, content, assessment and delivery. Several points are worth reiterating. First, a new academic might have little idea of how to teach effectively or how to overcome problems with student comprehension. Second, new academics should be encouraged to seek advice from more experienced colleagues, while established academics should be aware of the difficulties that the new academics face and offer appropriate assistance. Third, individuals forming policy to make new academics more effective teachers should recognize that they will have very little time to learn how to teach and to gather information that will increase their teaching performance, especially if their efforts are more geared towards research. Fourth, any guidance offered by established academics may not be fully understood at the time it is offered as new academics might not have the time to reflect on such advice.

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8. Women in Academia

The lack of women in philosophy: psychological and structural barriers and the moral dimension of epistemic responsibility

Katherine Cooklin

1. Introduction

In the United States, the United Kingdom, and Australia, the field of philosophy employs fewer women in fulltime tenured posts than any other humanities field in academia (Beebee and Saul 2011, Goddard 2008, Norlock 2006). The gender inequity in the field of philosophy is well known, and many have speculated that it is due to the masculinist, aggressive style of argumentation for which philosophy is known. Due to enculturated gendered traits of cooperation and conciliation, women may find this style of argumentation foreign and unappealing. Given that many more women begin as philosophy students than those that finish as permanent full time faculty, this speculation may indeed identify one of the barriers that have kept women out of philosophy. However, there are perhaps more pervasive and inimical barriers to women. One such barrier may be implicit bias. Research on racist attitudes and behavior has shown that implicit or nonconscious biases against African Americans negatively affect behavior toward them. This is true even for individuals who score low on measurements of explicit racial biases. Moreover, those who think of themselves as objectively egalitarian are often most blind to their own racist behavior. Another barrier that may be operative is stereotype threat, which causes those associated with negative stereotypes to underperform. The nature of this paper is both descriptive and normative. First I will identify the evidence for implicit bias and stereotype threat relevant to gender inequity within philosophy. Then I will argue that there is a strong moral imperative to 1) become epistemically responsible for the ways in which these biases and stereotypes are perpetuated; and, 2) enact counter measures at the institutional and individual levels.

2. An Overview of the Problem

Despite many initiatives to increase gender diversity within the profession of philosophy, it remains a field dominated by men. In fact, the underrepresentation of women in philosophy is greater than in any other humanities field. World-

wide, over 80% of professional full time philosophers are male. In the interest of time and space, I will focus on U.S. In the United States, only 16.6% of full time philosophy instructors are women. Overall in the U.S., 21% of employed post secondary philosophy instructors are women, with 26% of part time instructors being women (Norlock 2006). Compare this to the humanities overall, wherein 41% of all instructors are women. At the top 20 universities, women comprise 19% of tenured philosophy faculty and 21% of full time faculty (Haslanger 2011). One interesting set of data looked at an authoritative and popular ranking of philosophy programs (Van Camp 2010). The results showed an inverse relationship between high rank of program and number of female faculty, with the top ranking programs employing the fewest number of women faculty. The five programs with the greatest number of female faculty did not meet the minimum criteria for ranking, and did not make the evaluator's list. It should not be surprising to anyone that over 90% of the evaluators doing the rankings of the philosophy programs were male.

If we look to other areas of professional responsibility such as publication rates in journals, we find a similar scenario. Women are underrepresented in many of the top peer reviewed journals. MIT Philosopher, Sally Haslanger, reviewed some of the most respected philosophical journals including *Ethics, Journal of Philosophy, Mind, Nous, Philosophical Review, Philosophy and Public Affairs,* and *Philosophy and Phenomenological Research.* Haslanger found that over a recent 5 year period only 2.36% of the articles and discussions published in these journals were authored by women (Haslanger 2008). In addition, Haslanger found that only 17% of women occupied positions of associate and advisory editor for these journals.

A recent study of PhDs awarded in the U.S. showed that women received fewer PhDs in philosophy than in any other humanities field. In fact, the only fields granting fewer PhDs to women than philosophy were computer science, engineering, and physics (Healy 2011). Perhaps even more troubling is the fact that the number of philosophy PhDs granted to women has changed little over the past 15-20 years. The average percentage of philosophy doctorate degrees granted to women over this time period has remained approximately 27%, showing on average no gains in the numbers over the years. Even in fields currently granting women fewer PhDs than philosophy, such as engineering, there have been increases in those numbers over the last 20 years. According to philosopher Linda Alcoff, "[t]his indicates that we have been stuck for perhaps three decades at a plateau of roughly one quarter of the profession, mysteriously unable to make significant gains beyond this" (Alcoff 2011).

A recent analysis of data on females in philosophy from introductory courses through to the level of majors shows that there is a precipitous drop in the numbers of women enrolled in introductory courses to the number of those who become philosophy majors (Haslanger 2008). Although more data needs to be gathered, it appears that women enroll in lower level philosophy courses at approximately the same rate as men (Calhoun 2009), but less than a third of philosophy majors are women (Brister 2007). This phenomenon has been referred to as the leaky pipeline. What exactly is happening, however, to cause the drop in numbers of women taking introductory courses to those higher on the rungs of the philosophical academic ladder requires further analysis. Is it that philosophy is just too difficult for women to master? Perhaps the toy company Mattel should introduce a Barbie Doll that says "philosophy class is tough," rather than reviving the older Barbie doll that said "math class is tough." Or perhaps Mattel should begin working on a Barbie doll that would say "philosophy class is sexist." To be fair, the profession has taken a stance on remedying sexism. However, the possibility of sexist bias remains, even though many in the field would consciously and explicitly disavow sexist attitudes and behavior. Rather than assuming that women simply are not capable of mastering philosophy, perhaps we should look for alternative explanations for the gender disparity within the field. It is some of these alternate explanations that I will now address.

3. Explanations?

Unconscious Biases

One of the more pernicious and intransigent mechanisms of sexist attitudes and behaviors might be the influence of unconscious dispositions regarding gender. There is a great deal of research literature showing that unconscious influences regarding race are widespread, even among those of us who are committed to egalitarian views and behavior. Tamar Gendler's research focuses on the ways in which cognitive categorization helps us navigate a world of complex information. In a world of highly detailed, complex information, categorizing objects of which we have limited experience, and with which we have limited cognitive capacities to deal, allows us to make sense of our world. The cognitive schemas that we use, however, are necessarily limited by our relatively limited experience of the world (Gendler 2008). They are also limiting in that their goal is to simplify complex data so that our experience of the world is manageable. Because of this, Gendler notes that there is a tendency towards intracategory assimilation which emphasizes the similarity between individuals within a category, and intercategory contrast which emphasizes the differences among individuals between cat-

egories. Assisting in this simplification process are stereotypes, which are ever present in information processing. Stereotype confirming information is more likely to be encoded while stereotype disconfirming information is more likely to be ignored. Moreover, Gendler finds that our expectations and associations become automated, which further distances these stereotyping influences from our conscious and critically evaluative reach.

This automation of our expectations, associations, and confirmations about the world is characteristic of what Gendler calls an *alief*. "An alief is, to a reasonable approximation, an innate or habitual propensity to respond to an apparent stimulus in a particular way. It is to be in a mental state that is…associative, automatic and arational….[aliefs] are developmentally and conceptually antecedent to other cognitive attitudes that [we] may go on to develop. Typically, they are also affect-laden and action-generating" (Gendler 2008, 552). Gendler's research shows that individuals respond to the world through the selective uptake of category and stereotype confirming information that our aliefs dispose us toward, and that this process has representational, affective, and behavioral dimensions. The upshot of this research is that our arational aliefs motivate us toward adopting other beliefs and behaviors.

What is important to note, however, is that aliefs are motivational even in the presence of rational beliefs that do not concord with the alief. For example, one may explicitly deny that women are less capable at math than men, but unconsciously devalue a female applicant's mathematical qualifications. In fact, those who consider themselves to be the most egalitarian may be the least likely to objectively recognize their own sexist dispositions (Uhlmann and Cohen 2007).

Aliefs motivate those in the target group as well. For example, given the ubiquity of the association of women with mathematical incompetence (let us not forget Barbie), many women may suffer from stereotypical processing of information about themselves. Gendler illustrates this with the following example: it would be very likely that a female student would have "an alief with the content 'Female applies to me, and female is associated with poor math performance;'" affectively, anxiety would beset the woman and she may (anxiously) and repetitively double check her answers to be sure she is doing them correctly (Gendler 2011, 51). Gendler points out that the woman rationally believes that she is good at math, she has ample evidence to support this belief, and yet unreflectively she is influenced by the alief. Even perhaps to the extent that the alief induced anxiety may lead her to underperform on the math problems.

