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Content

(in alphabetical order by author)

Editorial: International ICIE Symposium 2004

The second volume of IJIE (2/2004) is dedicated entirely to the publication of the proceedings of the International ICIE Symposium 2004 (http://icie.zkm.de/congress2004). The symposium was sponsored by VolkswagenStiftung and took place in October 4-6, 2004 on the premises of the Center for Art and Media Karlsruhe, Germany (http://www.zkm.de/). It was attended by some 50 participants from Argentina, Austria, Cameroun, Canada, China, Croatia, Dominican Republic, France, Germany, Greece, India, Japan, Mexico, Russia, South Africa, Switzerland, UK and the US.

The International ICIE Symposium this year dealt with the ongoing debate on the impact of the Internet on the global as well as on the many local levels. This addresses the very heart of today's and tomorrow's political decision-making, particularly in a world that turns out to be more and more unified – and divided at the same time. The leading ethical question is how embodied human life is possible within local cultural traditions and the horizon of a global digital environment. The symposium discussed this topic with its normative and formative dimensions in three different perspectives, namely:

1. Internet for Social and Political Development: Community Building

2. Internet for Cultural Development: Restructuring the Media

3. Internet for Economic Development: Empowering the People

Therefore the symposium addressed, firstly, the question of how people with different cultural backgrounds integrate the Internet into their social lives. How far does the Internet affect, for the better or the worse, local community building? How far does it allow democratic consultation? How do people construct their lives within this medium? And finally: How does it affect their customs, languages, and everyday problems? In the second place it dealt with the changes caused by the Internet in traditional media and its impact on cultural development. And thirdly, it explored the economic impact of the internet: is it a medium that grants people better opportunities for economic development? Or is it an instrument of oppression and colonialism? What is the impact of this technology on the environment and how does it affect what has been called the cultural memory?

The symposium offered a platform for academic debate on these issues. They were addressed by keynote speakers and discussed thoroughly in working groups. A very important aspect of the symposium was the intercultural exchange amongst the experts from all continents of the world about the different approaches in the different cultures and traditions to deal with the challenges posed by the Internet.

A selection of the contributions to the symposium will be published in the ICIE book series at Fink Verlag Munich in 2005. All other contributions are published in this volume of the IJIE in alphabetical order.

We hope you will appreciate this second issue of IJIE as a valuable input for your academic and professional work.

Best regards and seasonal greetings.

Yours sincerely,

Rafael Capurro (Editor in Chief),
Thomas Hausmanninger and Felix Weil

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Tatjana Aparac-Jelušić

The Internet in island communities in Croatia: between government strategies and reality

Abstract:

The question of integrating Internet into the every day life of people living in isolated areas (e.g. islands and remote rural areas) has been of particular interest to the Croatian Government. It has addressed this issue in its basic strategic and action-plan documents which aimed to improve state economy and living conditions of Croatia's citizens. Also, adopted LIS professional statements have been aiming to increase library awareness, as one of the focal points to the equal access to information for all citizens regardless of their educational, social or economic background.
The paper will discuss Government initiatives related to the e-community building issues on islands and in other rural areas in Croatia. Related awareness raising initiatives of LIS professionals, aimed at professionals, governing bodies and citizens, will also be discussed.

Agenda

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Introduction

Access to information is of vital importance to the inclusion of various groups of people into communities on the one hand, and providing a link with and nurturing traditions on the other. Internet undoubtedly affects community building in many ways: increasing the level of understanding the importance of information in a democratic society, strengthening educational system, stimulating entrepreneurship, etc. Thus, every attempt to improve conditions for a free access to the Internet facilitates citizen involvement in various aspects of the development of a democratic society and raises questions related to their equal opportunities to being informed citizens and experiencing the life in chosen places.

In isolated areas access to information is often aggravated by the insufficient infrastructure (schools, libraries, information and communication technology, qualified staff, etc). The attempts have been made lately in many countries to assure that equal access to information is made possible thorough a network of library services since libraries as places of learning, communication and exchange of ideas, can present, explain and support the complexity of modern societies. However, librarians face a real challenge when finding adequate methods in developing services for those members of society who live in isolated places, with different literacy and knowledge levels and have different needs for information and books. One of the most important tasks of the public library in the digital age is not only to provide access to various sources of information but also to educate information illiterate citizens on the grounds that this will make them equally capable to take part in different aspects of the development of a democratic society. The question of success of public libraries in accomplishing this task, while faced with a problem of the digital divide just as any other participant of the networked society, makes for a starting point of this paper: why and how to provide the Internet for the libraries in remote, rural and isolated areas in Croatia.

Although many public libraries in Croatia have been encompassed by the projects of the digital cooperation there are some substantial differences among them, mostly leading to the situation where urban libraries have the advantage over the small and rural libraries.

It is evident that new Information and Telecommunication Technology (ICT) has been improving almost every part of human life enabling communication worldwide, but also extending digital divide between developed and undeveloped countries or regions within the same country, rich and poor citizens as well as between educated and illiterate people. Castell's (2000, p. 141) statement that the global information economy is deeply asymmetric and regional, leads us to the issue of uneven access to information that is not only typical for the underdeveloped countries or regions but exists in developed parts of the world as well. Digital divide exsists in the world of libraries as well.

To follow up widely accepted and legally protected rights for the equal opportunities to the free access of information, and of the desire to live in the knowledge based modern society, many European countries have recognized the potentials of public and school libraries as corner-stones to education, information literacy and solution to digital divide problems. Although governments in transitional countries, for example, have been aware of the importance of the implementation and use of ICT, the development of public libraries as one of the focal points for equal and free access to information has not always been of high priority to them. It is more than true that by reaching nearly all communities, library computers have been an effective way to reach the digital divide. (Towards equality of access, p. 4)

In Croatia, although some of the libraries in larger cities are well equipped and have trained personnel, this can not be said for libraries in rural and isolated places that lack premises, basic equipment and staff. Among traditionally disadvantaged groups (e.g. lower income families, disabled people, illiterate people) island inhabitants form a special group. It has to be pointed out that Croatian sociologists did not explore in depth the small island communities as the traditional rural communities, nor did they explain the notion of insularity as determinant of islandity[i]. However, several general observations can be made: the insularity is a specific phenomenon, marked with noticeable differences between islands that are better connected to the mainland and those more remote; etno-cultural tradition is strong (the village organized as fraternity, the Cumune, and the State, identifying the mechanism of social integration and the Catholic Church as the basic integration structure) although some of the traditional values are disapearing (cf Zupanov, 2001, p. 170). Morever, potentials in these areas for the development of the modern

information society are getting higher and more important every day (tourism, work from home, research parks etc.), but the government policy measures are needed to improve economy, the way of living and return of people to deserted islands.

A number of initiatives started in the European Union to overcome obstacles to the idea of free Internet access for less privileged members of society stimulated Croatian Government to introduce National ICT Strategy (Croatia in 21st Century, 2002), several projects and financial support for innovative ideas and cooperative programs. At the same time, legal framework has been gradually established and professional communities have taken over the responsibilities relevant to their particular role in the information society.

Croatian islands and the idea of an equal access to information

Croatian islands differ from each other geographically by the insularity degree (distance to the next island or to the nearest mainland) and economically by the economic vulnerability i.e. by the quality of their own resources and degree of the recognized advantages. Recent research counted 1,246 islands, 79 of them recognized as island, 526 as islets and 641 as rocks and rocks awash. (Starc, 2001, p. 16)

By 1981, one fifth of the population left large size islands, more than a third left medium size islands and, disastrously, three fourths left small islands (Starc, 2001, p. 19). During the war period from 1991 to 1995 islands were a place of refuge for a number of refugees from Croatia and Bosnia and Herzegovina increasing the number of islanders. According to the 2001 census the population on islands grew to over 120,000. An average island settlement had 417 inhabitants, and the largest town, Mali Losinj on the island of Losinj, had 6,566 inhabitants. (Drzavni zavod za statistiku, 1992)

The development of islands has been considered as one of the biggest problem in Croatia since 1995 due to the fact that the island economy was not improving, the whole areas of economic activity non existant and people tending to leave for the mainland and foreign countries. The newly formed Ministry of Development and Reconstruction put island issue on its agenda and prepared Island Development Programme (IDP) in 1997. The Parliament passed it as the first development document of the Republic of Croatia that dealt with a particular region. IDP scoped comparative advantages, detected limitations and deducted that the islands arrived at the development crossroads from which the path of sustainable development should be taken, based upon 'from the bottom' development management. The Island Act was produced and passed as a *lex specialis* in 1999 and several development measures were proposed – 22 island sustainable development programmes and 19 state infrastructure and superstructure programmes (cf Starc, 2001, pp. 28-33).

For the topic of this paper of particular interest are educational and cultural programmes that were proposed. Related to the education it was recognized that "deficient primary education on small island is an insurmountable short-term limitation. Newly started families of island inhabitants or newcomers are directly threatened when children reach school age and the island school, if any, does not provide a minimum of educational quality." (Starc, 2001, p. 26) Increase in the cultural level of islanders and presentation of cultural heritage connected with the development of tourism were seen also among important tasks.

It is obvious that the information age has brought new approaches to the problem of isolated areas. Since the information is seen today as a key factor for the successful economic development, the falling behind of some rural areas (decline in number of inhabitants, lower-paid workers, lower educational level, high number of retired people), nowadays is often explained by the lack or inadequate access to information. Intersection of the importance of information and difficulties of the living conditions on islands as well as specifics of mentality and culture in these areas, are seen as the biggest challenge for rural areas in the information age. Bearing in mind the fact that all rural regions have at least one public or school library, or are connected to the nearest urban library, the Croatian LIS professionals interpret the Government's strategic documents in such a way that public and school libraries can serve as access points to introduction and development of the concept of the Internet for all inhabitants. However, libraries require ongoing investments and support in several areas (e.g. hardware and software provision and upgrades, Internet connectivity, staff training, longer working hours) and current funding in library services, if not upgraded, might jeopardize the access and opportunities to the concept of 'information for all'.

Legal context

The Island Act (Zakon o otocima, 1999), derived from the IDP rephrases most of its provision and requirements and assigns tasks to a number of ministries, government agencies, public enterprises and bodies of local administration and self-government in the six island/mainland counties and their 44 island municipalities/towns. The superstructure programmes deal with health care, social care, pre-school, primary and secondary education, scientific research, education of island entrepreneurs, culture, environmental protection and protection of cultural heritage to name just a few that are directly related to the subject of this paper.

Government Strategic Documents, especially those adressing ICT and education, also underline the importance of the special measures or government development policy to assure that islands get a chance to develop according to their potentials as well as fulfilment of basic rights of their inhabitants.

According to the Constitution of the Republic of Croatia (2001) all citizens are guaranteed the freedom of expression and access to information. Although libraries are not mentioned in the Constitution, other documents endorse their role in supporting the idea of the freedom of expression and free access to information, especially the ones accepted by professional bodies and governmental agencies, such as Croatian Library Association, Croatian Chapter of the IEEE, Croatian Journalist Association, Office for the Information Society, etc.

It is also important to mention that the Croatian Library Association's Code of Ethics (Eticki kodeks, 1992) affirms that librarians have to resist all forms of censorship, and that the Article 6 of the Library Act (Zakon o knjiznicama, 1997) states that library materials and information have to be provided to users according to their needs and requirements.

In Croatia, as elsewhere in the world, there is a number of obstacles to free access to information in libraries and they are related to inadequate funding, equipment and library premises, undefined criteria of state subsidies in library materials, buildings and ICT infrastructure, lack of the staffing policy as well as to the lack of the collection building guidelines.

A recent research (Nebesny, 2000) showed that smaller libraries in the country depend almost entirely on the state purchase of new titles, often lack qualified staff and have to employ non-professionals.[ii] These libraries often are not equipped with ICT and Internet connections either. Thus, all initiatives toward e-society had to take into account these facts.

The role of the Professional Association

At the beginning of 1990s the Croatian Library Association (CLA) adopted the first ever Code of Ethics. Following professional guidelines and responding to the incidents reported in the media that were connected to the unprofessional management of library collections, CLA established its Committee on the Freedom of Expression and Free Access to Information in 1998.

The IFLA/FAIFE Statement on Libraries and Intellectual Freedom has been translated and published in the CLA Newsletter in 1999. By doing so CLA emphasized the right to free access to information as a constitutional right of every Croatian citizen regardless of his/hers gender, age, nationality, religion or personal beliefs expressed in the Article 38 of the Croatian Constitution Act. The goal of the Commission is to seek any possible obstacle to the free usage of information in Croatian libraries and discover the best modes to wave them off.
In September 2000 the CLA Assembly adopted a Declaration on Free Access to Information prepared by the Committee on Free Access to Information. The Declaration has been modelled after the IFLA/FAIFE Libraries and Intellectual Freedom Statement. Its purpose has been twofold: to emphasize the responsibility of the profession to provide free access to information for their users and to provide a set of principles the profession can rely on. Professionalism is emphasised throughout the text as a main principle that regulates the behaviour of the CLA members. It is expected that the Declaration would help the Library Association and the profession in general in communication with the media and the public, as well as with the authorities (cf Horvat, 2002, pp 52-53).

In October 2000 the CLA published a new issue of its journal, Croatian Librarians' Herald (Vjesnik bibliotekara Hrvatske), dedicated to the topic of freedom of expression and free access to information, and in 2002 the proceedings from the Roundtable on Freedom of Access to Information in Service of Cultural Development were published (Slobodan pristup informacijama, 2002). The main purpose of these publications is to make the concept of free access to information more familiar to the Croatian librarians and other interested professionals such as members of Croatian Information and

Documentation Society, Croatian Chapter of IEEE, as well as to the members of the government and local bodies involved in policy making, students and teachers of LIS and citizens in general.

Government strategies and initiatives

As already mentioned, Croatian Government accepted several strategic documents, one of them being the Information and Telecommunication Strategy, so called e-Croatia. In this document some of the recommendations are related to the topics of this paper and deserve further explanation.

To overcome falling behind and isolation of islands, in the Development Guidelines of the Republic of Croatia[iii] (that followed e-Croatia document) it is recommended that the regional policy should be gradually decentralized, at a pace which must be adjusted to the level of development and the ability of a particular region to ensure its own growth.

A substantial government investment in infrastructure, together with the direct intervention in the social sphere is provided for the development of island economy through improving traffic links with the mainland starting from 2002.

Having in mind the European experience with the development of ICT infrastructure in the geographically dispersed and isolated places, areas with a small population, bad traffic connections and bad economic situation that lead to the inequality of citizens, e-Croatia document recommended that priorities have to be chosen and they are expressed through the concept of the 'Internet in movement' – it is recommended that all citizens have right to participate in an information society and that ICT infrastructure should be built taking into account primarily the needs of children and young people, citizens with special needs, older citizens and those with lower income (Cf Croatia in the 21st Century, p. 41-42).

ICT has to be available to local communities through Internet centres that will enable the usage for local governing and personal needs of inhabitants when they are not able to use ITC from home or workplace. It is said that these Internet centres might be located in schools, libraries, or other local institutions. To be functional these centres have to be equipped, connected to the telecommunication networks and given appropriate technical support. Internet centres are of special value in rural and less inhabited places where its main task is to support general education, facilitate opening of new working places based on the use of ICT and providing links to medical help and consultancy (Croatia in the 21st Century , p. 53).

Following these recommendations the Contract between Croatian Ministry of Education (today Ministry of Science, Education and Sport) and Croatian Telecom Company was signed in 2001 with a main goal to provide Internet access to all schools in Croatia at least with one access point per school. The computers and connections as well as certain number of free access hours were donated and in no time the technical prerequisites were set up to enable the use of the Internet sources in educational process. The idea behind the project was that the development of Croatia as the knowledge based society has to rely on the forthcoming generations, their ability to use different sources of information and knowledge and to be open to the idea of the lifelong learning.

Croatian Telecom donated schools with free hours to Internet (10 hours every working day to each school), 100 millions of free minutes for the Internet access of pupils from their homes. Croatia Telecom offered also to organize workshops for pupils and their teachers to improve their information literacy and develop info-portals for pupils and their teachers as central points of information and cooperation of all parties involved in educational system. In this way schools in rural and isolated areas received initial equipment and connections as well as the stimulation for access to modern technology and start of new programs such as distance learning for elementary and secondary school children or medical provision.

Furthermore, the pilot project was introduced in 2001 to connect six pupils from the island of Drvenik with their teachers in Split via Internet. From 2004 two more pupils will join in. The new ICT infrastructure on islands enables hotels to accommodate professional conferences, one of them being LIDA on the island of Mljet. The project of Telemedicine was introduced for the GP's on islands to get professional consultation when needed from larger centres such as Zagreb, Split or Rijeka.

In July 2004 the Government accepted new program 'The development of the communal and social infrastructure at Croatian islands' that will allow further development of these programs (based on the experience from pilot projects) and some new ones, such as access to government and local administration information.

With the support from the Open Society Institute's Network Library Program (http://www.osi.hu/nlp) some project have been undertaken in regional libraries such Library as a Local Community Centre in City Library Zadar. (http://www.gkzd.hr). One of the goals of Croatian public libraries is to provide free access to all citizens. However, each Croatian public library requires its members to pay annual fee (between 8 and 10 euro). In many cases, though, the non-users are welcome to use Internet free of charge. Library members' access to Internet is covered by the annual fee without any additional payment. As one of the traditional services for inhabitants of the remote rural areas the mobile libraries are delivering services to many isolated places, but the islands lack such library services (e.g. libraries on boats). With the development of ICT infrastructure the idea of delivering professional services to islands' inhabitants through Internet (such as Ask a Librarian or ordering books via main library) has been accepted by some librarians and first projects are put into working in Zadar and Dubrovnik. Having in mind that rural and small-town libraries are especially at risk because their funding is less reliable, their staff tend to be older and less comfortable with technology and they have trouble getting technical support (Toward Equality of Access, p. 5) it was planned to include students of LIS to volunteer during summer to help develop necessary skills of local staff and deliver special workshops for children and young adults aimed to improve their ICT skills.

The other step is networking of all libraries inside one region. Such a project has been developing by the Zadar City Library that aims to connect all libraries, including ones on nearby islands, in a way that the City Library is responsible for the bibliographic control and access to databases, document delivery, consultations, professional permanent education of all librarians, as well as those ones who work on small islands as volunteers or part-time workers.

There is also a potential in developing rural libraries as centres for life long learning. There are many reasons why citizens in rural areas did not get proper formal education (such as poverty, isolation from the centres for learning). Using the advantages of ICT the rural libraries can evolve into centres for distance learning (DE). Having this in mind the LIS department in Osijek has been developing DE programs for the students in Dalmatian region that will enable students to lead such educational programs once they start working in libraries. There are already several such librarians who work at islands (Hvar, Korcula, Dugi Otok) and who are trained to use DE techniques.

The other emphasis is on the work with children by facilitating provision of the so called traditional services to children (e.g. storytelling, summer reading programmes) as well as introducing new services such as consultancy for parents, help with home assignments etc. The inclusion of volunteers, and especially students of LIS in these programs, has been one of the strategic issues of the LIS Department in Osijek and the newly established one in Zadar.

Conclusion

In the last decade European Union has been supporting a number of projects (such as PUBLICA, PULMAN Networks of excellence and PULMAN XT as well as the new project CALIMERA started in 2004) related to the plan of the *eEurope* (Europe 2002) that include public libraries and their potentials in cooperating with other relevant institutions (such as local museums, archives). One of the main goals of such projects is the creation of Public Internet Access Points –PIAPs and opening of multimedia centres in all European countries. Croatia has been actively involved in these project although not a member of the EU yet.

Public libraries in Croatia in general have been challenged by the need to maintain and further develop their role in providing free access to Internet to all citizens regardless of their social, economic and cultural background, although this important public service is not always understood by the policy makers and local groups of library advocates hardly exist.

Although the Croatian Government, particularly through the Ministry of Culture or Ministry of Science, Education and Sport support public and school libraries (e.g. annual financial support for collection building, investments for buildings maintenance and protection of rare and valuable material), the main source of financing is the responsibility of local governments. As mentioned earlier, the Library Act requires that every municipality in the country establish a library a public service (Zakon o knjiznicama, 1997). However, many local government units are not in position to do so due to the weak economy. The economic emigration from Croatian islands or from some regions that were destroyed during the war at the beginning of 1990s is not stopped yet. The

structure of economy and citizens' age in these places has been a huge obstacle for the introduction of innovative ideas and programs for the rebuilding of the life. The conservatism of the islands' population and their unwillingness to cooperate even on the same island (e.g. when there are two or three towns they tend to cooperate rather with another town on the mainland then with their neighbouring islanders) are further problems that public libraries in Croatia face. Small towns and villages are often closed to newcomers and to new ideas, have their habits and beliefs and hardly accept any change at all. This is also true for the librarians working in such environments as well as to library committees that are not willing to change every day's routine.

To be connected through Internet in such circumstances might become a starting point for networking island libraries and introducing necessary changes more easily. Undoubtedly, ICT offers to islands new opportunity to get out of the isolation and yet leaving them the feeling that they stick to their habits and the way of living.

Since the infrastructure building has been supported by the Government, the first steps are much easier. Thus, the projects of the national ICT infrastructure building are of the highest importance for the introduction and usage of Internet in rural and isolated areas of Croatia.

And last but not least, the new service that is of particular importance to the inhabitants in rural and isolated places is the provision of business information. Many local politicians do not understand the value of such a service, but might appreciate professional help that will improve their leadership position and development plans for the local community as whole.

However, legal framework, ICT infrastructure and financial support from the Government are only partially contributing toward the solution of problems that Croatia facees on its way to becoming a modern society. The importance of the governmental support for the stimulation of the development of new cultural values, moral and ethical principles, that will form a base for further development of the responsibility and conciousness about general and personal advantages and disadvantages caused by the use of ITC, is also stressed in strategic documents approved by the Croatian Parliament. In this respect the contribution of public libraries could be of high value.

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[i] One of the exceptions is surely the special thematic number of the journal Sociologija sela (Rural Sociology) that is completely devoted to the life and development of Croatian islands. 39, 1/4(2001).

[ii] According to the present Library Act non-professionals employed in libraries should earn a professional degree but libraries on islands and small-town libraries often can not find a person to run the library at all.

[iii] This document was published by the Strategic Planning Office of the Croatian Government in 2004. URL http://www.hrvatska21.hr

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Shifra Baruchson-Arbib

"Social Information Science" – as a concept for assimilating Smart Internet Usage in a Multi-Cultural Society : The Case of Israel

Abstract:

The present paper discusses Social Information Science, an innovative field of study, which can enhance assimilation of smart internet usage in multi-cultural countries such as Israel. Social Information Science (S.I.) deals with the development ,theory and applications relating to the retrieval and processing of social and medical information, training "social information scientists," as well as the development of SI mediation services such as SI banks, SI sections in schools ,public libraries, hospitals, community centers, and private services. Together, these concerted efforts aim to establish a modern information-oriented climate in which stressful social and medical issues are handled through the retrieval and use of reliable information as the basis for knowledgeable decision making. Mediation services demonstrate the potential and risks involved in internet usage, as well as the importance of information-based decisions. Social Information Science will help train people to conduct their daily life decisions on the basis of information selection and self-responsibility- which is a step forward in the evolvement and empowerment the individual.

Agenda

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- Relevant publications:
  - Baruchson-Arbib, S. (1996). Social Information Science: Love, Health and the Information Society – The Challenge of the 21st Century. Brighton: Sussex Academic Press.

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Introduction

The present paper discusses an innovative assimilation service concept developed and implemented by the author at the "Department of Information Science," Bar Ilan University, in Israel. Israel is a multi-cultural state comprised of local religious and secular groups, Jews and Arabs, immigrants from western and eastern countries and foreign laborers. The present study is grounded in the premise that the assimilation of information technology in multi-cultural societies must be supported by a creative, multi-systemic perspective. One method to cultivate an information-oriented society is the establishment of social information banks and desks managed by academically-trained "social information scientists," possessing an understanding of "information behavior" language and mentality issues. In these times of a digital divide, there still is a need for a mediator who use face-to-face encounters to gradually expose individuals to information in areas relevant to their daily lives. An understanding of the potential of information and the internet is expected to empower individuals, train them to manage their lives based on knowledge-based decisions, enhance independence and responsibility and reduce the digital divide.

The Internet and the Evolution of Individual: Options, Choices and Responsibilities

The internet emerged as a new communications tool with unique and distinct features in the last decade of the 20th century. For the first time, at our disposal is an interactive, global tool of knowledge, comprised of words, color and sound. This dynamic instrument, which is a repository of enormous amounts of information increasing from day to day, poses many challenges to humanity. The internet triggers changes in culture and leisure, modes of learning, commerce and social communications, and also raises the issue of nationalism in a global environment (Castells, 1996; Castells, 2004; Curran 2002 Howward and Jones, 2004 Winston, 1998). In order to understand the potential of the internet and assimilate its use in everyday life, three essential skills are needed, without which use of the internet is impossible: usage techniques, information skills and search techniques. However, the major challenge for humankind is how to bring the power and significance of information to the public's awareness, and to develop its appreciation of the need for "smart internet usage." Relevant information potentially enhances individual quality of life by suggesting numerous options for life management. Smart usage involves information assessment techniques, awareness of the information overload problem and an appreciation of ethical issues such as intellectual property, privacy and the digital divide- all of which are important for being an equal citizen in the information society.

Any new communication tool introduced into human society poses new opportunities and challenges, as well as new risks. Underlying the present paper is the assumption that access to information representing new options and new alternatives constitutes a foundation for individual development and growth. Therefore, the internet has the unique potential to increase self-awareness, individual responsibility and individual independence. Exposure to the unprecedented abundance of information on the internet allows individuals to select the most appropriate information for his or her needs. This selection process is a conscious and responsible process that integrates elements of personal maturity with expressions of individuality and creativity.

In the absence of widespread appreciation of the power and uses of information, a very narrow stratum of the population may emerge as an "information elite." This elite may exploit information for its own benefits, while the majority of the population continues to play computer games, send emails and participate in on-line chats, with no real understanding of the "treasure" called information. This large group will not only fail to realize any benefits from the positive potential embodied in the internet, but may gradually become an information-impoverished social group, detached from one of the greatest challenges offered by the internet: the opportunity to lead a productive life grounded in informed decision making. If this forecast is realized, we will no longer speak of a digital divide, but of a mental divide.

Traditionally, information was controlled by elite groups: rulers, religious leaders, physicians, lawyers and experts in various fields. Individual decision-making was typically restricted to information which had been filtered, classified and released by monopoly owners. Now, for the first time in history, individuals have the opportunity to independently select information and knowledge, and consequently gain control over major portions of their lives. The internet, however, has created the challenging

situation, akin to that of a prisoner released after many years of incarceration, or a villager who encounters the big city for the first time. In this context, the words of Burckhardt (1958) remain relevant: "Man was conscious of himself only as a member of a race, people, party, family or corporation - only through some general category…" (p.143). The internet now allows man to perceive himself also as a member of a global entity, with the freedom and responsibility to make his or her own choices based on vast amounts of information.

To ensure that the opportunity for individual growth is realized, we must establish an "information climate" in daily life, through by education, public debates and special assimilation projects. For this task, regular methods of computer training and basic information skills acquisition are insufficient because assimilation training must emphasize broader issues, including the power of information, the liberty and responsibility which create lives based on informed decision making, ethical issues applicable to the internet, and exposure to the "information environment" comprised of books, journals, television, experts, acquaintances and family members.

Assimilating information technology such as the internet is especially difficult in a multi-cultural society, because social groups generally maintain distinct information channels, unique modes of appreciation of the significance of information usage, and unique views on individualism and personal responsibility. To ensure the success of the technology assimilation process, and provide a genuine opportunity for progress to the population at large, assimilation should be based, first and foremost, on an understanding of the mentality of each social group. Such understanding must be grounded in scientific research, and implemented by developing creative, modular assimilation programs suited to the unique language needs and awareness levels of each group. Such an assimilation process does not imply any modification of cultural mentality and beliefs, but only support for increasing access to the benefits of the new technology and the opportunity to join the information society equipped with all necessary knowledge.

Past media revolutions offer lessons on the importance of the assimilation process of new information technologies. One major communications revolution was prompted by the printing press, invented by Johann Gutenberg in the mid-15th century. Gutenberg printed the "42-line Bible" (Mainz 1454-1455), in a large format (41.3 x 30 cm, 2 volumes, 987 pages), leaving margins for hand-made illustrations, yet was oblivious to the potential of his innovation and failed to foresee the development of pocket books, bureaucratic paperwork, newspapers or scientific journals. In fact, first to understand the possibilities of the printing press were religious authorities. The Catholic Church in Rome printed indulgences which generated revenues used to finance magnificent buildings, while the Church's opponents, the Reformators and supporters of Martin Luther, printed pamphlets and books in their campaign against the Church, ultimately causing the separation of the Protestant from the Catholic Church. Yet, at the same time, the invention had little impact on the literacy of the public at large: Four hundred years later, in 1840, one half of Europe's inhabitants remained illiterate (Baruchson, 1993; Cipolla, 1969; Eisenstein, 1979; Febvre and Martin, 1976).

Can we allow ourselves a similarly slow process of technological assimilation, which the French call "laissez faire laissez passer "? Over one hundred years of social science studies in the universities illuminate the disaster inherent in a slow assimilation process, in terms of equality and status among individuals. Since Gutenberg, the "play," "the actors" and the "stage" have changed and will never be the same. The "play" is no longer a printed book with fixed contents, the "actors" are no longer authors, printers and librarians, and the "stage" is no longer stable. Now, the leading "actors" are technology firms and hi-tech experts, the "play" is virtual and interactive and the "stage" is continuously moving in cybernetic space. In fact," slow time" has ceased to exist and has been replaced by uncontrollable rapid, dynamic changes. In this new state of affairs, we are called to concentrate our efforts and creative energy to the development of a framework for assimilating new technology, a framework which is innovative, effective and efficient, operating simultaneously on multiple channels. Our realistic aim, then, is not to resolve all the problems of digital divide, but to alleviate them.

"Smart Internet Usage" in a Multi-Cultural Society: The Case of Israel

Assimilation of internet usage skills touches upon several foundational questions, including the designation of the parties initiating and

implementing the assimilation process, as well as the manner of assimilation. In the context of a multi-cultural society, assimilation of internet usage becomes entwined with many additional factors including literacy, awareness of the power of information, technological knowledge, economic resources, openness to unfamiliar technological channels as substitutes for traditional information sources such as community leaders, parents and friends, and finally, openness to knowledgeable-based decision making, which is one of the most important opportunities offered by the internet. In a study on the information behavior of minorities, Chatman (1999) noted, "The role that a small world plays in formulating first-level information is quite simple. Primary conditions are trust and believability. For information to take on legitimacy it must be compatible with what members of the social world perceive to be plausible" (p. 215). In her theory of "life in the round", Chatman explains: "When people seek information only from others much like themselves…their world has limited range of possibilities" (ibid, p. 215).

Two main methods are used to assimilate new technologies. The first entails the gradual and random exposure of the population to the new technology, for example, through the dissemination and sales of computers and short training programs focusing on uses of the new technology. This is obviously a limited method when applied to groups whose economic situation and/or cultural worldview prevents them from using the new technology. As this method is dependent on general competencies, it also entails the risk of promoting the formation of a new elite comprised of the owners and experts of these technologies.

The second method employs initiatives of educational systems. Despite its advantage, assimilation through this method is limited to individuals attending such institutions due to its nature as a structured and controlled curriculum. Furthermore, some planned educational efforts fail to take into account the specific needs of different social and cultural population groups, ethical issues or attention to the significance of the informed decision-making. Although some international programs for technology assimilation, such as the ECDL (European Computer Driving Licenses), have been developed in recent years, these programs generally target an already aware and interested group, and are also limited to the technical aspects of the assimilation process (Munnelly & Holdan, 2000).

The State of Israel illustrates the problematics involved in assimilating information technology in a multi-cultural society. Israel is comprised of diverse cultures of Jews, Moslems, Christians, and more recently, foreign workers especially from the Philippines, Romania and China. Even the country's Jewish population is varied, comprised of Israeli-born and immigrants from Eastern Europe and North Africa, with a minority from central Europe and the English-speaking countries. In the last thirty years, large waves of immigrants from Ethiopia, Russia and other Former Soviet Union states have arrived. The Jewish population is also segmented by religion: The majority of the population is secular, although many respect, honor and wish to preserve ancient Jewish traditions. Religious Jews are further divided into several sects: Orthodox, Modern Orthodox, Conservative and Reform Jews, while Orthodox Jews themselves are divided into several streams. The languages spoken in Israel are Hebrew, Arabic, Russian, Yiddish, Amharic and English. Although the information behavior of the various population groups has not been studied to date, different mentalities and perspectives are clearly involved. This is especially prominent in Orthodox and other conservative groups, where most decisions follow the religious leader opinion, and access to other information channels such as the television or the internet is frequently forbidden. Internet usage rates in Israel are relatively high. According to January 2004 data, of 6,700,800 inhabitants, 29.8% (2 million) individuals use the internet (Internet Worldstats, 2004), most of them are concentrated in high socio-economic status cities in central Israel (Eitan,2001).

The Concept of "Social Information Science"

Even if a considerable share of the population uses the internet, the question is whether the majority of this diverse population understands or is ready to understand the options embodied in access to information and information sharing. In this complex reality, the cultivation of an awareness of information-based decisions requires special-personalized- information services and special qualified professionals. To this end, the author developed a new scientific discipline for MA and PhD students in the field of information science, designated "Social Information Science." Service delivery is planned to be conducted through social information banks or desks, and characterized by its one-on-one format relating to the individual's unique circumstances. Social information services are based

on the belief that information provided by a mediator in an area which is highly important to the client, indirectly exposes clients to information sources and the need for informed decision-making based on a rational selection process. The present paper focuses on the underlying rational of this new field rather than the contents of its curriculum, which are discussed elsewhere (Baruchson-Arbib, 2000a) and are updated on an annual basis to incorporate changes in the field of social information in Israel (Department of Information Science, 2004).

The field of Social Information (SI) addresses several areas: theory development and the application of all aspects of retrieval and processing of social and medical information, including primary information (names and addresses of organizations, websites, relevant articles, etc.) and supportive knowledge (belle letters, stories, movies, etc.). The field also addresses information needs, ethical and legal issues, information seeking behavior in multi-cultural societies, and the development of special institutions and services, such as SI banks, SI sections in school and public libraries, SI desks in hospitals, SI sections in community centers, and private SI services (Baruchson-Arbib, 1996b).

The goal of this new field is not to establish additional information services, but rather to create an atmosphere in which individuals become accustomed to solicit the assistance of an independent consultant to obtain information concerning social and medical problems. The consultant-mediator helps the client chart his or her information needs and identify solutions to actual problems or dilemmas. This method offers the following benefits: Individuals are exposed to the practical significance of information, new information sources and technologies, as well as the need for knowledge-based decision making. A substantial effect is anticipated as a result of the exposure to information and to the potential of technology, due to the very personal and vital topics involved and the highly motivated state of the individual seeking information.

In many societies, individual routinely consult mediators in many dimensions of life. We recognize our need to locate information and consult mediators such as investment counselors, travel agents, real-estate brokers or school counselors. However, faced with a social or medical problem, especially an unfamiliar or ambiguous condition, no familiar routine exists. The path of locating appropriate information is paved with anxiety, to say nothing of expenses. A person who retires from his job, for example, can benefit from information on his social rights, options for work or volunteering, information on leisure activities, support groups, senior citizen homes, self-help organizations and social clubs, to say the least. If the individual has a medical condition, he will also need information on his illness, including treatments options, technical devices, and support. In the absence of a possible cure, he will need to know how to maintain his optimal state of health. He might also be interested in the latest science news relating to his condition, on a continuous basis. He would probably appreciate a book or film about a person his age coping with a similar condition, and enjoy similar sources of support or insight. The inclusion of supportive knowledge in the new service was based on an appreciation of the major role on individual's mental state and coping, in the context of social and medical problems. To efficiently and effectively find, access and utilize all this information, individuals require basic preliminary competencies in information technology applications, knowledge of information sources, data retrieval skills and strategies, and assessment rules for selecting credible information. In addition, individuals should be capable of planning search strategies by outlining aims and research sources. Individuals would also be advised to familiarize themselves with the appropriate literature as a source of insight. In addition, individuals must be fluent in the language of the sources and familiar with related ethical issues, such as the problem of junk mail or free information that could lead him to misguided decision making.