A complete description and evaluation of Gendler's alief model is beyond the scope of this paper. However, even if we grant that Gendler's model may carries less explanatory weight with regard to unconscious influences and sche-

mas that are attached to racial and gender categories than competing theories, *that* those influences and schemas are attached to racial and gender categories, and that they affect our attitudes and behavior in ways that we would reflectively find objectionable, seems beyond dispute. The research shows that schemas associated with race and gender are widely shared, and that we perceive and treat individuals based on these schemas. Both males and females partake of these types of unconscious schemas and influences. And, as Gendler points out, none of us escape the oppressive social arrangements and meanings that structure the world in which we live, despite our strenuous disavowals of them. Gendler writes, "[e]ven among those who are explicitly and sincerely committed to anti-racism, the legacy of having lived in a society structured by hierarchical and hostile racial divisions retains its imprint" (Gendler 2011, 44). Some of the research examples she cites include whites primed with images of black faces are more likely to misidentify items as guns, and they are quicker at shooting black targets than white targets when playing video games; identical resumes but for the names will receive fewer call backs if they bear stereotypically black sounding names; and individuals with stereotypically sounding black names are more likely to have their requests for assistance with voter registration ignored by their state legislators.

The claim that "the legacy of having lived in a society structured by hierarchical and hostile racial divisions retains its imprint" on even the most egalitarian of us could just as easily be made about sexist hierarchical structures and meaning. Research shows that both men and women are more likely to vote to hire a male candidate than a female candidate with an identical record; and both men and women are more likely to favor the research, teaching, and service experience of a male candidate to a female candidate with an identical record (Steinpreis et. al. 1999). Moreover, female candidates were four times more likely to receive cautionary statements such as "I would like to see evidence that she got these grants on her own," than were male candidates. One study showed that women had to be 2.5 times *more* productive than men to receive the same score by evaluators (Wenneras and Wold 1997). In an analysis of peer reviewed research, Harvard Professor Michele Lamont (2009) and her colleagues found that in general men's traits are viewed as more valuable than women's and that men are judged diffusedly as more competent. Not surprisingly, the review also shows that women academics are perceived as less productive and less capable of succeeding in full-time, tenure-track positions; and that this results in women's performances being subject to heightened scrutiny and higher standards than their male colleagues (Lamont, et. al. 2009). This concords with research showing that on average within academia women are less likely to be promoted, and are more likely to earn less than their male colleagues of the same rank. This economic disparity is

greatest at the rank of full professor. Like the previously cited literature, this research showed that the disparity is not due to women being less productive than men, but to men's contributions receiving greater reward for their work with each year of experience. Women may be judged adequate or competent ("she's OK"), but the standards for being judged excellent are much higher for women than for men ("she's OK, but she's not that good").

These statistics are sobering. If we heed Gendler's caution that for all of us, our psychological schema bears the imprint of living with discriminatory hierarchical social structures and meanings, then we cannot ignore their pernicious effects. Our psychological schema leads to nonconscious influences on judgments and behaviors associated with categories of gender that disadvantage women. More broadly, the schema for 'man' concords with traits of success such as rational, competent, and assertive; while the schema for 'woman' tends to concord with traits such as emotional, less competent, and passive. With regard to philosophy, Haslanger has noted that the schema for "philosopher" is incongruent with the stereotypical schema for 'woman' (Haslanger 2008). Philosophy has long been characterized as a masculine field that is known for its harsh and rational argumentative approach, it's privileging of logical reasoning over emotion and the mind over the body; and its impenetrable texts. It deals with abstract concepts, and is often viewed as being too impractical and too impenetrable for many of us. One harkens back to the time when philosophy was known as the "Queen of Sciences," the study of which was reserved for the most erudite.

If women generally face stereotypes linking them to professional incompetence, then they face even more challenging stereotypes linking them to professional philosophical incompetence. The conflict between the schema for 'philosopher' and the schema for 'woman' may help explain some of the gender disparity within the discipline. The conflicting schemas may lead to two types of nonconscious bias against women. The first is implicit bias, and the second is stereotype threat. Implicit bias affects the ways in which we judge and evaluate others, and influences our behavioral responses to others of the target group, which in this case is women. The research on the existence of implicit bias is well supported (Jost et. al. 2009). Both men and women are biased against women with regard to competence and positions of authority, while associating women with the domestic domain of family and children. A 2010 study of law school students revealed that gender implicit bias is pervasive (Levinson and Young 2010), and that this bias did predict discriminatory decisions against women and their competencies for authoritative legal and judicial leadership. Women are expected to be less competent than men, and when women display characteristics associated with masculine success, such as assertiveness, women are judged negatively as "bitchy" or unfeminine.

Given the masculine schemas associated with philosophy, it is likely that those in positions of power such as teachers or hiring committee members would view women more negatively than men. For example, female students may be preemptively perceived as being less capable of making valuable contributions in class, which may lead to instructors calling on them less often than male students. Professors may unconsciously favor male students, or offer extra support and encouragement to them while offering less to female students. The work of female students may be evaluated more harshly, which may be reflected in the grades assigned. And, it is very likely that a syllabus for a philosophy class that is not specific toward women or feminist theory will almost exclusively include male authors.

Of course, all of these detrimental factors are likely to persist beyond the classroom, through the hiring process, and into the department. Female colleagues may face more negative evaluations, harsher standards of excellence, isolation, lack of mentoring, be assigned more service work, and receive fewer favorable tenure and promotion awards. Outside of their department, they may have a more difficult time having papers published. As Haslanger noted, when journal editors use anonymous review they publish more articles by women. However, many of the top philosophical journals do not have completely anonymous review processes, and only 2.6% of the articles in those journals analyzed by Haslanger were authored by women.

In addition to suffering the consequences of implicit bias which leads individuals to negatively evaluate and interact with women, women in all levels of philosophy are also subject to the harmful effects of stereotype threat. Stereotype threat is a "phenomenon whereby activating an individual's thought about her membership in a group that is associated with impaired performance in a particular domain increases her tendency to perform in a stereotype confirming manner" (Gendler 2011, 60). Stereotype threat differs from implicit bias in that the member of the target group actually performs less well due to the affective, arational, and nonreflective dimensions of associating oneself as a "woman" with the negative stereotypes attached to "woman". For example, when Asian American girls grades kindergarten to eighth grade were asked to perform tasks that emphasized their female identity they subsequently performed poorly on a standardized math test. However, when Asian American girls were asked to perform tasks that emphasized their Asian identity and not their female identity, they scored significantly higher (Ambady et. al. 2001). A similar study showed that when Asian American female undergraduates were given surveys that emphasized their Asian identity they performed best on a subsequent math test. When they were given a survey that emphasized their female identity they per-

formed worst, scoring even lower than the control group who received no pre-test survey (Shih and Trahan 2006).

Contextual elements that trigger stereotype threat are prevalent. For example, research shows that surprisingly little needs to be done to trigger one's association with stereotypes. Just the unconscious fear of being judged as confirming the stereotype, or the absence of images confirming success at the task can be sufficient triggers.

This may make the discipline of philosophy particularly difficult for women. Not only must a woman in philosophy counter social stereotypes, but she must also battle against the philosophical cannon itself. When we look to the philosophical cannon, we see at least two things relevant to stereotype threat. The first is an absence of women philosophers and the second is an explicit denigration of women in philosophical texts. Claims such as Aristotle's that women were deformed men, and Kant's that women lacked sufficient reason to engage in moral deliberation would likely trigger negative stereotypes in women in philosophy classes or departments. One cannot help but wonder how the explicit association of women with irrationality that riddles the philosophic cannon affects the analytic performance of women in philosophy.

Ethical and Epistemological Implications: A Few Remarks

In 2005, Harvard University President Lawrence Summers made his controversial remarks about the absence of women in top science positions (Bombiarty, 2005). This absence was most likely due, according to Summers, not to sexist bias, but to the facts that 1) women are less willing to work as long and hard as men, and 2) women have less aptitude than men to succeed in these top positions. At this point, one might wonder how he could have made these remarks. Had he not read any of the copius research on implicit bias and stereotype threat? After all, only a small portion of that research has been cited in this paper. Now, I am sure that Summers does not consider himself sexist, but I would like to suggest that the beliefs behind his remarks may help Summers to maintain an ignorance about both the reality of sexism, the vast literature on sexism, and his own sexist dispositions. In other words, Summers' remarks evince an epistemology of ignorance that further maintains a sexist epistemology. Charles Mills first introduced the idea of the epistemology of ignorance in his book *The Racial Contract* (Mills 1999). Mills argued that white privilege requires the active maintenance of ignorance about nonwhites, and that because of this actively maintained ignorance, false beliefs about nonwhites serve as knowledge. Philosopher Nancy Tuana (2006) has also argued that ignorance is actively constructed and sustained.

The failure to acknowledge the likelihood of implicit bias and stereotype threat, and its likely effect on women in philosophy is both epistemically and ethically irresponsible. Tuana refers to this type of failure as willful ignorance (Tuana 2006). This is ignorance on the part of the privileged about the oppressive conditions experienced by those not in positions of power, and ignorance of one's own role in perpetuating the oppression of others. Summers' remarks are indicative of both types of ignorance. The failure to acknowledge sexist bias makes it easier to perpetuate it, and easier to accept erroneous but stereotype confirming beliefs as knowledge. I would like to clarify that I do not believe that Summers is alone in his maintenance of ignorance. I suggest that most of us are ignorant in the same way to lesser or greater degrees, and that we may not be very good judges of our own impairments. Given the detrimental effects of this ignorance/knowledge, both individuals and institutions should be compelled to take much greater steps in gaining awareness of and reducing implicit bias and stereotype threat in the discipline of philosophy and the world beyond.

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The study of historical female geniuses

Konstantinos Kalemis, Panagiota Mamfeda, Maria Georgopoulou & Nefeli Gatsou

1. Introduction

A few months ago it came as a spotlight at the evening news in USA from CNN and CBS the event of the tragic death of a 16-year-old Pakistani girl who was also a computer genius has cast a spotlight on an industry with huge potential for the country's youth. Arfa Karim Randhawa, who became the world's youngest Microsoft Certified Professional at the age of nine, died at the weekend after a heart attack following an epileptic fit. After Arfa passed the Microsoft exam in 2004, Bill Gates was so impressed by her that he invited her to the company's US headquarters. When he found out she was ill, he also offered medical help and was in touch with her family. Pakistan has been in the throes of a political crisis but the press and the nation appeared to take a breath and paused for a moment to mourn a young life which gave the country a name in an industry dominated by Silicon Valley and Indian innovation. Arfa's short life mirrors Pakistan's burgeoning engagement with information technology, an industry which holds out hope for youth embittered by unemployment and a lack of opportunities. Her father says she was particularly concerned to use her skills to help the young, those under-served by IT and those from villages. "It is generally understood that computers are for very hi-fi people or rich schools but nowadays one can be purchased for a few thousand rupees by the poorest of poorest," he told the BBC.

Allow us to list a few comments told:

- "Arfa was intelligent beyond her years. Her passion and vision were truly amazing for someone so young", Jehan Ara Pakistan Software Houses Association
- Arfa's centre of gravity wanted to improve human resource development by focusing on education.
- Her loss is also being felt by Pakistan's IT world.
- Shoaib Malik, country manager for games company Mindstorm, said: "It's really sad. What was amazing about her was that she had a clear vision; she literally wanted to set up the industry".

- One thinks only kids who have studied from abroad would have a vision but it was remarkable. I think whatever God does, does for the better but had she been alive she could have played an important role in the IT industry.
- According to Pakistan Software Houses Association president Jehan Ara, Arfa was "intelligent beyond her years".
- In addition to achieving a professional certification at the tender age of nine, it is also notable that she set up and ran a computer training institute for a poor community.
- Her passion for technology, coupled with her vision to use her talent to do something significant for Pakistan and its people, was truly amazing for someone so young.
- Ms Ara feels the IT industry offers a way out of unemployment for young Pakistanis, many of whom she says are starting their own companies. One Karachi firm is even developing software for the stock exchange in the UK.
- But compared to India, Ms Ara thinks firms in Pakistan which she says has an "image problem" may have missed the bus.
- She was role model to "so many other young people - young girls", he says, who referred to her as "Arfa aapi (sister)".
- Malalai Yusuf, a student who spoke out in Swat while it was under Taliban rule, was one of those girls. "We really have lost a diamond," Ms Yusufzai told the BBC. "When I heard about her, I was really moved. I was amazed that we had someone like her in Pakistan - a genius! I was proud of her and that she's a Pakistani."
- Arfa's list of achievements shames people several times her age. As well as learning to fly when she was just ten, Arfa had been working with NASA after winning a competition last year.

Arfa is really going to be missed. Now, let's put a great number of female names instead of Arfa; during the human history, we had met a lot of other women, with exceptional mind and genius. Despite their geographical place, their age, their religion, they become world famous in many different areas: Ada Lovelace wrote a scientific paper in 1843 that anticipated the development of computer software artificial intelligence and computer music, Barbara McClintock was one of the most important figures in the history of genetics; discovered mobile "jumping" genes; won Nobel Prize, 1983, Patricia Billings invented a indestructible and fireproof building material called Geobond, Rachel Fuller Brown and Elizabeth Lee Hazen co-invented Nystatin, the world's first useful antifungal antibiotic, Marie Curie discovered radium and furthered x-ray technology, Gertrude Belle

Elion invented the leukaemia-fighting drug 6-mercaptopurine, drugs that facilitated kidney transplants and other drugs for the treatment of cancer and leukaemia, Mary Anderson invented the windshield wiper, Edith Flannigan was the inventor of a petroleum refining method and is considered one of the most inventive chemists of all time, Helen Free was the inventor of the home diabetes test.

How many among us are familiar with a name like Dorothy Crowfoot Hodgkin who used x-rays to find the structural layouts of atoms and to discover the overall molecular shape of over 100 molecules including penicillin, vitamin B-12, vitamin D and insulin? Erna Schneider Hoover invented the computerized telephone switching system. Stephanie Louise Kwolek invented a material five times stronger than steel called Kevlar. Ann Tsukamoto was the co-patenter of a process to isolate the human stem cell. Mary Walton invented several anti-pollution devices during the Industrial Revolution. Rosalyn Sussman Yalow medical physicist developed the radioimmunoassay to measure amounts of biological substances in the body and was the second woman to win the Nobel Prize in medicine in 1977.

2. Women empowered

Since Simone de Beauvoir published "*The Second Sex*" in 1949, feminist analysis has tended to assume that the conditions of male normativity – reducing woman to the merely excluded 'other' of man - holds true in the experience of all women, not the least, women in the context of Christian praxis and theology outside its critical purview. Beauvoir's powerful analysis – showing us how problematic it is to establish a position outside patriarchy's dominance of our conceptual fields - has helped to explain the resilience of sexism and forms of male violence that continue to diminish and destroy women's lives because they cannot be seen as questionable. It has also, we would argue, had the unintended consequence of intensifying the sense of limitation or even erasure within masculinity structures so that it becomes problematic to account for the work and lives of effective, innovative and responsible women in these contexts. As a result, there is an uncritical tendency today, on the one hand to cite the individual accomplishments of women as 'proof' that feminist critique of our shared cultural discourses is now outmoded, unfair and even counterproductive, or on the other, to remain silent about the role of women in bringing about change, not least through their work within feminist theory and activism. In order to address this problematic issue, we use the life and work of novelist Michèle Roberts, as a case study in female genius within an interdisciplinary field, in order to acknowledge the conditions that have limited a singular woman's literary and theological aspirations but also to claim that she is able to give voice to something creative of her own.

The key concept of female genius within this project is taken from the work of Julia Kristeva and rests on a notion of subjectivity that draws on elements of embodiment and female desire excluded in traditional and normatively masculine theological accounts, or from notions of genius derived from the conceptual repertoire of European Romanticism. We argue that Roberts' work as a writer qualifies her as female genius in so far as it challenges aspects of traditional Christianity, bringing to birth new relationships between theological themes and scriptural narratives through the mediation of her singular female desires and pleasures as a writer.

UN States needed to promote women's rights, so they could be "agents of change" for sustained socio-economic development and security around the world, delegates told the Third Committee (Social, Humanitarian and Cultural) today, as it continued its three-day discussion on the advancement of women. "Without women's empowerment and gender equality, societies will not be able to achieve the Millennium Development Goals and their full development potential," South Africa's delegate said. She noted women had shown greater resolve in peace building processes, but their needs were overlooked in peace agreements, at donor conferences and in post-conflict legal reform — a situation that needed to be rectified. A number of delegates agreed that ending discrimination against women was central in fulfilling women's fundamental human rights. It was also, some said, a prerequisite for sustainable development. To that end, Peru's youth delegate called for greater female political participation, saying that young women in particular must be seen as change agents**.** Malaysia's delegate told the Committee that significant progress in recent decades in his own country was made possible by greater participation of women. "As Malaysia evolves from a subsistence agricultural economy to a knowledge-based economy, women will continue to be a primary force in influencing the development of future generations of Malaysians, as well as an important economic resource," he said. Throughout the day, representatives noted recent progress in the empowerment of women, highlighting how their rights had been brought to the forefront of national and international agendas through changes in States' legislation to mainstream gender perspectives and the establishment of UN-Women last year.

Many also detailed efforts to ensure greater numbers of women held positions in politics and Government through quotas or affirmative action, thus allowing them to participate more in decision-making processes. The representative of Bolivia said all political parties in his country were obliged to offer one male and one female candidate in order to undo old patterns of discrimination.

Despite those achievements, many representatives acknowledged gender equality remained largely rhetorical for far too many women. Gender discrimination,

particularly among rural women, women migrant workers and women with disabilities, was augmented by other forms of discrimination based on race, ethnicity and economic status, they said.

2.1 Today's Status

The international community – including donor aid agencies, intergovernmental bodies, international financial institutes and nongovernmental organizations – has focused its attention on, and dedicated growing resources to women's development. And with the creation of a new senior level position at the State Department, the Ambassador at Large for Global Women's Issues, National Security Strategy, along with USAID and State Department-funded programs, the administration has given concrete expression to renewed U.S. efforts in this regard.