As internet technology assimilation proceeds in the current transition period, mediation services rendered by academically-trained professionals are required to enable the aforementioned retiree, or any other individual who lacks adequate information skills, to function productively and enjoy the benefits of access to information. Such professionals should be well-trained in conducting "helping interviews," and familiar with information sources, ethical problems and issues of diversity pertaining to information transmission and sharing. By simultaneously establishing socially-oriented information services in multiple community institutions such as libraries, schools, community centers and hospitals, we can create a climate in which the majority of the public comes to recognize the significant role of information.

The rational of Social Information Science goes beyond the traditional perspective of librarianship that aims to disseminate information and help

people obtain relevant data. More than a program for supplying information, Social Information Science is an educationally-oriented concept that uses information delivery as a mean to gradually expose all population segments to the process of information selection and informed decision making, and gain an appreciation of how direct information and supportive knowledge can enhance the quality of life.

The implementation of this concept requires the integration of the following five elements:

1. The Mediator or the Social Information Scientist- a professional holding a BA degree in the social sciences and a MA degree in social information science. On the basis of his or her knowledge and understanding of information sources and information behavior, the Social Information Scientist delivers information from a neutral, unbiased perspective. Even internet-oriented individuals can benefit from information mediators: When a social or medical crisis strikes, individuals' anxiety and apprehensive state of mind undermine their ability to plan a search rational strategy or calmly evaluate large amounts of information. Secondly, as many reliable internet-based information sources have shifted to a fee-based business model, reliance on an expert information mediator may become the most cost-effective method of obtaining reliable information.

2. Diversity of Location - The simultaneous establishment of SI banks, desks and sectors in a wide range of community institutions and private sector resource centers, will expose the majority of the population, members of diverse age and status groups, to the significance of information and transform knowledge-based information search needs into an integral part of everyday life in the 21rst century.

3. Service Delivery – SI services are grounded in an empathetic, compassionate approach, based on in-depth interviews, to offer options, alternatives and assistance to individuals in planning a logical step-by-step process and ultimately, conduct evidence-based decision making. From this perspective, SI services constitute an informal learning process, which some users will hopefully adopt and independently apply in the future. Assimilating the terminology of information society would be considered significant progress and a first step in attaining equal status in the emergent virtual world.

4. Information sources – In-depth knowledge and familiarity with available printed and electronic information sources in relevant languages and appropriate levels of literacy for each population group, in addition to familiarity with both primary information and supportive knowledge sources. This concept is based on the rationales of psychoneuroimmunology and bibliotherapy, which claim that support and understanding reduce stress and allow individuals to make decisions in a rational and calm, rather than stressful and anxious, state of mind. This in itself is a not insignificant achievement in our stressful, anxiety-ridden society Baruchson-Arbib, 1996b; Hynes McCarty and Hynes Berry, 1986; Vollhardt, 1991). In addition, use of literary sources as illustrated through bibliotherapy, for example, ensures that modern society remains linked to the sources of human culture in literature, poetry and cinematography. This would be a significant contribution to the sought-after balance between technology and humanity.

5. Marketing and Image - Our aim is to establish a –prestigious- yet accessible service for all population groups, by creating a unique 21st century climate in which obtaining information through mediation is a common procedure. This fee-based service is expected to generate respect for informed mediators, for the power of information and, especially, for the users. Although gradated fees should be offered to accommodate economic need, the service provided should be uniform in quality for all users who enjoy equal access to information.

The integration of these five components will help cultivate a mature, rational audience of information users and responsible decision-makers who have a deep understanding of the significance of information. By promoting awareness-based engagement in information in the context of personal issues, we will be able to prevent digital and mental divide. The social information approach is an additional layer added to previous attempts at formal and informal assimilation projects. As these efforts, activities and discussions proliferate, we will make progress in building a more aware, responsible and equal information society.

Social Information Science in Israel - Reality and Zeitgeist

Our students are encouraged to apply their social information skills in their workplaces: school and public libraries, community centers and hospitals. Many of these institutions already have the infrastructure for SI services, and the development of a full-service SI desk requires no more than minor

investments. Our students are also trained in the preparation of the infrastructure for such services, including building websites for a variety of social and medical needs, and conducting information interviews, taking into account differences in language, beliefs, attitudes and customs.

In the past 8 years, our department has also been extensively engaged in theoretical and experimetal studies conducted by members of our academic staff and graduate and post-graduate students. Most studies aimed to examine whether the State of Israel has a genuine need for individual mediation-based services to promote information technology assimilation. Studies initiated by our department have found that very few community based information centers exist and public libraries generally fail to realize their potential in this field. A study conducted in Hertzliya confirmed the public's thirst for human contact in the context of information. The study conducted in this city, characterized by a relatively high socio-economic profile, found that when solving problems, most of the population refers to newspapers (36%), the internet (24%) and personal contacts (18%). However, when asked how they prefer to receive information, most participants noted the telephone and one-on-one conversations. (Shemesh, 2002; Shemesh, Baruchson-Arbib & Shoham, 2003). Additional studies found that the Israeli public is eager for self-help literature. There is a steady increase in this literature every year, especially in psychology-related topics, confirming a high level of self-awareness and desire for independent problem-solving tools (Baruchson-Arbib & Kivity, in press). Other studies found that health-related web-sites in Israel fail to meet multi-cultural needs, as most are in Hebrew rather than other spoken languages (Baruchson-Arbib & Megidov, in press). A similar situation was found in hospital websites which service the majority of the public in Israel (Booch, 2003). Hassin (2002) found that most of the employees in five Israeli Health Information Centers for patients had no training in information science or librarianship. These information services also lack the financial resources to support adequate advertising.

Another study (Baruchson-Arbib, 1998; Baruchson-Arbib, 2002b) focused on the establishment of a "self-help section" in a special corner of a school library, located in a low socio-economic community. The "self-help section" was a great success and attracted students who had never previously shown any interest in reading books or accessed internet sites about social problems (relationships, drugs, and other problems of adolescence). Although average readership rose by 32%, the most impressive increase was noted among young boys who never previously visited the library (123%). With its innovative, original design, the "self-help section" maintains maximum privacy and has evolved into an extremely popular place for the youngsters. Completion of this study, which has been extended to several schools, is anticipated this year. If similar results are obtained, it will be clear that libraries can be effectively used as a means of educating adolescents - our society's future - in the significance of information. Findings of other studies (Baruchson-Arbib, 1998; Baruchson-Arbib, 2000b) indicated that "aid organizations" are highly interested in developing information services with the assistance of a professional social information scientist, yet lack the resources to do so.

Another study, focusing on the introduction of computers into religious communities, found that the modern orthodox population has even introduced computers into yeshivas (schools concentrating in religious studies) (Hiller Daum, 1996), reflecting their adaptation to modern times. Some religious communities also adapted the internet to their needs by creating various filters to restrict access to "immodest" or "immoral" websites. Several websites as" Kipa" and "Moreshet" are administered by members of the religious population, and include a "Responsa" section (Q &A) directed to Rabbis. Although the process is virtual, the rabbis are well-known figures in the modern Orthodox community (Zarfati, and Bleis, 2002). Notably, Bar Ilan University, a religious institution, initiated the Responsa Project, based on its understanding of the significance of a digital repository of knowledge. The Responsa CD is a digital database of the entire foundational literature of the Jewish people, including the Old Testament, Talmud, legal literature, customs and Responsa literature.

These studies confirm the desire of the Israeli public to adopt information technology, on one hand, and the need for a mediator to provide individual service and customize information sources to the spoken languages in Israel. It is equally clear that Israeli society is prepared for this new scientific and practical discipline of "social information science".

New ideas become established when society is ready for them. Although social information banks do not yet exist, the "Zeitgeist" is clear. Israeli society is gradually attaining an appreciation of the need to establish personal information dissemination

services alongside the internet. In recent years, we have witnessed activities outside the academia, which reflect theories of social information science. One national initiative to bridge the digital divide is "Lehava", a project financed by the Israeli Ministry of Finance. "Lehava," which operates a large number of free internet training centers, was conceived with the aim of delivering social information, especially on citizens rights, and the intention of having the young pupils bring their family members to the center (Lehava, 2004). The J.D.C. (The America Jewish Joint Distribution Committee) for example, supports the need for a "welfare information scientist" and intends to train handicapped persons as social information scientists for other handicapped individuals (Ben Natan, 2002). The recently established "Shamir Project" is a national center for medical information, designed to offer services by representatives who speak several languages, with the appropriate background and familiarity with the health-care system. The initiators of the project noted "Although information is available on the internet, the abundance of data makes it very difficult; Furthermore, most people prefer to obtain information from a skilled individual with access to authorized information" (Levkoviz, 2004).

The current "zeitgeist" is directed to the need for life management on the basis of knowledgeable decisions grounded in relevant information. In the USA and Europe, this has been evident for several years, and is reflected in the development of fields such as "preventive medicine", and "patient education," as well as the extensive efforts of the European Union to establish outstanding social websites (Europa 2004). As Gann (1992) noted: "People are no longer content to be told what is good for them: They want to access to information which will enable them to weight up risks and benefits and to make informed choices between options in health care"(pp. 545-555).

We have come a long way from Gutenberg's printing press to the world wide web. In the past, literacy was the key to reduce social divides. The internet, however, highlights the potential to raise awareness beyond literacy, or the use of computers. The huge amounts of information now available to modern man may point to a new phase in human evolution: the evolution of individuals who manage their lives on the basis of knowledge, information, moral and ethical values and personal responsibility. To provide an equal starting point for the majority of individuals in our information society, it is not sufficient to provide technical training. Our aspiration should be to bridge not only the digital divide, but to prevent potential mental divides, through smart usage of the internet and the development of personal information services as suggested in this paper.

In assimilation projects, no uniformity is either intended or desirable: The aim is to create a situation in which individuals have a similar starting point in life, which enables them to operate in a knowledge-based world. "Social information science" is one of several concepts which can expand opportunities for individuals to join the information society with equal skills and prospects.

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Robert Beckett

Communication ethics and the internet: intercultural and localising influencers

Abstract:

In the information-technology powered twenty first century a general demand for more effective communication is driving people to question the present, examine the past and to prognosticate the future. The 'unique global media-information system' - the Internet- is the central fact of a vast new complexity of communication (mediated and unmediated) that is driving social-economic-political-religious- technological change (see http://www.5systems.net) at a rate never experienced before. The premise of this paper is that the Internet can be better understood as the first complex global media with both democratic and authoritarian possibilities, the full extent of which are still emergent. In respect of the symposium question, this paper suggests that Internet embedded communication theory can be used progressively as part of a widening and deepening approach to intercultural conversation, dialogue and debate. In theory, the localising nature of the Internet can be read as part of a greater movement towards communitarian and community centred self-governance, local democracy and social self-sufficiency. There is considerable scope for a new theory of society founded in localised 'in-community communication' practice supported by international human rights and effectively responsive to the asymmetric global information environment and congruent with newly democratised local structures of self-governance.

Agenda

The Internet

Localising and cultural influencers

Conclusion

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The Internet

This paper seeks to outline a theory of communication founded in the human ability to communicate and international human rights. The 'community of communication' (K.O.Apel 1972) offers an identity for all human being, communication being the most significant skill humans each possess and the essential fact of human collectivity (McQuail 2000.) The elision of the key human skill with the world's most powerful communication technology is more than significant; it is defining of a new global civilization, potentially linking all people through the Internet. Total estimated population of world wide internet users is presently 400m; source Nortel Networks 2000. This new global-virtual community at once links numerous and emerging 'communities of interest', while also identifying old communities of 'self interest'. The 'digital divide' is the counterpoint to this reality, with the democratic rights to communicate efficiently, electronically and globally of nearly 90% of humanity limited by the unavailability of Internet technology. However, the digital divides also offers a benchmark from which a renewed commitment to local and international democracy can be judged.

The 'Age of Information' can be traced to the invention of the computer in 1946 but it is also connected to the end of the industrial age, brought about by an illegitimate philosophy of domination and imperialism captured in the events of two World Wars and the subsequent rejection of industrial-modernist values by leading thinkers (Foucault 1966, Habermas 1990, Ormorod 1994). 1946 incidentally is the year of the appointment of the first Chair in communication; Wilbur Schramm, Professor of Communication at the University of Illinois (USA). In the subsequent sixty year move towards 'informationalism', great shibboleths of the past have been successfully challenged or even overturned. From the certainty of science, to the consumption model of economics, from the inequality of race and gender to their equality, from basic human rights to inclusion of diversity as a centre plank for legislation. As Henry Boisot makes clear;

"The second half of the twentieth century will be remembered as the period in which information came to replace energy as the central fact of life in post industrial societies." (1995:9)

In the teaching model(s) below, some of critiques of modernism are laid out, which due to space, are not pursued in description or analysis. The 5systems model allows for a systematic structuring of information to enable the elaboration of complex arguments, sometimes at the expense of detailed conceptual development in the present.

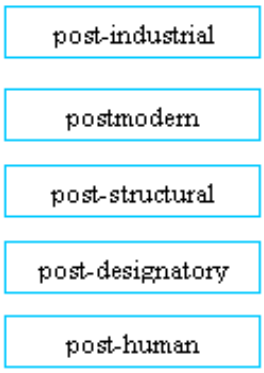

Figure 1 Information age concept analysis © ICE 2003

New ideas, however, challenge authoritarian structures that solidify 'information control' and 'ideological orthodoxy' built and secured in another era (Habermas 1990). The information age, it is argued, cannot be subject to the partisanship and exploitation that troubled the previous industrial era, or face potential meltdown of a new global society, limited in potential through group and self interest. Terry Bynum and Simon Rogerson (1996) have identified computing as the key technology for which a new information theory is required. According to Bynum and Rogerson, such a theory should recognise the fundamental impact of technology on people's lives;

> *"We are entering a generation marked by globalisation and ubiquitous computing. The second generation of computer ethics, therefore, must be an era of 'global information ethics'. The stakes are much higher and consequently considerations and applications of information ethics must be broader, more profound and above all effective in helping to realise a democratic and empowering technology rather than an enslaving or debilitating one."*

The powers of control held by authorities, institutions and corporations, it can be argued (Kennedy 2004) have been exponentially increased by convergent communication technologies, even while citizens have greater access and communication power through the 'interlinked

media'. Still, the imbalance in the favour of institutional power is significant, even while citizen power is the unique centre for democratic legitimacy in the information age.

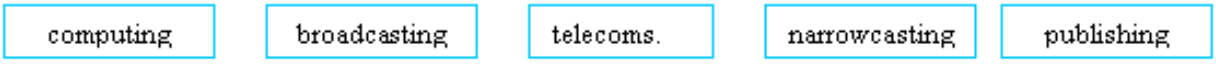

Figure 2 Internet enabled convergent communication technologies © ICE 2002

The importance of history to the analysis of local uses of the internet should not be reduced. Political, economic and personal self interest have often predominated in the design, development and use of communication technologies (Winston 1986). Misused, these technologies are central to various forms of undemocratic and uncivil exploitation. In this respect the Internet is liable to become part of an 'apparatus of control' rather than a' liberating democratic technology', unless that is, the human rights to communicate are protected and upheld against powerful self, group and class interests.

In the UK, the extension of security and police powers (Terrorism Act 2000 and the 2001, Anti-Terrorism, Crime and Security Act) covers the use of personal records and the interception of electronic media. According to Liberty, the UK's leading Human Rights organisation, in the 2000 Act:

> *"The polices and security services are now authorised to go through personal information held by public authorities (such as medical records, bank statements, school records, tax returns or inland revenue) even though no crime has been committed. Disclosure is allowed "for the purpose of any criminal investigation whatever""*

The BBC's (British Broadcasting Corporation) rather dry analysis of the implications of the 2001 legislation also cause concern for civil rights:

> *"The UK is the only European nation to have suspended article five of the European Convention on Human Rights which prevents arbitrary detention without trial."*

It is a grand paradox that in the name of freedom, the 'Mother of Parliaments' has given itself such powers as to so reduce a key principle of its formation. The right to protection from the State is one of the founding principles of all democratic societies (Kennedy 2004). In the information age, power, for so long concentrated in the hands of a few, is becoming more concentrated, due not only to powerful interests using information-communication technologies themselves, but because these same interests are also able to control the debate to achieve their goals.. If extrapolated over the global dimensions of the Internet, the size of the issue becomes clear. Which of the Geo-Continental groupings does most to protect not only existing rights, but new rights founded in new technologies? And which have tendencies to concentrate power though institutions possibly founded in an earlier age and unable or unwilling to reflect new information age democratic realities? At present, the questions of inter-cultural perspectives at the level of global Internet issues are to say the least academic, at least until common international law protects all citizens against unilateral harm by national states.

Figure 3 Geo-continental groupings linked to internet © ICE 2002

For instance, the newly legitimised 'security state' appears to be a central commitment by western some governments, which has serious implications for cultural and local democracy. It is the erosion of civil rights in the name of 'free states' that appears both paradoxical and a crunching low point in the struggle for emancipation by free citizens, founded in human rights. Allowing that liberal governments have given themselves powers to monitor, intercept and employ electronic means to routinely subjugate their citizens, the question occurs, what hope for the local the cultural and the personal realms? Everything in the public realm, using 'ubiquitous information technology' is or will apparently become state governed, state controlled or, more disconcertingly, controlled by those interests close to the state, i.e. private corporations?

Figure 4 Features of the security state © ICE 2004

The Postmodern Information State is therefore in danger of de-stabilising the deepest principles of democracy, not because it is right in the sense of just (ice), but because the agglomeration of power through technology enables the State to achieve outcomes commensurate with its own ideology of power, resource control and class interest.

In the thoughtful words of Antonio Pasquali (1997);

> *"We live an age of communication devoid of a morality of communicating." (1997:32)*

To offset this deeply troubling trajectory, requires all citizens to remonstrate and demonstrate to protect their fundamental human rights, through action, through speech and through continued critique of the powers that operate across our interlinked electronic lives.

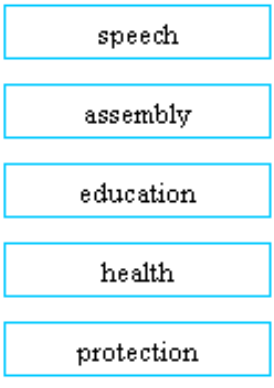

Figure 5 Summary of fundamental rights © ICE 2004

In the discipline of communication ethics, it is recognised that only through inter-human communication, can such fundamental claims as human rights, be addressed and resolved.

> *"Only those norms and normative institutional arrangements are valid, it is claimed, which individuals can or would freely consent to as a result of engaging in certain argumentative practices," Benhabib 1992:24*

To meet this condition, citizens require empowerment through democratic-argumentative processes, used either with technology or in unmediated environments, i.e. through face-to-face dialogue. The potential problem here is that for such activity to be legitimised and effective enough to be democratically justifiable and thereby to encourage genuine participation by citizens, it requires some support though institutional or legal mandate. This sets up a second troubling paradox. Can the forces of authority, control and power cede to 'democratic assemblies of citizens' their own decision making power and resource authority? Clearly, for localising and cultural issues there is a significant tension. If the localising and cultural factors are to be protected and allowed to emerge, the global-national and even regional dimensions of government will have to be proactive in this move, a shift which recent history suggests is unlikely to occur without certain restrictive caveats on the rights of communities to self-expression. This fundamental dilemma focuses the present debate on inter-cultural and localising influence of the internet. Can free citizens use the internet as part of a wider communication process that liberates them from powers and authority that seek to undermine and restrict fundamental rights, while they are also engaging in communicative communities that support and grow new cultural understanding and diversity founded in these same principles?

Localising and cultural influencers

The implication of a 'non governable distributed media' that no single organisation or authority can control, or own, is liberating, although ideal, as argued above. Giving local communities, marginalised groups, and most importantly individual citizens, the power of assembly and free speech through an interactive global media should be a great democratic achievement. However, a tension exists between the powers that operate and the formation of new local powers that might emerge through the electronic networks. Only local communities and assemblies can respond to these 'strata of control'. In the information age, only the level of local democracy is sensitive enough to the wishes of citizens to be in a regular and socially founded theory of rights. National politics founded

on five yearly cycles in age of 24/7 information, now appears outdated and unlikely to reflect the increasing democratic demands of educated citizens living in millions of independent communities. Clearly the nation state has a role in connecting agendas to the regional and sub-regional strata of 'democratic demarcation (in the model below) but no longer can it hold to itself such enormous power, thereby restricting the rights of citizens to govern themselves.

Figure 6 Demarcation and flow of power in the information age © ICE 2002

The widespread use of the internet by 'cyber-citizens' implies and enables a new level of self-education that should support communities wishing to cede the principle of self-governance back to themselves, ensuring self control through self governance within a framework of universal human rights.

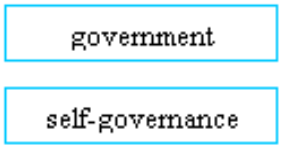

Figure 7 Old and new principles of democratic participation © ICE 2003

This paper argues that only by allowing all citizens to govern themselves, can 'cultural and localising influencers' be established, protected and retrieved. Understanding that civil and human rights encode citizen participation in the key dimensions of the informational age (see model below) in effect communities can provide their own solutions to all sorts of democratic debates, thereby re-empowering cultural diversity and local integrity. For instance, in the domain of education, why should individual schools participate in national education frameworks, unless it is in the interest of local citizens to do so? Why cannot local curricula be developed to enhance local community activity, i.e. in trade and industry or cultural pursuits, or in the teaching of language which may have significant implication for local people due to geography for instance?

Figure 8 Community rights in the information age © 2002

From self-governance we can extrapolate, self-education, local welfare, local health solutions and even local entertainment – something that many in the western world particularly, may see as a positive aspect of 're-culturalising community' and a rebalancing of local culture in response to the perceived dominance of 'global capitalist culture'. Clearly, there are aspects of culture that support local tradition, history and economic circumstance, all of which can be linked to global-regional or national strata within the ICE model of the 'electronic society'. In actuality, there need be no loss to local communities by being 'out of touch' or through becoming isolated. Strengthening local democracy should additionally lead to more focussed activity at the national and regional levels, offering support to local community diffusion and cultural diversity as well as international exchange and trade.

Figure 9 Culture as tension between global-local © ICE 2004

A critical question might be framed, how can the local dimensions of culture to enriched through he internet and its informational possibilities? In answer, it may be useful to identify different groups within local communities who can benefit from use of the internet and then to postulate what benefits they may each derive. The model below identifies a number of local groupings, including the fundamental social unit, the family. It is possible to suggest different uses for the internet, by each group and thereby to identify new and valuable cultural developments. For instance, self-help for families in health or self-education can surely improve family life and well-being. Sports clubs can and do administer themselves more efficiently through the Internet, aiding one of the fastest growing dimensions of cultural activity, the locally founded but internationally financed sports industry. And so on.

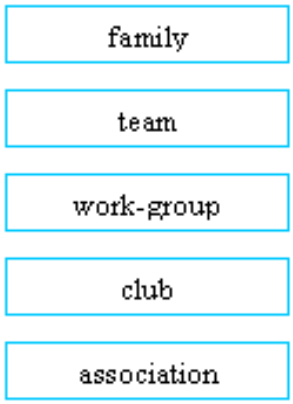

Figure 10 Community groups © ICE 2002

In considering cultural diversity, it might also be worth considering the economic value of culture which has for many years been exploited by international capitalism, but which the Internet should encourage as a form of local economic development. The complementary aspect of this argument, is that post modern capitalism increasingly understands value in terms of intangible assets, which culture embodies in many ways (Beck 1992). The local recipe for the Lincolnshire sausage is now, not merely a protected economic asset of the people and area of Lincolnshire, it is a cultural-economic artefact around which to build trade, tourism and local community pride.

Figure 11 Intellectual property as cultural influencer © ICE 2004

The internet also offers new capabilities to many groups, capabilities that increase cultural and social activity by improving their efficiency in several ways l (see model below).

Figure 12 Enhanced capabilities for internet communities © ICE 2004

There is much hope for the strengthening of local communities through economic activity, enabled via the internet, that build economic value for communities that have otherwise been marginalised, out of favour, or geographically isolated. The Internet holds out value for the integration of numerous old and new communities into a formal structure of locally based governance and local economic-cultural prosperity, without either the weight of national government, or the limits

imposed by geographic locality. The Internet can and should enable both strong localism and links to international networks that support local diversity.

Conclusion

The internet is a unique media, sharing qualities and values that are essential to a UNIVERSAL-RELATIVE democratic future founded in the debate on human rights. Potentially, all people can be included in democratic discourse and self-governance using a media which is interactive and dialogic – offering at once the means to communicate and to resolve informational complexity through its unique ability to construct meaning in communicative process. Think of the difference between television and the Internet, the former being single minded and monological, the latter being many-minded and dialogic, i.e. capable of refining meaning through interaction in the process of communication. The Internet's ability to achieve immediate or instantaneous response also indicates a future where cultural diversity is respected because the great systems of media can respond to individual-local initiatives and to changing local circumstances. Such responsiveness can also support an egalitarianism that the Internet promotes, while identifying areas of inequality where there exists a lack of communication and a reduced information environment.

The Nation State is the central political reality of a previous era and is slow to diminish its own role in the face of new distributed information realities, because it is tightly bound in with an older reality of 'domination by elites' rather than principles of self-governance. However the new reality is citizen power, where the internet can and should offer a new means of self-governance and self-democracy that are the bedrocks of cultural diversity and diffusion.

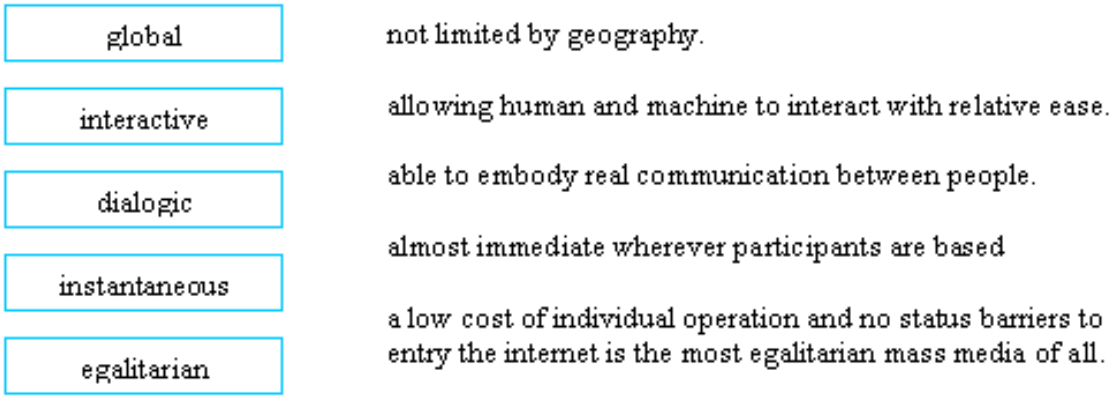

Figure 13 The key benefits of the internet (proposed) © ICE 2004

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Peter Bittner

On Professional Informatical[i] Action

Abstract:

Our patterns of thinking and acting (as "computer professionals") must be out in the open, so as to expose informatical action to criticism by the society as a whole. We are responsible for the provision of knowledge about these patterns. This article criticizes the (defining) use of the trait approach and the functional approach to "profession" in the debate on professionalization in the field of computer science (informatics). An attempt is made to show how informatical action might be better understood by examining the concept of profession in a multidimensional approach, sensitive towards the various perspectives. For this purpose it becomes necessary to examine first of all the various perspectives on the concept "profession" and secondly the debates on professionalization in other disciplines.

Agenda

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"Our head is round so our thinking can change direction." (Francis Picabia)

Preliminary Remarks

This article[ii] criticizes the (defining) use of the trait approach and the functional approach to "profession" in the debate on professionalization in the field of computer science (informatics). An attempt is made to show how informatical action might be better understood by examining the concept of profession in a multidimensional approach, sensitive towards the various perspectives. For this purpose it becomes necessary to examine first of all the various perspectives on the concept "profession" and secondly the debates on professionalization in other disciplines.

Trait approach and functional understanding of "profession"

The debate on professionalization in the field of computer science frequently follows a *trait approach* [indikatorentheoretischer Ansatz] (Cogan, 1953; Greenwood, 1957; Millerson, 1964; Hesse, 1968) or a *functional approach* [funktionalistischer Ansatz] (Parsons, 1939, 1951, 1968; Goode, 1957, 1972) to "profession". Profession is defined as an occupation requiring academic preparation with long specialized schooling and a notable increase of rationality when pursuing action goals. Competencies are limited clearly by the task the client assigned and are oriented towards important individual or collective problems. Personal interests (such as likes or dislikes) are not supposed to have a bearing on professional actions. According to Goode the required high autonomy expresses itself in (a) the right to teach and educate junior staff, (b) the right to exercise professional self-control, and (c) the (autonomous) structuring of professional routine. Also included is a specific ethic, protecting clients with self-incurred obligations by all members of the profession.

Critics from within Computer Science

Schinzel & Kleinn (2001) and others have thoroughly examined the lack of compliance with the traits (which were said to represent the common core of professional occupations) in the field of computer science.

- "Core of the discipline", frequently insisted on for professions: Neither computer science knows, what its "core of the discipline" should be – nor it's clear whether this core can be created at all, exempting perhaps Theoretical Computer Science.
- A clearly defined work area is insisted on for professions: Currently computer science is continuously opening new actuation areas. On the other side, application fields draw nearer towards computer science.
- Extensive autonomy is insisted on for professions: However, IT-Professionals experience strong pressure to comply with schedules in many projects. This haste results in unreliable analyses, products that are prematurely handed over to the customer, incomplete compliance even with legal obligations (among others Hornecker & Bittner, 2000; Ford & Gibbs, 1996).
- Professions require a "long" academic preparation: Nowadays access to jobs in the ICTs does not call for university or college education; no (formal) education may even be required. There is no "knowledge monopoly", and it is debatable whether closing the field is to be desired. Outsiders "crossing over" can be important whenever they introduce their practical knowledge of the application's working environment into projects.

Critics from within Sociology of Professions

The trait approach and the functional approach have been often criticized (among others Johnson, 1972; Waddington, 1996). Some points of criticism are:

- Within the trait approach no underlying selection and structuring principle for the definition of professions are recognizable (cf. Johnson, 1972).
- Due to stricter self- and peer-control, professions are less sensitive to social control and criticism by non-professionals. We should avoid this kind of seclusion for computer science by all means.
- It is hardly feasible to register the complex identities of groups that interact with a multitude of addressees, their sustainers, and society as a whole by lists of attributes (traits).
- Both approaches provide little insight on the activities of professionals and their

corresponding patterns of thinking and acting.

Furthermore the international discussion is made more difficult by the fact that obligations in the USA usually professionalize bottom-up, in German-speaking countries top-down (Koring, 1999: part 6.4). Due to these structural differences it is not viable to simply adopt Anglo-American terms of profession.

A Multidimensional Approach towards the Problem

This criticism becomes even more convincing in my opinion, once traits are used (purely) for definition. The *profession* attribute is then used or becomes pertinent only in case of a sufficient number of verifiable attributes.

This is not an adequate view in the contexts of informatical action. Neither does it contribute to our understanding of informatical action, if we use this as positive attribution. I therefore propose a different view on "profession", one that is multidimensional and open for various perspectives. On the one hand I want to undertake an "expedition"[iii] through existing research, based on articles by Pfadenhauer and Mieg (Mieg & Pfadenhauer, 2003; Pfadenhauer, 2003). On the other hand I would like to demonstrate by means of examples, how the debate on professionalization in pedagogic can be made fruitful for our understanding of professional informatical action.

Sociology of Professions: Anglo-American Approaches

I have already mentioned the *trait approach* and the *functional approach*. It is the main idea of the functional approach that professions take care of central social obligations, as for instance medicine being responsible for the citizens' health. Undertaking a similar task (within an occupational community) is linked to special obligations (considering the public welfare) as well as to special privileges (e.g. autonomy or a higher than average income). It may well be asked whether the profession is a necessary pre-requisite to carrying out this specific service, and, whether all professions are to be considered as fulfilling central social tasks (cf. Mieg, 2003).

Using the *power approach* [machttheoretischer Ansatz] (Johnson, 1967, 1977; Larson, 1977), professions are understood as holding power in the economic and societal area, public welfare being ideology, which conceals the fact that professions define customers' desires and provide the services to fulfill them. The power approach and the functional approach only appear to be controversial:

> *"We have always known, from sociological and general literature as well from everyday experience, that professionals and professions act with a dual motive: to provide service and to use their knowledge for economic gain." (Krause, 1996:ix – quoted after Evetts, 2003: 50)*

Evetts (2003:50) states, that "the key issue which this dual character raises, both for theories of professions as well as for considerations of aspects of professional performance, is how to maintain this balance."

Focusing on informatical action the *interactional approaches* [interaktionistische Ansätze] and their methodologies may well be very valuable. They concentrate on the professional's relationship with the client, analyzing the interaction between professional and audience (client, society). Professionals claim to know more about certain specifics and especially about what promotes the clients requirements (cf. Hughes, 1965). Upon consideration of the special relationship between client and professional, however the processes of professionalization may easily be forgotten about.

Sociology of Professions: German Approaches

Based on Mieg (2003) three important German approaches shall be briefly described.

Oevermann's *structural approach* [strukturtheoretischer Ansatz] (1978, 1983, revised 1996) is similar to the *functional approach*. It presumes central functions for professions in society. However, only the provision of truth, consent and therapy are considered as central social tasks, crisis-handling as a general function of professional activities being required exclusively in these areas. In order to cope with a problem successfully, scientific as well as hermeneutical and case-specific competencies must be connected in a manner that makes available practical interpretation and strategies for action [realisierte Professionalität]. In addition to this interpretational competence [Vermittlungskompetenz] professionals are required to comprehend the specific logic of interaction pertinent to their profession. Barristers, e.g., need

to understand the logic of court procedures, this being their professional arena. Oevermann's methodology *Objective Hermeneutics*, is used by Hofer (2002) to interpret the consulting component of software development in the conflict between technical problem-solving and vicarious crisis-handling.

Stichweh (e.g. 1992, 1994) explicitly applies Luhmann's *system theory* to professions [systemtheoretischer Ansatz]. He emphasizes the transitional character of professions: "Professions are a mechanism of transition from the society of estates of early modern Europe to a functionally differentiated society of modernity" (1997:95). Society's functional systems experience the formation of performance roles and complementary roles (clients, mandatators). However, we do not find roles for professions in all functional systems. Stichweh states that professionalization takes place

> *"wo eine signifikante kulturelle Tradition (ein Wissenszusammenhang), die in der Moderne in der Form der Problemperspektive eines Funktionssystems ausdifferenziert worden ist, in Interaktionssystemen handlungsmäßig und interpretativ durch eine [...] spezialisierte Berufsgruppe für die Bearbeitung von Problemen der Strukturänderung, des Strukturaufbaus und der Identitätserhaltung von Personen eingesetzt wird" (1992:43).*
>
> *(where a significant cultural tradition (a context of knowledge), elaborated in modern times in the contour of a functional system's perspective on a problem, is used by a specialized occupational group acting and interpreting within a system of interaction in order to cope with problems of structure, structural change, and the preservation of personal identities – D.B.).*

He places the interpretational competence (which is similar to Oevermann's vicarious crisis-handling) in the center of his theory on profession and considers it as the core of the reality of professional action.

Fritz Schütze (1992, 1996, 2000) is a prominent representative of an *interactional approach* [interaktionistischer Ansatz] in the sociology of professions. By means of interactional analysis he intends to reveal "das Paradoxe, das Zerbrechliche, das Fehlerhafte" (the paradoxical, fragile and error-prone quality) of professional action (cf. Schütze, 1996:187). Problems

> *"treten immer dann auf, wenn eine Profession nicht mehr systematisch an der (Selbst-) Bewußtmachung und der permanenten Berücksichtigung der unaufhebbaren Kernprobleme des professionellen Handelns arbeitet" (Schütze, 1996:187).*
>
> *(arise, whenever a profession ceases to consider systematically its (self-)consciousness and permanent deliberation of undissolvable principle problems of professional action – D.B.)*

Schütze names several undesirable developments amongst others in this context:

> *"gefährliche Vereinfachungstendenzen bei der Anwendung abstrakter Professionskategorien auf Einzelfälle, die Mystifizierungstendenz professionellen Wissens und Handelns, die Tendenzen zum Vergessen der Interaktionsbasis zwischen Professionellem und Klient [...] sowie die Tendenz zur Aushöhlung der Interaktionsreziprozität in der sozialen Beziehung zwischen Professionellem und Klienten [...] durch Verführungen, die mit der Machtposition des Verfahrenswalters [...] gegeben sind" (1996:187).*
>
> *(dangerous tendencies to simplify when abstract professional categories are applied to a particular case, a tendency to mystify professional knowledge and action, tendencies to disregard the basis of interaction between professional and client as well as a tendency to undermine the reciprocity of interaction during social relations between professional and client due to the temptations offered by the power position of being in control of the process – D.B.)*

Amongst the paradoxicalities of professional action, Schütze counts the prognosis of project development on an insecure empirical basis, the interpretation problem [Vermittlungsproblem], and the choice of the moment for intervention (cf. Schütze 1996:194).

Another approach should be especially pointed out within the interactional approach: the staging approach [inszenierungstheoretischer Ansatz] (amongst others Pfadenhauer, 2003a, 2003b), who considers professional achievement primarily as the presentation of performance. Mieg (2003:36) states, that Goffman's "The presentation of self in everyday life" (1959) is an important basis for this approach. Goffman's distinction between stage and backstage may help in the attempt to examine the detachment in time, space and personnel between requirements analysis (customer involved) and software production (customer not involved)

The Debate on Professionalization in Pedagogics

Two works of Koring (1996, 1999) should demonstrate how the debate on professionalization in pedagogics provide impulses for our discussion on the professionalization in computer science.

Koring's (cf. 1999:part 6.8) understanding of professional pedagogics (as "tackling" with Oevermann's work) is based on two regulating ideas that can be applied to computer science:

- Computer scientists should aim to empower clients to self-acting and autonomy.
- They should aspire to the structure of a maieutic (or Socratic) computer science, e.g. computer science that takes up existing competences productively.

Computer scientists should provide situated arrangements that facilitate self-acting or advance it. The client must be able to deal productively with the (computer-)system-to-be and the cultural changes it will entail – otherwise the computer scientist's task as an "advocate" is not feasible. Acting professionally, the computer scientist structures and accompanies the process in which the clients articulate, for instance, problems and preconditions of their work processes. Computer scientists interpret this newly articulated significance concerning the relation to the subject, person and the design process itself. Those informatical interpretations provide the addressees with a current point of reference within the design process.

Originating from the discussion in General Educational Science, Koring (1996:314ff.) offers an insight into the argument on pedagogical professions within the discussion of educational scientists. Similar questions arise for computer science, once we endeavor to build bridges between computer science and research on professions in order to better understand professional informatical action.

- A profession-related computer science may come somewhat closer to professional contexts of informatical actions by focusing on certain topics, such as a connection between empirics and reflection in computer science, general structures of informatics, a grammar of informatical action (using Koring's arguments).
- The task-oriented variety of a theory of profession (related to computer science) grapples with the question how far specifics of informatical professionalism have been elaborated up till now (using Hornstein & Lüders' arguments, 1989). At the core lies the hermeneutics of informatical problems, in order to discover a material definition of what informatical professionalism might be.

Closing Remarks

A multidimensional approach towards the "profession" problem with sensitivity for the various perspectives provides (new) impetus for the theoretical discourse in computer science, raising questions[iv] such as:

- How are the orientation towards public welfare and economical actions linked in informatical actions?
- Which structures exist for the interaction between computer scientists and the audience (clients and society)? Which "mechanisms of interaction" dominate? Which way to go towards interactional analyses?
- How complete is our understanding of informatical action in the conflict between technical problem-solving and vicarious crisis-handling?
- How do we, in our role as instructors, "construct" competence in translation and interpretation?
- What is our approach towards the paradoxical, the fragile and erroneous in informatical action?
- How do we reach good quality situational arrangements? What guides us in our informatical action when we have to intervene?

Quite consistent with a General Computer Science (cf. Wille, 1999; Bittner, 2003), I am convinced that our patterns of thinking and acting (as "professionals") must be out in the open, so as to expose informatical action to criticism by the society as a whole. Research on the boundaries between computer science, (sociological) research on professions and pedagogics led us to these fruitful questions and give a fresh impetus to our research on professional informatical action. We should bridge the gap between these disciplines for more findings!

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[i] The unusual term informatical is based on the analogy: mathematics – mathematical, informatics – informatical.

[ii] elaborates on the preliminary work in (Bittner, 2003a) and (Hornecker & Bittner, 2003)

iii This will be a cursory "expedition", as for instance Abbott's approach yet remains unconsidered. Please note publications in the context of the

PROFI project under the direction of Prof. Schinzel, IIG Freiburg.

[iv] Pursuing these questions we find assistance by the methodical instruments within the respective theories.

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Elizabeth A. Buchanan

The Internet as Friend or Foe of Intellectual Freedom

Abstract:

What a long strange trip the Internet has had. From its inception and use by the American military to the billions of users world-wide who log on daily, the Internet is both the promise of access to information and the peril of surveillance and a means of curtailing intellectual freedom. This paper will review this continuum, paying close attention to recent developments in the United States that fuel the dichotomous debate surrounding intellectual freedom.

Agenda

Introduction and Context

Pro-Anas as a Case in Point

Pornography, Intellectual Freedom, and Beyond

Dilemmas for Information Professionals

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Introduction and Context

Definitions of intellectual freedom reveal consistency across global boundaries: The Universal Declaration of Human Rights, Article 19, states "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media, regardless of frontiers" (CDT, 2000); the European Convention for the Protection of Human Rights and Fundamental Freedoms, Article 10, asserts "Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of borders" (CDT, 2000). In the United States, intellectual freedom is best codified in law under the First Amendment to the Constitution, stating, "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances," while intellectual freedom itself is articulated by, for instance, the American Library Association as the "right of every individual to both seek and receive information from all points of view without restriction. It provides for free access to all expressions of ideas through which any and all sides of a question, cause or movement may be explored. Intellectual freedom encompasses the freedom to hold, receive and disseminate ideas" (ALA, Office of Intellectual Freedom, 2002). Showing the cohesiveness surrounding the principle of intellectual freedom among the library and information professions, many other library associations worldwide have similar statements (IFLA, 2002).

In many ways, these statements typify the Internet and its plurality of ideas and expressions, which has notably evolved from its early days of a few isolated nodes at military institutions and institutions of higher education to its current status as a global marketplace of ideas. Nearly every conceivable idea, ranging from the highly controversial to the most mundane, can be found online. This is the Internet's promise—and its peril, perhaps. Tensions exist in light of this diversity and freedom to express oneself freely: Where does one's right to expression violate another's right to privacy, or to not be offended, or to be safe from harassment or violence or worse? These tensions are mounting as nations embrace the Internet; tensions between law and ethics within nations constitute one parameter, while tensions between and among nations themselves exist surrounding the exercise of intellectual freedom online.

Intellectual freedom must be considered along both legal and moral grounds, and the two may not always be in sync. Lipinski, Buchanan, and Britz (2004) have reviewed the discrepancy between legal and moral liability in and of ISPs, and concluded that a higher moral standard than what the current US law provides is indeed necessary when considering, for example, dangerous, threatening, or libelous speech online. A similar moral framework for discussing intellectual freedom in general may be requisite. Are we as a body of information professionals ready to embrace this challenge? On its surface, this question seems fairly simple and straightforward. Intellectual freedom has been and continues to be the bedrock of our professional identity, and it remains a cause worth championing. Yet, once this question begins to unfold, moving from the theoretical to the practical, great complexity abounds. A goal of this paper is to encourage a global discussion of intellectual freedom online; this meeting of international information ethics scholars (ICIE) is a prime meeting point from which this discussion can continue.

Pro-Anas as a Case in Point

An interesting example of this tension between what is legally permissible and morally responsible in terms of intellectual freedom online has arisen with the so-called "pro-ana" web sites. This vast array of sites created by individuals who embrace anorexia as a life style choice, not a disease, have exacerbated the tension between one's right to expression and one's right to access all expressions to violating one's safety through dangerous information. While one is never forced to view these sites, of course, should there be a right to provide "dangerous" information? Many pro-anas, for instance, provide "tips" or "strategies" on how to reduce caloric intake, how to hide one's food, how to conceal one's "choices" to be anorexic (Pro-anas encompass all eating disorders, not just anorexia.). Many provide "thinspiration," in the forms of photographs of both overweight and severely underweight individuals.[i]

While legally, under the First Amendment in the United States, such information is permissible, the moral implications of such sites blur the line. It would unlikely be a First Amendment issue, as seen

by the courts, if someone did in fact die, or otherwise suffer, from using the information on such a site; most likely, any case would fall under US Tort law. Perhaps in an attempt to protect themselves, many pro-anas now include disclaimers, such as the following:

> ***Disclaimer***
> *If you are currently in recovery from an eating disorder or if you are offended or otherwise disturbed by the existence of pro-ana, I suggest you go no further. XXX is not responsible for the content of the sites linked in this listing. Nor are we responsible for what you do with any of the information you may find here. Only you, yourself, are. …We are also not interested in talking to reporters or researchers. Thank you for understanding and respecting this.*[ii]

Too, perhaps ISPs are considering their roles more seriously in light of such information as the pro-anas, or hate sites, or gay bashing sites provide, as many remove these sites in a form of industry self-censorship, or self-regulation[iii]. Oftentimes, accessing a pro-ana or a hate site becomes a maze of broken links, redirections, forced downloads, and dead ends. Oftentimes, one must use "insider language" to find such sites in a search engine, while moreover, many require "membership" or registration.

Pro-anas are but one growing example of information found online that can deeply challenge one's thinking about intellectual freedom—it is easy to accept the premise of free expression and access, as we in the information professions often defer to the "slippery slope" argument. The oft-cited slippery slope, "if we curtail that sort of information, what is next," prominently rises yet again to the fore in this discussion, though perhaps the stakes are even larger in the Internet's domains, given the global implications and complexities. What would a moral framework for intellectual freedom online in a global context resemble? We are in the midst of creating a global narrative through the Internet, and the plot is taking many twists and turns, challenging not only information professionals to think critically about our professional core values but also all of us as individuals contributing to this narrative. Could we borrow from James Moor's principles, or his set of shared core values to which society or a group of people adhere in formulating a framework to describe specific acts of expression online as "good" or "bad," "right" or wrong," "responsible" or "irresponsible?" Moor, for instance, names life and happiness, ability, freedom, knowledge, resources, and security[iv] in his goal to find core values that apply internationally and imply mutual acceptance. But, as Moor identified, a significant problem surrounds the identification and acceptance of this set of core values/norms that can be used to regulate the Internet. Law gets us no closer to resolution, as we shall see further.

Pornography, Intellectual Freedom, and Beyond

Ranging from pornography to hate to violence, Internet sites can be regulated anywhere from industry self-censorship to national laws. In the United States, most recent discussions and concerns surrounding intellectual freedom online are focused on pornography. In particular, the two major cases in which the ALA, the ACLU, among other entities, were involved dealt with children and potential access to pornography (The Communications Decency Act, 1997, and the Children's Online Protection Act, 2002). While the former was struck down as unconstitutional, with Justice John Paul Stevens asserting that speech on the Internet is entitled to the highest level of First Amendment protection, similar to the protection the Court gives to books and newspapers (not broadcast or cable television, which have stricter enforcement), the CIPA was carefully interjected into a spending bill and turned less into a discussion of intellectual freedom than of funding priorities and the role of congressional oversight: Ultimately, the CIPA decision held that "the First Amendment does not prohibit Congress from forcing public libraries - as a condition of receiving federal funding - to use software filters to control what patrons access online via library computer" (Hilden, 2003). Libraries in the United States have worked to balance CIPA with the First Amendment, often having different sets of computers for adults and children, with filters installed only on those accessible by children.

It is unfortunate that the US discussions about intellectual freedom focus almost solely on pornography: in one sense, this obsession sets the United States apart from other countries that focus their concern on different and some would (rightly) contend more socially significant issues, such as hate sites and the promotion of racial, religious, or sexual discrimination. The Simon Wiesenthal Center (2004), which tracks hate sites alone, found over 4000 hate sites in 2004. Such sites as the World Church of the Creator, Stormfront, and the Christian Gallery, expound hate speech which borders on harassment, and threatening or dangerous speech[v],

in addition to the latest use of intimidation and privacy violations documented on the Christian Gallery of "abortion cams," which take still and video images of health clinic workers, patients, and others, and post them online, sometimes with names, vehicle license plates, and other forms of personal information. While legally protected in the US, many ISPs have begun to shut down sites such as the Nuremburg Trials (its latest iteration states it has been shut down 43 times since 1998).

And, the Anti-Defamation League explains:

> *In most countries, hate speech does not receive the same constitutional protection as it does in the United States. In Germany, for example, it is illegal to promote Nazi ideology. In many European countries, it is illegal to deny the reality of the Holocaust. Authorities in Denmark, France, Britain, Germany and Canada have brought charges for crimes involving hate speech on the Internet.*
>
> *While national borders have little meaning in cyberspace, Internet users who export material that is illegal in some foreign countries may be subject to prosecution under certain circumstances. An American citizen who posts material on the Internet that is illegal in a foreign country could be prosecuted if he subjected himself to the jurisdiction of that country or of another country whose extradition laws would allow for his arrest and deportation. However, under American law, the United States will not extradite a person for engaging in a constitutionally protected activity even if that activity violates a criminal law elsewhere.*

Are hate sites, or pro-anas, new ethical issues for us as information professionals? Are they simply old forms of "questionable" expression available to a wider audience? As information professionals, our ability to select or acquire materials has certainly changed in light of the Internet, and if we maintain an absolute commitment to intellectual freedom, such sites should not give us pause. Maybe.

Dilemmas for Information Professionals

Where does this leave information professionals in light of the globalness of the Internet? What standard should we uphold? Is an absolute freedom of speech or expression a world-wide goal worth striving for? What about conflicting laws and the transparency of Internet communications? In the US, we are seeing more discussions and debate concerning the First and Fourteenth Amendment, which guarantees equal protection under the laws, and the contention is "how can an individual feel equal in the face of racism, hatred, or harassing words?" One may also ask, "if there is hate speech, does that mean there is hate?" What is the value of *speech* itself—or *expression* itself? While some scholars (eg, MacKinnon) equate speech with action, and therefore, consider certain types of speech harmful to society, use of the equal protection amendment tends to break down legally in most cases. When we consider the Internet and its many-to-many communicative mode, assigning responsibility (either legal or moral) becomes complex. It is debatable whether use of the Fourteenth Amendment to eliminate certain types of speech or expression is a significant step away from the First Amendment and its guarantee of expression and access. It could be, however, a step towards a more just Internet environment. Canada, France, and Germany are but three countries that have firm national laws disallowing materials that incite racial violence and hatred, and these laws include Internet materials. While an international legal consensus seems unlikely, could a moral consensus be reached?

In many ways, the discussion surrounding intellectual freedom on the Internet is stuck in a descriptive mode—we assign labels to certain sites, whether in the form of PICS, or industry self regulation, or filters, etc. A more significant discussion lies in the normative realm, where also great complexities reside. With this brief discussion, this author hopes we as information ethics scholars can look for some resolution. The Internet is truly a global phenomena and its strengths may also be its weaknesses.

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[i] Under the heading "Hardecore Thinspiration," one site shows a 41 year old woman weighing 48 pounds, among other images (http://angelana.bravehost.com/xtremethinsperation.html). On the opposite extreme, another site shows excessively overweight women: http://broken-bits.tripod.com/id23.html.

[ii] To protect this site from excessive research, according to their wishes, I will not list the web address.

[iii] One report states that Yahoo and AOL have shut down all pro-anas on their hosting services, starting in 2002.

[iv] J. Moor, "Reason, Relativity, and Responsibility in Computer Ethics,"in *Readings in Cyberethics* (Eds. R. Spinello and H. Tavani), Boston: Jones and Bartlett, 2001.

[v] But are legally different from "fighting words," which Peck defines as words "which by their very utterance inflict injury or tend to incite an immediate breech of peace" (2000, p. 8).

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Maria Canellopoulou-Bottis

A different kind of war: Internet databases and legal protection or how the strict intellectual property laws of the West threaten the developing countries' information commons

Abstract:

This paper describes intellectual property legislation in the European Union, the US and the Draft Treaty on the legal protection of unoriginal databases, usually available in the Internet. I argue that this type of legislation, if enforced upon developing countries and countries in transition through international 'agreements', could in effect deprive them of their own information commons, their own public domain. With examples from China, India, Africa and Iceland, I argue that this deprivation in the case of developing countries is, morally, equal to a virtual war against them by the West, wholly unjustified and dangerous-an example of virtual imperialism.

Agenda

A few notes on the nature of databases

A forceful first attack: the European Directive on the legal protection of databases

The American efforts: bills for and bills 'against'

The WIPO Draft Treaty of 1996

The position of the developing counties

A country's information commons and control

Conclusion

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The primary function of the law used to be, and still is, up to a great point, the peaceful resolution of human disputes[i]. Where law was, war was not[ii]. A second role, increasingly important as the world's countries developed after the Industrial Revolution, was to serve as a 'tool', facilitating the most efficient[iii] production and allocation of resources[iv]-as a road, or as an instrument. However today, if we examine the way particular laws of the West rule developing countries and how globalization proceeds, we may conclude that law is war: the West does not enter the developing countries' domains and does not typically insult their sovereignty, under pretext of some reason-*casus belli*, with fighter planes' attacks and soldiers, but nevertheless, the West uses law as means of war. It is not a war aiming at destroying and then owning; it is a war about complete, unsaid, subtle, control-in the name of global progress, prosperity, harmonization and equality. And if this is so, what war could be most dangerous than this one?

The war, then, of the past seems to have altered its nature. Not that 'real' wars are not fought anymore-they are-but, there is another, more dangerous war, in evolution. It is one thing to conquer and control another country's lands and seas and air and pavements-it is quite another thing, perhaps much more important in financial terms, to control another country's rights to its commons, its right to its own public domain[v]. Usually, the notion of the public domain, the 'information commons', in relation to information and data, is not analyzed as something every different country 'has', as part of its intangible treasure. In this article though, I will deal with the notion of public domain in relation to information, which morally, and for concrete reasons, 'belong' to this particular country and not another (just as, in terms of property, this country enjoys sovereignty over its lands and natural resources). This is about information, which under certain circumstances should 'belong' to the people of particular countries and which should not come under another country's control, because of global intellectual property rights combined with immense financial power. Indeed, such control, the 'death' of a country's information commons[vi], is degrading for its people and deeply immoral. It is important to carve out what public domain is, in general and what a certain country's (developed or not) information commons is, in particular-a difficult task. But whatever 'commons' is, whatever 'public domain' is, as there have been some debates about this[vii], a special kind of information certainly belongs to it.

A few notes on the nature of databases

Science, business, education, economy, law, culture, all areas of human development 'work' with the constant aid of data. Databases[viii] play a crucial role within science research: the body of scientific and technical data and information in the public domain is massive[ix] and factual data are fundamental to the progress of science.[x] But the progress of science is not the only process affected by the way people use databases. Stock exchange data are absolutely necessary to any analyst; access to comprehensive databases of large scale is an everyday activity of a teacher, an educator, an academic or a lawyer. There are databases collecting all sorts of different data: nuclear structure and radioactive decay data for isotopes (the Evaluated Nuclear Structure Data File) and genes sequences (the Human Genome Database), prisoners' DNA data ('DNA offender database'[xi]), names of people accused for drug offenses (NADDIS[xii]), telephone numbers[xiii], legal materials[xiv] and many others.

Most databases are now offered on line, so their use presupposes the use of the Internet[xv]. Besides paying the cost of using the Internet, a cost extremely different depending on where someone lives- 0,12 for 20 hours of use for a citizen of Sweden and 33,07 for a citizen of Uruguay in 2001 (268 times more)[xvi]-one has, some times, to pay an additional fee to enter the database-unless the database is offered in the Internet for free, or someone else has paid for the user (for example, the University for a student). As proven in part, I think, by the above disparity in numbers, access to the Internet in developing countries is limited, although growing rapidly in most of them[xvii].

Whether one has or has not access to the Internet is already a kind of law, determining the use of an online[xviii]'s database by a prospective user. After this crucial, for the developing countries especially, starting point, there are other laws[xix], regulating how and how much one can 'take' from a database. These laws were (and still are, but not exclusively) usually contract[xx] (private arrangements between the owner and the user of a database) and copyright[xxi] (general arrangement of how much can be taken, under the doctrine of 'fair use'). Quite apart from these two controls, internationally there is now a trend towards privatization of information, for the benefit of database owners, who in their almost absolute majority, come from the West.[xxii] It comes naturally, then, that the West is the place

where the discussion about strong database legal protection begun.

A forceful first attack: the European Directive on the legal protection of databases

After the Information Age digital revolution, and because copying in the digital world is indeed easy, the threat of piracy has lead, at least allegedly[xxiii], the European Union to the adoption of a Directive[xxiv] for the protection of databases. After abandoning the humble starting point of implementing a regime of unfair competition remedies[xxv], in case of wholesale unauthorized copying and using in commerce of another's database, the Directive presented[xxvi], as its most important innovation[xxvii], a *sui generis* right of the maker[xxviii] of a database. This *sui generis* right means that, its holder (the maker) may prevent the extraction and/or the reutilization of the whole or of a substantial part evaluated qualitatively and/or quantitatively, of the contents of that database (Art. 7, 1). The repeated and systematic extraction (and reading only) of insubstantial parts of the protected database is also forbidden (Art. 7, 5). As forbidden re-utilization, Art. 72b defines 'any form of making available to the public all or a substantial part of the contents of a database..' and this covers the situation in which material is made available on the Internet[xxix]. What is irrelevant is the nature of the information 'trapped' by the maker in her database: whether they are original works of authorship, 'entitled' to copyright protection in their own 'right', or simple 'synthetic'[xxx] data as telephone numbers, codes, real estate or job listings, dates of football games, radiobroadcasting listings or other data in the public domain, as the texts of judicial decisions of a country.

The Directive contains no exceptions for government-made databases, leaving European governments the options of charging citizens for the use of databases made at the public's expense and the dilemma whether such a law conflicts with the norms of an information society, offering in theory a general right to know[xxxi] to its citizens. The Directive, also, offers no mandatory public-interest exceptions, such as usually contained in a copyright statute, of national or international application. The academic, scientific and library communities were startled to learn that exceptions in their benefit were an option for the European states[xxxii] and that, moreover, no allowance was made for the re-utilization of data-a normal and absolutely necessary scientific activity. The Directive plainly forbids, in essence, the re-utilization of data from a protected database, even for scientific purposes. And the usual 'fair use' copyright exception (or some form of it), which these communities already used at their peril, simply was no more. An older article, allowing compulsory licenses to data, in cases of abuse, was in the end completely eliminated. The *sui generis'* right 'life' was 15 years, however, database updates equally extend the protection-practically, forever.

The Directive suffered important criticism from almost the very beginning; both imminent EU[xxxiii] and US[xxxiv] scholars wrote 'dreadful' things about it, or at least were firmly positioned against it. The main arguments against were, mainly, that a. there was no problem to solve (danger from database wholesale piracy) b. the Directive was not a solution to the alleged problem c. the Directive enforced intellectual property kind protection to data, something which was inappropriate, clashed with the history and philosophy of intellectual property laws and had never happened before e. the Directive implemented a perpetual exclusive right to data belonging to the public domain (and so, 'privatized' the public sphere, to fortify private financial interests) f. the Directive insults the freedom of speech and harms scientific research and academic freedom.

Nevertheless, the Directive is now fully implemented in Europe (even if many countries missed the deadline). The case-law (there was a lot of litigation-yet another problem) we have from these countries in fact confirmed the fears of the scholars who published comments etc. against the Directive; the most important cases, which reached, as a cluster, the European Court of Justice, were the *British Horseracing Board v. William Hill Organization*[xxxv] and the *Fixtures Marketing Limited v. Organismos Prognostikon Agonon Podosfairou* (Greek case, referred[xxxvi] to the ECJ, together with the other two *Fixtures Marketing Limited* filed in Sweden[xxxvii] and Finland[xxxviii]).

On the 8th of June, 2004, Advocate General Christine Stix-Hackl issued her Opinion[xxxix], after the extensive hearings on the matter some moths before. The Opinion fully justifying the fears of the opponents of the Database Directive. The cases were, in essence, cases where *Fixtures Marketing Limited*, the organizer of English football matches, claimed (in fact) ownership of the fixtures lists, because of database right, so sued to forbid the free use of the dates/games/times and places of the games

information by various national betting agencies. The betting agencies had alleged that they had not obtained the information from the *Fixtures'* database itself, but from public sources, such as the newspapers etc, that their use was insubstantial and that a database, which was in essence a 'spin-off'[xl] of *Fixtures'* activities (a by-product of investment not primarily aimed at its production, but at the organization of the games itself), did not qualify for protection under the true meaning of the database Directive; in order to encourage and protect investment in databases, there was no need to enforce a law in the case where a database would be created *at any event*, like the *Fixtures'* lists.

Advocate General Stix-Hackl firmly rejected all arguments against database protection under these circumstances and proposed (influentially, of course), *inter alia*, that a. it is irrelevant whether a database is 'a spin-off' or not b. that indirect extraction of data, which also happen to constitute part of a a database from publicly available sources, is also forbidden c. the term 'database' is to be construed widely d. the databases' purpose is irrelevant as to its protection and e. the term 'obtaining data through substantial investment' is not the same as the creation of data, but when creation coincides with collection and verification then the condition of 'obtaining though substantial investment' is fulfilled. Lastly, and very importantly, dynamic databases (those which are updated usually) are protected *as a whole* for the Directive's 15 years term (in fact, forever, as most of them are constantly updated), and no new time limit starts for every new addition of data in the database. It is indeed hard to imagine an interpretation of the Directive, which could better justify its criticism or stronger protect the database producers' interests. Until the end of the year, we expect the European Court of Justice's final ruling, but Opinions by General Advocates re influential-there is no substantial reason to expect a deviation from this Opinion at this particular moment.

The American efforts: bills for and bills 'against'

Soon after the European Directive was enacted, intense pressures in the States lead to the deposition of a (first) bill for the protection of databases, HR3531, the *'Database Investment and Intellectual Property Antipiracy Bill'* of 1996. The 'unkind' reciprocity clause of the European Directive, that databases were to be protected in European territories as far as the country of their origin provided for the same protection as the Directive, was a constant argument of the bills' favorers, noting also the alleged gap of protection left by *Feist*[xli]. This first bill, drafted after a strong exclusive rights model, aimed at enforcing a *sui generis* right, on databases, which would be the result of a quantitatively or qualitatively substantive investment of human, technical financial or other resources in the collection, verification, organization or presentation of the database contents[xlii]. Protection lasted for 25 years (ten more than the European Directive's term of protection). No exception for fair use or fair dealing existed in the bill, which also prohibited the importation, manufacture or distribution of any device that had as its primary purpose or effect the circumvention of database protection systems (this was also not included in the Directive). All contractual provisions stood as such, as there were no minimum rights for users and all other regimes possibly protecting databases stood as well, untouched by the bill.

There was intense opposition against the bill, especially from the academic and scientific worlds[xliii]. Soon another bill followed, HR 2652, '*The Collections of Information Antipiracy Bill* of 1997', which was slightly different from the first one, and modeled closer to an unfair competition approach. In 1999, another bill was introduced, HR 1858, 'T*he Collections and Information Antipiracy* Bill' of 1999 (HR 354), in opposition to which the communities opposing strong database protection introduced an alternative bill: The *Consumer and Investor Access to Information Bill* of 1999 (HR 1858). The alternative bill proposed a right to prevent the sale or distribution to the public of a duplicate of a database in circumstances where the sale or distribution was in competition with that other database. The alternative bill also contained broad exceptions for scientific and other related purposes. There was no question that this minimalist protection would never satisfy the demands of the database publishers, urging for strong protection. All these bills just lapsed.

The latest (February 2004) opposing bills are HR3261, '*Collections of Information Antipiracy* and HR3872, '*The Consumer Access to Information Act 2004*. HR 3216 is a 'classic' pro-protection bill, which supposedly has faced the criticisms of the interested communities (but in essence, it has not) and HR3972 is a (second) bill of good faith, supported by the academic and library communities. It contains only five paragraphs, and it prohibits in essence, the misappropriation of the contents of a database. The act is recognized as a practice which

causes market confusion, under par. 5(a)(1) of the 15 USC 45(a)(1). The value of the misappropriated information must be crucial, as time-sensitive and its use by another person equals to the free riding of another's efforts. The parties must be in direct competition and the act must reduce so much the incentive to produce the database in question, so as to threaten its existence or quality. There is no right for a private suit; the bills' execution rests with the Federal Trade Commission (sec 4b). It is given that no consensus is going to be achieved, due to the vast difference between the proposed bills of the two sides of this important debate.

This American debate started from a *sui generis* right and ended with the proposal for an unfair competition approach-both unacceptable to those who fight against new legislation. Therefore, in the States, the course was opposite to the one in Europe, where a humble unfair competition regime was transformed into a strong exclusive *sui generis* right to data (*per se*, as proved by the Stix-Hackl Opinion of 2004[xliv]). But we do not know today what will happen with the proposed bills and what will be the effect of the final decision of the European Court of Justice, if the Court will, as expected, accept the Stix-Hackl interpretation of the Directive (which is highly probable, as no voice in Europe as powerful as the voice of the US Academies has been raised against the Directive or against this particular interpretation of its rules). It could go both ways in the US; one, supporting that if the European Court of Justice 'sees' the *sui generis* right as so strong, then 'reciprocal' legislation, able to protect the interests of US publishers in Europe, has to be at least comparable ('feeble' protection will do no good); or, as the worst fears (rights in pure data) of the database legislation opponents will have been realized, it is equally 'crazy' to insist on offering same protection in the US (and so, 'please drop the entire discussion'- highly improbable as well).

The WIPO Draft Treaty of 1996

In November 1996, soon after the adoption of the European Directive, a Draft Treaty for the protection of databases was put to the Diplomatic Conference of WIPO[xlv]. The date of the document marks also its substance; it comes not only after the European Directive, but also after the first bill presented in the States for the protection of databases. In essence, the Draft Treaty is the same as these two instruments; for example, the definition of a database is as broad as the Directive's[xlvi]. The Draft Treaty incorporated a *sui generis* right approach[xlvii], containing two alternative proposed terms of protection (Art. 8), for 15 or 25 years. Any substantial change to the database, evaluated qualitatively or quantitatively, including substantial change resulting from the accumulation of successive additions, deletions, verifications, modifications in organization or presentation or other alterations, which constitute from such investment, would qualify the database resulting from such investment for its own term of protection (Art. 8, par. 3). It is easy to notice at the outset that clearly, any new substantive investment in the database means a new term of protection for the whole of the database, and not (only) of the new material. Therefore, the Draft Treaty was explicit in aiming at the implementation of a perpetual protection of databases-no matter what their contents may be (for example, pure facts). So, one may argue emphatically how extremely long the term of protection of 15 or 25 years is, while in fact, the Draft Treaty meant a protection forever. On exceptions, individual countries were allowed in theory to provide for exceptions and limitations to rights, but not if these exceptions and limitations conflicted with the normal exploitation of the database or unreasonably prejudiced the legitimate interests of the rightholder[xlviii]. The obvious vagueness of the wording of these limitations means that the individual countries would not be able to ascertain when an exception they would wish to implement could clash with the above provisions.

The position of the developing counties

The Draft Treaty never matured into a Treaty. The overwhelming majority of comments on the draft was against it, especially in the US, where the debate on the proposed bills had already begun. The developing countries were also very concerned; there were reports[xlix] on the economic impact of a special legislation protecting unoriginal databases, supporting that the developing countries would be harmed by any new legislation[l]. For example, the study on China, which is detailed and full of empirical evidence, clearly concludes that the new legal protection for unoriginal databases means that one would always have to pay for facts and that freedom of speech and thought could be seriously restricted[li] and it also means a decrease of data entering the public domain[lii]; it means that end users would need more time and license fees to obtain useful information[liii]; that 'piracy' of Chinese databases (of *Tongfand* and *Yinghua*) by many websites did not generally bring direct economic

success to the party responsible for the infringement, '..who just published these pirated materials on their rarely visited homepages or websites for free access..none of them made profits by pirating other persons' materials..the strict protection provided by the Treaty would deter them from so doing..[liv]; that the lack of provision in the Treaty for library, research and education exemptions supported an extremely bleak view of how members of the academic and research community and the public will access information resources in the future[lv]; and that the new legislation would increase the costs of China's college education, which is already very expensive[lvi].

All this happens to a country in transition to a free-market economy, which is advanced in its technological capabilities[lvii]. But developing countries and countries in transition are far from homogenous and they vary immensely in their social and economic structures and their inequalities in income and wealth[lviii]. The impact of legislation protecting unoriginal databases, and in effect 'closing' the public domain and privatizing facts, which were always supposed to be 'free as the air to common use'[lix], is bound to be much harder in countries which do not have any distinct benefits of technological capacity and suffer enormously, from the financial (among others) point of view. These are the developing countries, which can only be database users and not makers[lx]; the countries, which are mainly consumers and importers and not producers or exporters[lxi]. In these cases-and they are many-it is almost irrational to speak of the need of intellectual property laws as incentives, as tools, towards a greater production of, say, inventions, literary works, or more modern works such as on line databases[lxii]. The need to stimulate production through incentives is the main argument for intellectual property, as we know it. Instead, what a stronger intellectual property regime means for these countries is an increase in costs of obtaining new foreign technology necessary to meet their national economic development objectives[lxiii]. 'Tighter intellectual property protection only strengthens the monopoly power of large companies that are based in industrialized countries to the detriment of developing countries.'[lxiv]. And the increase in costs results in a further widening of the gap in access to scientific knowledge[lxv].

A country's information commons and control

The question of access to scientific knowledge and to databases now absolutely necessary to any meaningful research is not the only issue, though, alerting scientists all around the world. Another distinct question is *who* exactly will have the 'control' of facts, once these have been made part of a protected, by intellectual property laws, database. Returning to the matter of a country's information commons, one wonders whether it is indeed moral for the developed world to press[lxvi] developing countries and countries in transition into international agreements of dubious benefit to them[lxvii] (TRIPS is an obvious example here) and then let its own enterprises make, *inter alia,* databases on this country's traditional knowledge, for example, 'lock' the contents of the databases through database protection laws (lasting in effect forever-remember Advocate General Stix-Hackl's opinion in the EU[lxviii]) and therefore, controlling this country from access to information which may very well 'belong' to it. One can easily imagine, I think, a company as giant as Reed Elsevier starting business for example in Egypt, compiling large legal databases with all the judicial decisions and the laws of Egypt included and presented most efficiently. Egyptian companies may not be able to compete with this; certainly, no Haitian entities could (if we were talking about Haiti) and no companies in most developing countries could either. If this is possible and if Egypt had adopted, say because of an international WIPO Treaty on databases, a protection as strong as the European Directive's, then people from Egypt could forever be obliged to pay for access to their own jurisprudence, to facts free in theory for the taking by anyone[lxix]-and especially, from a moral point of view, by an Egyptian.

It is true that relevant concerns have been raised; for example, in an influential and frequently cited Report[lxx], the UK Commission on Intellectual Property Rights (CIPR) stated in 2002 that developing countries may not be sharing appropriately in the benefits from commercialization of *their*[lxxi] knowledge or genetic resources when they are patented in the developed countries; also, that most developing countries have genetic resources and traditional knowledge that are of value to them. *Vadrevala*[lxxii], in his Report for WIPO on India and databases emphatically stressed that Indian 'traditional knowledge' is a sector of tremendous financial potential. 'Owing to India, being one of the most ancient civilizations in the

world, it has tremendous reserves of traditional knowledge such as traditional medicinal knowledge, folklore, art etc..'[lxxiii] *Vandrevala* noted that the Indian government had compiled a Traditional Knowledge Digital Library (TKDL) program and that a *sui generis* regime could protect its unoriginal aspects[lxxiv]. *Vandrevala,* lastly, also referred to Indian genomic databases, containing genomic data from a country with one fifth of the world's population, were possibly half of the world's genetic mutations occur[lxxv]. *Braunstein[lxxvi],* in his Report on the economic impact of database protection in developing countries, offered as an example of a database worthy of protection the database with African alphabets by *Saudi Mafundikwa*, the director of the Zimbabwe Institute of Vigital Arts. *Mafundikwa's* database contains symbols, scripts and signs used in a number of African languages. *Braunstein[lxxvii]* also refers to the question of the database of genetic information of the Icelandic people (rights to this database belong to the firm deCODE[lxxviii]).