There is now growing consensus that women's equal rights and opportunity are inexorably linked to peace, prosperity, human development and democracy. How a country taps the talents and capacity of its women will, in large measure, determine its economic, social and political progress. As an Institute dedicated to political development, NDI believes that women's more equitable role in politics will not only ensure that the concerns of women and other marginalized citizens are represented, but will affect many policy options that are debated and the amount of funding that programs receive. A 2008 survey by the Inter-Parliamentary Union, which compiled the views of parliamentarians from 110 countries, found that male and female legislators emphasize different priorities. According to the IPU, women tend to prioritize social issues such as childcare, equal pay, parental leave and pensions, physical concerns such as reproductive rights, physical safety and gender-based violence and development matters such as poverty alleviation and service delivery.

When women are represented in a legislature in significant numbers, they can bring their priorities forward to influence the legislative agenda. In Rwanda, for example, the growing number of female lawmakers was linked to more assertive and effective efforts on behalf of children. In fact, there is evidence that women legislators not only prioritize, but take action on and fund these issues. Using data from 19 OECD countries, researchers found that an increase in women legislators resulted in an increase in total educational expenditure. And in a study of Swedish female legislators at the local level, women showed a strong preference for childcare and elder care over other social issues. These priorities were reflected in local spending patterns, with more money directed towards childcare and the elderly in districts with more female representation.

It is our hope, therefore, that new initiative that focus on such issues as maternal and child health and women's and girl's literacy and microfinance, particu-

larly in Muslim-majority countries, are joined by comparable efforts to promote women's political participation and leadership. This will ultimately help sustain a local commitment to health, education and economic development. It is not an accident that the countries in which these issues are not part of the national agenda are places where women are denied a genuine political voice. Conversely, empowering women politically will help countries develop those democratic institutions so they can begin to successfully address issues related to security, jobs, human rights, physical wellbeing.

Education of women, particularly those who lived in rural areas, was singled out as a key to breaking the global cycle of poverty. Mongolia's representative said rural women were critical agents for poverty reduction, food security and environmental sustainability, and she welcomed the Commission on the Status of Women's decision to consider, during its next session, the empowerment of rural women and their role in development. A number of representatives also called for more systematic and coordinated efforts within the international community to protect disadvantaged women, particularly migrant workers who faced irregular immigration status and limited access to justice. Efforts at national, regional and international levels must be intensified to implement laws, policies and strategies aimed at improving the situation of women migrant workers, Ethiopia's representative said.

The representative of the Republic of Korea said his country had recently taken action in that regard, launching "Multi-Cultural Family Support Centres", which provided married immigrants with access to basic information, education for social adjustment and vocational training.

3. Female Genius

Many things have changed for the better over the last couple of centuries, but the evidence that women are especially at risk simply because they are women is still available on a daily basis. In 2009-10, for example, about nine incidents of domestic violence a day were recorded by the Central Scotland Police Force. Of these reported incidents – to say nothing of those that remain unreported – 88% were perpetrated by men against women. A common response to this kind of evidence is to shift the discussion into comparisons. The suggestion is that much worse violence against women exists in "war-torn Africa" or "Islamic communities" or with people in "fundamentalist sects." The thought that sexist structures that can breed violence on this scale, continue to characterize even so called progressive societies is quickly displaced, in this example, by a convenient connection between 'religion' and patriarchal oppression. In other words, progressive societies are seen to be essentially secular. Of course, this represents a genuine

dilemma for feminist theologians and critical scholars of religion because the case against Christianity is compelling and as feminists, they generally have no desire absolutely to deny this. And yet, dismissing Christianity simply as something to be thankfully consigned to history, means consigning all the achievements of women who have identified themselves as Christian alongside it; from this perspective, all Christian women are victims if not collaborators. Yet in its effects, this approach hardly differs at all from previous attempts by men to deny the achievements of women because of their gender.

To address this dilemma, we first have to go back to the relationship between feminisms and the Western Enlightenment. This movement, celebrating the power of human reason to explain and harness the forces of nature, gave a powerful impetus towards feminist thinking by severing the connection between social order and a patriarchal God; without God the Father to give a warrant for the whole hierarchical order of being including women's subservience to men, there was no reason why women should any longer buy into the myth of male supremacy. On the other hand, the key architects of the Enlightenment were far less successful in taking the divinity out of the human male and all things masculine, including a masculine distain for Christianity as a dangerous and irrational (feminine) superstition. Moving back to the 1970s and 80s, feminist biblical critics, were still struggling to resolve the dilemma even as they worked to apply second wave feminist theory to Christian scripture. They were still caught up in the double bind; struggling to draw attention to biblical women and women readers in a positive way, whilst at the same time trying not to let either patriarchal texts or the guild of (male) biblical scholars that interpreted them off the hook. Thus their readings of the Bible recorded the presence of biblical women, yet very often these accounts focused on the Bible's "texts of terror" – its stories of casual violence, its reduction of women to mere objects or to the empty "otherness" that defined a real male presence. In other words they often ended up playing more strongly on the sense in which Christianity was unsympathetic to women than on the sense in which women might justly take their places as its crafters, sustainers and reformers.

Looking at the situation more positively, this was exactly what those scholars were doing in trying to address a complicated set of issues that didn't respond easily to one approach. Sometimes in the hard-won pleasures of dialogue with these problematic structures they did manage, as writers and readers, to overcome all the built-in disadvantages with which they began as women in the male normative context of Church and academy. In the last sixty years, there has been a vigorous growth in the kind of work that focuses on the lives of women. And, having so many more narratives about women to draw on, our imaginations are fed and our view of what women can do is dramatically widened. In this way, the

scenario with which this piece began is also sharply challenged because we can begin to show that the contrast between the situation of women in the past and in the present is nothing like as polarized or final as this suggests.

Arguably, over the centuries, women have found many ways to negotiate problematic structures such as Christian patriarchy, crafting courageous, creative and at some level, pleasurable forms of engagement without necessarily rejecting it outright. Following the philosopher Julia Kristeva, we would call these women 'female geniuses' and have written about four such female geniuses in the book "Because of Beauvoir: Christianity and the Cultivation of Female Genius" by Baylor University Press. Today, we live and work as women in a perplexing context. On the one hand or for some of us, it seems excessive to maintain an ideologically feminist position. All we need is the resolve to walk through it. If we choose not to do so, it is nobody's fault but our own and certainly not the fault of men as a group or class. In fact, sometimes they seem to be begging us to fill the quotas! On the other hand or for others of us, not a lot appears to have changed and we relish the incisive, discomforting words of Beauvoir that shock us out of our perplexity so that we suddenly see the patterns and structures that continue to deprive women's creative thinking of attention on its own terms; the quotas remain quotas of men's devising. For many women, it's not that women are not visible but that we remain uncertain about what those visible women represent. At the same time, if that uncertainty leads us to discount every appearance, every woman's attempt at singular creativity, we surely 'shoot ourselves in the foot'. After all, how could Beauvoir herself have come to formulate this dazzling insight without confidence in her claim as a woman to a voice and – at some level - to significance on her own terms?

4. Conclusion

The concept of female genius represents at least one attempt to resolve the paradox. It certainly does not imply that women have been wrong to contest limitations imposed on them because of their gender. It does not deny Beauvoir's insight that limitations continue because women have found it so difficult, in a world based on the perspective of men, to identify a variant point of view that has any validity. It highlights, however, the sense in which women do not need to remain trapped by the illusion. Even retrospectively, we can begin to see that women have been able to bring something of their own to birth by contesting what they are told to think or write, though many more may have given up or gone mad. In these terms it is possible then to see Roberts' life and work as an illustration of the female subjectivity Beauvoir showed us was so hard to achieve and Kristeva describes as female genius; a writer, valuing her own inspiration sufficiently, finally, to acknowledge its creativity, as Roberts does perhaps, in the

account she writes of her female character's creative awakening, with which this piece began.

Contemporary feminist analysis since *The Second Sex* has tended to assume that conditions of male normativity in which woman is reduced to the merely excluded 'other' of man, hold true in the experience of most if not all women prior to the beginnings or outside of modern western feminisms. By implication women have been deprived of any language with which adequately to identify subjectivity or genius – a shortfall that is perhaps nowhere more comprehensively evident than in the context of Christian theology. Whilst this powerful analysis has helped to explain the resilience of sexist attitudes and systematic failures to detect misogyny and discrimination, it has had the less desirable consequence of seeming sometimes to intensify that sense of women's silence and victimisation since, ideologically speaking, this is its justification. This paper invoked the odd-seeming notion of the novelist Michèle Roberts, as a theological genius in order to address the question of how and in what way women "under erasure" have – surprisingly, anomalously or even routinely - continued to work, write, create and in this way to illustrate the consciousness, in one way or another, of a genuine subjectivity as women. The concept of female genius used in this case study is derived primarily from the work of Julia Kristeva and rests on a notion of subjectivity which draws on elements of embodiment and female desire that are usually excluded in traditional and normatively masculine theological accounts and from notions of genius derived substantially from the conceptual repertoire of European Romanticism. Roberts' work as a writer qualifies her as a female genius in so far as it challenges aspects of traditional Christianity, bringing to birth new relationships between theological themes and scriptural narratives through the mediation of her female desires and pleasures as a writer, in tending to her own and her readers' capacity for thought, concern to invent new kinds of defining relationships and success in bringing such projects to birth.