It is, indeed, a crucial point whether a country has 'a right to its own', and that within 'it's own' one may enumerate information and facts such as those concerning people's genetic data, legal opinions by its courts[lxxix], traditional knowledge and such. A lot of research is necessary, I think, in order to articulate a clear theory why particular facts and information should belong to a country, just as its mountains belong to it. But we have evidence that the above classes of information should probably belong to a country's information commons, in the sense that it is immoral for another country (especially a developed one) to take away the developing country's control over 'its own'.

What *Vandrevala[lxxx]* and *Braunstein[lxxxi]* may perhaps have missed, in their discussion, is that what is now controlled by the Indian government (case: Indian traditional knowledge database) or by an African prominent researcher (case: African alphabets) and what may, therefore, seem at the outset as worthy of special protection in their benefit, may very well tomorrow belong, in terms of rights, to a company of another, developed country (or not[lxxxii]). An American researcher, generously funded by a US grant, may 'lock' the African alphabets into a protected database, and control the access of those who are entitled to it in Africa, just as an American company may set a subsidiary in Brazil and start 'locking' Brazilian traditional knowledge into yet another database. If the legal protection of unoriginal databases in the African country or in Brazil is similar to the European Directive's, then the contents of these databases will forever belong to its rightholders, under the minimal requirement of a usual update and, moreover, under the *Stix-Hackl's* interpretation, no one-Indian, African, whatever- may by herself use information which happen to be parts of a protected database, no matter where one obtains this information.

The case of Iceland's genetic information is a clear example of the immorality of a country's information (mis)appropriation. As Iceland had meticulous medical records, dating from World War I and stored DNA samples since, in 1996 a professor at Harvard Medical School raised 12 million dollars, founded the deCODE company and asked for an exclusive license to explore the country's genetic information. A relevant bill was passed, but there were protests not only from the Icelandic Association for Ethics and Science, but also from around the world[lxxxiii] about the morality of the program. Except severe problems with securing true consent of 270.000 people to the use of data and with providing true confidentiality, the question of who will benefit from the project was powerfully raised as well: there did not seem to be any real benefit to the Icelanders, who nevertheless were the source of the extremely valuable information, as part of the stock (70%) of deCODE was in the hands of Icelandic *banks (not the people's)* and the rest had nothing to do with Iceland. 'It is simply not believable that any significant part of the world's pharmaceutical or biological research facilities will move to Iceland..the most significant benefit for Iceland appears to be the promise of jobs created from a database that 'cannot be exported'…seems more a cruel joke thank a reality..'[lxxxiv]. Lastly, the abdication of control by the Icelanders was spotted out as in need of a very careful consideration[lxxxv]. It follows that the genetic information of Iceland properly belonged to its public domain; even if Icelanders lacked the 12 million dollars and the technical infrastructure to carry out this project, if they wished to carry it out, this did not mean that another country had the moral justification to do it, and enjoy its fruits. DeCODE's argument that in this case, it was *Iceland* who had an obligation to benefit humanity[lxxxvi], allowing the use of the data from somebody who could do it, cannot hide the company's financial interests in the project, or cover its profit orientation behind a moral 'duty to the world'. If this were indeed the case, all developing countries would be morally bound to release their information commons to the financially powerful nations, for the benefit of humanity[lxxxvii]. Quite the contrary is true: the developing counties may indeed be morally entitled, in particular cases, to 'cheat'

and obtain access to information 'locked up' by the West and otherwise restricted to them, with self-defense as justification[lxxxviii].

Conclusion

The end of this harsh road is the end of a country's public domain; just as it has been noted, in case of the West itself, that 'all sorts of information presently unprotected-data, statutes, case-law, government information, 'expired' works etc-may disappear from the public domain'[lxxxix]. But it is one thing to 'extinguish' a developed country's public domain, through apparently democratic laws, voted by the representatives of this country, and quite another to impose, in fact, the same laws upon a practically defenseless developing country.

The question 'who owns information' has usually been dealt with as a matter to be resolved between private parties-individuals. Cases have been brought to court because a plaintiff believes that a particular piece of information belongs to her and not to the defendant (for example, disputes about who is entitled to know a software program's code, who is entitled to know whether a doctor has an AIDS infection, who is entitled to use a telephone number for marketing purposes etc[xc]). In private law, we have devised special mechanisms to redress inequalities of power and abuses. The more powerful entities are treated as burdened with special obligations to protect their feebler contracting parties. Those who are able to exercise undue influence over others are legally treated very strictly. Perhaps, also in view of the extended pressures towards greater database legal protection, the time has come to consider in detail the application of the same legal principles in the cases between countries.

We should determine, in particular, in which cases individual countries have the right to own and control particular pieces of (their) information. In the case of developing countries, which are technologically impaired and lack fundamentals as basic goods for survival (food; water; basic pharmaceuticals), the control by the developed world of their intangible domains of sovereignty, through the pretext of 'consensual' international agreements and laws, and by invoking the fallacious argument that (legal) harmonization and globalization is 'good for them'[xci], appears at least as morally repugnant as a total war against them[xcii]-an example of virtual imperialism.

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[i] On the concept of law, see *HLA Hart*, The Concept of Law, Oxford University Press, June 1997.

[ii] Law, as a regime ordering human activities and relations through systematic application of the force of politically organized society, naturally incorporates implementation by force, this is true; however, this is not 'war', as war means in this text the implementation of what one thinks is right or necessary with private forces, outside a legal system.

[iii] On efficiency, as a concept used in the economic analysis of law, see *Posner R.*, Economic Analysis of Law, 1986, Little, Brown and Company.

[iv] And other areas-contract, property and tort have been subject to the analysis from the perspective of economics, see *Kronman & Posner*, The Economics of Contract Law, Little, Brown and Company, 1979, *Ackerman B.*, Economic Foundations of Property Law, ed. 1975, *Rabin R.,* ed., Perspectives of Tort Law, 1976. Besides, corporation law is what I primarily had in mind, when speaking of law as a 'road' or instrument towards efficiency.

[v] Note the dual nature of public domain as seen by *Lessig,* Open Code and Open Societies, Keynote address, Free-Software-a Model for Society? June 1, 2000, Tutzing, Germany, http://cyber.law.harvard.edu/cc, p. 6: '…now among commons, among public domains, we might distinguish two categories. We might think about the public domain of real things, and the public domain of intellectual things. The public domain, for example, of streets and parks, and the public domain of ideas or created works. These commons serve similar functions but they are importantly different..'.

[vi] For a detailed analytical account of the *commons* concept as an emanation of freedom, especially in the Internet communications, see *Cahir,* The Information Commons, working draft of 23rd July 2003 on file with the author, pp. 1-47.

[vii] See National Research Council, The Role of Scientific and Technical Data and Information in the Public Domain, Proceedings of a Symposium, 2003 and *Benkler*, Free as the Air to Common

Use: First Amendment Constraints on Enclosure of the Public Domain, N.Y.U.L.Rev. 74, 354, 356 (1999), '..information is in the public domain to the extent that no person has the right to exclude anyone else from using the specified information in a particular way. In other ways, information is in the public domain of all users are equally privileged to use it…', at 360. See also detailed analysis of what the public domain is in *Litman J.*, The Public Domain, 39 Emory L.J. 965 (1990), who described public domain as a commons, that includes those aspects of copyrighted works which copyright does not protect., id. at 975. The notion of 'public domain' has also been (unfairly, I think) dismissed, *Samuels,* The Public Domain in Copyright Law, (1993) 41 Journal of the Copyright Society 137.

[viii] The term 'database' is standard in legal discourse; a better term is, I believe, 'information system', as database has come to signal everything, from a website to a list of telephone numbers. On the term 'information system' see *Brown M., Bryan R. & Conley J.*, Database Protection in a Digital World, 6 Rich.J.L.&Tech.2, (Symposium 1999), http://richmond.ed/jolt/v6i1/conley.html, part II, The Nature of Databases.

[ix] National Research Council, The Role of Scientific and Technical Data and Information in the Public Domain, Proceedings of a Symposium, 2003, preface, v.

[x] See generally, *Reichman JH & Uhlir P.,* A Conceptually Reconstructed Commons for Scientific Data in a Highly Protectionist Intellectual Property Environment, 66 Law and Contemporary Problems 315 (Winter-Spring 2003), hereinafter *Reichman & Uhlir*, Reconstructured Commons, id.

[xi] DNA Act, 42 USC 14135, 2000.

[xii] Narcotic and Dangerous Drugs Information System, US federal database.

[xiii] *Feist Publications v. Rural Service Co.,* 499 U.S. 340 (1991).

[xiv] LEXIS/NEXIS, or West legal databases, examples from the Western world, also see 'Collection of China's Computer Laws', *Zheng Shengli*, The Economic Impact of the Protection of Database in China, WIPO Standing Committee on Copyright and Related Rights, Seventh Session, Geneva May 13 to 17, April 22, 2002, p. 31.

[xv] China, for example, has online databases of legislation and policies (11% of the total), of financial and stock information (2%), of scientific and technical information (15%), of newspapers and periodicals (12%) and products (60%), http://www.cnnic.gov.cn/tj/2.shtml - 2.1.4, see also footnote n. 11. Wolters Kluwer, a leading multinational publisher and information services company offers electronic databases in sectors as health, tax, corporate, financial services, legal and regulatory and education and operates across Europe, North America and Asia Pacific, see Annual Report 2003, p. 5. Reed Elsevier, another world leading publisher and information provider, with principal operations in Europe and North America, offers electronic databases in the science and medical sector, legal, education and business fields, and others. Wolters Kluwer and Reed Elsevier are private; many electronic databases are governmental, with data collected, organized and maintained through the use of taxpayer's money, in different countries.

[xvi] As a percentage of GDP per person, see *Lopez*, The Impact of Protection of Non-Original Databases on the Countries of Latin America and the Caribbean, SCCRR/8/6, Oct. 15, 2002, http://www.wipo.int/, p. 10, Table A3, p. 3 of the Appendix.

[xvii] CIPR, Integrating Intellectual Property Rights and Development Policy, London, September 2002, ch. 5.

[xviii] There are many off line databases for sale, but by far the most important are the dynamic, constantly updated, on line databases.

[xix] And besides these other laws (contract and copyright), we must keep in mind the technological capabilities of software codes, disallowing access to the contents of a database-codes, whose circumvention has, in the US and Europe been outlawed, threatening very severe penalties (Digital Millennium Copyright Act, US; comparable measures for the EU). This is why *Lessig,* id, refers to 'codes' as laws, '..we should understand code as kind of law, because code can restrict or enable freedoms in just the way law should....in the anticircumvention provision of the DMCA, Congress has turned my metaphor into reality…', p. 9.

[xx] See how contract was stronger than copyright in the controversial decision *ProCD v. Zeidenberg,* US Court of Appeals, Seventh Circuit, 86 F.3d 1447 (1996). In this case, Judge Easterbrook held that a shrink-wrap (contractual) license to use an electronic database (the terms of which license

were not known to the buyer of the box with the database CDs in it before he bought it) was enforceable against the buyer, irrespective of copyright law (under which, the copying of the database's material-3.000 telephone numbers-was legal, as the database was not original enough to deserve copyright protection).

[xxi] In the US, copyright does not cover unoriginal databases (see *Feist,* id*,* footnote 11); databases containing data in the public domain (for example, telephone numbers, scientific data, names of roads, texts of legal decisions etc.) are usually compilations not original enough to deserve copyright protection (but, under *Feist*, id, footnote 13, in the US, the standard of originality is quite low). In Europe, the rules of copyright on databases are mainly contained in the Directive on the legal protection of databases, which is now implemented in all European countries. The well-known fair use exception is not part of the Directive.

[xxii] Major database rights lobbyists are Reed Elsevier and Thomson publishing, giant West world corporations, see, among may others, *Zittrain J.,* New Legal Approaches in the Private Sector, in National Academies, The Role of Scientific Data, as above, p. 169, 171, footnote 3. See also http://www.ala.org/ ('who is pushing for database protection').

[xxiii] See the Directive's (many) *Recitals.* However, there had been no real problem with database piracy in Europe before the implementation of the Directive (virtually only one case in the Netherlands-see http://www.ivir.nl/).

[xxiv] Directive 96/9 European Parliament and the Council of 11 March 1996 on the legal protection of databases, 1996 O.J. (L77)2.

[xxv] See the first version of the *sui generis* right in (unoriginal) databases of Art. 2 (5), First Draft, Directive on the legal protection of databases, which was a right of the maker of a database to prevent the unauthorized extraction or re-utilzation from a database, or its contents, in whole or in substantial part, for commercial purposes. The right was, then, limited to 'unfair extraction', and 'unfair' meant then, a use for commercial purposes (this right could perfectly cover the case, for example, of *ProCD v. Zeindenberg*, footnote 20, and no need to seek protection from contract law would then accrue).

[xxvi] Art. 7(1) of the Directive.

[xxvii] The Directive also contains provisions, before the *sui generis* right, on copyright protection of the original (in the selection of arrangement of the material- the author's own intellectual creation) databases, but the significance of these provisions, in front of the extremely stronger protection of the unoriginal databases with the *sui generis* right, is almost 'extinguished'. No database producer would care to prove originality etc, when it is, in fact, less effectively protected and when 'substantial' in investment, to give rise to the *sui generis* right, has been accepted so easily.

[xxviii] Note how 'the author', a classic notion of the intellectual property world has now disappeared and has been replaced by 'the maker', whose definition is now the person (legal, natural) who has spent substantial investment (human, technical, financial) in creating a database, *Recital 41,* Directive ('the maker of a database is the person who takes the initiative and the risk of investing..'). It is difficult to justify protection of intellectual property type, traditionally rooted in the cause of rewarding creativity and thereby, stimulating production of intellectual works, where the rightholder is a maker and not an author.

[xxix] See detailed analysis in *Davison M.*, The Legal Protection of Databases, Cambridge University Press, 2003, p. 88-89. On the Directive's implementation in Europe see also *B. Hugenholtz*, 'Implementing the Database Directive', in: *Jan J.C. Kabel* and *Gerard J.H.M. Mom* (eds.), Intellectual Property and Information Law - Essays in Honor of Herman Cohen Jehoram, The Hague/London/Boston, p. 183.

[xxx] Such have been very expressively and accurately called the data which one makes and does not find in nature (for example, a telephone number or the date/time/place of a film's show or the date/time/place of a football match), see *Maurer et al.,* Europe's Database Experiment, (2001) 294, *Science's Compass* 789-790. In the case where the one who makes the data is also the only one who makes them (for example, a telephone company with a monopoly over a certain territory, or the organizer of the English soccer games who produces the games' fixture lists), then we have a sole source provider of synthetic data, which no one can obtain from anywhere else.

[xxxi] Note, for example, how the Directive on freedom of environmental information, under which European citizens have the right to access

environmental information, certainly clashes with the Directive on database protection in relation to the (free?) access of citizens to environmental data 'trapped' in a governmental database. Council Directive 90/313/EEC, 1990.06.07, Freedom of access to Information on the Environment. Austria was the first European country to enforce in practice the protection of governmental databases, when it sued a citizen for the use of the country's company registry and asked for a fee for this use, see ADV Firmenbuch, Austrian Supreme Court (Oberste Gerichtshof), 9 April 2002. The argument that there is a copyright exemption for governmental information, allowing free use, was rejected because of the database Directive; the defendant ordered to pay a (reasonable) fee. So now, in Austria: permission needed, reasonable payment necessary, to access public domain, taxpayers' funded, information. Same, essentially, solution by the Icelandic Supreme Court, Hoyesterett, 19 September 2002, where a citizen used data (aerial lines, water and roads data) from maps bought by the State Geographic Institute and made new maps, to sell in commerce. Copyright exemptions allegations overruled. See http://www.ivir.nl/, 'the database rights file'.

[xxxii] Which Greece, France and Italy, lamentably ignored altogether and other countries interpreted differently. See (amended, to incorporate the Directive's provisions) L. 2121/1993, for Greece and Book II, Intellectual Property Code 1992, for France and for Italy, see Law on Copyright and Neighboring Rights 1961, as amended, n. 633 of 22 April 1941. So much for uniformity as the purpose of European Directives.

[xxxiii] See as examples, *Cornish W.,* 1996 European Community Directive on Databases (1996) 21 Columbia-VLA Journal of Law and the Arts, 1, *P.B. Hugenholtz*, 'Program Schedules, Event Data and Telephone Subscriber Listings under the Database Directive. The 'Spin-Off' Doctrine in the Netherlands and elsewhere in Europe', paper presented at *Eleventh Annual Conference on International IP Law & Policy*, Fordham University School of Law, New York, 14-25 April 2003, *Stephen M. Maurer, P. Bernt Hugenholtz & Harlan J. Onsrud*, 'Europe's Database Experiment', *Science*, vol. 294 (26 October 2001), p. 789-790, *P.Bernt Hugenholtz*, 'Code as code, or the end of intellectual property as we know it', *Maastricht Journal of European and Comparative Law*, Volume 6 (1999), No. 3, p. 308-318 (a more general account on intellectual property matters), *Davison M.*, id., *Koumantos G.*, Les Bases des Donnes dans la Directive Communautaire, RIDA 1997, 85, *Adams J.,* 'Small Earthquake in Venezuela': The Database Regulations 1997, EIPR 1998, 2004), 129-134*, Colston C.*, Sui Generis Database Right: Ripe for Review? 2001, 3 JILT.

[xxxiv] *Reichman JH & Samuelson P.,* Intellectual Property Rights in Data? Vanderbilt L.R. vol. 59, no 1, January 1997, pp. 51-166 (a seminal account and standard text), *Reichman & Uhlir*, Reconstructured Commons, id. National Research Council, Bits of Power: Issues of Global Access to Scientific Data, National Academies Press, Washington DS, 1997*. Band J.*, Testimony of Jonathan Band on Behalf of the Online Banking Association before the Subcommittee on Courts and Intellectual Property of the United States House of Representatives Committee of the Judiciary on the 'The Collections of Information Antipiracy Bill of 1999, HR 354, 106th Congress. Testimonies of experts in hearings for the various US bills on database protection, who were posed against new legislation, or for a limited type, typically contain rejection of the European Directive. http://www.house.gov/.

[xxxv] HC 2000, 1335, judgment of February 2001.

[xxxvi] Reference for a preliminary ruling by the Monomeles Protodikio Athinon by order of that Court of 11 July 2002 in the case of Fixtures Marketing Limited against Organismos Prognostikon Agonon Podosfairou AE, Case C-444/02, (2003/C 31/17), Official Journal of the European Union C 31/12, 8.2.2003.

[xxxvii] Fixtures Marketing Ltd v. AB Svenska, Spel, T 99-99, 11 April 2001.

[xxxviii] Vantaan Karajaoikeus (District Court, Vantaa), 1η Φεβρουαρίου 2002, (Case C-46/02) (2002/C 109/46), OJ 4.5.2002.

[xxxix] Press Release n. 46/04/EN-full text in the Opinion of Advocate General Stix-Hackl in Cases C-46/02, C-203/02, C-338/02 and C-444/02, Fixtures Marketing Limited v. Oy Veikkaus, The British Horseracing Board Lts and Others v. William Hill Organization Ltd. Fixtures Marketing Ltd. v. Svenska Spel AB, Fixtures Marketing Ltd v. Organismos Prognostikon Agonon Podosfairou (OPAP), see http://www.curia.ru.int/

[xl] The 'spin-off' argument had been successful in lower European courts, and is a totally reasonable argument: the aim of the Directive was to protect

a database, which was the result of substantive investment, not a database which would be produced anyway, as a by-product of other activities. That *Fixtures Limited* wants to share some of the enormous profits of national betting agencies is of course understandable from a pure financial point of view, but this was simply not the kind of database which was in danger of elimination from piracy, should a law as the Directive not 'rush' to 'save' it.

[xli] Id.

[xlii] Section 3(a) of the bill.

[xliii] See, e.g. National Research Council, *Bits of Power, Issues of Global Access to Scientific Data* (National Academies Press, Washington, DC, 1997), pp. 157-160.

[xliv] See above, p. 8.

[xlv] Basic Proposal for the Substantive Provisions of the Treaty on Intellectual Property in respect of Databases considered by the Diplomatic Conference on Copyright and Neighboring Rights Questions, Geneva, December 1996, CRNR/DC/6.

[xlvi] Draft Treaty, Art. 2.

[xlvii] The act of 'extraction' was the 'permanent or temporary transfer of all or a substantial part of the contents of a database to another medium by any means or in any form', while the act of 'utilization' was the making available to the public of all or a substantial part of the contents of a database by any means, including the distribution of copies, by renting, or by on-line or other forms of transmission, including making the same available to the public at a place and at a time individually chosen by each member of the public. A substantial part was any portion of the database, including an accumulation of small portions, which is of qualitative or quantitative significance to the value of the database.

[xlviii] Art. 5. The protection of governmental databases was left to the states' discretion.

[xlix] WIPO commissioned in 2001 five studies on the economic impact of the protection of non-original databases in developing countries and countries in transition. Reports were therefore filed in April 2002 by *Yale Braunstein*, Economic Impact of Database Protection in Developing Countries and Countries in Transition, 4 April 2002, SCCR 7/2, *Sherif El Kassas*, 'Study on the Protection of Unoriginal Databases, 4 April 2002, SCCR 7/3, *Thomas Riis*, Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition', 4 April 2002, SCCR 7/4, *Phiroz Vandrevala*, 'A Study on the Impact of Protection of Unoriginal Databases on Developing Countries: Indian Experience', 4 April 2002, SCCR 7/5, *Shengli Zheng*, 'the Economic Impact of the Protection of Databases in China', 4 April 2002, SCCR 7/6, Andres Lopez, The Impact of Protection of Non-Original Databases in the Countries of Latin America and the Caribbean, October 15, 2002, SCCR 8/6.

[l] Not all the reports came to this particular conclusion; for example, the study by *Braunstein,* id, sustained that the protection could benefit the developing countries. However, 'this position (*Braunstein's)* is based to a large extent on the application of theoretical tools developed originally for trage in goods. Unfortunately, these tools assume, among other restrictive assumptions, the absence of economics of scale, making their applicability to databases very limited…' (*Lopez,* id., p. 18). Also, the study on India by *Vandrevala,* id., contains some elements on the potential of India to commercialize governmental databases and therefore, possibly earning income by developing a database industry. But *Vandrevala* also points that there is a drawback of the new legislation, the problem of access to the protected works by the academic and scientific community (id., p. 29), a drawback which he proposes to address by specific exceptions for research etc. Quite another problem is, under *Vandrevala*, (id), that the '..psyche of the social and economic thinkers (in India) has always been against the grant of intellectual property rights…the recognition of new forms of intellectual property rights still remains a very contentious issue…'. (No proposal exists in the study to face this particular problem, not any attempt to explain why this general, as mentioned, distrust, may be wrong).

[li] *Zheng Shengli*, id., p. 44.

[lii] Id., p. 58, : '..Driven by the profits and under budgetary pressure, the Government will be inclined to cooperate with private entities. As a result, the data which should have been publicized by the Government is now not accessible free of charge to the public. There will be less and less data in the public domain and the information already in the public domain will be available to the public in a restrictive way..'.

[liii] Id., p. 46.

[liv] Id., p. 47, a case of 'information Samaritans'.

[lv] Id., p. 48.

[lvi] Id., p. 48. '..the national average annual college costs of China is comparatively very high.. in the yeat 2000, tuition and mandatory fees, costs of room and board and total costs of American public colleges are 3,510, 4,960 and 8,470 respectively, while per capita GDP for the US is 29,326 US dollars. However, the corresponding numbers for China are about 600, 20, 620 and 780 respectively. In the US, the total costs of public colleges is about 28% of its per capita GDP; in China, the corresponding number is about 94%. Therefore, Chinese students would have much less money to pay for the said license (to use protected databases) fees…', id., p. 48. The Report from *Sherif El-Kassas,* from the American University of Cairo, id., concludes that any new *sui generis* protection of database would detract from the public domain and thus significantly reduce the availability of free information and data, may create counter productive perpetual monopolies by allowing owners of databases to indefinitely expand the period of protection, will be harmful to the free flow of information in the scientific communities of the world, will be harmful to the development of the Internet and the software industry because many components of the software industry will become protected and hence will no longer be available for free use and utilization and will hamper many aspects of development in the developing and under developed world. Id., p. 10 (conclusions).

[lvii] Note the rapid expansion of Internet users in China and the immense increase in the number of databases, id., p. 6.

[lviii] Commission on Intellectual Property Rights, Report, Integrating Intellectual Property Rights and Development Policy, London 2002, p. 1. '..What works in India will not necessarily work in Brazil or Botswana..'.

[lix] See *Benkler,* id.

[lx] For example, under the Gale Directory of Databases, cited by *Braustein,* id., only 0,2% of all databases in existence worldwide in 2001 came from 'Southern America' (only 21 listed, see *Riis,* id., p. 22, who maintains that the number is not true-'the number of the databases in the region is clearly underestimated', but also that the same is true in other regions and countries, 'the countries of Latin America and the Caribbean are much more 'importers' of databases than 'exporters', id., p. 22).

[lxi] See for example, *Wade R.*, What Strategies Are Viable for Developing Countries Today? The World Trade Organization and the 'Shrikning of Development Space', Review of International Political Economy, v. 10, n. 4, 2003, '..the North is a net producer of patentable knowledge and the South a net consumer….', p. 4.

[lxii] Note, for example, that Haiti is not even reported as having any PC per 100 inhabitants (same for Antigua, Puerto Rico, Aruba and others. Haiti is also not reported as having any server per 10.000 inhabitants and the Internet users per 10.000 inhabitants in Haiti are 24,54-same number in the US is 4.506, 96 and Europe, 1359, 48-see *Riis,* id, Annex I, page 2, Table A.2.

[lxiii] See Report by *Riis,* id., p. 19. 'In order to enjoy the full (dynamic) benefits of intellectual property protection of databases, a developing country must have an effective and wide-spread information technology infrastructure; otherwise, the incentive effect is comparatively lower in developing countries than in industrialized countries', id., p. 23. See also World Bank (2001), 'Intellectual Property: Balancing Incentives with Competitive Access' in Global Economic Prospects and the Developing Countries 2002, Washington DC.

[lxiv] *Riis,* id., p. 19, referring to a view by *Almeida (1995),* 'The political economy of intellectual property protection: technological protectionism and transfer of revenue among nations', 10 International Journal of Technology Management, pp. 214-229. *Riis's* conclusions include that there is a strong case that optimal intellectual property regime in industrialized countries is not optimal is developing countries and that, in the short run, developing countries which typically are technology-importing countries will loose social welfare by enhanced intellectual property standards, because higher intellectual property standards in the long run will lead to an increase in royalty payments to foreign right owners. 'The empirical evidence that we have collected from Latin America and the Caribbean..does not seem to support the argument in favor of introducing IPRs for non-original databases, in that we have not observed that the incipient industry that exists in the region, apparently concentrated in the more advanced countries, is being damaged by the absence of *sui generis* legislation..', id., p. 29.

[lxv] *Wade*, id, p. 5, '…research libraries around the world paid out 66% more for scientific monographs in 2001 than they did in 1986 and got 9% fewer monographs for their money and paid out 210% more for 5% fewer periodicals..'.

[lxvi] On the immense pressure of the US in particular towards the adoption of TRIPS, exercised upon developing countries see *Shadlen K.*, Patents and Pills, Power and Procedure: The North–South Politics of Public Health in the WTO, Studies in Comparative International Development, vol. 39, n. 3 (Fall 2004) on file with the author. 'In the 1980s and the 1990s the developed countries led by the US pushed for stringer enforcement of a less flexible set of regulations regarding intellectual property protection. The increased prominence of IPRs in US foreign policy is a story of sectoral politics in which well-organized industry groups representing the chemical, pharmaceutical, entertainment and software industries pushed the US government to use trade sanctions against countries that were argued to be lax in protecting their copyrights, patents and trademarks…business lobbying had made TRIPS a high priority for the US in the Uruguay Round negotiations, and considerable pressure was used to generate consent. Indeed the unilateral strategy was used as a tool to gain acceptance of the multilateral strategy, as the US explicitly used Special 301 provisions to coerce larger developing countries, such as Korea and Brazil, into accepting the inclusion of IPRs in the ..negotiations…'given a choice between America sanctions or a negotiated multilateral agreement, the TRIPS agreement began to look better'….' (p. 7/8). On pressure, see also Commission on Intellectual Property Rights, Report, id, 'there is sustained pressure on developing countries to increase the levels of IP protection in their own regimes, based on standards in developed countries..'.

[lxvii] On why TRIPS handicaps developing countries both economically and politically see *Wade R.,* id, p. 4-5 (economically because TRIPS raises prices for these countries, which are only buyers and politically because obligations towards developing countries under TRIPS are unenforceable-'no developing country has taken a developed country to the dispute settlement mechanism for not transferring technology..', p. 5).

[lxviii] See above, b.

[lxix] There can be no intellectual property rights to the texts of judicial decisions, as these are of course not the original creations of the compiler of a legal database. No matter how simple this may sound, there has been extensive litigation in the US by West Publishing (Thomson enterprises-giant publisher company) related to its legal databases (claiming intellectual property rights to their star pagination system etc).

[lxx] Commission on Intellectual Property Rights, id.

[lxxi] Emphasis added.

[lxxii] See above, note 49.

[lxxiii] Id, p. 11.

[lxxiv] Id, p. 12. '..it becomes critical that the existing copyright regime be supplemented by a *sui generis* system, so that all traditional knowledge databases are protected; this would facilitate the commercialization and trading of such data..'.

[lxxv] Id., p. 13. '..The potential use of this vast and varied genomic data could bring in substantial revenues for the country..'. However, he also notes that the Indian government, in keeping with the norm of facilitating scientific research through open sharing of data, begun making its genomic data public.

[lxxvi] Id, p. 23.

[lxxvii] Id., p. 24.

[lxxviii] On decode and Icelandic genetic information, see next paragraphs.

[lxxix] On ownership of legal information in the UK, in general and in connection with the database Directive see *Leith,* Owning Legal Information, EIPR 2000, 22(8), 359-365.

[lxxx] Id, note 49.

[lxxxi] Id., note 49.

[lxxxii] Note, for example, the case on Mongolian wool, cited by *Wade,* On the Causes of Increasing World Poverty and Inequality, or Why the Matthew Effect Prevails, *New Political Economy,* vol. 9, No. 2, June 2004, p. 163. In this case (p. 181), after the break up of the Soviet Union, Mongolia adopted a full-scale liberalization package; people were driven back into agriculture and herding; a special export tax on raw wool was removed, because of threats by the Asian Development Bank and in the end, the Chinese process virtually all of Mongolian wool. This is a case where a country's tangible resources is controlled by another country and which is cited, obviously, as wrong. The same wrongfulness would emerge, had the Chinese

managed to control, for example, a database with all Mongolian geographic indicators and exclude the Mongolians from it. This would be a case of unjustified control of another country's information commons (intangible resources).

[lxxxiii] See http://www.mannvernd.is/english/articles/greely_&_king-e/html, letter by Dr. Henry Greely, Professor of Law, Stanford University and Dr. Mary King, Professor, University of Washington.

[lxxxiv] Id.

[lxxxv] Id. See also *Garfinkel,* Database Nation, The Death of Privacy in the 21si Century, O'Reilly, 2000, pp. 193-186.

[lxxxvi] *Garfinkel,* id, 194. Note also the comment by the CIPR, id., on traditional knowledge and geographical indications, '…Even if patents are granted for valid inventions derived from genetic resources or traditional knowledge, it may be that the communities that provided such resources or knowledge did not give their informed consent, and no arrangements for sharing any benefits from commercialization were agreed upon…'.

[lxxxvii] A partly similar case of immoral appropriation of information in developing countries was the very well known case of the AZT trials on AIDS, by American researchers, in situations where the same trials in the US would be illegal. See *Marcia Angell,* The Ethics of Clinical Research in the Third World, New England Journal of Medicine, vol. 337, no 12, September 18, 1997 and *Lurie P. & Wolfe S.,* Unethical Trials of Interventions to Reduce Perinatal Transmission of the Human Immunodeficiency Virus in Developing Countries, New England Journal of Medicine, vol. 337, no. 12, September 18, 1997. The trials took place in Sub-Saharan Africa and Thailand and used randomized, placebo-controlled methods to test the effectiveness of interventions in preventing perinatal transmission of human immunodeficiency virus (HIV). All trials were funded either from the US government or from foreign governments-only one was funded by the United Nations Program on AIDS (UNAIDS). The main objection to the trials was that the trial subjects, women form developing countries carrying the HIV virus (and certain to die at some point) were deprived of a therapy known to be effective. Therefore, human subjects were given different protections in the sponsoring countries and in the countries were these trials took place. *Annas GJ. Grodin MA,* An Apology is Not Enough, *Boston Sunday Globe 1997, May 1, Angell M.,* Ethical Imperialism? Ethics in International Collaborative Clinical Research, New England Journal of Medicine 1988, 319, 1081.*,*

[lxxxviii] On self-defense as justification for a lie see *Bok S.,* Lying: Moral Choice in Public and Private Life, 1983. A lie is, of course, to use another person's legal password as your own, to gain access to a protected database. In an e-mail by Chris Simon, member of the Papersinvited (US company) Team, answering my query why I had, as a legal subscriber to the database 'papersINVITED', only access to the databse fir six times each month, and not constantly, Chris Simon said (22.7.2004): '..the reason we placed a limit of six logins per user per calendar month is because of abuse (creating one login and sharing the same with multiple users) *particularly in developing countries* (emphasis added). Without such restrictions, quite a few organizational subscribers would not even consider a subscription…'. The annual cost of using the database for me, as an offer, 45$ per year. This is not negligible, even in Greece, as payment for 6 times a month access to one single database for professional reasons. I cannot help but sympathize with researchers from developing countries, who may share a password from time to time-I also think that these people would either share, or not have access altogether (they would not be able to pay these amounts and papaersINVITED is not really losing money, because they would not receive these subscriptions anyway). It is not surprising, then, why it is the developing countries, who engage in such 'abuse'.

[lxxxix] *Hugenholtz B.*, Code as Code or the End of Intellectual Property as We Know It, www,ivir.nl, publications, p.10. *Hugenholtz* interestingly cites Pr. Phillips, who compares the extinction of the public domain to the whittling away of the mighty rainforests of South-America (again, probably due to Western policies).

[xc] See for example *Branscomb A.*, Who Owns Information? From Privacy to Public Access, Basic Books, 1994.

[xci] On serious and detailed doubts whether globalization is, as claimed, reducing poverty and inequality see *Wade R.,* Is Globalization Reducing Poverty and Inequality? *World Development Vol.* Xx, No x, pp. www-www, 2004, 2004, on file with the author (see also http://www.elsevier.com/locate/worlddev),

'…world income distribution has become rapidly more unequal, when incomes are measured at market exchange rates and expressed in US dollars; world PPP-income polarization has increased, with polarization measured as richest to poorest decile; between-country world PPP-income inequality has been constant or falling since around 1980, with countries weighed by population; several serious studies find that world PPP-income inequality has increased over a period within the past two to three decades, taking account of both between-and within-country distributions; pay inequality within countries was sable or declining from the early 1960's to 1980-1982, then sharply and continuously increased toward greater inequality in manufacturing pay worldwide…absolute income gaps are widening and will continue to do so for decades…Aside from the moral case against it, inequality creates a kind of society that even crusty conservatives hate to live, unsafe and unpleasant….higher income inequality within countries goes with higher poverty….slower economic growth, higher unemployment and ..higher crime…'. See also *Wade R.,* On the Causes of Increasing World Poverty and Inequality, or Why the Matthew Effect Prevails, *New Political Economy,* vol. 9, No. 2, June 2004.

[xcii] And perhaps in the end, hinders the interests of the powerful nations as well. See *Wade R., Globalization, id.,* '..the interests of the rich and powerful should objectively line up in favor of greater equity in the world at large, because some of the effects of widening inequality may contaminate their lives and the lives of their children..'.