Finally, it might also return us to the field of feminist theology with a new resolve, if we can establish that some women – female theological geniuses – can exist outside the purview of modern feminist analysis. What we have explored here poses the question of whether, in order to do proper justice to the real and proven limitations imposed on countless women in these fields across global and historical contexts, it is nevertheless necessary to reduce the Christian tradition to something that is always antithetical or for which women can take absolutely no credit or bare no responsibility. Can we not begin to trace the serviceable pathways women have made and maintained in order to bring us to where we are now?

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Object- versus people-centered outlooks in computer use: Is women's voice loud enough?

Golfo Maggini

To Tania

I.

In his groundbreaking 1999 book *Meaning in Technology*, Arnold Pacey proceeds to a stimulating distinction between object- and people-centered outlooks in modern science and technology. But what does he mean by that? Pacey thinks of an "object-centered outlook" as one which, either in its detached or in its more participatory style, encourages essentially nonverbal abilities, spatial visualization skills, close affinity with physical objects, and emotional indifference. Those traits are combined with a specific stance towards science, the processes of which are viewed as mechanical rather than animate, thus, the examination being in terms of causes and effects. He even goes as far as connecting this detached attitude with certain aspects of autism, thus reaching the surprising conclusion that: "One might even say that to practice science in the spirit of scientific revolution, it is necessary to adopt a self-imposed autism as long as one is working in the laboratory or at the computer" (Pacey, 2001: 51). In terms of a gendered approach, such detached, unemotional attitudes by scientists and computer engineers and users project a "masculine image" of their subjects.[1] Pacey makes use of the current psychological research which shows that there is a male propensity to object-centered thinking, which tends to be abstract, analytic, and detached, whereas people-centered approaches are oriented towards more inclusive and less control-seeking activities, as a part of the gendered culture of being female.

1. This is how Ellen Ullman describes her experience: "As the computer's pretty, helpfully waiting face (and contemptuous underlying code) penetrates deeply into daily life, the cult of the boy engineer comes with it. The engineer's assumptions and presumptions are in the code. That's the purpose of the program, after all: to sum up the intelligence and intentions of all the engineers who worked on the system over time – tens und hundreds of people who have learned an odd and highly specific way of doing things. The system contains them. It reproduces and reenacts life as engineers know it: alone, out-of-time, disdainful of anyone far from the machine" (Ullman, 1995: 143).

The people-centered outlook moves away from older simplified versions of visualization and imagery, a shift often described in terms of a move from visual arts to music and from pictures to patterns and rhythms. In this new scientific and technological "paradigm", more abstract, non-representational modes of access to reality are used, whereas highly specialized visual methods, such as computer graphics, make complex realities accessible to intuition and verbal-communicational skills. Along with them, spontaneity and purposiveness are also encouraged, against impartiality and indifference as to the purposes, as well as participatory, involved ways of thinking and acting (Pacey, 2001: 112). For Pacey, preindustrial, small-scale industry would comply with a people-centered approach, whereas modern large industrial and high tech productions tend to adopt an object-centered approach, even if there is always tension and conflict between the technological artifacts' domain and the people's domain: "When we turn to large-scale and high technology, what is striking first of all is the considerable volume of debate about how "soft issues" connected with job satisfaction and employee welfare should be related to "hard issues" in engineering, system design, and scientific method" (Pacey, 2001: 205).

Pacey relates the emergent reality in science and technology, which marks a clear distance from the classical modern mechanistic-representationalist "paradigm", to a gender bias: "what is peculiar about "masculine" science is not visual thinking as such – many women are very skilled at this – but rather the emotion-avoiding, object-centered thinking strategy and the quasi-autistic outlook of some – perhaps only a few – male scientists" (Pacey, 2001: 56). The drive to control is closely linked to science's "masculine" identity, which is already technologically mediated: "Historically, it is striking that Bacon and others of his generation characterized the kind of science they favored as "masculine", because that is how they thought of factual, objective ways of thinking as compared with folk and intuitive thought... Thus science and nature, with assigned gender roles, were supposed to benefit humankind." (Pacey, 2001: 152). In claiming that, Pacey draws from the research led by the psychologist Sherry Turkle, in the frame of computing science education and practices. A useful remark, which strengthens Pacey's argument on the object/people-centered outlooks dichotomy, is the one made by Turkle, while conducting research on programmers and computer specialists. A clue, which for her offers clear evidence for their detached behavior is the preference for structural themes in music, rather than emotional music (Turkle, 1984: 227 in Pacey, 2001: 55, 230).

In her 1984 *The Second Self*, Turkle raises the question of the kind of involvement programmers – male and female – have with their computers. She denies that there is a single, universal effect computers produce upon its users, especially the young ones. In fact, the children's computer culture is a highly diversi-

fied one, and, as far as boys and girls are concerned, they develop different kinds of mastery as to computer use. She then identifies two such types of mastery; a "hard" type of mastery realized through "the imposition of will over the machine through the implementation of a plan", and a "soft" type, which is more free and expressive. "Hard" mastery is the mastery of the engineer, whereas "soft" mastery is the mastery of the artist and the designer: "While the hard master thinks in terms of global abstractions, the soft master works on a problem by arranging and rearranging these elements, working through new combinations" (Turkle, 1984: 102). "Hard" mastery has mainly to do with control, whereas "soft" mastery is much more receptive and relational towards programming, but also towards other people. This differentiation runs deep into our culture and provoke major "cultural divides" (Turkle, 1984: 120-123). The latter are posed, at a first instance, in the mastery-gender interconnection, as science and technology are usually defined in the language of formalization and control, that is, in the "hard mastery" language. Nevertheless, there are computer "paradigms" that encourage relationality and negotiation, the scope of which in many cases exceeds the limits of the female "paradigm": "The idea of "formality" in scientific thought implies a separatedness from the fuzzy, imprecise flow of the rest of reality. But using a formal system creatively, and still more, inventing it, requires to be interwoven with the scientist's most intuitive and metaphorical thinking. In other words, it has to be mastered in a soft form…Even for the hard master, the "feminine" may be the glue that bonds" (Turkle, 1984: 114).

What comes out of Turkle's research with boys and girls as computer users is that boys tend to view computational objects as a set of unforgiving "rules", whereas girls tend to view them as "a language for communicating with, negotiating with, a behaving, psychological entity" (Turkle, 1984: 105). This observation is closely linked to a more general one, when Turkle points out, based upon empirical research on the technological culture of MIT students, that there is a clear split between people who are good at dealing with things and others who are good in dealing with people (Turkle, 1984: 201-202). The proponents of "soft mastery" – and most of female computer users belong to this category –while programming a computer, treat it as a person, favorising the "negotiating", "relational" style of coping with computational devices, a style which is highly "immersive". In the case of digital simulations, the user-device relation becomes narrower, as "individuals become immersed in the beauty and coherency of simulation: indeed simulations are built to capture us in exactly this way" (Turkle, 2009: 10). This observation presents an even greater interest, as today's computational objects do not share the same properties with objects from the previous decade; they are "relational artifacts", e.g. robotic helpers in nursing homes, not necessarily attached to the intellect, and, at least seemingly, emotionally-driven (Turkle,

2005). Therefore, they invite us to engagement with human agents more than to projection, which was the case for information technologies ten or twenty years ago.

II.

The shift from control to participation, from projection to engagement, from detachment to involvement, last but not least, from an objectifying to a more relational type of knowledge has been discussed from numerous different viewpoints within science and technology studies, AI research, and computer ethics. I here wish to shed light upon a phenomenological account of the gender and ethical biases in our new stance toward computational objects, qualified by Sherry Turkle as intuitive and relational, by focusing upon the phenomenologist Hubert Dreyfus' account.

Let me use as an intermediary stage another leading phenomenologist's, Don Ihde's, reflections upon the nature of today's digital technologies in comparison to the earlier technological culture. Contrary to what Pacey thinks, for Ihde, there is a qualitative difference between modern "rust-belt technologies" and late modern "knowledge technologies", of which digital technologies are the most important; those two technological "paradigms" follow different "technological trajectories", in Ihde's own terms. "Rust-belt technologies" have a tendency to gigantism, they are centralized, labor and energy-consuming, and alienating, whereas information technologies are more disseminating and multi-tasked, they have trajectories towards miniaturization and low energy and labor consumption, and empower people to communicate with each other on a global scale (Ihde, 2008a: 4-6; Ihde, 2008b: 39-40). Nevertheless, for him, this does not mean that the latter replaced the former, but that they are complementary to each other. Consequently, understood in the terms of the dichotomy between object- and people-centered outlooks established by Pacey, digital technologies appear to belong less to an object-oriented, control-seeking outlook than to traditional mechanical technologies, or at least to a mixture of the two. Would it be then possible to claim that, by virtue of being more connective and relational, at least in several of their uses, information technologies belong more to the gendered culture of being female?