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Models for Ethical Decision-Making for Use in Teaching Information Ethics: Challenges for Educating Diverse Information Professionals

Abstract:

Teaching Information Ethics to a very diverse group of graduate students working towards careers as information professionals raises a number of challenges. The students come from different disciplines and a wide range of diverse educational, economic, social, and cultural backgrounds and from several different countries. At the University of Pittsburgh, students in the Information Ethics course are enrolled in one of three master's or doctoral degree programs at the School of Information Sciences: information science, library and information science or telecommunications. In addition, graduate students, and an occasional senior-level undergraduate student, from other disciplines and schools, such as business, medicine, public and international affairs, as well as students from other universities, such as Carnegie Mellon University, take the fifteen-week course. Identifying and using models for ethical reflection and moral decision-making requires drawing on materials from several disciplines and adapting those models for the course. This paper will discuss some of the models used in the past, the advantages and disadvantages of the model currently used (i.e., Richard Paul and Linda Elder's, *The Miniature Guide to Understanding the Foundations of Ethical Reasoning*. The Foundation for Critical Thinking, Dillon Beach, CA, 2003), and the evolution of the Information Ethics course over its fifteen-year history.

Agenda

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Introduction

Teaching Information Ethics to a very diverse group of students, both graduate and undergraduate, most working towards careers as information professionals, raises a number of challenges. The challenges relate to determining the most effective methods to teach the complex subject of Information Ethics and to meeting the varied and often-changing needs of a very diverse group of students. This paper describes some experiences from teaching Information Ethics at the School of Information Sciences at the University of Pittsburgh in Pittsburgh, Pennsylvania, USA and discusses approaches taken to incorporating various models for ethical reflection and moral decision-making used in the course. The perspective is a personal one from an individual who has lived and worked in the United States and in the United Kingdom. It is a Western and Northern based perspective, although through extensive international experience and the participation by many students from outside the U.S. some insights have been gained into different cultural views and experiences.

Background

After nearly 20 years of working in libraries and with producers and publishers of information resources and observing or participating in discussion of ethical issues related to the information professions, in 1981 when I was working as Executive Director of the U.S. National Commission on Libraries and Information Science (NCLIS), I somewhat naively asked whether a code of ethics for the information professions, writing in an Endnote in the *Bulletin of the American Society for Information Science* (Bearman, 1981,). A Society member wrote to tell me that ASIS had a code of ethics but it had lain dormant for some time and little attention or publicity had been paid to it. In June 1990, after a period of years of effort to revise it, ASIS completed its Guidelines (Barnes, 1990).

Throughout my years at NCLIS I had the opportunity to visit scores of libraries, companies and organizations that produced information sources, and numerous other groups and to participate in conferences of professionals. Through this experience, it became clear that many issues arose. These issues ranged from how best to meet the needs of an increasingly diverse and multicultural society; to how to balance the protection of personally identifiable, proprietary, or security information with needs for access to public information (for example privacy and security concerns); to preserving print and electronic resources; to how best to provide equitable access to individuals with disabilities; to archiving and providing access to data from land and weather satellites when satellites were sold to the private sector; to a myriad of other complex issues.

In 1986 when I became Dean of the School of Information Sciences (SIS) (then the School of Library and Information Science), I worked with Professor Stephen Almagno, O.F.M., to develop a course on Information Ethics, beginning with the SIS Dean's Forum on Information Ethics. On January 26, 1989, the school hosted its first lecture. Presented by the Reverend Robert Drinan, S.J. Professor of Law and faculty advisor to the *Georgetown Journal of Legal Ethics* and former U.S. Representative from Massachusetts, the lecture, "The Ethics of Information in Society," helped provide the basis for thinking about the course. The forum continued with a series of experts from John Leo (of the University of Rhode Island, who spoke on Robert Mapplethorpe), to Pamela Samuelson, (then professor of Law at the University of Pittsburgh, who questioned: "Who Owns Information?"), to Martin Walker (then U.S. bureau chief of The Guardian, who spoke on "Ethics and the Media"), the forum has attracted a diverse audience from the larger academic and community and has helped to shape the course. Vice-Provost Elizabeth Baranger described the forum as "what a university is all about."

In the fall of 1990, we introduced a master's level course, team taught be Almagno and Carbo, initially called, "The Ethics of Information in Society," to educate students about ethical issues in the Information Profession. Over the years as the course has evolved, it has attracted students from all three SIS programs -- Library and Information Science, Information Science, and Telecommunications at both the master's and PhD levels, as well as students from business, law, psychology, public and international affairs, and other programs, as well as students from Carnegie Mellon University. Prof. Almagno taught the course, with my participation, and, after his retirement in 2001, I have taught the course.

In 1996, to recognize and honor Prof. Almagno, SIS established the Information Ethics fund and contributions were received from foundations and individual, including many alumni, to support: an Information Ethics Fellowship, acquisition of print

and non-print information resources; travel expenses and honoraria for Dean's Forum Speakers; and participation in information ethics conferences. More information is available on the School's website (http://www.sis.pitt.edu/~ethics).

SIS Information Ethics Course

The course, now called "Information Ethics," seeks to provide a background to applied ethics as a prelude to learning the skills of ethical decision-making and, then, to applying those skills to the real and current challenges of the Information Profession. The scope of the coursework and discussions includes decision-making and challenges related to information sources and services in all formats and media; to the Internet and other digital sources (cyber ethics); and to information-related topics in management. The objectives of the course, described as what students will be expected to have at the completion of the course, are:

- Developed a better understanding of themselves (in the ongoing endeavor to "Know thyself");
- Learned how to identify an issue, reflect on it (which is ethics) and make a decision that is moral;
- Engaged in reflective thinking and careful choice of words, which result in civil discourse;
- Developed an understanding of the art and science of applied ethics as related to the main challenges currently confronting the Information Profession.

The course is not a philosophy or religion course, but instead concentrates on the application of ethical reasoning to the Information Profession, with its many, diverse specializations. It is divided into three main sections: an introduction to applied ethics, the necessary steps for facing up to and resolving a moral dilemma and making a decision, and ethical issues in our field. The approach combines "knowing how" with "knowing why" and concentrates on the many questions to be asked in resolving complex issues, beginning with the individual. It is about each of us as an individual even though it is often easier to think of someone else's ethics, and also relates to interactions with other components of life (e.g., the environment, animals, etc.). The importance of the relationship between one individual and another and the need to learn to understand that each of us is a human worthy of respect – that we are fundamentally the same – is stressed. The -initial assignment is for students to read and reflect on the U.N. Universal Declaration of Human Rights and Martin Luther King's "I Have a Dream" speech and to write a short paper on the Fundamental Moral Experience. They then identify a personal problem or issue (whether related to personal or professional life) and work throughout the course towards solution of the problem.

For the course, the definition of ethics used is:

- Ethics is the art and science that seeks to bring sensitivity and method
- to the discernment of moral values. (Stephen Almagno)

Students read a series of books and articles, which change over time and are drawn from a number of disciplines, including philosophy, library and information science, business, and many others. The readings usually include at least two books, such as Stephen Carter's Integrity and the Dalai Lama's Ethics for the New Millennium, as well as articles from the Journal of Information Ethics, the Harvard Business Review and numerous other journals in the library and information field and from other disciplines.

Over the years, students who have taken the course have repeatedly sent letters or emails or verbally commented on the impact the course has had on their lives and how it has changed them. (Rockenbach, 1998) For example, she quotes one student, Leslie Lee, who wrote:

> *Of all my experiences in graduate school, the most enduring is the way Professor Almagno constantly challenged, encouraged and guided his Information Ethics students to love the questions. To me, that is precisely what the course is all about – being open and willing to examine life critically and to appreciate the process of ethical decision-making as much as, if not more than, the decision, itself.*

Models for Ethical Decision-Making

Context

Several readings and references to websites (including ICIE's website) have been included

throughout the course to provide the context for ethical reflection and decision-making, in particular to emphasize the importance of different perspectives from cultural, social, and individual viewpoints. This broader understanding is essential to any course, especially this course. The course is taught in English to English-speaking students and is thus limited in the readings that are used, although students are encouraged to bring in examples from their own readings in different languages and from experience in their own countries and cultures. I have consistently emphasized my own limitations and encouraged others to broaden the views of everyone in the course.

One very helpful, if complex, source for understanding context is Clare Beghtol's work on ethical warrant (Beghtol, 2002). Dr. Beghtol, who is on the faculty of the University of Toronto, Faculty of Information Studies, draws upon her extensive research to address problems of creating ethically based, globally accessible, and culturally acceptable knowledge representation and organization systems and foundation principles for the ethical treatment of different cultures. Basing her work on the *U.N. Universal Declaration of Human Rights*, she presents the concept of "cultural hospitality," to act as a theoretical framework for the ethical warrant of knowledge representation and organization systems. She concludes that the concept of cultural hospitality is promising for assessing the ethical foundations of systems for representing new knowledge and organizations systems and for revising existing systems. Reminding us that each individual belongs to a number of different cultures at different levels (e.g., living in one country, speaking different languages, adhering to policies and practices of different religions and/or political parties, belonging to different social organizations, etc.), she notes that individuals may and do legitimately disagree. She also argues that the boundaries among cultures can themselves be fuzzy and create tensions within an individual. In her discussions of the relationships of any particular culture to its information needs and systems and noting differences among oral and written cultures, she raises questions concerning what kinds of information people need; what they do with it; the extent to which they value it; and whether they choose to perpetuate the information. Her thoughtful, if somewhat densely packed, paper raises several questions, such as whether principles of cultural hospitality can be used to develop culture-neutral systems and theories, which deserve much more discussion. Her paper continues to stimulate thinking and discussion by students.

The Wheel

Over the fifteen years of teaching the course, we have used a series of models to assist students with ethical reflection and decision-making. Initially, Prof. Almagno used the model of a wheel with four groups of questions in the center hub: 1.) What; 2.) Why? How? Who? When? Where? 3) Foreseeable effects? And 4.) Viable alternatives. The spokes of the wheel are: Creative/imagination, reason/analysis, principles, affectivity, individual experience, group experience, authority, comedy, and tragedy. The questions in the hub provided questions for gathering information and to help in revealing other questions to be asked to determine reality. They also provide a reminder that ethical thinking requires dialogue, even if only with one 's self. The spokes serve as evaluation resources through which moral consciousness and awareness can unfold, and they provide a systematic process to address the concerns about how to evaluate each step in making a decision. While some students found the wheel helpful in assisting their decision-making process, many found the steps suggested by the spokes to be somewhat confusing and to overlap.

Selected Frameworks

Mason et al.

One example used is that proposed by Mason et al. in Ethics of Information Management (Mason et al., 1995). They remind the readers that ethical dialogues are dynamic and nonlinear and suggest a "checklist" of six considerations to be taken into account when resolving an ethical issue (Mason et al., 1995, pp. 103-104). These steps are:

1. What are the facts?
2. What ethical principles, standards, or norms should be applied?
3. Who should decide?
4. Who should benefit from the decision?
5. How should the decision be made?
6. What steps should be taken to prevent this issue from occurring again?

Step one relates to morally relevant considerations and requires both determining pertinent information (understanding the life cycles involved and identification of key decision-making processes) and

identifying all the key stakeholders, their values, motivation, and physical history). This step establishes 'what is.' The second step concentrates on 'what ought to be," and identifies ethical considerations to be applied. The third step seeks to identify who should take necessary actions, how to ensure that all stakeholders are included, and legitimacy and right to make decisions, as well as the ability to affect a resolution. Step four addresses the various benefits of all the stakeholders and how to balance these, including both short-term and long-run considerations. Step five addresses the method of decision-making, which must be and perceived to be fair and ethical. The final step recognizes that each decision becomes a precedent and seeks to decide what procedures should be used in the future and what decision will be best for the future. Of course, this process must be used within the specific context of the stakeholders making the decision and within the wider societal context.

This framework has been somewhat useful in the course, but many students have found that it does not provide sufficient guidance for them. A key problem is that is starts with gathering facts **before** reflecting on the questions related to fully understanding what are the initial questions to be asked to help identify exactly what problems and issues need to be addressed. Also, little guidance is provided to address other questions, especially the second one.

Woodward

The late Diana Woodward, formerly on the faculty of Drexel University, presents a framework for deciding issues in ethics (Woodward, 1990). She discusses advantages and disadvantages of consequentiality and deontology as bases for ethical reasoning in general, and intellectual freedom in general, concluding that a deontological defense of intellectual freedom is "safer" than one on consequential grounds. The article, while helpful for introducing some of the philosophical foundations and theoretical bases for ethical reasoning, does not provide a useful framework for addressing many practical, "real-world" issues.

O'Boyle

O'Boyle (O'Boyle, 2002) concentrates on the use of the Code of Ethics from the Association for Computing Machinery (ACM), described as deontological because of its enumeration of rights (what is owed **by** others) and duties (what is owed **to** others), within a general ethical decision-making process to determine an action. Providing a sound discussion of earlier writings on the ACM Code, he places the Code within a general ethical decision-making process, he differentiates between to human faculties: intellect and will. O'Boyle builds on work of Rest and Kohlberg and identifies a six-stage process: 1) Moral perception and personal knowledge of the moral good (recognition that the problem exists); 2) Moral discernment and personal ability to think logically (stating the problem clearly); 3) Moral resolution and personal ability to think analytically (tackling the complexities of the problem to arrive at an individual position); 4) Moral assessment and personal ability to assess one's freedom (assessment, including being aware of the double-edged sword of new technologies); 5) Moral decision and personal knowledge of one's duties (decision, including personal duty and obligations); and 6) Moral action and personal willingness to follow one's intellect (free will used to take action). O'Boyle finds that the ACM Code is helpful with the first three stages, but not with the other three, and that training is needed to apply the Code effectively. He raises two provocative suggestions: that implementing the Code could be advanced by 1) making an individual ethical audit part of an employee's performance review, and by 2) hiring people who have some understanding and training in ethical behavior. The students have found it helpful in applying codes of ethics to actual situations and problems, and they find the questions to be provocative. Because the article concentrates specifically on the ACM Code, the six-stage framework also has limitations. Also, it does not include extensive discussion of the various needs and perspectives of the various stakeholders, nor does it address many of the complex cultural issues.

Examples from the Corporate Sector

Because many SIS students work in, or will work in, corporate environments, articles from business journals and speakers from the corporate world are included in the course. One example is a model for ethical decision-making proposed by Gerald Ottoson (Ottoson, 1988), a retired industry executive, who is now a consultant. Ottoson has conducted numerous ethics seminars over the years for workers in corporations. His approach is to spend a small amount of time on fundamental ethical values (e.g., honesty, mercy, justice, etc.) and to concentrate on models to examine real cases. One model, "A Suggested Pattern of Inquiry," is presented as a checklist in reviewing and evaluating past actions. The model uses a series of questions: 1) Who should make the decision (includes where the

legitimate power to make the decision lies, limits on authority, obligation/responsibility, need for knowledge—the essential facts, and neutrality/objectivity); 2) Who are the stakeholders (principle of regard for others); 3) What are the alternatives (including competing claims, costs/benefits, etc.); and 4) How should the decision be reached (inclusion in the process, perception of involvement, avoidance of paternalism). He notes that decision-making is always a compromise; there is no "perfect" solution; and that there will always be some regrettable aspects of the ultimate decision. He also realistically argues that the "final course of action you decide to follow should leave you a little uncomfortable. . . .No matter how noble your purpose may be, there is no ethical reward for impaling yourself on someone else's sword." (Ottoson, 1988, 14) While his framework is incomplete and open to many different interpretations, the students find this example, used in conjunction with others, to be helpful because of its emphasis on the workplace and its realistic questions.

John Hammond et al. present a series of "hidden traps" in decision making in their article in the *Harvard Business Review* (Hammond et al., 1998). Although their work addresses decision making in the corporate world, the traps they identify can be applied to other types of work environments. Among the traps they identify are: 1) anchoring (giving disproportionate weight to the first information received; first impressions, facts, and estimates anchor subsequent thoughts and decisions); 2) status-quo (bias towards perpetuating the status quo and avoiding change); 3) sunk-cost (justifying past choices even when they no longer seem valid because investments have already been made); 4) confirming-evidence (seeking information that supports existing views while avoiding information that contradicts it); 5)framing (how the question is framed shapes the decision-making process and there is a tendency to adopt the frame presented rather than to restate the problem and reframe the questions); 6) estimating and forecasting (making and using estimates and forecasts without gauging accuracy and getting sufficient feedback); 7) overconfidence (tendency to be overconfident in making predictions); 8) prudence (being overly cautious); and 9) recallability (selectivity in examining past events and tending to exaggerate and assign higher probability to dramatic events). While this is not a framework for decision-making, consideration and discussion of these potential traps lead to an improved understanding of problems which are often encountered in ethical reflection and decision-making.

Dr. Christine Altenburger, a retired faculty member from the University of Pittsburgh Graduate School of Public and International Affairs, taught applied ethics for many years. In her teaching, she developed a series of principles and a framework (unpublished), which she has given permission to use in our classes. The basic principles she identifies, summarized from those frequently found in the literature, are: 1) Do no harm. Do good if possible. 2) Observe the cannons of justice. Be fair. 3) Respect the rights, dignity, and freedom of all individuals. She also presents a flow diagram, beginning with gathering facts, leading to analysis and judgment, and incorporating decision loops to reconsider answers to questions.

Models used in SIS Class

These and numerous readings have been used throughout our course, but none provided the kind of framework or guide needed for our students as they worked towards resolutions of their problems. One very helpful resource I have used is *The Miniature Guide to Critical Thinking Concept and Tools* by Richard Paul and Linda Elder from the Foundation for Critical Thinking (Paul and Elder, 2001). This brief *Guide* provides a concise discussion of the importance of critical thinking and the elements of thought, a checklist for reasoning, and a series of questions using these elements. It also summarizes problems of egocentric thinking (Paul and Elder, 2001, p. 6): 1) the assumption that it's true because I believe it; 2) true because we believe it; 3) true because I want to believe it; 4) true because I have always believed it; and 5) true because it is in my selfish interest to believe it. The *Guide* also presents questions related to universal intellectual standards, addressing: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness and provides a template for analysis.

As I was teaching the course early in 2003, Paul and Elder issued *The Miniature Guide to Understanding the Foundations of Ethical Reasoning* (Paul and Elder, 2003), which has proven for me to be the most useful model. The Guide builds on the earlier one and introduces a concise and straightforward introduction to the function of ethics, expanding on the discussion of egocentric thought, and addressing problems of "pseudo-ethics". It discusses the differences between ethics and: religion, social conventions, sexual taboos, political ideology, and

the law. The authors also remind the readers of why it is important to distinguish among questions of ethics, social conventions, religion and law, and they present a series of elements of ethical reasoning. They propose an eight-step process to determine the logic of an ethical question: 1) purpose (considering an individual's rights and needs as well as those of others); 2) key ethical question(s); 3) information needed to answer the question(s); 4) concepts and principles to guide thinking; 5) main assumptions used; 6) points of view of all stakeholders; 7) main inferences/conclusions (what are the alternatives, are all being considered, etc.); and 8) implications (for self and others, including consequences, questions of harm/good, etc.).

This framework has worked successfully for students to address a wide range of questions and problems. I have also used it effectively as part of a brief introduction to Information Ethics is our required introductory course for Library and Information Science Students, "Understanding Information," and in a continuing education workshop for medical librarians. In the introductory course, students worked in groups of six to discuss the process they would use (walking through the eight steps) to respond to a hypothetical example based on a real-world case in which a challenge requesting removal of some books was made in a school library. The students are told they are school librarians asked by the school's principal to recommend a response to the challenge before the school's board. In each case, the students indicated that the framework encourages them to ask many questions and to examine different perspectives and issues. They also noted the usefulness of the framework in working through individual problems. A significant flaw in the framework is that it addresses logic and does not recognize the individual's emotions and subjective feelings. This leads to a discussion of the importance of recognizing that no human is ever totally objective and of learning one's own biases, personal values, and cultural perspectives.

The Guide seems to be the best tool in our courses to help students work through ethical reflection towards making moral decisions, because it focuses on steps in critical thinking and encourages students to work through the steps, looping back to earlier steps, in the process. It also serves to help stimulate discussion among students and encourage raising questions about the many options to be considered throughout the steps. The major drawback to this Guide is that it does not address the emotional and more "human" aspects of decision making. The steps rely on logic and objectivity and do not take into account the fact that no human is ever completely objective. This shortcoming can, of course, be addressed by the teacher through readings and by raising questions in the discussion. A revised guide, addressing the subjective issues would be a valuable contribution to the teaching of ethical reasoning.

Challenges of Teaching Diverse Students

Composition of the SIS Student Body

The School of Information Sciences (SIS) at the University of Pittsburgh includes undergraduate students, who enter the program in their third (junior) year; master's students in one of three programs: Library and Information Science, Information Science, and Telecommunications; doctoral students, either in Library and Information Science or Information Science and Technology (specializing in one of those two areas). In addition, students from any program on campus may take SIS courses as long as they meet any prerequisite requirements or, for undergraduates, have permission of the instructor to take a graduate level course. Also, through a cooperative agreement, students from other universities, such as Carnegie Mellon, Chatham College and many other colleges and universities, may also take courses if they meet the requirements. Within SIS, itself, there are approximately 800 students from more than 30 different countries, and their backgrounds vary widely. In the LIS programs, most students come from humanities and social science backgrounds (with some from science and engineering backgrounds) and plan to work in libraries, archives, or other cultural institutions, although many do go on to work in government, industry and other settings in jobs ranging from school librarians, to archivists, to medical information specialists, to webmaster and others. IST students must have college mathematics and at least one programming language; many come from science and technology backgrounds, although a large number also have liberal arts backgrounds. About one-half of the graduate students work full time and many have significant family responsibilities; a large portion of the students have some work experience, and many have another graduate level degree (such as law, education, philosophy, literature, etc.). In addition, the faculty is diverse in the disciplines in which they studied and did research, their work experience, and

the countries and cultures from which they come and in which they have worked. This diversity enriches the education of all students and the faculty, and it also raises a number of challenges for teaching and learning.

Course Content

Identifying what to include in a syllabus, both the topics and the readings, is difficult in many ways. Courses are fourteen or fifteen weeks long (depending on holidays), which means that a complex and large body of knowledge must be reduced to fit the time allowed. At SIS graduate courses meet once each week for two hour and fifty minute sessions, usually with a brief break. Many classes meet in the evening to meet the needs of the many students working full time. An information ethics course must provide an introduction to applied ethics, focus on a limited subset of the topic, and include resources to supplement what is included in the course content. Selecting readings is difficult because of language limitations (in our case, English), the need to choose a reasonable amount of material to be read each week, and the challenge of trying to provide international and multicultural perspectives. The inclusion of guest speakers from different types of organizations and, if at all possible, from different cultures and countries, can enhance the educational experience for the students.

Teaching/learning Styles and Approaches

Recognizing that students learn in different ways and come from backgrounds that include a wide range of teaching and learning styles, each instructor works to provide options and, if possible, customized approaches, for different students. For example, students from cultures that do not permit or encourage questioning the instructor or challenging ideas, often have difficulty participating in a U.S. seminar-style class in which students are expected to discuss readings and challenge ideas openly. Patience, some one-on-one sessions, and emphasis on civil discourse and encouragement of participation usually help with this. Instructors also have to work to be flexible and to adapt their teaching methods, perhaps combining and alternating different methods to meet students' needs. They also need to recognize their own strengths and weaknesses and the styles they are most comfortable using, seeking assistance from other faculty or from teaching assistance groups on campus. This is a complex and challenging area that deserves much more attention, sharing of experience, and discussion.

Alternative Models

Different models may be needed to assist with ethical reflection and decision-making, recognizing cultural and other biases in each. A model that works well with graduates, may not work as well with undergraduate students. Cultural biases in some models may introduce barriers for some students. Continuing to explore alternatives and evaluating the effectiveness of various models are needed to encourage student learning and exploration. Incorporating models, diverse readings, active discussion and interaction among students, and perspectives from outside speakers provides opportunities for effective learning and enhances education.

Need for Ongoing Evaluation

Excellence in education requires continual evaluation, from students, colleagues, and one's self. Getting students to provide constructive criticism throughout a course is difficult, because of students' concerns about possible negative consequences, different cultural backgrounds, and other factors. Watching facial expressions and other body language can be helpful in observing students' responses, as, of course, can responses to questions and the nature of class discussions. Some instructors give quizzes or tests to determine how well students are understanding and learning.

Extremely important throughout any course is the provision of comments and other feedback to students on their work. Detailed comments on papers, discussions with students both in class and individually, and other means of communicating with students about their work are all critical to ensure that students know how well they are doing. Raising questions to them to provoke their thinking and to help guide their learning is also important.

Encouraging participation by students in class discussions is also important and several different techniques may be needed for different students. For example, for students whose first language is not English, I have encouraged brief statements by students in response to questions to "even the playing field." Asking each student to take a turn leading the discussion of a course reading, after the presentation of examples by the instructor and with adequate time for preparation, gives students an opportunity to raise questions of their colleagues and to gain confidence in participating in a seminar environment.

Many Other Challenges

This is a very incomplete list of challenges to be addressed in teaching Information Ethics to a very diverse student body. It is presented to provoke questions and to help initiate discussion of this complex topic. Discussions at the ICIE Symposium in October 2004 are expected to contribute significantly to addressing the question of what are the challenges and how can they best be addressed as we seek to teach and learn Information Ethics.

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Anja Ebersbach-Markus Glaser

Towards Emancipatory Use of a Medium: The Wiki

Abstract:

With the rapid growth of the Internet in the 1990ies due to the WWW, many people's hopes were raised that the spirit of egality, the emancipatory power of the medium then, would be brought to the masses. With the increasing commercialization, the net became and is becoming more and more a one-way medium for advertising. Against this development, a new form of web pages has emerged and is becoming increasingly popular: the Wiki. Its distinctive feature is that any web page can be edited by anyone. Participants attribute the success to this openness and to the resulting collective production of content. In his 1970 article "Constituents of a theory of the media", Enzensberger developed a list of seven criteria that qualify, in his opinion, the use of a medium as emancipatory. These are used to investigate the question: Can wikis be thought of as a new form of emancipatory use of the medium?

Agenda

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Introduction

With the rapid growth of the Internet in the 1990ies due to the WWW, many people's hopes were raised that the spirit of egality, the emancipatory power of the medium then, would be brought to the masses. It suddenly seemed possible that Brecht's and Enzensberger's requirements for an empowering use were fulfilled and that it was just a matter of time for this potential to make its impact. However, reality disappointed those expectations. With the increasing commercialization, the net became and is becoming more or less a one-way medium for advertising.

Against this development, a new form of web pages has emerged and is growing increasingly popular: the Wiki. Its distinctive feature is that any page can be edited by anyone. Participants attribute the success to this openness and the resulting collective production of content. This integrative usage raises the question: Can wikis be thought of as a new form of emancipatory use of the medium?

In his 1970 article "Constituents of a theory of the media", Enzensberger developed a list of seven criteria that qualify, in his opinion, the use of a medium as emancipatory. To answer the above question, we will take each criterion and apply it to the use of wikis.

A new form of web-based collaboration: Wiki

> *"A wiki [...] is a website (or other hypertext document collection) that gives users the ability to add content, as on an Internet forum, but also allows that content to be edited by other users."*[i]

The name is derived from the Hawaiian word for "very quick", which also characterizes a wiki's main feature: Working with a wiki provides a "quick and easy way"[ii] to produce content in the WWW and to collaborate via internet. The first one to introduce the wiki concept was Ward Cunningham, who, in 1995, published the first wiki system in the internet[iii]. The actual breakthrough came in 2001 with the launch of its now most prominent example, wikipedia.org[iv], a collaboratively created web based encyclopaedia. Wikis are also used to provide and publish tutorials and FAQ-lists for software (e.g. *German Smalltalk User Group*[v]), dictionaries (e.g. *Wiktionary*[vi]), and sources for expert information (e.g. *JuraWiki*[vii]). They can be used as an alternative medium for discussions to forums and mailing lists[viii], serve as a tool for brainstorming and provide a platform for project organisation and documentation.

The key idea of a wiki is that any page that can be viewed can also be edited. Since wikis are usually WWW-based, there is an edit link on each page which leads to a form, where the source text of this page can be changed. This includes adding links to other pages and even adding new pages. Technically, thus, wikis are a set of dynamic web pages. In order to keep track of the changes made to a page, its previous versions are stored and can still be viewed. These concepts resemble the original ideas connected with hypertext by Bush[ix] and Nelson as well as those of the founder of the WWW, Berners-Lee[x]. The facility easily to create structured content leads to a vast number of possible usages of a wiki, for personal purposes as well as for large scale websites.

User participation is vital to the success of a wiki web, and so various measures are taken to faciliate contributions. First of all, wiki pages do not use HTML as their base but have their own, simplified markup language, which resembles the signs used in email communication to indicate emphasis. So formatting a page becomes a rather intuitive act. Secondly, the internal link system is simplified. Page headings are used as references. One way to reference such a page is to include it in some kind of brackets. However, the more common variant is to use WikiWords for page names. They consist of a word beginning with an uppercase letter and containing at least one more uppercase letter and are automatically recognized as links. Thus, expanding the link structure within a wiki web becomes as easy as typing a word. Non-existing pages are automatically displayed in edit mode, which allows the user to create that page. Thirdly, there are various pages to encourage users to participate. There are a few easily accessible introductory or tutorial pages and one page called SandBox, where new users can try editing a page without actually changing any "real" content. Furthermore, many sites contain pages that indicate recently edited, most visited, or wanted pages as well as search functionality to give the users entry points for their contribution to the wiki and handle the emerging complexity.

The fact that, technically, the restrictions posed on the structure and content of a wiki web are kept to a minimum makes the participants and their level of

organization a key issue for the success of a site. As in real life, there is a need for social behaviour. This is especially true in the case of conflicts as well as in the case of vandalism.

Of course, participants are not always happy if their articles are changed and do not reflect their opinion anymore. In extreme cases, this can result in downright edit wars, where two persons repeatedly roll back or undo each other's changes. To avoid this problem, usually a separate discussion page is created to keep the ongoing conflict out of the focus of the casual reader who is not interested in these details. Also, editors are recommended to keep a so called neutral point of view (cf. Decentralized program).

Many people object to the idea that editing can be open to anyone on the web, arguing that this at best leads to confusion or chaos and at worst produces nothing more than nonsense. However, wikipedia and others show that it may work; the articles in wikipedia in most cases are of rather high quality[xi]. Yet Vandalism exists and comes in two forms. On the one hand, some people just delete the content of a page. This is of course easily detected and can be undone quickly, since every page does have its own history, and any version out of this history can be restored with a mouse click. On the other hand, there are fake entries or just nonsense statements to get some attention. These again can be undone via the history, but are harder to find. Usually, there is a core of wiki users who fill the role of maintainers, i.e. they regularly look at the recent changes page and take care that the entries are not destructive. Note, though, that these users normally do not have and don't need more rights than any anonymous user. Thus, it are the people that constitute the (sometimes really huge) community and therefore must take responsibility for the quality of the content.

The openness of wikis, their success and the emphasis on social community instead of technological means to produce quality content raises the question whether they are especially suited to be used by social movements, in other words, whether their use can be thought of as being emancipatory.

Enzensberger's Constituents

Enzensberger wrote his "Constituents of a theory of the media" in 1970. In the tradition of Brecht and Benjamin, he was making his contribution to a critical theory of the media, which is mainly concerned with the social consequences and the emancipatory power of media usage. In his famous "Radio Theory" (1927), Brecht proposes to "change this apparatus over from distribution to communication"[xii]. Enzensberger directly follows these suggestions and elaborates the conditions and consequences of an emancipatory use of media. His "Constituents" were widely received and are often cited in theoretical discussions about alternative media. With the rise of the Internet, when many people put great hopes into this medium because of its egalitarian structure, his postulations seemed to become true. However, the actual use of the Internet has not proved his theses, since with commercialisation, there also came centralization and control. Of course, anyone still can add pages to the WWW. However, those sites that are widely recognized are mostly organized like conventional mass media.

The main criticism on the "Constituents" came from Baudrillard[xiii]. He points out, that Enzensberger still maintains the distinction between sender and receiver and states that in order for a medium truly to provide the basis for an emancipatory use, this distinction has to be overcome. Without getting too deep into this discussion, we believe that the total dissolution of the subject, the complete loss of an indentifiable sender of a statement, leads to the loss of history and context. This cannot be emancipatory. It is necessary to be able to identify even with a collectively created piece of work and it is also useful to know the source(s) of a text in order to determine its intention. For further defence of Enzensberger against Baudrillard cf. Kellner (2004). Another point often brought against the "Constituents" is that it is too techno-deterministic. Given the right technical basis, the emancipatory potential of a medium would have to unfold. The recent development of the Internet gives impressive evidence that this is not the case. Therefore, in the rest of the article, we will talk about the actual use of media, not of their potential.

Enzensbergers criteria provide a useful framework to investigate the phenomenon of wikis and their usage. In what follows, we will compare his seven postulations with the reality of web sites that are based on wikis.

Decentralized program[xiv]

> *„Potentially, the new media do away with all educational privileges and thereby with the*

> *cultural monopoly of the bourgeois intelligentsia."*[xv]

Centralized organisation within media production gives a few people the power to decide on who may publish, what is published and who may receive. Naturally, this goes along with a position of power, which is usually occupied by those who are already in upper positions of society. The opportunity to publish one's thoughts is dependent on factors like education, experience or reputation. What these factors are and who suits them is not the result of a public discussion but of a decision made by the already mentioned group of operatives whe are not democratically controlled. Of course, they will not easily allow publications of people who do not conform to the prevailing philosophy. Since we are talking about mass media, as a consequence, many people only hear or see what the editors allow them to hear and see. This may lead in its extreme to centrally defined truths, which are hard to contradict.

A point that is often overlooked is that centralized power over the media means control over who may receive the published information under which conditions. The ongoing debate about intellectual property rights is a good example for the attempts of the information rights holders to restrict access to their products to those who pay or even, for competition reasons, to completely prevent the published information to be used. An example for the latter are patents. Digital rights management extends the centralized control over usage of media products even beyond the acquisition and restricts the number of times a product can be consumed as well as the kinds of devices it may be used with.

Wikis, however, are a good example of decentralized use of media. Many wikis do not even have the facilities for access restrictions, so anyone on the web may publish. Even in the case of a restricted group of users, anyone of those may freely write what they want without any previous control of their work. If any editorial changes are made, they are made after the original work is published and saved in the page's history, thus they are accessible. Of course, wikis do have administrators and there may be as well some who misuse their position. In most cases, however, wikis are administered by a group of people with equal rights who control each other and whose work and decisions are subject to all users' discussion.[xvi]

Arguments within a wiki community mostly concern the content of a specific wiki page when different views on a topic exist. The principle of consensus concerning organisational issues is a quite important point to secure the efficiency and effectivity of collaborative work. To cope with different opinions users of Wikipedia are recommended to take a so called neutral point of view (NPOV). This encourages the authors to have their own point of view but avoids that these are presented as the only opinion possible. In practise often argument trees are built with pro and contra branches to give information on both sides and present links to pages of different opinions, e.g. like in the Wikipedia article on death penalty[xvii]. In our opinion, the NPOV is at least problematic: There are points of view that are not acceptable and tolerating them is a statement in itself, e.g. the Holocaust denial. We think that a critical discussion of the consequences of the neutral point of view is necessary, yet this goes beyond the scope of this article.

Since many people are potentially involved in the editing process and therefore the definition of even a group of authors is hardly possible, it is common practice to let the masses produce for the masses, i.e. to put it under some kind of free public licence. An effect of this is that wiki pages can not only be viewed by anyone but that they are also protected against any kind of future restrictions of property rights.

Each receiver a potential transmitter

> *"A revolutionary plan should not require the manipulators to disappear; on the contrary, it must make everyone a manipulator."* [xviii]

To meet this criterion, a medium has to become a many-to-many medium. Active participation of the many is not so much dependent on centralized control but on the costs of participation. These include financial costs, social obstacles to the access of the medium as well as the effort needed to acquire the necessary skills. A medium intended for emancipatory use must seek to keep these potential access restrictions as low as possible.

Participation in the Internet is still an almost exclusive privilege to educated people in the western world. Access is characterized by the Digital Divide. Only 5% of the world population have access to the Internet, two third of them live in five countries: USA, Japan, Great Britain, Canada and BRD[xix]. But there exists also a kind of social divide which points to inequalities among the population within one nation, whereby mostly old, poor and female people remain technologically disconnected.

Financially, the costs for the devices needed to publish in or even to access this medium are still not affordable for most people in the world. In many parts of society, the internet plays only a marginal role, so that they are far away from considering the possibility of publishing anything on the net. Even for those who do have access to the net and consider contributing, the skills needed for creating pages on the WWW as well as the knowledge required for publishing these pages is still rather high standard and therefore mostly confined to experts.

As wikis are a part of the Internet, the above mentioned access restrictions remain. However, for those who do have access in the sense of receiving pages, it is also rather easy to create and publish content within a wiki. First of all, no own server or webspace is needed, since the data is hosted within the data base[xx] of the wiki. Second, the tool for viewing and editing a page is the same, namely a web browser. Therefore, no new skills concerning the handling of a software have to be acquired. Third, editing a page is as easy as writing plain text. To add some structure, new pages or layout, a very simplified markup language is used, which is easy to handle. However, for almost each different wiki system, there exists an own set of markups, which have to be learned. The above mentioned SandBox helps to learn these by trial and error. Also, it is simple to correct one's own creations, so that users do not need to fear that a mistake once made is published forever.

Mobilization of the masses

> *"When I say* mobilize*, I mean* mobilize.*[…] to make men more mobile than they are"*[xxi]

The previous two constituents, concerning the freedom to publish without centralized authorities and major technical or financial obstacles, implicate the following: people should be mobile in a sense that they are not restricted to the part of mere receivers. It is vital that possible ways of action are not confined to simply switching media on or off, but people are given room to act as potential transmitters. For this purpose they need a "real" communication medium that provides a platform where anyone has the chance to read, write and comment upon topics and which records historical material so that everyone can reproduce it for current purposes.

Wikis seem to be the direct answer to Enzensberger propagated "need to take part in the social process on a local, national, and international scale; the need for new forms of interaction, for release from ignorance and tutelage; the need for self-determination"[xxii]. With their egalitarian structures wikis allow each visitor to contribute to the wiki in his own personal way: whereas some will only read and use the wiki as a reference from time to time, some will return to the list of changes regularly, others might add texts or do some markup like linking texts. With so many possibilities given to the participants they have the freedom – and the responsibility – to contribute in those ways they think are best suited for them. Taking people seriously and giving them responsibility brings out the full potential in them. Furthermore, all activities and intermediate results of the production process are documented by a logging mechanism, so that later participants can benefit from previously made experiences, achievements or even mistakes.

Collective production

> *"A further characteristic of the media – probably the decisive one – confirms this thesis: their collective structure."*[xxiii]

In a medium where everybody has the possibility to publish, a lot of people will share their individual opinions with others. This leads to a lot of information noise, and as a result, many individual contributions face the danger of marginalization. However, if participants begin to organize and start interacting, they may find that there are common interests which are worth making known to others. The content produced collectively is more likely to meet the concerns and issues of the community since it has its sources in a social interaction. Furthermore, working on a common project does have a highly integrative function. Participants will identify with the piece of work they produce and also with the group it emerged from. The unifying character of collaborative work is probably one of the main emancipatorial features of media usage.

Leuf and Cunningham (2001)[xxiv] describe the possible evolution of a wiki article as follows: first of all, there is a sequential discussion, where everybody appends his or her individual opinions to a wiki page. With the page getting longer, the participants start directly responding to previous messages after exactly the sentence or part, at which the reply is directed, sometimes deleting previous messages that contain outdated or wrong information. From time to time, some people go over the page and "refacture" the content by putting together individual contributions to one single text.

Given that "[e]verybody feels that they have a sense of responsibility because anybody can contribute"[xxv], the quality of the text emerging in such a way is surprisingly high. There are other wikis (like Wikipedia), that do not start with a discussion part but have the form of an article from the beginning. In these cases, discussion about controversial issues is often sourced out to a separate discussion page, whereas non-controversial changes can be put directly into the page.

It is important to note that the main goal of an entry in a wiki web is not to depict individual opinions but the view or the facts a group of people, at best all the "netizens", holds to be true. A wiki page can therefore be described as a never finished summary of an ongoing discussion. Participation in such a discussion can be very motivating. First of all, there is the aspect that no one's contribution is a priori excluded from being taken seriously. So people will be motivated to participate. Also, they have their share in the direction and quality an article will take. Thus they will very likely identify with their work and also with the group that created it. This is an important point in the case of a political learning process.

Interaction of those involved, feedback

> *"Equipment like television or films […] allows no reciprocal action between transmitter and receiver; technically speaking, it reduces feedback to the lowest point compatible with the system."*[xxvi]

Everyone who publishes is exposed to criticism, but not in every medium feedback plays an important part. Often different forms of feedback like letters to the editor or a contribution to a web forum's discussion work as an outlet for the reader/viewer but have no further consequences. In the process of collaborative work, in contrast, feedback has some indispensable functions. To begin with, it gives the author a feeling as to whether his work is accepted or not and provides him with the appreciation he needs to go on. Secondly, it is also a part of the production process as every comment contributes to the publication.

In a wiki the way to give feedback exceeds by far the facilities of other media as anyone can actually refacture[xxvii] the whole page, be it the comments or the previous edits. This might be the reason, why in wikis there is so little noise compared to forums. The changes made here are real and effective. The one who gives feedback is expected to have a better version in mind; otherwise his modifications are quickly reversed by other participants. Although this form of criticism is quite constructive and easier to accept than the often personally tinged attacks in e.g. an email, many people are afraid that their contributions might be changed by another person without them knowing why. This is a possible hindrance for participation and the handling of this new way of criticism will depend on whether people are willing to cope with it.

Social control by self-organisation

> *"[T]he manipulation of the media cannot be countered, however, by old or new forms of censorship, but only by direct social control, that is to say, by the mass of the people, who will have become productive."*[xxviii]

For media production in order to become really emancipatory, it is necessary that the means of production, the media infrastructure, is controlled by the public. As mentioned before, this is the only way to prevent attempts to manipulate public opinion centrally. A publicly controlled medium, however, will need its own structures and rules of interaction to function. The important point is that these rules emerge from within the medium by using it. Furthermore, they are always subject to discussion and can be altered if they are found to be unnecessary. This discussion has to be lead within the community and should be open to all participating members in order to reflect all the concerns there are within a group.

The original wiki software by Cunningham[xxix] was put under the GNU Public License (GPL)[xxx], which states that access to the program source is open to the public and any program derived from his software must also be under GPL. Many wiki clones follow this example. So the technology is public property. However, wikis, as subsystems of the internet, are dependent on the infrastructure the internet provides. This means, a wiki system is centrally hosted on a server and the person or organization controlling this server also ultimately has control over the wiki – they can just switch it off. Nevertheless, since the content of a wiki web is also free, there can be copies of the data base that are distributed all over the net.

As in any social community, within a wiki community there are rules emerging. These rules, which are sometimes explicitly written down in a wiki page, specify the codes of conduct that have evolved in the group. Since these rules come from within, they

are especially suited for the one community that uses a specific wiki. For example, the neutral point of view rule, which is thought to be neccessary in Wikipedia, might not be productive in a wiki community that is explicitly taking sides with respect to political issues. Although self-reflection and discussion of the rules produce some overhead in the work with wikis it is vital for the functioning of a community with egalitarian structure.

Of course, wikis are not free from unsocial behaviour. Vandalism is very easy. Sometimes it may be necessary for the functioning of the rest of the community, that these vandals are excluded for some time from the use of the wiki. In the bigger ones, like Wikipedia, there are a few users that have the right to ban certain IP addresses for some time. There is an ongoing discussion about the position of power of these administrators. Who becomes admin is discussed on a wiki page[xxxi] and their actions are also monitored and talked about[xxxii]. So administrators usually merely have the function of an executive organ of collectively found decisions. However, the respective discussion pages are often not too easy to find. That way, users are supposed to have a certain familiarity with the wiki community before participating in discussions; the casual visitor is more or less excluded. Yet, since there are no barriers of participation in principle this seems to be an acceptable practice even in the light of Enzensberger's criterion.

A political learning process

> *"Any socialist strategy for the media must, on the contrary, strive to end the isolation of the individual participants from the social learning and production process."*[xxxiii]

An emancipatory use of a medium must aim at the education of the masses. Experts should meet ordinary people and exchange their knowledge with them. By working together, the experts will of course also profit from the interaction in the way that they adapt their explanations and the topics they work on to the needs of the people. As well as this, by publishing in the public sphere, people will have to (re-)consider their positions in discussions with others. This means, their views will be questioned and will have to be defended or refined. Moreover, the social issues that arise in a decentralized medium as described so far bring the need for organization. When this self-organization is proved to work within a community in the medium, people might try to apply it also in the physical world; that is, to act politically.

In the process of writing an article in a wiki, the exchange with the community is vital. So in addition to the knowledge one gains when composing one's own contribution, the process of learning will also continue when watching how the "seeded" article "evolves". Thinking about why changes were made and contacting the people making changes as well as editing other people's contributions leads to a deeper understanding of the topics. As these edits can be read by anyone, great care is often put into the work. "Wiki doesn't work in real time. People take time to think, sometimes days or weeks, before they follow up some edit. So what people write is generally well-considered."[xxxiv]

The fact that wikis do work gives impressive evidence that collaborative work without restrictions can produce qualitatively high-standing work, even without incentives like money and competition. That is, there are alternative ways of social organization that do work within small (or large, but restricted to the virtual world) communities. The recognition of this might lead some people to take the organization of work in a wiki as a model that could succeed in the real world as well.

Conclusion

Facing the fact that Enzensberger wrote his article in 1970, it is amazing how farsighted his constituents are formulated. One could get the impression that he anticipated the development of the internet, in particular wikis. That those are often used by all kinds of NGOs and political and social movements to inform and organize their members all over the world seems to affirm his assumptions in a quite practical way.

Of course, a medium itself is a neutral thing. Whether a medium is used for negative or positive purposes depends on WHO uses the medium with WHICH intentions. But while a medium is being developed and even later when it is used, our society puts certain limitations on it that at least make it more difficult to adopt it for emancipatory aims. Concerning wikis those imposed barriers, be it technical, legal or psychological ones, are currently at a very low level, which makes it easier for people to learn, to participate and to create.

Today, the conflict about digital rights and free access to information plays a central role; participation in a wiki, and especially in Wikipedia, also is a voluntary decision to take sides in favour of freedom of information. This is a political act; it is

affecting the real world by keeping some more information in the public sphere.

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[i] Wiki, 20.08.04.

[ii] Leuf and Cunningham, 2001: cover

[iii] c2.com/cgi/wiki

[iv] www.wikipedia.org

[v] swiki.gsug.org:8080/GSUG.1

[vi] www.wiktionary.org

[vii] www.jurawiki.de

[viii] cf. e.g. WikiUserTypes, 22.08.04

[ix] Bush 1945

[x] Berners-Lee et al. 1994

[xi] Kurzidim 2004

[xii] Brecht 1932 :53

[xiii] Baudrillard 1981

[xiv] The following seven headings are quoted from Enzensberger 1970:269

[xv] Enzensberger 1970:265

[xvi] Wikipedia_talk:Administrators, 20.08.04.

[xvii] Capital Punishment, 17.11.04

[xviii] Enzensberger 1970:265

[xix] Rilling 2004

[xx] This may be a database or a file system.

[xxi] Enzensberger 1970:261

[xxii] Enzensberger 1970:268

[xxiii] ibid., 266

[xxiv] Leuf and Cunningham 2001:326f

[xxv] WhyWikiWorks, 20.08.04.

[xxvi] Enzensberger 1970:262

[xxvii] Cunningham defined this term as „technical term for iterative adjustment based on new input." (2001:330)

[xxviii] Enzensberger 1970:265

[xxix] c2.com/cgi/wiki

[xxx] www.gnu.org/copyleft/gpl.html

[xxxi] Wikipedia:Requests_for_adminship, 20.08.04.

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Josep Maria Esquirol

Network and Everyday Life: Beyond "Local Space"?

Abstract:

After describing what it is known as quotidianity – or everyday life- , the text focuses on the way it is influenced by the Network, paying special attention to the space-time experience. How does the Network flow determine a new temporality? How does Cyberspace interact with the place? To finish with, we comment on the opinion according to which Cyberspace goes beyond the boundaries of what is local.

Agenda

Everyday life

"Global Speed"

Connections and flows in global society

Too full

Cyberspace and "exceeding" of the place

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Everyday life

The purpose of these pages is not to carry out an exhaustive and systematic analysis of social or economic change taking place nowadays in Catalan society. Their purpose is less ambitious. I could perhaps call it, were it not for the vagueness of this expression, a reflection on everyday life, and on the background changes this is undergoing as a consequence of network-society, or global society.

Let us start by a succinct characterization of quotidianity. As indicated by the very expression, quotidian life is that life people may live most of the days; Therefore, the feature of quotidianity is repetition or routine; sometimes, in our lifetime, "extraordinary", surprising or very special things happen. Extraordinary things can be "normal" (I know this is apparently a contradiction), but they are extraordinary to whom is living them precisely because of their singularity and because they are not a part of any routine. Thus, for instance, it is quite normal for people to have children but it is not normal for people to have children every day. This is why the experience of the birth of a child does not fit any pattern or routine; it is quite normal that people fall in love but it is not so normal that a person falls in love every day, therefore falling in love does not fit any pattern either.

Quotidian life is the framework for satisfaction of needs such as feeding or sleeping, and also, in part, the satisfaction of wishes; quotidianity is the place for human relations -with work companions, with other members of the family, with friends entailing pleasures, reconnaissance and conflicts derived from them. Quotidianity is also the place for language - it is filled with gestures and words.

Why is it sometimes difficult to continue enduring quotidianity? Simply because no big projects or dreams are completed in it. This is why we cannot quit dreaming- because it is one of the ways to exit the Empire of quotidianity. And we say "exit" because, indeed, quotidianity becomes a sort of "whole", of world, and it is not quotidianity itself what weights on us but its hegemony. This partially explains the necessity to escape and to have provisional breaks: week-end trips (it will not take us long to integrate them into the same quotidianity) travels, holidays…and other typologies of evasion, such as those achieved by means of drugs, music or reading (obviously resulting into different consequences).

Technique has a significant role in the definition of quotidianity. Do we realize how much did quotidian life change by introducing running water and drains? And electric current? And all the generation of domestic goods, namely washing machine, fridge, dishwasher, iron…Technique delimits and determines an actuation field, a typology of behavior, some rhythms, and some experiences. And also a *space-time experience*. It is in this one that I want to insist.

"Global Speed"

We are not wondering, for instance, whether nowadays we work more or less than we used to do before; it is something quite different. We mean that work itself is structured by a "fast timing". We will explain this with by proposing a contrast. Do you know which was the timetable in a Medieval Benedictine community? The timetable was the framework to all community activities and what ruled the monks' life. This schedule varied according to the course of the Sun and the seasons; however, avoiding now such variations, this was approximately the schedule: Monks woke up around 2:00 a.m; they attended the Vigils or Night Office (*matins*). This office was said to last for about one hour and a half, and was followed by an interval of about one hour devoted by the community to study the Psalms and Lessons, or to pray. Thus they reached the Morning Office (*Lauds*). This way, the first *hours* of the day were devoted to God's praise; the rest of the day was devoted to handicrafts and to *lectio divina*, occupations that were interrupted four times by the four minor hours of canonical office: *Prime*, *Terce*, *Sext* and *None*, that were not long. The only daily meal took place, in winter, at 2:30 p.m. In summer, there were lunch (about 12 a.m) and supper (at about 6:00 p.m); after lunch, monks enjoyed a midday sleep (lasting about two hours). In the afternoon they gathered to listen to some readings, sang the *Complines* and retired to their bedrooms. All in all, Monks devoted four hours and a half to the Divine Office, one hour to *Meditatio*, three and a half to read, six to work, one to eat and eight to sleep. Let us ask again: what did schedule their time? Basically, day and night, *the Sun's movement*. And how fast is the Sun? We already know that, half a day mean half a turn in the Sky. It never stops but it runs at a reasonable speed (at least, from what we can perceive). Timing, therefore, from the course of the Sun and the hours. On the other hand, we need to consider that the above explained schedule was that of a Monk and therefore very much structured by the

offices. Naturally, the schedule of a peasant was much more fluent and fitted even more perfectly the Sun's movement. In agricultural work, exact timing was not very important and expressions as this to follow were most likely: "it's *about* two". It is obvious that from then on many things have happened, also in time paradigms, but let us jump to nowadays: What do we have now that becomes the reference (like day and hours used to be in old times)? I should say the answer has to go in this direction: the course of the Sun has been replaced by the speed of information, and the "about..." of the hours has been replaced by the minutes and the seconds. Our life, curiously, is now more marked by time. One could say, using an assessing tone (worthy to pay attention to though), that there is too much time, too much mastery of time. Sun never sets in the Internet; there is no day or night, only minutes and seconds. This is why the old references to parts of the day are becoming progressively eroded: morning, afternoon, evening, night. A homogeneous time totally disintegrated into these small units. Mainly, people's everyday life is and will be more determined by such time parameters. And, above all, one experiences speed not because we do not devote certain hours to meals, certain to work and certain to sleep, but because the leading movement is not anymore that of the Sun, but that of information. It is this information that moves quickly from one place to another, and makes people perceive such speed in the environment and in the own quotidianity.

In everyday language, it is frequent to find these expressions: "two seconds!", "in ten minutes"...

In Catalonia, the rural world, still preserving vestiges of traditional time parameters, is quickly lining up with this global time, and I think the change to be quite deep and effective.

Connections and flows in global society

Linked to this, I should add another feature that, coming from technology, noticeably designs quotidian life. Internet is the global connection, the paradigm of connection. However, this does not only affect Internet. In general, in our world, communication Networks of many types have been built up partly matching up with the phenomenon of globalisation. We can therefore say that "everything is connected". Well, also life is connected. Our everyday life is becoming increasingly conditioned by this technological connectivity. The development of telephony (and now especially, mobile telephony), electronic mail, Internet, surveillance systems (at work, motorways and public spaces...) has led us to this situation. Thanks to the development of telephony, we already talk over the phone everywhere: in a car, in the office, at home.... even watching our interlocutors meanwhile. I guess it will not take long till videoconferences become as present in everyday life as mobile phones already are. In fact, new generations of mobile telephony already incorporate electronic mail and videoconference. Electronic connectivity is so flexible that it keeps us company everywhere we go.

Obviously, a multiplication of *passwords* comes up linked to this connectivity. Systems and networks demand passwords to gain access to "personal" areas. Thus, we have passwords to enter Internet, our e-mail, our credit card, bank accounts, mobile phones... To the traditional ID number many other numbers and keywords are being added, perhaps they will unify in the future. In any case, their presence in everyday life is nowadays outstanding.

Connected life is technological design. Connection gadgets and tools will soon be so glued to us that we will not separate from them anymore. I do not know to which extend do we realise it, but this change is really spectacular. Some fiction creations (cinema, literature) have already set sight on this and although this is not relevant to the purpose of this paper, the truth is that connectivity and connection are a reality increasingly affecting and defining people's life.

However, one thing is connection and a different one is what runs through these connections. What does it go through them? Flows, information packages that run, as we mentioned before, at a high speed. What I would like to stress now is not as much the speed as the idea of flow. Let us realise that images and metaphors regarding this reality are increasingly usual: flows of people, of money, information. The fact that new info technologies can be best represented by the image of flow helps to define people's life also from this image. In a sense, this is a very old image. The reference of wise Heraclitus to the river flow in order to manifest that everything is change is framed within this direction. Nonetheless, today this image becomes most effective: many domains of life perfectly fit the scheme of flow. In our days, the struggle is not between permanence and erosion but between permanence (or identity) and flow. One thing is the destructor time, the ageing time, the eroding time, and a different one is the dissolution into the flow,

the river, the stream... Hence we decreasingly perceive life as a certain resistance to change, and increasingly as an expression of the flow. Us as information transmitters, as function transmitters...transmitters and transmitted. The flow, like the river, always changes, therefore everything becomes extraordinarily evanescent, everything expires quickly, headlines from yesterday are prehistory today, are nothing; flow is substituted by more flow. Information is substituted by new information, without traumas, "naturally", fluently. Some people are substituted by other people. We do not perceive ourselves as much under Darwinian images of struggle and conflict as under those images of functions and flow transmission, painful individually but ordinary and without problems as a whole.

The parameter of flow, quite present in big cities (like Barcelona), is also spreading to rural world, also contributing to erase boundaries between urban and rural experience.

Too full

Urban life (emblematic demonstration of technification) engages the majority of people into a very busy life. I would not call it a specially hard life, but better a very full life... It is anguishing, for instance, to realise how busy "children agendas" are: after eight hours of school, out-of-school activities on working days, also during the week-end - language courses, sports, music...Do they have time to rest, play, do nothing, get bored? In other words: do they have time at all? Obviously, this is all a paradoxical effect resulting from children's imitation of adult life, of whom most of us complain.

Indeed, the majority of us are snowed under with too much activity and do not stop repeating that we have no time. Family (children, parents, partner), friends, work –increasingly demanding-, training, cultural life, necessary distraction, sport... The day is 24 hours long, the week is 7 days long. We tell ourselves this is a matter of priorities and it is partially true but, above all, it is a problem of time. There is no time for everything, we can neither do nor achieve everything... but the technological context (connectivity, speed, information...) wraps us up into this trend. There are hundreds of proposals likely to fill in the gaps in our lives. A good percentage of advertising is nothing but the struggle between all these alternative proposals (or identical proposals with different trademarks).

To this it has to be added the paperwork issue; bureaucracy and procedures: papers, forms, applications, receipts, summaries, notifications, lawsuits, reports...Why most of the times does automatism complicate things instead of simplify them?

The word that has overcrowded psychologist offices and spa centres is *stress*. Within the world of Information and Communication technologies, everyday life tends to be a stressed life. Therefore the success of *antistress* remedies: pills, yoga, relaxation, massages, herbs, sport, trips to the countryside... Sometimes, remedies work out, partially at least, but hidden beneath there is the real problem: our lifestyle. We have a stressing lifestyle and the only radical solution is to switch into a different one. Therefore, North-American society (and the like) have spawned movements for "simple life": work less, spend less, consume less... live differently. Nonetheless, these alternative movements do nothing but confirm the diagnose: predominant lifestyle is that of (over)activity and excess.

I do not mean that there is an essential and necessary relationship between network society and (hyper) activity, but there is a concomitance and, certainly, within a technological context like the one we know, it is easier to imagine –because we have it in front of us- a very busy everyday life than a "simpler and less accelerated life".

Cyberspace and "exceeding" of the place

Space is a major philosophical issue, this does not need further comments (from Plato's *chora* to Heidegger's *Dasein* spatiality, two millennium and a half of uninterrupted reflection). However, it may seem rather eccentric to translate this philosophical question to the subject of what has been called "cyberspace".

Even if there exists a certain linguistic anarchy regarding the world increasingly opened by information and communication technologies, some words start to be used with very delimited meanings. For instance, "cyberspace", which is not precisely a simple word, has basically two meanings. On the one hand, it is used to designate that space of data people can"navigate", as Internet users do through the *World Wide Web*. And, on the other, it is also used to designate virtual reality: that world of three-dimensional images, created by digital technology, we

can plunge into thanks to the person-computer interface. These virtual environments, ranging from more or less perfected games, to simulations in domains of professional learning (surgery, aviation, astronautics, military strategy...) are, besides, *interactive* environments, that is to say, not only do we find ourselves into these enveloping worlds, these virtual contexts, but we can also modify them, act on them. By "cyberspace", then, we mean both the network of data and the virtual reality or environment. While this second "world" is presented to us as such (phenomenologically, it is given to us as something perfectly explicit), the network is something we must imagine because, in fact, we cannot see it; within the *WWW*, one can move all over and can imagine the network as the "space" one is moving around. However, with technological breakthrough, this elementary navigation in the network is most likely to become a navigation-actuation within an explicit virtual environment. Therefore, by "cyberspace" we would mean one sole thing.

It is important to bear in mind that our space-time experience is in the basement of all our further experiences (which we can acknowledge although we do not accept Kant's thesis on space and time being *a priori* forms of our sensitivity). Therefore, the influence of cyberspace on our space-time experience will be really significant.

I believe it is possible to portray cyberspace as an "evolution" of the urban or as a hyper city; *telepolis as a radicalisation and evolution of metropolis*. If, compared to rural world, the city entails a loss of space and orientation, in its turn, compared to the city, cyberspace entails the disallowance of space ("rich" space) and a higher degree of disorientation.

There is no need to set off from romantic premises in order to recognise the specific orientation of rural world. However little one may have experienced and lived this reality (of whom, nowadays few expressions remain in developed countries), it is well known that rural world is much more oriented than urban world. A small nucleus of houses surrounded by fields, forests and mountains, with isolated farms spread around within a territory; the belfry, up above the roofs is the first thing one can see from afar. It constitutes one of the reference points, not only regarding space, because also the sound of its bells following the course of the Sun is a specially useful reference in foggy and rainy days to the people who work in the fields around it. The horizon and firmness of the soil, the streets, paths and fields; the horizontal line of the ground, above whom the vertical line of Life and decadence toward Death are defined; the Sky, day and night, and the phases of the Moon, indicating the right time to cultivate; and, above all, the house. As BACHELARD wrote, "all really inhabited space bears the essence of the notion of house"[i]. The landscape, the Sky and the village are also a part of the house. However, fundamentally the house is made up by walls and roof , under which some rooms meeting the needs of life and intimacy. Here HEIDEGGER points out that "to inhabit means to be a mortal being on earth"[ii]. This *inhabiting* is a "*spacing*", a creation of space, for humans to be next to things and take care of them. Only this capacity to create spaces enables construction, and especially construction in tune with the Earth and the Sky. What HEIDEGGER calls the quaternity: living on Earth, under the Sky, in the company of men and awaiting for the gods. ¿How, otherwise, could we explain the cosmicity of those old houses perfectly oriented (as orientation is sacred)?

The mass-man of big cities lives with little space. In the metropolis there is no horizon, no belfry standing up, no horizontal line of the ground, almost no sky. ¿How about will this not enable dizziness and disorientation? Even more, in the city there are no houses anymore: flats are piled up boxes, without ground beneath, without roof above. "The house is not familiar anymore with the dramas of the Universe (...) it does not shiver under thunders. It does not tremble with us and for us."[iii] Thus, even living in the ninth floor of a twenty-storey building, that box does not mean verticality over the horizontality of the ground. That babelian and fragile verticality is built over the emptiness. There is no firm soil anymore. Other storeys are under the floor; cars circulate underneath; and trains, and drains. Also, there is the noise from machines. The whole city is a big machine "Everything is machine and intimate life escapes through everywhere."[iv] The worst futuristic nightmares are sketched as hypertrophies of the city. Rural life does not know those vertigos.

One could think that there is certain resemblance between the Sky Dome and cyberspace, because also cyberspace seems to send us to the fifth element - ether. However, a gaping chasm opens between them. ¿What does the network labyrinth Internet is represented by have to do with the uniform pace of Sky Dome? Sky Dome is an expression of immensity, Internet is an expression of complexity.

From different perspectives, some predict and celebrate the fact that houses (or better, "telehouses") will be placed in "another space", in a way that will allow people to be closer to other people living thousands of miles away than to their own neighbours (which, by the way, is not such a big

deal). Where these houses are settled physically and geographically is of no relevance. Through the windows in the telehouse everyone will see what they wish to: a snowy landscape, the neighbourhood market, a wild mountain, a sports stadium or the bottom of the sea. ¿Does that mean that the house will have a situation? ¿Will the house have a space? ¿Will it win space? In *Telepolis*, streets do not carry out their basic social functions anymore. Given that "everything" can be done from home, streets and squares quit the faint role they still played. In *Telépolis* one can find another type of streets, those where information circulates, however floorless they are. Some authors even sustain that deterritorialisation is the condition to cosmopolitism: "In two words: telehouses are breaking the space-time circle homes had been reduced to by their social environment, and are enabling urbanisation and even cosmopolitisation of domestic domains. Through them civilization has entered the *domus*, struggling hard against local cultures so far prevailing."[v] Apart from the fact that this is a very debatable thesis, even in its core, I would like to stress that deterritorialization is not only the superation of the boundaries but also the loss of the horizontal line of the ground and the loss of space, with all the consequences derived from this.

What strikes me as really significant is that geographical location is considered to be a limitation to overcome. "Like hyper text overcomes the limitations of printed pages, the era of postinformation will overcome restrictions imposed by geographical location."[vi] Human corporeity is incomprehensibly forgotten, to whom space-time limitation is not a limit to overcome but a condition of possibility. Or at least: it is not obvious that the body is an obstacle.

We are in a process of increasing abstraction and cyberspace is hardly a space. This is the same abstraction that does not get on well with the experience of particularities, concretions and boundaries of what is local. Of course place and cyberspace are two different items and best thing we could do is not confuse them and, if still possible, abiding by the old saying: “nothing in excess”. A good maxim to avoid falling into the temptation to present things in terms of “exceeding” or “evolution”.

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[i] BACHELARD, *La poética del espacio*. México, FCE, 1998, p. 35.

[ii] Cfr. HEIDEGGER, "Construir, habitar, pensar", en *Conferencias y artículos*. Barcelona: Serbal, 1994.

[iii] BACHELARD, op. cit, p. 58.

[iv] BACHELARD, op. cit., p. 58.

[v] ECHEVERRÍA, *Cosmopolitas domésticos*. Barcelona: Anagrama, 1995, p. 199.

[vi] NEGROPONTE, *El mundo digital*. p. 198.

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Peter Fleissner

Can religious belief systems influence technological and social innovations?

Abstract:

As the author was not satisfied with the explanatory power of economic theories, in particular when they are applied to the rapid diffusion of the Internet and Internet services, he tries to analyze cultural framework conditions and processes involved that inspire inventions and innovative ideas and speed up their diffusion. He offers a scheme of thought to accompany the emergence of ideas and their reification process (Vergegenständlichung) as technical or social innovations. A few examples are given as illustration.

Agenda

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- Relevant publications:
  - Philosophy of Culture and the Politics of Electronic Networking, 2 volumes. Peter Fleissner & Kristóf Nyíri (Eds). Innsbruck-Wien: StudienVerlag & Budapest: Áron Kiadó 1999, Vol I 111 p. Vol II 174 p.
  - Datenschutz und Datensicherheit (Data security and privacy). Peter Fleissner & Marcel Choc (Eds). Innsbruck-Wien: StudienVerlag 1997, 417 p.
  - Der Mensch lebt nicht vom Bit allein (Men shall not live by bit alone). Peter Fleissner, W. Hofkirchner, H. Müller, M. Pohl, and Ch. Stary. Frankfurt am Main etc: Peter Lang first ed. 1996, se-cond ed. 1997, 328 p.

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Introduction

As statistical evidence shows, the diffusion of the Internet is one of the most rapid and extensive of any advanced technology in history. To get an idea of the speed of diffusion one can have a look at the data of the Internet Domain Survey Host Count.[i] In the period between 1993 and 2004 it shows an average annual growth of the number of hosts of 60% (the annual growth rates vary between 16% and 119% per year). It surpasses even the average annual growth rates of 33% (between 1999 and 2002) of mobile phones.[ii]

This extraordinary expansion of Internet technology cannot be sufficiently explained just by economic parameters like rapidly declining costs stimulating demand or by the huge profits when adopting the Internet.[iii] Moore's empirically established Law gives an estimate for the annual decline of the costs per transistor by forty to fifty percent[iv], but the speed of the Internet diffusion surpasses even the shrinking of costs. And in fact the user of the Internet does not only have to buy a computer, but has also to pay for the services of an Internet provider. And the related costs did not decline that much to explain the heavily increased demand.

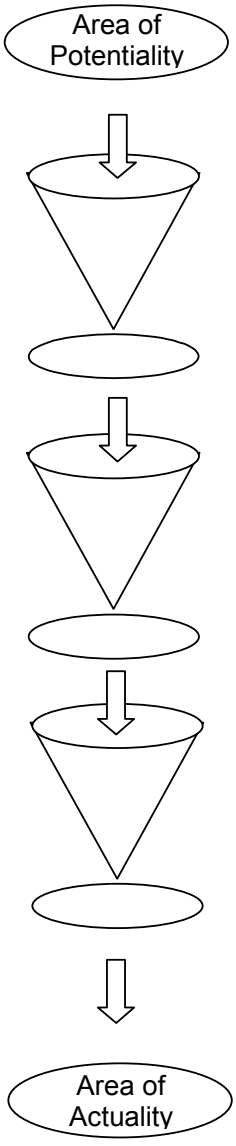
Facing this lack of explanatory power, the author tried to look for another, maybe more comprehensive point of view, which could shed light on the phenomenon in question. Instead of looking for an explanation within the realm of a discipline of science or social science, which is always limited to a certain area, it might be helpful to look for a wider perspective. In an economists view, the Internet and other new technologies and social innovations can be understood in terms of inventions and innovations. If we switch to a philosophical view, innovations can be interpreted as the result of a transformation from the realm of ideas (invention) into reified reality. Already 350 BC Aristotle has dealt with them in his book Metaphysics when he thought about ideas. He investigated the link between potentiality and actuality, and between the (original) model (Vorbild) and the (derived) image (Abbild). In contrast to processes of nature which occur automatically or self-organized, inventions and innovations are closely linked to culture and human intervention. This does not mean that they do not have to obey the Laws of Nature.

An innovation can therefore be seen as the transition of an idea (invention) from potentiality into actuality.[v] In the author's opinion such a transition can be assumed as a process which is closely connected to cultural and societal subsystems, to individual expectations, preferences and life-styles.

One could understand the complete process of innovation as consisting of two parts,

1. The emergence of the idea (invention), and
2. The diffusion process (innovation).

Basic hypothesis



Throughout the rest of the paper the author tries to convince the reader of the usefulness of the following basic hypothesis. It consists of two parts. The first one refers to the diffusion process, the second one to the emergence of the invention itself.

a. Religious ideas stimulate the diffusion process of secular technological artefacts and make the participation in new social institutions easier. They provide for familiarity, acceptance, and eventually fascination.

b. Religious ideas contribute to the shaping of the area of potentiality. They offer concepts and structures for the invention of new technologies and social institutions and function as sources of inspiration.

Of course, this hypothesis has to be supported by empirical facts before one can accept it. The author is aware of the methodological problems related to a "proof" of such fuzzy hypothesis. Instead of providing a stringent proof

which cannot be given here the author illustrates it by examples.

The diffusion process

Let us deal with the diffusion process first and postpone the discussion of the emergence of the idea for the moment. We can assume that the idea already exists in the area of potentiality. The diffusion process can be understood as if the invention - before it arrives at the area of actuality – has to pass various tests or filtering processes (see figure at the left side). The tests link potentiality to actuality. For analytical convenience each test should be associated with a specific cultural/societal area for which questions can be formulated, relatively independent of others. If the idea passed one test, it can go on for the next one. To bring an innovation into actuality means that the idea has passed all tests successfully.

The definition of the area and the circumstances how and where the test has to be applied is essential for the applicability and usefulness of these considerations. It seems important that the tests reflect central conditions of reality, and do not ignore essential aspects. On the other hand, it is not useful and even not possible that tests reflect every aspect of reality. It is a kind of art to define the adequate and appropriate tests in a skillful way. Each test will refer to a certain stratum which is relevant for the reification of the idea. There are many candidates, often corresponding to certain disciplines of social sciences: cultural studies, political science, sociology, macro- and micro-economics, consumer preferences etc.

If the idea did not pass a test, the "area of potentiality" (Möglichkeitsfeld[vi]) wherein the idea was located, is reduced to impossibility. The idea cannot be carried out.

In the positive case, when the idea passed the test, the "area of potentiality" is also restricted, but not completely. There is still room for manoeuvring to continue with the next test on the basis of a "smaller[vii]", but not completely empty area.

If we add a time dimension to the analysis, we have to take into account varying framework conditions of the testbed. If, for instance, the price of a technological artefact decreases over time, the diffusion process might be speeded up. But there is more than just economic issues. If people are not familiar with a new technology or the function and meaning of an institution, there will be only a small probability that they will adopt them.

To overcome the difficulties in the course of the diffusion process, frequently "Leitbilder" are used to produce familiarity. Often they cosist of catchwords (e.g. "information highway" or "global village"), which create mental bridges from the familiar past experience to the unknown future.[viii] But familiarity can also stem from other sources, images and metafors which are transported in the cultural tradition. If there is familiarity, it also increases the acceptance of the invention. If, in addition, the invention is able to create fascination (fascination of a single fact emerges if this fact can be immediately connected mentally to one or more of the "higher" cultural values), the speed of diffusion will increase even more. Fascination will stimulate the demand and/or assure the stability of a social innovation because everybody would like to participate in it.