Before exploring the insights provided by phenomenological information ethics, let us go through one or two alternatives. The first alternative is a well-known one; it doesn't come from philosophy strictly speaking, though it is solidly anchored in philosophical postmodernism; it comes from feminist science studies. For Donna Haraway, the field opened by new electronic technologies, which are non-hierarchical and disseminating, paves the way for a "feminist objectivity", which calls for "situated knowledges" and "splitting identities": "Objectivity

is not about disengagement but about mutual *and* usually unequal structuring, about taking risks in a world where "we" are permanently mortal, that is, not in "final" control" (Haraway, 1988: 595-596).

Still, postmodern feminist criticism is counterbalanced by other discourses which put the need for "splitting" and new electronic identities into doubt. Take for instance Alison Adam's claim, who doubts Haraway's optimistic cyberfeminism that digital technologies are ambivalent towards women: "Looking at feminist visions of the future through intelligent technologies, the situation reveals some tensions. Feminist AI projects may attempt to "dismantle the master's house with the master's tools" but they must be wary of inadvertently building on neat extensions to his house by mistake. Feminist readings of popular cyberculture are ambivalent." (Adam, 2007: 405).[2]

III.

Let us now turn to phenomenological ethics. It goes without saying that Hubert Dreyfus' account of technical expertise is a commonplace for phenomenological ethics, with many applications in computer uses. Hubert and his brother Stuart Dreyfus developed a model of expertise in general, which they then tried to employ to the acquisition of ethical skills as well. Before referring to the second point, and in order to situate once more the "gender question" within this context, I will first sketch out the main points of Dreyfus' five-stage model of expertise and everyday skillful coping. It will be then possible to move on to the ethical implications of Dreyfus' model in order to show that what Dreyfus favorizes is a type of "relational ethics", close to Carol Gilligan's ethics of care. His choice is due to his much earlier critique of strong AI on the grounds of "tacit knowledge" and "world-disclosing practices".[3]

Stuart and Hubert Dreyfus describe their five-stage model of skill acquisition as a reply to traditional cognitivism and representationalism, as well as to the failure of symbolic AI and rule-based expert systems.[4] According to this model, we

2. For a critique of Haraway's cyberfeminism: Alison, 2007: 399-401. Moreover, and outside the field of feminist theories, there is a broad literature in science and women studies regarding the gender identity of electronic technologies, which was earlier regarded as "gender-free". We mention among many others: Smith & Balka, 1988; Ebben & Kramarae, 1993; Stone, 1995; Dawn, 2002.

3. Here Dreyfus' account of expertise draws heavily from M. Polanyi's "tacit knowledge", especially in his *Personal Knowledge: Towards a Post-critical Philosophy* (1958), and from Heidegger's *Being and Time* (Harper Perennial Modern Classics, 2008).

4. This is how Hubert and Stuart Dreyfus describe their prospective research: "Given the strong potential for initial regress that a glut of new information entails, the *immediate* challenge for

progress from an analytic, detached, context-free level stage (stage 1: Novice), to a more situation-sensitive approach, where maxims, not abstract rules, prevail (stage 2: Advanced beginner), and then, to deliberative judgment with involved outcomes (stage 3: Competence): "Only at the level of competence is there an emotional investment in the choice of the perspective leading to an action. Then, emotional involvement seems to play an essential role in switching over from what one might roughly think of as a left-hemisphere analytic approach to a right-hemisphere holistic one." (Dreyfus, 2004: 179).

The decisive step is taken with the next stage (stage 4: Proficiency). At this stage, the involved performer will be confronted with an emotionally-burdened choice, where various courses of action have to be calculated and decided. Nevertheless, the highest stage of all (stage 5: Expertise) is the one where calculative thinking regresses entirely and leaves room for intuition. Here the performer is involved in understanding the actual situation as well as deciding upon it. Moreover, the expert, for instance, the knowledge engineer or computer programmer, does not need to follow rules in order to accomplish his tasks; he is led more by intuition than by reflective judgment: the expert's decisions are neither rational, nor irrational, but *arational*. Consequently, a gap exists between calculative rationality and intuitive expertise, which is unrationalized and much sought for not only in the private sphere, but also in the sphere of public deliberation (Dreyfus & Dreyfus, 1986).[5]

At the beginning of the 1990s, Hubert Dreyfus generalizes his skill acquisition model and makes it comprise ethical expertise as well. It is here that ethical theory comes into play. Dreyfus explicitly draws the line between cognitivist ethics, such as those of Piaget, Kohlberg, and Habermas,[6] and ethical "paradigms" which, on the contrary, promote relationality and context-sensitivity, such as Carol Gilligan's ethics of care: "even if there are claims on us as rational moral

the 21st century, if we wish to exploit the computer's remarkable data-processing power to enhance expertise, is to identify, in each skill domain, those computer-generated facts and displays having the property that our intuitive coping ability improves after sufficient experience with real situations where these computer outputs comprise part of the situation. Our *ultimate* challenge is to develop a theory and accompanying experimental techniques that enables us to produce, in any domain, facts and displays that improve our intuition." (Dreyfus & Dreyfus, 1992: 26; authors' emphasis).

5. The rationality vs. intuition debate is recurrent in the field of AI research and skill and expertise acquisition studies. For a most recent version of the debate: Montero & Evans, 2011; Gobet, 2011.

6. The Dreyfus-Habermas controversy is advanced further in favor of Habermas' intersubjectivity criterion in discourse ethics by Lenny Moss (Moss, 1990: 231-232).

agents, acting on such claims cannot be shown to be superior to involved ethical comportment by asserting that such claims are the outcome of a development that makes explicit the abstract rationality implicit in context-dependent ethical comportment" (Dreyfus, 1990: 26).

For Gilligan, there is a need for an expanded cognitive-developmental theory bringing in a voice other than the dominant one, the "voice of justice", that is, the "voice of care": "the difference voice is a relational one" (Gilligan, 2003: xiii). In philosophical ethics, the "Archimedean point" (Bernard Williams) or the "view from nowhere" (Thomas Nagel) represent the tearing apart that endows male moral agents with impartiality and autonomy, while female agents are more inclined to "relational" ethics, what Pacey designates as the people-centered outlook. For male moral agents, it is the formal logic of fairness and detachment from persons and situations that lead to moral maturity, whereas, for women, interpersonal relationships seem to come first. Therefore, at reaching maturity in moral reasoning, women still take into account the psychology of human relationships, where the self and others are viewed as interdependent. For a moral cognitivist, though, such as Laurence Kohlberg or Jürgen Habermas, at the highest, postconventional, stage of moral judgment, moral agents are inclined to adopt a reflective perspective on conventional societal values and construct moral principles that are universal in application (Kohlberg, 1984: 35-62).

Correspondingly, men tend to construct hypothetical moral dilemmas which are useful for the refinement of objective principles of justice, fostering principles such as impartiality and universality. Women, however, tend to reconstruct moral dilemmas in their contextual particularity. Therefore, women's reasoning remains contextual, and informed by a more complex understanding of the psychological dynamics of human relationships. Reaching moral maturity, women, contrary to men, confirm the universality of the need for compassion and care (Gilligan, 2003: 98).[7] At the threshold of postconventional, yet not principled, stage of moral reasoning, women tend to identify the violence inherent in the moral dilemma itself in terms of the consequences for those hurt. When principled considerations of rightness threaten to interrupt the chain of relationships, they are counterbalanced by considerations of responsibility. Thus, choice for women hinges on the determination of where "the greater responsibility lies", a determination based on an assessment of vulnerability (Gilligan, 2003: 142-143). This leads to a sex-biased assessment of women's moral development, since Kohlberg misrepresents the caring orientation of female moral agents as "stage 3" justice reasoning, thus, leading to them being inappropriately underscored. If, for men, morality is abstract and principle-based, judged in terms of its logical, purely for-

7. Cf. Dreyfus & Dreyfus, 2004: 257-261.

mal priority, for women, morality arises from an experience of connection, it is a problem of inclusion and relationships. Turning away from the hierarchical ordering of principles and the formal procedures of justified decision-making, "substance is given to the skeletal lives of hypothetical people" (Gilligan, 2003: 100).