An example

Let us illustrate the described concepts by an example: the gasoline-powered automobile. When on 29th January 1886 Karl Benz presented the first auto-motive car in the streets of Mannheim, Germany, it was a triumph of engineering. Benz's idea reflected the preference of mechanical engineers for mechanical stability of a structure resting on three points only (compared with the statically over-determined four point construction), so he proposed a car with three wheels, but he did not adequately foresee the reactions of possible customers: Benz could not sell even one single car. Probably people were simply not used to three wheel vehicles, because the majority of the traditional horse-buggies had four wheels. As a consequence they could not accept a three wheel car.

But Benz was able to learn from this flop. Within seven years he redesigned the car, and 1893 he come up with "Victoria", a new high-tech version of excellent performance, this time with four wheels. But still, there was once again a problem: the price was prohibitively high to sell more than a few items. Benz had to undergo another learning process that finally lead to success, this time on the economic level: With "Velo", a smaller car of rather old-fashioned design, with a weak motor of only 1.5 hp in the rear and a belt-drive, but with the low price of only 2000 Mark, between 1884 and 1902 Benz sold 1200 items, unheard in those times.

What can we learn from this example? We can identify the following three items:

1. There are one or more reference systems where the invention got its inspiration from.

2. The first test to be passed was the acceptance of the specific design by the consumer.

3. The second test to be passed was the acceptance of the price by the customers.

Because of the masses of cars in our roads the situation of today has become more complex. Many of us are convinced that the automobile produces more and more negative effects, on human beings and the environment. The number of deadly accidents per year is similar to the losses of people in wartime, the big cities are jammed by cars, the environment is damaged, and people have to breathe poison even if they are not in direct contact with any vehicle.

The above example indicates that for any invention of a new type of a car additional tests should be designed in such a way that the negative effects are reduced or neutralized, e.g. tests related to exhaust fumes, fuel consumption, safety, and other measures to prevent environmental problems (like asbestos-free tires etc.).

Sources of inspiration and fascination

Instead of going into further details on how to design the tests, the author focuses now on the second aspect of the hypothesis, the source of inspiration of an invention. While there might be various reasons and motivations for the invention, either to create a solution to an existing problem, or to get rid of an existing constraint, or to improve an already existing process or product, the area of potentiality is not limited to those types of innovations. It is also possible to invent completely new products or processes, technological or social innovations unseen in history before. Where are they inspired from?

From this position it is justified to look for really novel products, processes or institutions in human history, on the one hand, and for fantasies, images, metaphors, myths, fairytales, heroic sagas or legends prevalent in the cultural context of the inventor on the other. Maybe one can find some coincidence or structural equivalence which could mean that there is some connection between the two?

If we go for fantasies first, we should not look for individual ones, but for the ones socially shared, and not for those created recently, but for the ones with an early origin in history.[ix] The most elaborated fantasies can be found in belief systems with a long tradition, because theologians have worked on them for centuries. But the belief systems should be still alive: If they already died out it becomes difficult to understand their content. All these conditions are fulfilled by the three religions in the Abrahamic tradition, Judaism, Christianity, and Islam. The most widely spread religions in the world[x], in Europe, and in the United States[xi] are the ones in the Christian/Jewish tradition. So it would not be wrong to investigate the content of the Bible and its interpretation by theologians and look for metaphors and images within this belief system.

In my opinion one would not do justice to the role of religion if we follow the opinion of Jakob Burkhardt, one of the famous German historians of the 19th century. He allocated the creative function in culture to technology, arts and literature, while the state and religion were seen as repressive institutions. Although his position reflects reality to a certain degree, in my opinion it does not show the full picture.[xii] To paint a more comprehensive picture of religion in a longer-term perspective, we should not only deal with its repressive function, but also look for the structure of thought, the images and ideas created by it and their effects.[xiii]

Let us take, for example, the concept of God as it emerged from monotheistic religions, or the myth of paradise, redemption, life after death, the origin and the end of the world: All these images (or more precisely the wishes and hopes behind them) reached out much farther than just to the religious community. They inspired arts and science. On their ground philosophical and political systems were developed which became antagonists of the religious institutions, but also copied some of their features. Here is an example taken from history: Although the citoyens of the French Revolution had declared atheism as their favorite ideology, they could not evade the temptation to warship gods. In the year 1794, only a few days before Robespierre was sentenced to death, he received divine honors in an excellent liturgy.

Let us now ask for the core concepts of religious tradition which are still alive and therefore

worthwhile to deal with them. A first answer we find at Ludwig Feuerbach, who in 1841 wrote in "The Essence of Christianity": "Religion is the dream of the human mind. But even in dreams we do not find ourselves in emptiness or in heaven, but on earth, in the realm of reality; we only see real things in the entrancing splendor of imagination and caprice, instead of in the simple daylight of reality and necessity[xiv]... We have shown that the substance and object of religion is altogether human; we have shown that divine wisdom is human wisdom; that the secret of theology is anthropology; that the absolute mind is the so-called finite subjective mind".[xv] 1845, in his famous "Theses on Feuerbach" Karl Marx criticized Feuerbach: "Feuerbach resolves the religious essence into the human essence. But the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relations".[xvi] Marx concluded by the famous statement: "The philosophers have only interpreted the world, in various ways; the point is to change it." Today, after the implosion of Socialism, this imperative is as much needed as before, the problem I see is the lack of a convincing alternative.

If it is true that religion can be understood with Feuerbach as a dream of the human mind, it should be interesting to identify the specific content of the dream. Following Sigmund Freud, dreams are a form of fulfilling suppressed wishes. By his method of Dream Interpretation one could detect the underlying structure of repressed emotions, aspirations and obstructed instinct drives, which will reify itself not only in dreams, but also in the purposeful practice of everyday life. For a sound scientific investigation this practice should be identified and should be compared with the underlying wishes.

Divine Omnipotence, Money and Technology

A sketch of the rational description of the connection between "condition humaine", religious images and social/technological innovations can now be given as follows: The individual fantasies on Omnipotence of early childhood on the one hand, and the presentiments of the power of humankind generate in specific societies a fantasy of an external institution independent of human beings, which at the same time allows to answer the question of the where from and the where to: An almighty God, creator of everything, assisting his allies in all their fights and giving them redemption from Evil.

In the Old Testament God shows many features of a jealous, sometimes brutal chief - mimicking the centre of social power of livestock breeding communities. In one way God is an upward projection of the social organization, on the other hand God's characteristics negate the limitations and restrictions of the human condition. In the New Testament in the face of the Roman Empire, the view becomes more universal, the reference society is no longer the tribes of Jews, but the whole known world – an interesting synchronicity between fantasy and history. God becomes upgraded from the God of Israel to the God of all human beings on Earth. The principle of revenge is no longer the ruling principle, but the principle of love and forgiving. In St. John's Apocalypse God becomes the founder of a New Jerusalem, who shall wipe away all tears (from the eyes of the just ones) and the creator of a New Paradise, which will replace the vale of tears. These images and wishes were passed on over centuries and still provide a framework where we can anchor our fantasies. They are not only fantasies; at the same time they represent potentials of societal developments. They anticipate what could happen in the future and produce a field of wishes, motivations and thoughts which might define and stimulate fields of actions which could transform reality.

From there God's Omnipotence could be interpreted as the veiled description of the associated power of human beings. Can there any correspondence be found to a worldly institution of the collective action of the people? Of course, the immediate response could be the mirror of God's power in the power hierarchies on Earth, of emperors, kings, statesmen, bosses, etc., but more can be said. There is also a fascinating phenomenon which is much younger than institutional hierarchies: Money. It allows its owners to exert social power. It is very practical, because everybody is in a position, to carry around in their pockets bits and pieces of the Divine, the power of joint social activities, to be activated via human labor. It can easily be transformed into social power or its results. The major advantage: One does not have to wait for the Last Day.[xvii]

Money is a societal construction which represents societal wealth and power in reified form as the "generalized commodity". Money has a double existence, on the one hand as material (coin or paper money) or energetic (electronic money) representation, and as an abstract-general symbol on the other. Without the belief of the people (this

belief represents a secular belief system) in the value of the coins, sheets of paper or electronic representations of money, selling and buying, saving and spending in everyday life would not work.

While money covers the general ability to exert power for everybody who owns it, the act of buying is performed to meet a specific need by a commodity or service, e.g. the car allows for prestige and mobility, the TV-set satisfies the need for entertainment etc. Consumer goods and services produced via technology enable the user to meet specific needs or to have pleasure. Once again, religious images can provide us with triggers and motives to develop new products or services. For example, geriatric services gain by the dream of eternal life, the miracle healings of the New Testament inspire the medical professions, and God's creative power is imitated by the cloning of Dolly.

The General Judgment and the Market

A nice collection of religious ideas can be found in Roman Catholicism, section eschatology, the theological teachings on the Last Things. According to the theologians Karl Rahner and Herbert Vorgrimler "one uses to enumerate the various partial moments of the one radical finality…of the human being as follows: Death, individual Judgment, Purgatory, Heaven, Hell, Resurrection of the Flesh, General Judgment, New Heaven and New Earth". These Last Things should not be seen "as an anticipating report of events which will happen 'later', but as a preview for human beings to enable them to do their necessary spiritual decision in freedom based on a situation which is defined by the "heilsgeschichte" (salvation/saving history) and the event Christ towards the final completion of their own, already eschatologically formed existence".[xviii] I can see here elements of a religion tightly linked to redemption groping for a better future. The search for the pathway towards such a future is not restricted to Christianity, but is the core question of social utopias. Also the vision of a classless society intended by Socialism was nourished by similar wishes.

One of the above mentioned "Last Things" shall now be investigated in more detail: The General Judgment. In my interpretation the concept is based on the longing of human beings for justice, but a justice which is not created by human beings. It directly emanates from God, a powerful external force, independent of human beings, but judging them on their deeds. "And all the nations will be gathered before Him; and He will separate them from one another, as the shepherd separates the sheep from the goats;" (Matthew 25:32). So far the religious image can be described.

If we look for analogue structures in our secular reality we can identify several prototypes like the authoritarian father, the teacher, the judge etc. All of them are based on individuals. They are so to say individual reifications of God. But there is one exception which is impersonal: The market. It shows an analogue structure like the General Judgment. The market rewards the "good" ones and punishes the "bad" ones in an impersonal way. In fact, it provides a kind of justice, assessing the deeds of people.

But the transformation from Heaven to Earth has also its cost: As a consequence, the meaning of the key terms is modified, while keeping the structure invariant. "Good" now means "profitable"; "bad" transformes into "loss-making".[xix]

The "good" ones inherit the Kingdom of Heaven, meaning on Earth that they can continue their economic actions, well provided with profit, while the "bad" ones become expelled from the market and have to leave the economic arena. In Heaven all people are equal before God; on Earth they are equal before the market. Neither gender, nor appearance, neither age, nor color of skin is anymore important. The only thing what counts are the deeds. No human being announces any judgment; the judgment is given by an authority independent of human beings, nevertheless the judgment of the market is binding and fateful.

But there are not only effects for the individual; there is also the earthly promise of the Heavenly Jerusalem for humankind: As we can learn from the belief of neo-liberals, the local dynamics of the market and its effectuating function will lead us to happiness and well-being for everybody in the global economy.

God's Omniscience and the Internet

Observers of the contemporary social fabric emphasize the increased fragmentation, lack of cohesion and social coldness of Western societies. This can be seen partially as a result of the

contradictory and conflicting transitions from mainly *community* based, small scale, informal relations between people towards large scale, abstract, rational and calculated relations to modern *society.*[xx] On the level of communication, communities are characterized by *local and direct* face-to-face communication, while in modern societies there is a definite need for communication and interaction between distant individuals. In such a situation the divine features of Omnipresence and Omniscience get new actuality, and modern technology can respond to this need to a certain degree.

While TV offers pictures from all over the world (and also allows a view into micro- and macro worlds) to everybody who has got access to a TV set, and by that brings us closer to Omnipresence, the freedom of choice of the individual is still limited and depends on the supply which is controlled by the demand of the many. Individual TV on demand only exists on a reduced basis (e.g. web cams with remote control). The Internet, however, allows individual access to and exchange of texts, pictures, voice and video-resources, and therefore enables the customized interactive appropriation and diffusion of information according to the needs of the individual. Existing language barriers are reduced by automated translation programs and make sense if they are used in an intelligent way. People are not only in a position to participate in the information pool of humankind (maybe only its more wealthy strata); they function also as information providers. The recent project of an Internet-Encyclopedia seems to represent an interesting example which had a well-known predecessor in the dawn of the French Revolution.

Around 1750 the Encyclopedia (full title: Encyclopedia, or a Systematic Dictionary of Science, Arts, and the Trades) edited by Denis Diderot (and by Jean d'Alembert for the mathematical parts) became famous because it tried a summary of all the available knowledge on the workings of the known world. It took about 20 years on its way to becoming a 28-volume treatise on human affairs, but unfortunately it was never completed. The Dictionnaire, as it was called, boldly told the average man that he could know what only God, kings, emperors, and their lieutenants were supposed to know. More than a summary of all contemporary knowledge, it served as a manifesto for a new way of looking at the world. It foreshadowed the egalitarian attitudes which were to undermine the old aristocratic order. It suggested that anyone should have access to rational truth. In that sense it was a profoundly revolutionary document, but for this very reason also controversial - principally because many of its articles reflected the impious attitudes of its contributors like Voltaire and Rousseau, many of whom were participants in the rationalist movement known as the Enlightenment.

Recently, we can see a revival of Diderot's dream: Wikipedia is a very successful project of volunteers to offer valuable knowledge on the World Wide Web to the general public, and all this free of charge.[xxi] It started in 2001 and contains now (6 June 2004) 279.653 articles from nearly every area of knowledge. With 60 million words it has already quantitatively surpassed Encyclopedia Britannica which contains "only" 56 million words. Also since spring 2003 the hits on Wikipedia surmount the ones on Encyclopedia Britannica on the Internet. Wikipedia also has a German branch[xxii] which is smaller than its English original.

Different from all the other encyclopedias before, the fascinating idea behind the project is the possibility to influence and change the entries in the websites, directly and interactively, by really everybody who likes to contribute. And all this can be done without any human editor in chief. Even the founders of Wikipedia, Jimmy Wales and Larry Sanger, understand themselves as ordinary participants. And there is hope for solidarity: When Wikipedia in December 2003 experienced a breakdown because of too many hits, on a single online-request for donations 20.000 US Dollars could be collected.

This project proves that with new technologies and new ways of cooperation in groups in principle and in practice efficient tools can be developed which might be used by everybody and let them participate in the global knowledge pool - and all this free of charge.[xxiii].

As Wikipedia illustrates a tendency towards Omniscience for humankind, this is not the end of the story. More can be expected: With the high diffusion rates of the Internet and the increase of its capacity not only access to information of all kind becomes more and more possible on a global scale, but also the cooperation of people in virtual spaces. In a certain meaning of the term, Omnipresence becomes possible. While people are still not able to be physically present wherever they like, the Internet allows them having tele-voice, tele-eyes, tele-ears[xxiv] and other kinds of tele-sensors at nearly any place of the world. If there is a direct link to the virtual space, the physical location does no

longer matter. Already now one can participate in interactive computer games as part of an international online-community of thousands of people. Computerized cooperative work allows the collective design of complex molecules, of bodyworks of cars or robots, irrespective of the physical location of the workers.

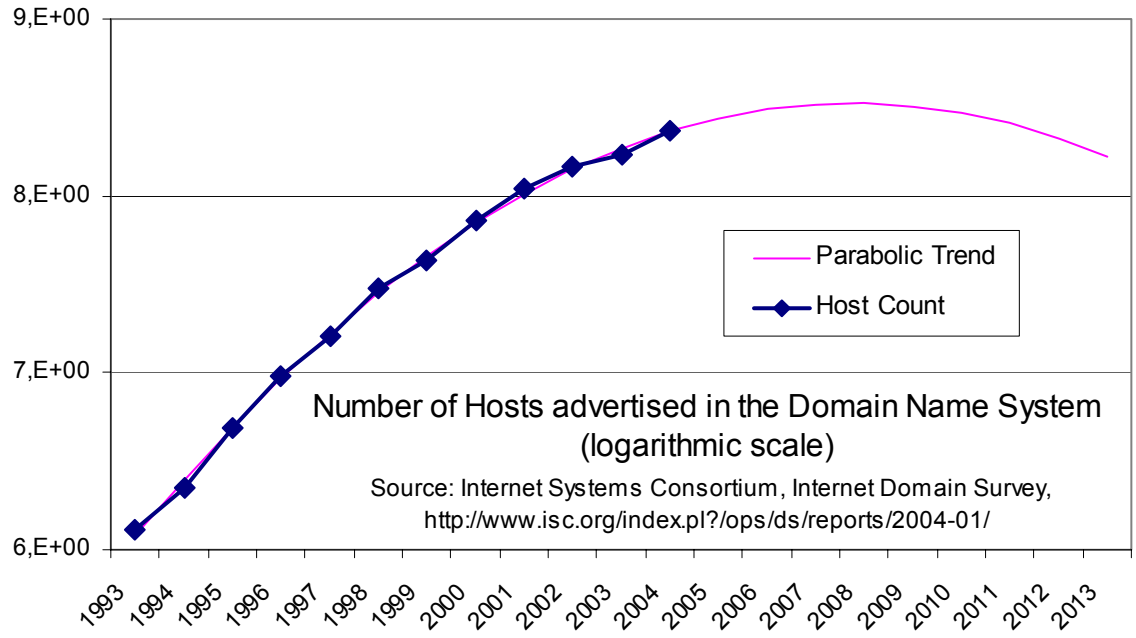
With the emergence of the "information society" an additional piece of the prophecy of the serpent to Adam and Eve will be fulfilled: "You will be as God" (Genesis 3:5). Unfortunately, up to date not all of God's properties fell down to earth yet: still mercy, love and wisdom are missing.

Critical remarks

The author is aware that he is walking on shaking ground. By no means, this paper established a strict proof of the hypothesis in the beginning. Many questions remain unanswered. Only a few are mentioned: What is the relationship between the needs and wishes of everyday life and the images and teachings of religious belief systems? The paper focused on religious fantasies as if they were the only moving ideas in the background of innovations, but in fact the situation is more complex than that. Maybe actual everyday needs are the primary mover, and religious fantasies are just an expression of them? Is there more to be found when we look for specific historic periods and their corresponding religious fantasies? Much more work could be done, but this is left to the reader.

Proceedings of the symposium "Localizing the Internet. Ethical Issues in Intercultural Perspective" sponsored by Volkswagen*Stiftung*, 4-6 October 2004, Zentrum für Kunst und Medientechnologie (ZKM, Karlsruhe)

Figure 1



[i] On the other hand it seems interesting to look for the trend. If one applies regression analysis to the data using a quadratic function of time on the logarithmic values one ends up with a saturation level of 335 million hosts already in the year 2008 (compared to 233 million in January 2004 – see figure below). If one uses a logistic curve on the original data, 90% of the saturation level of 330 million will be reached in 2008. These are some indications that growth will not continue at the same speed for the decades to come. (Figure 1)

[ii] http://www.weforum.org/pdf/Gcr/GITR_2003_2004/Progress_Chapter.pdf (12/07/04). The reader should be aware that the number of hosts is not the same as the number of users, and also that not all the domains counted are really available via the Internet. The number of users increased sharply: In the second half of the 90ies 50 to 60 million users were counted. In 2004 the estimates are in a range between 400 and 600 million (Der Standard, 16 July 2004).

[iii] In particular for small and medium sized enterprises only a few of the many start-ups survived (Latzer, M. and S. Schmitz, Die Ökonomie des eCommerce, Metropolis, Marburg 2002, p. 182)

[iv] http://www.intel.com/intel/museum/25anniv/hof/moore.htm (14 May 2004)

[v] The author uses „actuality" as the appropriate term for the implementation of an innovative idea. "Reality" is not used because ideas themselves are also part of reality (of the mental one).

[vi] The term is inspired by Herbert Hörz who thirty years ago developed the concept of the „statistical law" (see e.g. Hörz, H., Wissenschaft als Prozess, Berlin 1989, pp.38-40). „Das Möglichkeitsfeld umfasst die mit der Tendenz des Systemverhaltens verbundenen wesentlichen Möglichkeiten des Elementverhaltens, die sich bedingt mit einer bestimmten Wahrscheinlichkeit verwirklichen." (p. 110)

[vii] The space used to describe the area of potentiality will be made of qualitative variables. In areas of economics or in scientific and technical investigations also quantitative variables can be used.

[viii] P. Fleissner, W. Haidweger, and E. Horányi, The Advent of the Information Highway in: P. Fleissner and J.C. Nyíri (eds), Philosophy of Culture and the Politics of Electronic Networking, Innsbruck-Wien-Budapest 1999, 2 Volumes, Volume 1, pp. 67-99, p.75 ff.

[ix] At http://philtar.ucsm.ac.uk/encyclopedia/europe/ (13 July 2004) one can see that the best candidates are the three book-religions, Judaism, Christianity and Islam (the youngest one, since 711 CE).

[x] At http://www.adherents.com/Religions_By_Adherents.html one can find that 33% of the world population are Christians, 22% Muslims, 15% Hindus, 14% non-religious, and 6% Buddhists.

[xi] In the US there are 56% Protestant; 28% Roman Catholic; 2% Jewish; 4% other; 10% none.

[xii] It seems to be biased in the same way as was the pessimistic view of technology in the second half of the 20th century which came into being under the impression of the nuclear bombs on Hiroshima and Nagasaki, exploding nuclear reactors, green-house effects and other destruction of the natural environment. This view neglected the positive potentialities of modern technology.

[xiii] In a similar approach one can interpret the action structures and functions of early magic practices of humankind as fantastic predecessors of modern technology, or alchemy as germs and seeds of modern chemistry. Such early practices created in the minds of people the basis for modern science.

[xiv] Feuerbach, L., Das Wesen des Christentums, Reclam, Leipzig 1957, German original p. 49, English translation http://www.marxists.org/reference/archive/feuerbach/works/essence/ec00.htm

[xv] ibid. German original p. 371, English translation http://www.marxists.org/reference/archive/feuerbach/works/essence/ec27.htm

[xvi] Marx, K., Engels, F., Ausgewählte Werke, Progress Verlag, Moskau 1971, p. 27, English translation: http://www.marxists.org/archive/marx/works/1845/theses/theses.htm

[xvii] Already in the Old Testament the competition between God and societal wealth reified in noble metal was expressed in the Dance around the Golden Calf. At that time God won the victory, but after Nietzsche we can no longer be sure if He is still alive.

[xviii] Rahner, K., H. Vorgrimler, Kleines Theologisches Wörterbuch, Herder Verlag, Freiburg im Breisgau 1961, p. 100

[xix] Marx and Engels characterized the transformation in the following drastic way: “The bourgeoisie, wherever it has got the upper hand, has put an end to all feudal, patriarchal, idyllic relations. It has pitilessly torn asunder the motley feudal ties that bound man to his "natural superiors", and has left no other nexus between people than naked self-interest, than callous "cash payment". It has drowned out the most heavenly ecstasies of religious fervor, of chivalrous enthusiasm, of philistine sentimentalism, in the icy water of egotistical calculation. It has resolved personal worth into exchange value, and in place of the numberless indefeasible chartered freedoms, has set up that single, unconscionable freedom -- Free Trade. In one word, for exploitation, veiled by religious and political illusions, it has substituted naked, shameless, direct, brutal exploitation.” See K. Marx & F. Engels, Manifesto of the Communist Party, 1848 http://www.anu.edu.au/polsci/marx/classics/manifesto.html

[xx] See Ferdinand Tönnies, Gemeinschaft und Gesellschaft. Grundbegriffe der reinen Soziologie. Dritte durchges. Aufl. Berlin 1920; Arno Bammé, (ed) Ferdinand Tönnies – Soziologe aus Oldenswort. München, Wien: Profil Verlag 1991; Max Weber, Soziologischen Grundbegriffe. Tübingen: UTB-Taschenbücher 541. Reprint of 1921, 1984, pp. 69-72; Peter Ruben, Gemeinschaft und Gesellschaft – erneut betrachtet. H.v. Schorkowitz (ed) Ethnohistorische Wege und Lehrjahre eines Philosophen. Festschrift für Lawrence Krader zum 75. Geburtstag. Frankfurt a. M.: Peter Lang. 1995, pp. 129-148; Peter Fleissner, Von der Stammesgemeinschaft zur Globalgesellschaft - und zurück? (From tribal community to global society - and back?). In Alfred von Liechtenstein (ed.) Internet und Öffentlichkeit. Wiener Vorlesungen Konversatorien und Studien 13. Wien: WUV Universitätsverlag, 2002, pp. 83-96.

[xxi] see http://en.wikipedia.org

[xxii] see http://de.wikipedia.org

[xxiii] see Die Presse, 5 June 2004, hightech&automotor. Of course there is no free lunch: Wikipedia is limited to those with Internet access and the know-how to interact with it.

[xxiv] and more and more also mobile communication

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Feminism and Intercultural Information Ethics

Abstract:

Rafael Capurro calls for an intercultural information ethics that radically challenges its Eurocentric, Greek philosophical roots and grapples with and validates cultural diversity. One of the voices that must be included in this project is that of feminism, both within and outside of Western culture. While there are a variety of feminist issues and approaches to feminism, embracing the naturalistic approach, suggested by Alison Jaggar, one can find sufficient commonalities, both in terms of a critique of traditional male-dominated Western ethics and in terms of a positive content and agenda, to establish a feminist framework. One strong voice that help create this framework is that of Carol Gilligan who studied the moral development of women. This paper argues that the "different voice" thesis of Gilligan (i.e., that men and women prototypically – not stereotypically – bring different voices to moral argumentation and ethical deliberation) can serve as an ethical principle, that permits all persons – male or female – to interrogate and guide their ethical choices, and that an 'ethic of care' can challenge an 'ethic of rights,' and on occasion can trump it as a major guiding ethical principle.

Agenda

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Introduction

In his paper on "Intercultural Information Ethics[i]," Rafael Capurro raises important questions about the foundations of philosophy and ethics and its historical Western roots. Philosophy has a strong tradition in European/early Greek history, and it is problematic in the global information society to assert that ethics, in particular information ethics, have foundations that lie solely in this tradition. If we are trying to create a genuine dialog about ethical values and grounds, we cannot be bound solely to this tradition, because (e.g.,) Chinese and Indians have engaged in ethical thought and ethical reasoning and the grounds for the resolution of their ethical dilemmas may or may not be related to Western foundations. What is more problematic is that even when one speaks of Western philosophy, he or she also generally means a 'masculinist' philosophy – one argued, articulated, and developed by men around men's issues such as aggression, rights, war, etc. and by and through men's methods of argumentation and prioritization of values. Capurro raises the question of what of this historical material – despite its attempts of claiming universality – is cultural or natural or universal. There have been very few women philosophers with much influence in philosophy or ethics up until the 20th century. If we are going to ground philosophy and intercultural information ethics in intercultural discourse, one of the important voices to hear and to include in that dialogue is that of women, both within and outside the Western/Greek tradition. In an age that espouses cultural diversity, one may ask: is the moral development and reasoning of women natural, cultural or universal and, if so, in what ways or to what extent? The distinctive perspective that women bring to ethical deliberation must be acknowledged and integrated. In the "Declaration of Principles," Building the Information Society: a global challenge in the new Millennium, there is an explicit declaration of the importance of women:

> 12. *We affirm that development of ICTs [Information and Communication Technologies] provides enormous opportunities for women, who should be an integral part of, and key actors, in the Information Society. We are committed to ensuring that the Information Society enables women's empowerment and their full participation on the basis on equality in all spheres of society and in all decision-making processes. To this end, we should mainstream a gender equality perspective and use ICTs as a tool to that end.*[ii]

Such an assertion means that we must engage women's moral voice and their moral development, both as it has evolved in Western culture, but also in non-Western cultures.

It is doubtful that the scope of this paper can deal with non-Western approaches. Nor will it be possible to look at all approaches that regard themselves as "feminist," because it is difficult to track all interpretations of or approaches to feminism. However, based on the naturalistic approach of Alison Jaggar and the theories of Carol Gilligan, we can tentatively suggest a feminist framework, though not a universal one because additional evidence is required and even then, would any amount of evidence allow us to make claims for strict universality? We can also follow the path of a seminal researchers in the field of moral development of children and discuss how their view might fit into the domain of intercultural ethics, especially intercultural information ethics.

Kohlberg and Moral Development

Lawrence Kohlberg was a pioneer in studying the moral development of children. His aim was to understand the underlying concepts and reasoning involved in moral judgement and how they change over time. He realized that there was a progression of stages in the moral reasoning of individuals about what they think moral rightness or wrongness is. He came to the conclusion that there were three broad levels of development, each divided into two stages. The first level, the preconventional level, consisted of two stages: (1) heteronomous morality and (2) individualism, instrumental purpose and exchange. In the first stage, what is right is a matter of avoiding breaking rules, being obedient for its own sake and preventing physical damage to property and persons. The second stage a growing human persons comes to understand that right is a matter of following rules when it is one's interest and doing what is necessary to seek one's own interest and permitting others to do the same. The second level is the conventional level consisting stage 3, mutual interpersonal relationships and expectations and interpersonal conformity, and stage 4, social system and conscience. Stage 3 sees what is right as living up to people's expectations, either those close to one or as a role that one takes in society (e.g., as a son). It also means having the

right motives. In stage 4, what is right is conceived as fulfilling the actual duties about which one has agreed. In this stage, laws are upheld except for exceptional cases in which there are conflicts with other social demands. Level three is the postconventional level, which also consists of 2 stages. In stage 5, social contract or utility and individual rights, what is right is the realization that different persons have a variety of opinions and values and that most of one's values are relative to their specific social situation. Nonetheless, they should be upheld because of the social contract, although some values like life and liberty must be upheld in any society regardless of the majority views. In stage 6, universal ethical principles, what is right is matter of choosing ethical principles for oneself. Specific laws or social arrangements are usually founded on such principles. When there is a conflict with existing laws, then one acts according to these principles, which are the universal principles of justice in which one respects the dignity of each human being and upholds the equality of human rights.[iii]

For the purposes of this paper, there are three important dimensions of this analytic of moral development: (1) Kohlberg sees these stages as progressive, universal and irreversible and moral development precludes the jumping over one stage to another. He did cross-cultural studies which seemed to validate the same results, though the progression of stages may proceed at a slower pace.[iv] (2) Given the correctness of this study, it would seem that justice, particularly justice seen as fairness, is the supreme ethical principle or value (either conventionally or postconventionally), and that rights are the main ethical difficulties about which to negotiate and allocate priorities. (3) The sample for his study was derived from boys and men. It is precisely this aspect that led to the concern of another researcher, Carole Gilligan.

Gilligan's Critique of Kohlberg

Carole Gilligan had worked with Lawrence Kohlberg in trying to understand moral development of children. The samples or cases that he studied were based on boys or young men, and based on this analysis, he postulated the framework above as the process by which children come to develop a moral sensibility. Gilligan's sample included girls and she came to some remarkable insights contrary to that of Kohlberg's, particularly in her seminal work, **In a Different Voice: Psychological Theory and Prototypes and Women's Development**.

For Gilligan, ego development and moral development are prototypically related. The use of the word, prototype, is a deliberate interpretation by author of this paper, because it is important to avoid hasty generalizations. The usage is derived from the work of Eleanor Rosch in her work on natural categorization, how we form and use categories in our life experience. In the classical approach to categorization, as in monothetic classification schemes (e.g., the Aristotelian approach), we attempt to find a characteristic or set of characteristics that runs uniformly throughout a class, as for example, three-sidedness is a property that is characteristic of all triangles. In this scheme, every class member is equivalent to every other class member and there are no better or poorer members of class membership. In cases of triangles and other geometric objects, this would seem intuitively clear. These categories, based on monothetic classifications schemes, are defined indifferent to human perception, motility, speech. Yet when one approaches categorization in life, category formation is not so clean or clear and does not follow the model suggested above – in fact, abstract or monothetic classification is an abstraction derived from natural categorization. For example, to use one of Rosch's examples, the category 'bird' contains robins and pigeons but also penguins, dodo birds, and ostriches, and the latter are poorer examples of class membership (but nonetheless class members). If we cluster together the better or best examples of class membership, we usually find a set of characteristics that is reported in such things as dictionaries. In natural categorization, categories do not form rigid borders, are oriented toward human tasks, and provide human beings with the ability to reflectively categorize in a scientific or philosophical manner. The actual acquisition of categories is polythetic in character: not all members of a class share all the same characteristics; the prototypes share the most number of characteristics, which in fact is the reason they become prototypes, the examples by which we most quickly identify an object as being in a particular class. But there are other members of the class, members that share some characteristics of other members, but not all of them and not all of the ones that are shared by the prototype. As a consequence it takes longer to process non-prototypical members of a class (e.g. ostrich as a bird) than prototypical members. In many ways, a prototype is a convenient fiction, because we never have a general type but rather instances of an object that by the device of a prototype allow us to recognize quickly a member's class or category.

What does this have to do with our discussion? We are trying to talk about women in a general manner. When we qualify the our discussion with the notion of prototype, we are making generalizations about women's experience and women's moral development that seems characteristic of many best examples of class membership. This means that not all women have this viewpoint or upbringing and even when we talk about specific best examples of class membership, we must be cautious about implications for the entire class, particularly any universal characterizations. Rosch's natural categorization turns Aristotle's and most of Western philosophy's notion of categories on its head. We do not start from intuitive, universal categories. Even with extended experience we can never achieve the universal, only the prototypical. Space, time and other categories are natural, learned categories and how we learn them and understand them comes from experience and must be derived from experience. Whatever content they have, it is not a complete or finished content.

This approach appears to conform to Capurro's questioning the historical grounds for an intercultural information ethics, as based in universal and transcultural principles – if there are principles and values that cross all cultures, this belief cannot be assumed, but established. We must do research to find out how and why people create, use and apply such categories, particularly in ethical matters (e.g., justice). So when generalizations about categories are made in this paper, they are to be understood from a prototypical viewpoint. This approach is not how Gilligan understands her work. It is an approach postulated in this paper. In order to explain her approach, it is useful to detail her experiments with Kohlberg's case.

Gilligan's Approach to Kohlberg's Case Study: Jake and Amy

Gilligan, using the same case study used by Kohlberg in his experiments, set up an experiment to see how two children, one male, Jake, and one female, Amy, would analyze a moral dilemma. The following was the case that was presented to them:

> *In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to make. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $ 1,000 which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said: "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug-for his wife. Should the husband have done that?*

Jake says that Heinz should steal the drug to save his sick wife. Amy argues that Heinz should take a loan, because if he were thrown in jail, he could not take care of his wife. For Amy, the moral problem changes from one of unfair domination, the imposition of property over life, to one of unnecessary exclusion, the failure of the druggist to respond to the situation of Heinz's wife. As a result of these differing approaches, Gilligan comes to the conclusion that moral development in boys and men is different than girls and women.

Prototypically, women tend to define themselves in relation to others and connection more than men. Young girls tend to bond with their mothers. Men prototypically come to define themselves in terms of separation from others, often as a counterpoint to their mothers. Because of this, male gender identity tends to be challenged by intimacy. In contrast, female gender identity tends to be threatened by individuation and separation. Prototypically, men have difficulty with relationships while women have difficulty with acquiring individual identity. In terms of Kohlberg's scale, women appear to be morally inferior insofar as their moral judgements seem to exemplify the third stage (where morality is conceived in interpersonal terms, goodness is a matter of helping others and what is right as living up to people's expectations, either those close to one or as a role that one takes in society, e.g., as a daughter or mother). And Kohlberg understands the highest stages of morality as one of rights. A morality of rights emphasizes separation and the isolation and autonomy of human beings – one can do as one pleases as long as it does not interfere with the rights of others. The notion of community while not absent is minimized. But for an ethic of responsibility, which Gilligan also characterizes as an ethic of care, the viewpoint that Gilligan uncovers in her study of women, one replaces these abstract moral divisions with a contextualized, situated feeling for the complexity of life of real people in real situations. Rights reasoning, the prototypical

point of focus in the moral development of men, focuses about principles held by people in the abstract. Responsibilities, the point of focus in the moral development or women, deal with people in the concrete, in situ. Women engage in experience with a different point of view and order human experience in terms of different priorities than those of men. Concomitantly, it may mean the men have a tendency to totalize abstract categories and principles and to live life through those categories (as one might claim is characteristic of philosophers in the Western tradition, e.g., Kant) whereas women are more concerned with the instantiation of a category: e.g., I am concerned with this particular person with whom I am speaking, who is a teacher, white, dresses nicely, etc. who is having problems with my child's behavior.