What is then the key element that brings together Gilligan's "different voice" with Dreyfus' ethical expertise model? This is no other than their commonly shared doubt about the priority of impartiality, reversibility, and universalizability as criteria for moral maturity. It is not context-free reflective moral judgment but not-rationally justified intuition and situational involvement that proves a moral agent's maturity: "It seems that beginners make judgments using strict rules and features, but that with talent and a great deal of involved experience the beginner develops into an expert who sees intuitively what to do without applying rules and making judgments at all" (Dreyfus & Dreyfus, 1992: 26).[8] By accepting Carol Gilligan's critique of moral cognitivism and formalism in the name of care, Hubert Dreyfus seems to acknowledge the gender bias behind the rationality vs. intuition controversy: "at the postconventional level, the learner accepts his or her intuitive responses, thus reaching a stage of maturity that leaves behind the rules of conventional morality for a new contextualization that is clearly distinguished from a regression to ethical relativism, as the cognitivists claim.[9]

We are not denying that the ability to ask what is right reveals a kind of maturity, but we see no reason to claim it is the *telos* of ethical comportment." (Dreyfus & Dreyfus, 2004: 260). Thus, the "different voice" Gilligan wants to hear is the voice of care, doing intuitively what the situation demands: caring is always embodied, involved and situational.[10] By putting forth the neglected, until now, everyday ethical coping, Dreyfus goes against a series of the established prejudice of intellectualism which are nevertheless taken for granted in Western moral tradition. Their roots go back to Greek philosophy, both in epistemology and in ethics (Dreyfus, 1988: 106-109). By a gesture of complete reversal, Dreyfus turns upside down Kohlberg's three-stage model of moral development (preconventional–conventional–postconventional) by claiming that it is not abstract, rule-based moral judgment that should be considered as the highest level of moral development, but the sharpening of spontaneous intuitions by dealing with a

8. See also Cf. Dreyfus and Dreyfus, 1991: 246.

9. What Dreyfus has in mind is Habermas' attack against Gilligan on the grounds of promoting ethical relativism (Dreyfus, 1990).

10. On the affinities between Dreyfus ethical expertise and Gilligan's ethics of care: Nest & Pile, 1998: 141, Moriarty, 2008: 133 among others.

number of concrete situations, as Gilligan claims in women's way of formulating moral dilemmas (Dreyfus, 1990).

On the other hand, Dreyfus takes a distance from Gilligan's narrow understanding of care in terms of interpersonal relationships: "phenomenological description suggests that the greater the experience, the *rarer* the need for deliberation" (Dreyfus & Dreyfus, 1991: 238; authors' emphasis). On this point, it is not Carol Gilligan's care ethics, but the influence of Kierkegaard's existentialism and Heidegger's phenomenological ethics on Dreyfus that seems to prevail:

> "*Each person must simply respond as well as he or she can to each unique situation with nothing but experience-based intuition as guide. Heidegger captures this ethical skill in his notion of authentic care as a response to the unique, as opposed to the general, situation. Authentic caring in this sense is common to agape and phronesis*."

(Dreyfus & Dreyfus, 1992: 246 authors' emphasis).

It is not accidental then, that one of the most immediate repercussions of Dreyfus' phenomenology of ethical expertise has been felt in a caregiving field of expertise, that of nursing: "While enhancing nursing's scientific and technical knowledge clears up many false beliefs, unwarranted practices and superstitions, this "knowledge production" falls short of capturing, and even obscures, much of the knowledge embedded in caregiving relationships with particular patients, families, and communities" (Benner, 2000: 296).[11] But it is not only in a traditional, anchored in the female culture set of practices, which still involves the use of sophisticated technological artifacts, such as nursing, but also in knowledge production – in computer engineering and programming, especially in their latest digitalized forms – that the relational-intuitive model could be applied.

As a conclusion, no doubt can be raised as to the impact of Gilligan's call for a "different voice" in moral theory. For the political philosopher Seyla Benhabib: "Modern moral philosophy and, particularly universalist moralities of justice, have emphacized our dignity and worth as moral subjects at the cost of forgetting and repressing our vulnerability and dependence as bodily selves. Such networks of dependence and the web of human affairs in which we are immersed are not simply like clothes which we outgrow or like shoes which we leave behind. They are ties that bind, ties that shape our moral identities, our needs and our visions of the good life" (Benhabib, 1992: 189). Nevertheless, Dreyfus' conditional appropriation of Gilligan's care ethics does not represent just an attempt at a revival

11. As Benner points out elsewhere: "Grasps of the situation, with its possibilities and constraints, enables the competent nurse to move from rule-governed thinking to an intuitive grasp of the situation" (Benner, 2004: 190).

of an important moral controversy of the 1980s between universalist and particularist moral positions. Quite the contrary is true. In the context of today's rapid technological advances, care in the sense of relationality could be taken to be one of the possible remedies to the inadequacies of traditional moral categories, such as those of duty, responsibility, utility. This is what Sadie Plant designates as the passage from "machines" to "matrices": "Digitization sets zero free to stand for nothing and make everything work. The ones and zeros of machine code are not patriarchal binaries or counterparts to each other: zero is not the other, but the very possibility of all the ones. Zero is the matrix of calculation, the possibility of multiplication, and has been reprocessing the modern world since it began to arrive from the East" (Plant, 2007: 347).[12] This is also present in the way robots interfere with our intimacies in the case, for instance, of robots viewed as "caring machines" (Turkle 2010: 105-109). The propensity towards immersion and relationality is quite evident in newly established disciplines within applied ethics, such as computer ethics, and, even more recently, robot ethics or intergenerational ethics.[13]

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12. Plant seems to comply fully with the cyberfeminist utopia of a feminine "matrix world" where fluidity has come to substitute for fixed identities and rigid oppositions: "There is no authentic or essential woman up ahead, no self to be reclaimed from some long lost past, nor even a potential subjectivity to be constructed in the present day. Nor is there only an absence or lack. Instead there is a virtual reality, an emergent process for which identity is not the goal but the enemy, precisely what has kept at bay the matrix of potentiality from which women have always downloaded their roles" (Plant, 2007: 350).

13. "The usual view of alienation and pervasion assumes that human beings interact with their environment, but are basically separated from it. There is a "relation" between human and environment, between subject and object, but this is a "weak" kind of relationality, since there remains a (normatively significant) gap between the two. If we assume a "strong" relational or "deep" relational view of the human, we get a very different problem formulation." (Coeckelbergh, 2012: 4). See also: Coecklebergh, 2009; Decker, 2008: 315-30; Decker, 2011.

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Women that made a career in the early years of the National Center for Scientific Research "DEMOKRITOS" in Athens, Greece

Zoe Nivolianitou

1. Introduction

1.1 History

The National Centre of Scientific Research "DEMOKRITOS" was founded at the end of the 1950s, as a decentralized public service and was initially named Nuclear Research Centre "DEMOKRITOS".

The initial aim of the new centre was the utilisation of the advantages of nuclear energy for peaceful aims. Within this framework, and for the first time in the contemporary history of Greece, the repatriation of many Greek scientists emerged. These scientists gradually developed the structures and the organisation of scientific research in the country and participated in the configuration of the Centre as a really pioneering multi-branch one.

Picture 1 The Nuclear Research Centre "DEMOKRITOS" in the 60's

More specifically, in October 1952 the initiative has been undertaken for the foundation of the Greek Atomic Energy Authority (EEAE), as a result of the recent participation of Greece in the European Centre for Nuclear Research (CERN 1951-1952). The special committee appointed for this purpose had as its president an army General (Ch. Drivas), and as executive secretary the Professor of

Physics in Athens University, Th. Kougioumzelis. Among the fist actions of the newly formed committee was to select a number of promising young scientists (among them some women) and send them as grantees to universities in the USA and Europe, so as to obtain a background in nuclear science and engineering.

The agreement between the Greek government of the time (Prime Minister K. Karamanlis) and the USA government for Greece to accept the donation of 6 kg of Uranium together with the amount of 350000 US dollars gave significant thrust to the construction of the new Experimental Nuclear Reactor in the country. The type of the reactor selected was similar to the ones already working in Munich, Germany and in Israel, manufactured by the American company AMF.

Picture 2 Inauguration of the Nuclear Reactor in the Nuclear Research Centre "DEMOKRITOS" by the then royal couple on Greece, July 31, 1961.

For the new reactor installation a lot of land has been allowed by the ministry of agriculture at the base of mount Hymettus, in the region of Aghia Paraskevi, covering a surface of about 60.000 sq. meters.

From this point onwards a titanic effort (for the capabilities of Greece at the time) has been undertaken by the members of the EEAE to implement all the project of the construction of the first Greek nuclear reactor. Most experienced Greek engineers and University Professors of the time have contributed to this project and among them several women worked either as architects or as translators to allow the communication among Greeks and the foreign consultants.

For the setting off of the Reactor, Greek scientists working abroad, like K. Laskaris from Phillips in the Netherlands, were inspired to return home and undertake the unique project of start up, which took place on July 31, 1961. Around this date another eminent Greek scientist of the time, Themis Kanellopoulos, quitted his job in CERN and was appointed as Scientific Director of "DEMOKRITOS' aiming mainly at the organisation of a library at the Centre and at the invitation of young scientists from abroad (among them several women), so as to form a competent personnel structure for the accomplishment of the Centre's mission. In parallel, he encouraged scientists working already in the Centre to go abroad so as to elaborate a Doctoral thesis in areas related to Nuclear Science and Technology.

All this concerted effort led to the creation of both the Nuclear Research Centre "DEMOKRITOS" and the first post graduate studies Centre in Greece, namely the Centre for higher Natural Sciences and Science Philosophy.

The culmination period of this effort was around late 70s, when still there was a discussion about the installation of a nuclear power reactor in Greece. However, the "nuclear idea" has declined in the 80's and DEMOKRITOS lost its initial focus.

1.2 Later period

In 1985, the Centre was renamed in National Centre of Scientific Research "DEMOKRITOS" (N.C.S.R. "D") and became a self-administered governmental legal entity, under the supervision of the General Secretariat of Research and Technology (G.S.R.T.) of the Ministry of Development. It has been turned into a multidisciplinary research centre, still the largest in Greece, performing R&D in the area of physical sciences and technology (www.demokritos.gr).

Nowadays, the scientific activities of the Centre take place in eight administratively independent Institutes: Institute of Nuclear Physics, Institute of Nuclear Technology and Radiation Protection, Institute of Materials Science, Institute of Telecommunications and Informatics, Institute of Microelectronics, Institute of Physics/Chemistry, Institute of Biology and the Institute of Radioisotopes and Radiodiagnostic Products.

The activities of these Institutes concern sectors such as: nanotechnology, microsystems, integrated telecommunications and informatics technology systems, modern technologies for cultural heritage, control of environmental pollutants, nuclear technology and radiation protection, accelerative systems technologies and detector devices, generation and characterization of innovative materials, bioactive molecules, natural products and biotechnology, medicines and diagnostics technologies, telemedicine, etc.

It employs about 600 permanent and fixed-term-contract employees, while the men/women ratio in both scientific and technical staff is quite balanced nowadays.

The green campus of DEMOKRITOS (after a systematic pine trees plantation in 1960) is 10 km away from the center of Athens and 10 minutes away from the new Eleftherios Venizelos Airport, making it readily accessible to all its domestic and international partners.

Picture 3 The NCSR "DEMOKRITOS" today

2. Personnel in NCSR Demokritos

2.1 From 1960 to 1778

According to the personnel archives of the NCSR DEMOKRITOS, in the early period of the Centre (1960-1978) a total number of 1380 employees have been hired of all specialties, ranging from scientists and engineers to foremen and technicians. Most of them served in the Centre until their retirement in the early 90s. The percentage of women in this staff was quite high since the settling off of the Centre varying from scientist and engineers to specialised technicians, secretaries and cleaning personnel. Actually, figure 1 gives the percentage of men to women working in DEMOKRITOS in this period, figure 2 gives the percentage of men scientists to women scientists in the same period, while figure 3 presents a breakdown of the various specialisations of women working in DEMOKRITOS in the same period.

The scientific community of DEMOKRITOS of this time was highly esteemed and recognised by the rest of the Greek society and had a financial status supe-

rior to the rest of public employees, while it was considered an honor to work in the premises of the Centre. According to the sayings of old women scientists, there was no discrimination between men and women, and the latter were well received by their male colleagues. Owing to its special status, the personnel of DEMOKRITOS at the early period was not allowed to form neither a workers' union, nor a scientific association of its members. It was only at the early 70's when scientists working at the Nuclear Research Centre DEMOKRITOS created a scientific association registered at the Law Court of Athens with the aim to evaluate its members an decide on their career evolution. This was the preamble of Law 1514 of 1985, which gave to DEMOKRITOS its present form and for which women scientists struggled equally bravely with their male colleagues.

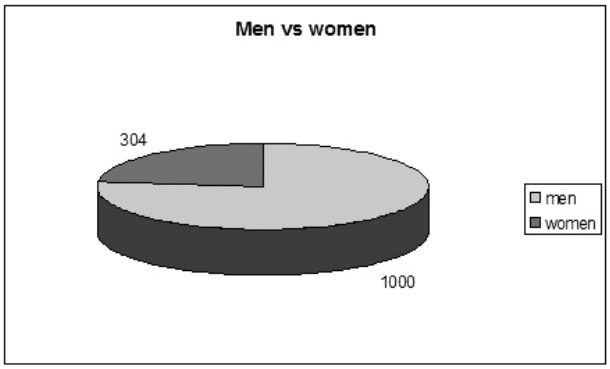


Figure 1 Ratio of men to women working in DEMOKRITOS in the 60's

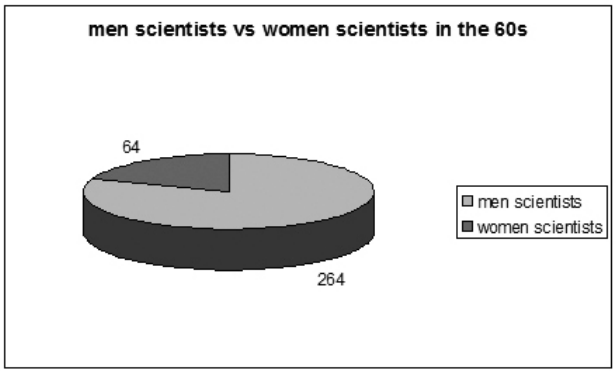


Figure 2 Ratio of men scientists to women scientists working in DEMOKRITOS in the 60's

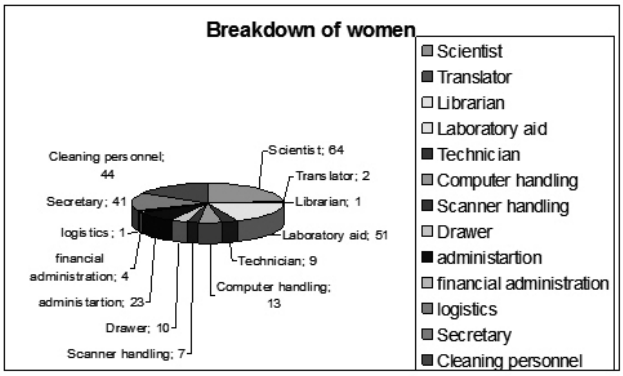


Figure 3 Breakdown of women working in DEMOKRITOS in the 60's

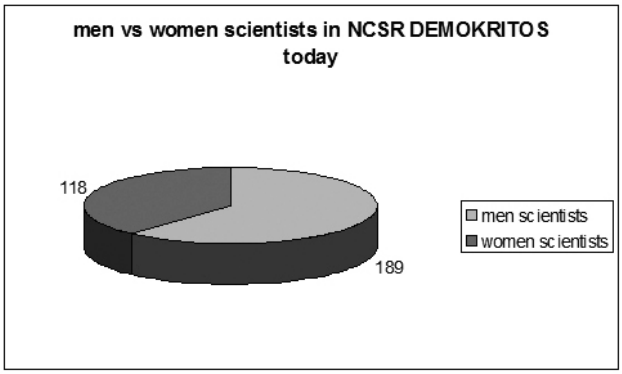
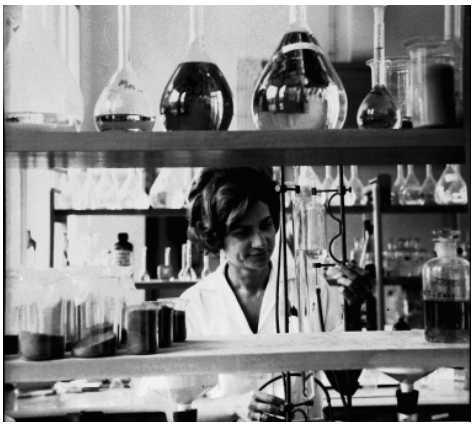


Figure 4 Ratio of men scientists to women scientists working in DEMOKRITOS today

Picture 4 The Library of NCSR "DEMOKRITOS" in the 60's



Pictures 5, 6 &7 Women scientists and laboratory aid at NCSR "DEMOKRITOS" in the 70's

2.2 From 1985 onwards

After the passing of Law 1514 in 1985, men and women scientists filled the positions of the new organigramme of DEMOKRITOS.

In the first place these positions have been filled through the evaluation and placement of all scientists serving till the re-organisation of the Centre. After this milestone, positions have been filled through the open call to the entire scientific community in areas that are currently elaborated in the Centre. In the early 90's there has been a good refreshment of the scientific staff of DEMOKRITOS mostly with young scientists coming from abroad. Figure 4 presents the number of men and women scientists in the Center in the current period. One could notice in this figure that men scientists still outnumber women scientists, but this may be attributed to the fact that still less women than men choose to study natural sciences.

However, in the present time, the Centre suffers from understaffing owing to the general financial situation of Greece, as it is state owned. Major efforts are being done to cover this lack in resources from European projects funding, which, though, is becoming a constantly harder exercise.

3. Epilogue

The National Centre of Scientific Research "DEMOKRITOS" is among the pillars of scientific research in Greece having developed expertise in domains than are crucial for the technological development of Greece.

In addition, it has always been a working place of no discrimination for women scientist, especially in times, when this statement was not that straightforward.

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