Girls and women tend to conceive of moral dilemmas as conflicts of responsibilities rather than of rights and seek to resolve those dilemmas in ways that will repair and strengthen the community and webs of relationships. Men tend to be more fixated on an ethic of rights, being more concerned with abstract rules of justice (whether Kantian or utilitarian), the obligations and duties of moral agents – whether individual or institutional, and notions of the social contract. Woman and girls are less likely to justify their moral decisions and behavior by resorting to abstract moral principles. Rather they tend to act on feelings of love and compassion for particular people. Whereas men cling to a hierarchy of ethical values culminating in justice, whose primary notions are fairness and equality, women cling to an ethics of care, whose primary values are inclusion and protection from harm.

Stages of Women's Moral Development (Gilligan)

Gilligan sees moral development as progressing through stages but in a way different from Kohlberg. There are five stages, with two transitional stages, rather than Kohlberg's three levels with 2 stages at each level. In stage 1, corresponding to Kohlberg's preconventional morality, the concern is individual survival and the self is the object of care. In the transitional stage, the self moves away from selfishness to a sense of responsibility. The self develops a sense of attachment, comes to see problems with self-centeredness and moves toward responsibility. Stage 2 corresponds to Kohlberg's level of conventional morality. In this stage, goodness comes to be understood as self-sacrifice. To be good means taking care of other people, which is the basis of self-worth and morality. The struggle for women to get over this stage is the struggle to learn to take care of themselves. In the transitional stage, the self's notion of responsibility expands to include both one's own self as well as others. In stage 3, moral worth is derived from taking care of oneself and others. Obviously tensions occur in trying to balance these obligations, and they are reconciled through a self-chosen morality of care, inclusivity and nonviolence.

In the progression of moral development, women's voices are about care, and morality is about caring. While this account is rather traditionalist and has been called into question by some feminists and 'masculinists,' Gilligan claims that they are only generalizations not meant to apply in all cases of individual human beings. As I have suggested they are prototypical but not necessarily universal. In fact, Allison Jagger notes that her critics claim that her samples are not representative of the diversity of women, that her hermeneutic of her data is problematic and that her "claims are impossible to substantiate, especially when the studies are controlled for occupation and class."[vi]

Interpreting Gilligan's Work

Perhaps the best way to see her work is not to see it as a line or opposition in which men's voices and women's voices are at odds or that one is superior to the other. While one could with some legitimacy make the claim that men's voice's have dominated moral discussions for centuries, that does not mean that this is necessarily wrong. What is wrong is that women's voices have not found equal footing and perhaps not even fully in this century, and that moral debate must include all perspectives, including men and women.

A good approach is not to attribute sex stereotyping to males and females, but to see that there are diversity of viewpoints. These viewpoints can be expressed externally, as when men and women as distinctive personalities engage in moral debate. But, more appropriately, they can be expressed internally: as Jung suggests, within each individual are multiple viewpoints and the dominant viewpoint can have its shadow. Men have and can develop a feminine side (for example, recent studies have suggested that as men mature, intimacy becomes more important to them); and women have and can develop a masculine side (as they mature, individual identity becomes more important). The work of

Kohlberg and Gilligan can been seen as description of the prototypical moral development of women and men -- a prototype is a natural class where members collectively share a dominant set of characteristics, but not all members need share all of the characteristics. That is, men *tend* towards separation and individuation in the early years and *tend* toward intimacy in the later years, but not all men do. And vice versa for women. One gets into trouble with claims of strict universality for moral development or the objectives of that development.

Sandra Bem suggests that masculine and feminine traits may be mapped along two axes: one ranging from high in masculinity to low in masculinity, the other ranging from high in femininity to low in femininity. Individuals can find themselves mapped somewhere in this geometric space. Traditional masculine roles are high in masculinity and low in femininity; traditional female roles are high in femininity and low in masculinity. Persons who are high in both are androgynous; for those that are low in both there is no distinct name.[vii] However, individuals can vary widely in the level of their masculine and feminine traits, and that men and women are capable of understanding each other's viewpoint (without fully taking on or understanding the other sex's specific identity). Bem's research is not inconsistent with the idea of prototypes discussed above. We experience individuals, but we organize experience by prototypes, which may or may not do disservice to individuals.

Still, there are complaints from the critics. Jaggar summarizes them:

> *Gilligan (1982) claimed that her female subjects tended to speak in a moral voice different from that used by most male subjects, whose moral thinking had been taken as normative in much previous moral psychology. Gilligan believed that she had identified two distinct moral perspectives: the justice perspective, which men supposedly preferred and which was canonized in Western moral philosophy, and the care perspective, which women supposedly preferred but which Western moral psychology and philosophy branded as less rational. Many readers took Gilligan's work as providing a clear empirical sense in which the form of reasoning taken as normative in moral psychology and philosophy was male biased insofar as it represented only the thinking of male subjects. In fact, Gilligan's achievement was as much interpretive and evaluative as empirical, even though she appealed to the words of real women and girls. She heard her female subjects saying much the same things that mainstream psychologists had heard them saying, but she interpreted and valued their words differently. Some of Gilligan's own empirical claims were questionable on a number of grounds: her interpretations of her subjects' statements were contestable and she derived very general conclusions about women from a sample that was highly unrepresentative. Equally dubious was her assignment of the so-called justice voice to men generally; some later investigators found that many men as well as women employed care thinking, especially lower-class men and men of color.*[viii]

In Gilligan's defense, we must note that while she identified distinctive perspectives, I would argue they were not rigorously dichotomized or universalized as some of her interpreters and critics have suggested. Yet I would not want to overstate this defense because she does seem to push the difference.

Gilligan's Response to Her Critics

Gilligan defends her position against her critics in "Reply to Critics," in **An Ethic of Care**, published in 1993. She sees her critics laying claims against her in three areas: method, theory or interpretation, and goals or education. The first area is that of method and whether the data or what constitutes acceptable data is sufficient to support her claims. She argues that her view is supported by the common themes that are reported in women's conceptions and articulations of self and morality. That these themes are not reported in the standard psychological literature does not surprise her for that literature ***a priori*** exhibits men's voices exemplifying men's experience. She says: "Therefore, in listening to women, I sought to separate their descriptions of their experience from standard forms of psychological interpretation and to rely on close textual analysis of language and logic to define the term's of women's thinking."[ix] One could claim that she is begging the question in so doing, but those claimers – as she indicates – would be begging the question given the domination of male voices in psychological theories and frameworks. To say that "history is on our side" is just another form of a cultural bias that has not examined its own foundation: male and Western, which tends to be blind to its own hermeneutic. Data do **not** speak for themselves: they are always, everywhere interpreted. Data fundamentalism is just as

misplaced as religious fundamentalism (e.g., the Bible or Koran speaks for itself with no interpretation). When her critics argue that there are no sex differences based on the Kohlberg scale, she argues that they completely miss the point. They a priori assume the correctness of the Kohlberg scale, and even if women can become equally adept at justice reasoning, that does not invalidate their history or other's women's concern for care reasoning. "My interest in the way of people define their moral problems is reflected in my research methods, which have centered on first-person accounts of moral conflict."[x] When women score on lower Kohlberg's scale, this may not reflect lower moral development, but differences in moral perspective.

With respect to a change in perspective, she calls into question her critics and their attack on her "different voice" hypothesis. She cites many studies (e.g., Nona Lyon (1982, 1983, 1987); Langdale (1983); Johnston (1985)) that:

> *(1)the justice and care perspectives are distinct orientations that organize people's thinking about moral problems in different ways; (2) boys and men who resemble those most studied by developmental psychologists tend to define and resolve moral problems within the justice framework, although they introduce considerations of care; and (3) the focus on care in moral reasoning, although not characteristic of all women, is essentially a female phenomenon in the advantaged populations studied. These findings provide an empirical explanation for the equation of moral judgment with justice reasoning in the theories derived from the studies of males; but they also explain why the study of women's moral thinking changes the definition of the moral domain.*[xi]

Furthermore, the movement of researchers to dismiss the significance of sex differences is unwarranted. "My critics are concerned about stereotypes that portray women as lacking in anger and aggression; but they do not consider the lower incidence of violence in women's fantasies and behavior to be a sex difference worth exploring."[xii] Gilligan offers a different approach on psychology and women, one that opposes a male-dominated viewpoint: women seem themselves as caring for others and consider themselves selfish to care for themselves. This is not a passive act.

> *The inclusion of women's experience dispels the notion of care as selfless and passive and reveals the activities that constitute care and lead to responsiveness in human relationships. In studies conducted by myself and my students, women who defined themselves in their own terms – as indicated by the use of active, first-person constructions – generally articulated the value of care and affirmed their own relational concerns.*[xiii]

Whether the problem is interpreted away it is bound to the facts or whether this ambiguity leads to further investigation remains to be addressed. Finally, Gilligan shares the concerns of others about what happens in education. Education must change, but it is or should not be a matter of discrediting women's voices, but acknowledging the importance and value of care.

Consequences to a Gilligan Feminist Ethic

There appear to be at least three important consequences to this research:

1. Gilligan does not therefore assert that the feminist perspective should take higher priority, only that women's voice has been ignored in moral deliberation and should be taken into account.
2. This does raise the interesting question as to whether 'justice' or 'care' (meaning the prototypical viewpoints of men and women) have equal priority in moral deliberation: traditionally, when there is a conflict among moral principles, justice trumps or supercedes all other principles. This has been a long-standing view in Western ethics, but this ethic that was male-dominated and male-oriented. We will return to this issue shortly.
3. Finally, the need for a dialog of "rights" and "care" are not really a dialog of men versus women, but of each sex paying attention to what Jung calls its shadow figure, those aspects of the personality that may be suppressed based on gender, socialization and/or acculturation. While some of the interpreters and critics of Gilligan have extended and reified her position on rights and care (and she too is ambiguous on occasion), it is more coherent to see these perspectives on a continuum to which each person has potential full access, but which nature and/or nurture tends to predispose

one sex versus the other. Several of Gilligan's critics have indicated that Gilligan's contrast of justice and care along gender lines is incorrect, and that both males and females can do moral reasoning based on justice and care.[xiv] Walker et al., who did a study of 80 Canadian children found that only a few children used either an ethics of care or an ethics of justice, whereas most children used both.[xv] Others have challenged the legitimacy of the cross-cultural studies by Kohlberg that also may impact on some of Gilligan's claims: a study of American and Indian subjects indicated that cultural influences do have an impact on moral development – in American culture there is an emphasis on individuality and freedom of choice whereas in Indian culture, there is more emphasis on the community and interpersonal relations.[xvi] However, I would argue that such data do not deny the actuality of prototypes within cultures for men and women, although it may challenge the character of the prototype. However, it seems clear that whatever the scenario, two distinctive, contrasting approaches emerge ('rights' and 'care').

This paper will focus on the relationship of 'care' and 'rights.' But before moving ahead with such a theme, one must acknowledge something of the complexity of current approaches in feminism, and find some way to try to make some tentative claims.

Feminist Concerns

Women's voices have long been ignored in the West. According Alison M. Jaggar in "Feminist Ethics," there are a series of criticisms lodged against Western ethics: there has been a lack of concern for women's issues; women are seen as auxiliaries to male institutions, such as the home, the job and the family; there has been lack of concern about of 'women's issues' (e.g., issues related to domestic life are often ignored, such as family cohesion; there is a denial of women's moral agency, e.g., by arguing that women are incapable of moral reasoning and incapable of the application of such principles as justice); there is correspondingly a depreciation of such 'feminine' values as interdependence, community, connection, sharing, emotion, body, trust, absence of hierarchy, nature, immanence, process, joy and peace (male subjects such as independence, autonomy, intellect, will, hierarchy, domination, culture, transcendence, war and death are regarded as more important than female values); there is also a devaluation of women's moral experience.[xvii] Prevailing Western conceptualizations focus on a morality that is empirical, symbolic and normative; feminists have complained that modern moral theory is obsessed with impartiality and is exclusively focused on discrete deeds.

Feminist Issues Related to Moral Development

One related issue is that of the self or subjectivity, already anticipated in the work of Gilligan. Feminists have argued that the notion of the self that dominates Western culture was inherited essentially from Descartes: a disembodied, autonomous, disengaged self, in every instance all the same as every other self (differences being accountable only by historical accident). It is not the case that feminists alone have challenged against this model of the self, as Freudians, existentialists and post modernists have also attacked it. But in addition to that, many feminists have complained that the notion of this self is male, European and bourgeois in character, and that an adequate notion of the self must be embodied, contextualized, unequal, dependent and interdependent and communitarian. For many feminists ethical deliberation needs to focus on narrative and the concrete circumstances, flowing from this second approach to the self.

The other issue is the role and nature of reason or rationality. As part of the Enlightenment ideal, there was presumed a universal rationality – that all thinking persons would come to the same conclusion in a given context if they were fully rational. Such rationality tends to disregard emotion, devalue functional, established relationships, and find notions of community at best an abstraction. According to feminists, the Enlightenment self justifies action through rationally justified rules or principles, whereas they deny that ethical deliberation can be reduced to a system of rules and their application, implemented through some impartial reason.

Jaggar in her 2000 article, itemizes some of the issues that feminism has raised or have complained against: the espousal, tacit or explicit, of women's subordination to men, the discrediting of women's capacity for moral reasoning, the traditional Western opposition of emotion and reason, the postulated

traditional Western ideal that moral subjects should choose a rational life (really an ideal, they argue, for upper or middle class people in capitalist societies), the givenness of moral autonomy (whereas, it is at best an ideal to be achieved), the assumption that we really can in principle – as moral agents – think according to the perspectives of others (as in John Rawl's veil of ignorance).[xviii] She summarizes:

> *They have charged that its purportedly universal standpoint in fact reflects a culturally specific juridical-administrative perspective that many regard as distinctively modern, Western, bourgeois, and masculine. They have shown that its supposedly universal principles have been biased systematically against women and members of other subordinated groups. They have argued that its pretensions to transcendence have been used to deflect criticism, to discredit alternative perspectives and ways of thinking, and to rationalize professional philosophers' claims to moral authority.*
>
> *... As naturalists, feminists have typically begun from the empirical recognition that the insights of moral agents are always conditioned by their particular social experiences and locations. Because all agents are limited and fallible, feminists generally conceptualize moral rationality as a process that is collaborative rather than individual and its conclusions as partial, situated, and provisional rather than universal or absolute.*[xix]

In fact, Jaggar offers a methodology for feminist viewpoints: naturalism with a feminist orientation. The naturalism of which she speaks has nothing to do with natural law of Thomas Aquinas, but rather "with the contemporary tradition of naturalized epistemology and the philosophy of science stemming from the work of T.S. Kuhn (1962) and W.V.O.Quine (1969)."

> *This tradition abandons the idea of a first philosophy that lays the foundations for other disciplines; instead, it regards epistemology and the philosophy of science as continuous with empirical studies of scientific practice. Naturalism in this sense denies the existence of a pure realm of reason, to be studied by methods that are distinctively philosophical. Instead, it advocates multidisciplinary approaches to understanding human knowledge, utilizing the findings and methods of a range of disciplines with special reliance on the empirical sciences.*
>
> *Naturalizing ethics requires that the development of ethical concepts, ideals, and prescriptions should occur in collaboration with empirical disciplines such as psychology, economics, and the social sciences. However, the Western tradition in ethics has generally tended to eschew naturalism in this sense and has even been hostile to it.*[xx]

This position is consistent with Capurro's call for rethinking the foundations of intercultural ethics from a Western, Eurocentric viewpoint and it is consistent with an approach that has already been developed in this paper.

Principles and Values

In earlier work on ethical concerns for information professionals, **Survey and Analysis of Legal and Ethical Issues for Library and Information Services**, published for UNESCO and as part of the IFLA professional series, I postulated a series of principles that information professionals invoke to help them engage in ethical deliberation with respect to some professional problem: (1). Respect the moral autonomy of self and others; (2) Seek justice or fairness; (3) Seek social harmony; (4) Be faithful to organizational, professional or public trust; and finally, (5) Act in such a way that the amount of harm is minimized. This principles were not intended to be applied as if they were some moral absolute, nor was the list to be exhaustive or the principles mutually exclusive. Rather they articulated many of the insights of traditional Western philosophy. The first principle expresses the insight of Kant and his categorical imperative and is foundation for many professional values: freedom and self-determination (moral autonomy) for our patrons, protection from injury (e.g., keep inappropriate material away from children), equality of opportunity (e.g., each patron has a right to his or her own kind of resources, which implies that a collection must be representative and balanced and must make available a wide variety of viewpoints), privacy (patron's records and searches will be held confidential), minimal well-being (e.g., patrons should have free access to materials to help them make informed decisions in an election), recognition for one's work (either as intellectual property or as creator– moral rights). The second principle articulates a commonly accepted view, seen as the epitome in Kohlberg's scale. The third is really a version of utilitarianism, that in some ethical decisions, consequences matter and we should strive to maximize the greatest amount of happiness

for the most number of people. The fourth heightens concerns for the populations with which professionals interact: patrons, sponsoring agencies (e.g., government), the profession. The last, about which we address further, is, at first blush, an inverse articulation of the utilitarian approach.

In a way, each of these can be seen as voices that one brings to ethical deliberation. It should be immediately obvious that these voices are not necessarily harmonious and supportive of one another. To spend money on a literacy program to bring non-library users into the library (acknowledging the moral dignity of each human being) works against the general principle of the library to support the happiness of most patrons (i.e., extending services for existing users will more likely promote greater happiness). So these principles are different voices to bring to a moral conversation regarding some ethical issue: e.g., the problem patron.

The last principle was an attempt to articulate a feminist principle. In earlier work, the principle was expressed in the following way: "Act in such a way that the existing, functional relationships are maintained and sustained and that the amount of harm occur in a minimal way or with the most minimum impact." It may not be the best expression of feminism but it attempts to attend the importance of contextual and individuation concerns of feminism, the appreciation of community, etc. The question is: can feminism be seen as a principle or set of values that one brings to moral deliberation just as one brings utilitarianism or justice seen as fairness? There are a good reasons to believe so, as long as moral deliberation embraces a broader notion of reasoning (i.e., not simply providing abstract reasons but one tied to the context of the situation).

We also must recognize, given the orientation of this paper, that these principles must not be seen as absolute, universal moral principles. Rather they need to be seen – despite the philosophers who popularized these principles and who made claims to universality – as empirically and naturalistically derived, often invoked in situations of ethical deliberation in Western culture.

When Principles/Perspectives/Voices Compete, Can One Supercede Another?

Socratic ignorance notwithstanding there are occasions when ethical principles compete. In such cases, when ethical principles compete for application in a given context, which principle takes priority? Can one principle trump another? In other words, is there a principle to decide about the best principle to apply in a given situation?

For example, with respect to the access of free information on the Internet, a principle of justice may advocate copyright rights only to authors of works and invest in them all rights. But justice and social harmony may argue for a sharing of information resources – especially in the context of fair use – that challenges an author's sole rights to his/her works. Which of these principles take a higher priority? There are those, such as John Rawls, who would argue that justice is the highest ethical principle. But given the challenge of the feminists that have been reviewed here, this may beg the question. A principle/perspective of care – recalling Gilligan's work above – may challenge this priority and argue for the larger social cohesion of the world.

Richard Mason in the **Ethics of Information Management** calls the result of moral deliberation in which one principle trumps another as "supersession," which he characterizes in the following way:

> *Because ethical reasoning requires identifying the principles on which you base your ethical conclusions, you should select the principles or principles that are the most compelling in this case. This 'trumping' process is called supersession. Supersession means using one principle to trump or outrank another.... The final result is an ethical judgement that includes a preferred course of action and the ethical principles that support and defend it.*[xxi]

Having noted this, can one further argue: is justice the supreme moral principle or is this the result of a male-dominated, Western-centric history of ethical philosophy?

Mason continues:

> *The route to justice through supersession may be summed up as follows: In a morally perfect world, the agent, the act taken, and the results of the act are all ethical and satisfy the requirements of justice. If so, ethical reasoning need be carried no further. If not, a virtue must be compromised, if a prima facie right or duty is violated, or if an alternative with lower utility implemented -- then the act must be defended on the basis of some other ethical principle that supercedes it. A chain of reasoning is used to find the moral grounds for the supplanting of one principle by another. The final link in the chain is the concept of justice.*[xxii]

Such a reasoning seems evident in the choice of works other than gothic romances that increase circulation counts, but it does not solve the problem of whether a book on virtues of Marxism or radical right politics should be added to the collection. Furthermore, given the arguments above, this "rational" argument itself comes into question as well as its presumed objective.

Can One Embrace Alternating Principles?

To complicate matters an ethical decision maker may embrace two different principles for the same context on different occasions. For example, in order to promote social harmony or utility (principle 3 above, social harmony), a collection developer may well order only those books that are of interest to the majority of patrons in his or her library. Yet, in order to be just and to respect the dignity of a wide variety of human beings that may frequent the library (principles 1– respecting moral autonomy of individuals and principle 3 – justice – each user should have access to works that suit their interests and development), such a developer must also order works that are representative of a wide variety of viewpoints, that may in fact be unpopular with the majority of patrons in a library: for example, books supporting the acceptance of homosexuality or advocating extreme political positions.

Obviously these principles lie in tension: (a) When one seeks social harmony, one is generally following utilitarian principles: promoting the maximum amount of happiness in the greatest number of people. But the maximum happiness often does a disservice to individuals. For example, if politicians promote minimum wage for everyone, it may work against small businesses to survive at all or the ability of someone to have a job. (b) When one respects individuals, one respects their peculiar interests and such interests may alienate the general community – relaxing environmental relations for specific industries and not others (like carbon dioxide emissions for power generation).

Collection developers may alternate in the appeal to these principles. On one occasion they might buy the best-seller novels for the library, behaving for the most part as a utilitarian. On another occasion, they might buy the book with a radical political position, following a principle of justice – a la Kant – both supporting the eccentric library user and to insure a complete and balanced collection.

What about Ethical Consistency?

Because the principles and values enumerated above may engender tensions and conflicts and that there is the possibility that one could invoke the priority of different principles for the same occasion, one may object that our ethics should be rigorously consistent and therefore something must be wrong with these principles and values or how we should apply or interpret them.

It is clear that one should strive for consistency in values and the application of moral principles and in moral deliberations and actions, but achieving such consistency may be another matter. As maturity evolves, moral ambiguity increases in the sense that we discover and appreciate the diversity and tensions of moral values and principles that can be brought to bear on a ethical problem, not only among stakeholders but also within ourselves, even though the ideal remains. In both cases of the evolution of moral development (Kohlberg or Gilligan), such ambiguity is recognized.

On certain occasions or for certain contexts we may be prone to act like utilitarians -- for example, when we favor social welfare increases, despite the fact we know that the results will not be completely just: e.g., that certain people will receive benefits who do not need or deserve them, that some businesses whose profit margin is quite low may suffer in trying to pay for them, etc.

On other occasions, we may act like Kantians. When we promote freedom of access and freedom of information on the Internet, we are respecting individual differences and the individual rights of human beings. In light of the tension of utilitarian principles and deontological principles, Diana Woodward[xxiii] has claimed that ethical actions are

validated if they pass both consequentialist or utilitarian validation (Mill's emphasis on objective results) and deontological validation (Kant's emphasis on motive and duty). No doubt dual validation would be desirable and comforting, but many ethical actions may not pass both validations. Sometimes ethical decisions demand the prioritization of one of these principles over the other, and these may vary based on stakeholder perspective, application to circumstances, or lack of determination of the actual results.

There may be a theoretical basis for the impossibility of a completely consistent system or a consistently complete system. The mathematician Kurt Godel established a theorem which demonstrated that any system that was complete was necessarily inconsistent and that any system that was totally consistent was incomplete. This presumably implies that ethical systems cannot be simultaneously complete and consistent. While this might be a source of frustration for Cartesians, who presumably would like both, for others this is a continuous call for openness and dialogue, to be constantly in the process of achieving more completeness and more consistency, though in fact they may not achieve it.

Feminism or Care as a Principle or a Trumping Principle?

What if we add in a principle or principles of feminism, the perspective of care? Can it be a principle of ethical deliberation, even accepting the naturalistic perspective that challenges all traditional values (justice, autonomy) as universal in character? Even if we accept such principles as justice as an ethical ideal (grounding it in an analysis of cross cultural studies), one would realize that the instantiation of it may vary from culture to culture. The methodology suggested by Alison Jaggar may be a productive starting point. So too with feminism and the ethical principles or perspectives suggested by it. And if it can be a principle, can it be a trumping principle, one that supercedes other principles in a given context? When we look at the contemporary world and its obsession with rights (my rights versus your rights, my country's rights versus your country's rights), it seems that we need a corrective action in care, for the latter has seemed to lead to more dissent, more war, more destruction of the human community. Furthermore is this trumping to be understood in the same way as Mason describes above, a method for 'rational' decision-making leading to the supreme principle of justice? Does justice retain its character as the supreme ethical principle? If so, it would seem to be required to be thought of as something more than fairness, something sometimes precisely sensitive to the contextual character of some situations. So we end with a series of questions. One thing is clear: the issue of feminism must be addressed in any attempt at an intercultural information ethics.

This paper has tried to advance a complex thesis, starting with empirical, psychological studies of the moral development of men and women and critiques of them, followed by a tentative generalization of feminism as a somewhat coherent but not necessarily complete perspective or 'voice,' engendered by the naturalistic perspective (Jaggar's feminist naturalism) which argues against a pure realm of reason and advocates a multidisciplinary approach to our understanding of ethics. In turn we have tried to validate this voice or perspective and to turn this voice or perspective into an ethical framework or principle, accessible to both men and women, although culturally, historically and/or prototypically we may be inclined embracing one perspective over the other. In turn, this ethical principle or framework functions both as a critique of prevailing approaches and yet provides a positive agenda, which in specific circumstances can compete with other ethical principles (e.g., justice, utilitarianism) and in fact trump them (an ethic of care can challenge and trump and ethic of rights in specific circumstances). A tentative formulation of a feminist principle might be something like: "Act in such a way that the existing, functional relationships are maintained and sustained and that the amount of harm occur in a minimal way or with the most minimum impact." So, for example, a public library may face severe budget cuts due to cutbacks in its economic resources (e.g., withering governmental support). Staff cuts may be seen as the best method of handling the crisis, based on justice or utilitarian grounds. From a justice viewpoint, one is balancing the right of a specific individual or sets of individuals to have employment against the rights of patrons to have their educational, recreational, cultural and informational needs met. From a rights perspective, if such cuts were to be made, those with the lowest seniority would be eliminated. From a utilitarian viewpoint, the greatest happiness principle, it might be easy to argue for staff cuts, because while there will be suffering for those who are fired, there will be so much more happiness in the ability of the library to sustain its collections and make the general welfare of library users so much better. If we take a feminist viewpoint that looks at the

specific context of the situation, we may see this problem in a much different light. The library staff is a very cohesive and productive group; the loss of members of the staff would be demoralizing to the rest of the staff and the whole institution. Not only that, the persons that are likely to be cut may be the most vulnerable: they may be starting a family and finding another job may be extremely difficult because the cutbacks have dried up the sources where the fired persons would normally find work. So a feminist principle might argue that in this context it is better to cut back on acquisitions and preserve group cohesion and solidarity, even though principles of justice or utilitarianism might suggest otherwise. In this way an ethic of care might trump an ethic of rights.

Ironically Plato, the Greek philosopher of supreme, universal values (truth, beauty, goodness) provides us with a model for caretaking: Socrates as the caretaker of human souls. I am not sure that the Socratic notion of care is not too different than that of feminists like Gilligan. Socrates was always sensitive to context and reason. Narrative and dialog were critical methods by which positions could be advocated or denied. Socrates (though perhaps not the later Plato, depending on one's interpretation) indicated that ethical growth demands continuous engagement in ethical reflection and/or discourse at every opportunity, particularly in examining existing mores. Socrates constantly queried his interlocuters about the knowledge they presumably possessed. By his profession of ignorance, he reminded himself of the limitations of his understanding and to remain open for further growth and maturation. In my view, his profession of ignorance is not a sham, but a deliberate ethical stance: to remind ourselves to be open to other perspectives and viewpoints; to really consider that our values and principles may not be universal, but culturally and historically bound. But the Socratic profession of ignorance did not lead to a simplistic moral relativisim: that is, he had clear ethical ideals, but when and how they applied and which ones took priority in a given situation was a matter of reflection, deliberation and discourse. So too information professionals must constantly remind themselves of their ignorance so as to continue to grow and mature in ethical deliberation that is grounded in an articulated set of values and principles, but which may need to grow and evolve and to be applied diversely among different contexts. And feminism challenges us to open our understanding to its and other evolving frameworks, and to pay attention to the particular. With its/their help we may make significant progress toward an intercultural information ethics.

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T V Gopal

The 'Faith' factor in the Internet World

Abstract:

The author opines that the most creative use of Information and Communications Technology (ICT) in development may not entail computers, e-mail, or Internet access, but rather the use of other computer-based technologies, including embedded chips, satellite based information and so on to better meet local needs. The solutions must be affordable.

Some of the major challenges in developing local solutions based on ICT are Bridging the Digital Divide, Trustworthiness, Protecting Intellectual Property, Information Assurance, Privacy, Hacking , Viruses and Worms.

The solutions for these challenges are 'People-Centric' and are thus influenced by the "personal" and "professional" ethics of individuals. All the challenges cited above lead to many ethical issues. Internet being a global phenomenon the ethical issues need to be examined in Intercultural perspective. The author suggests that 'faith' of people is the key in meeting the challenges in developing local solutions.

Agenda

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Major Challenges

Digital Divide

The first major challenge is the “Digital Divide”. In India there are as many as four types of digital divides to reckon with.

The first divide is that which exists within every nation, industrialized or developing , between those who are rich, educated, and powerful, and those who are not.

A second digital divide, less often noted, is linguistic and cultural. For Indians who speak no (or little) English, the barriers to the Information Age are almost impossible to surmount. Local language and local content are essential. However, the pace of work in the area of “Language Technologies” is painstakingly slow.

The third digital divide follows inevitably from the first two -- it is the growing digital gap between the rich and the poor nations.

The fourth divide is that which is emerging between the elite few beneficiaries of the lucrative technologies such as ICT and equally talented many who studied other less lucrative but equally important areas of science and technology. In the US this is not the situation. The hourly wages of a Physicist [US $ 33.23] and a Chemical Engineer [US $ 29.44] are higher than those of a Computer Programmer [US $ 25.67]. We cannot simply assume that a flourishing ICT sector will trickle down riches to the rest of the people.

The Digital Divide impacts upon:

- People, Institutions, Businesses
- Medicine, Health Care, Education
- Economies (local, state, national, international/global)
- Content and Digitization (racial/cultural)
- Democratic Participation
- Quality of Life

The digital divide, as a whole, remains an enormous and complicated issue - heavily interwoven with the issues of race, education, and poverty. Finding ways to bridge the Digital Divide is a very tough task. It is a multi-dimensional problem, and thus requires an effective solution on many different levels.

The Internet has grown for a long time without too much regulation. In particular, the management of Internet names and addresses is considered as critical to the stability and inter-operability of the Internet. The allocation of domain names is of utmost significance for the organizations concerned, users and trademark owners. The debate is now lively because the key issue is "What kind of regulation?" Rules by governments or self-regulation by business and users?.

The internet governance methodology must address the following issues:

- **Equity in the right of access ("universal service") :** making information universally accessible and affordable. Access to information is crucial for education, public health, ...; its accessibility to all will be a sign of democracy. The current situation cannot be considered as equitable.
- **Questions linked to the respect of the dignity of the person** (protection of minors and human dignity; illegal and harmful content on the Internet, paedophilia, racial hate, denial of crimes against humanity, incitement to murder, to drug trafficking, to riot, ...) : Many national and international organizations are preoccupied by the deleterious influence that the Internet could have in such matters. The time has come to confront the different ethics and approaches to these issues and to harmonise the practices, and combat such scourges.
- **Justice and social exclusion (mainly North-South, but also work distribution, ...) :** Social exclusion is unfortunately a concept which is still fully relevant when speaking about the Information Highways: there, we observe discrimination and exclusion of the elderly, gender imbalance, ...
- **Respect for the interests and the rights of the persons :** The Universal Declaration of Human Rights includes rights which can have an application in the field of ICT: privacy (art. 12), freedom of thought (art. 18), free speech,freedom to seek, receive and impart information and ideas (art. 19), ... This makes sense when we know that there are still 45 countries where access to the Internet is more or less strictly controlled.

- **Free speech / censorship** : On the Internet, how to find a relevant balance between free speech and censorship(sensu lato, i.e., any kind of control)?
- **Quality of life :** The "whole person" - Does technology lead to an imbalance in mind, body, spirit? Teleworking is cutting into family time, vacations, leisure, weakening the traditional institutions of family and friends and blurring the line between public and private life.
- **Right to information ("transparency") :** The role of information in the relationship between the citizen and the administration as well as in an effective market requires that clear and sufficient information be given to the citizen or to the consumer.
- **Personal qualities (honesty, competence, ...)**
- **Non-abuse of power (appropriate use)**
- **Respect for cultural differences :** In the face of U.S. cultural supremacy in many domains (for instance in values conveyed by current filtering services), European, Asian, Latin American, and African countries must be encouraged to make respect for cultural differences a major concern.
- **Freedom of choice in the use or non-use of the Internet** :
- **Grounding "virtual" life in the physical realm** : Many people are concerned that the increasing importance of 'virtual life' will have serious psychological and social implications.

The issues cited above involve the ethical behavior of the netizens. The nature of regulation can be determined by the 'ethical behavioral patterns' of the netizens.

Trustworthiness

There are two facets of 'trustworthiness'. The first is to do with the Networked Information System (NIS) infrastructure. The high availability of the NIS is critical. The second is to do with Internet Trade.

Typically, in Internet Trade, the seller posts a description and price of the item to be sold. A willing buyer sends the money to the seller and awaits the shipment. With no rigorous outside controls, the seller may not ship the item or ships a low quality item. Anticipating this moral hazard, the buyers may not buy on the net. This trust dilemma needs to be navigated in Internet trade.

Trust is a long-term proposition that builds slowly as people use a site, get good results, and don't feel let down or cheated. In other words, true trust comes from experiences of customers over an extended set of encounters. Trust is hard to build and easy to lose. A single violation of trust can destroy credibility accumulated over years. Lack of trust in online companies is a primary reason why many web users do not shop online.

The following questions need to be answered to assess the trustworthiness of a company doing e-business.

- Is the information truthful and accurate?
- Is it easy to contact the company?
- Are there privacy and security statements?
- Are terms of the sale clearly disclosed?
- Does the site promise customer satisfaction?

The most important determinant of initial perceptions regarding a company's trustworthiness is how well customers believe the company will protect their privacy. Also significant is the perceived usefulness of the company's web site. Other important determinants include perceived company reputation, the company's willingness to customize, and perceived security control of the web site. The decision to purchase is dependant on several factors including :

a. perceptions about the company's characteristics: company size, company reputation, initial company trustworthiness
b. perceptions about the company's actions: willingness to customize, information sharing, privacy control
c. perceptions about the company's web site: usefulness, ease of use, security control

Protecting Intellectual Property

Intellectual property refers to work created by inventors, authors and artists. Intellectual property rights are the right to which creators are entitled for their inventions, writings and works of arts. A **copyright** gives authors and artists, authors exclusive rights to duplicate, publish and sell their materials. **Copyright Infringement** is the act of using material from a copyrighted source without getting permission to do so. This is

rampant in the Internet world today. 38% of all software worldwide is copied

Information Assurance

Organizations world over are flooded with information and are actively evolving ways and means of structuring, organizing, labeling, finding and managing information.

The following costs and value propositions are becoming increasingly important.

- The cost of finding information
- The cost of not finding information
- The value of educating the customers about information products and services
- The cost of constructing an information system
- The cost of maintenance
- The cost of training

Information Assurance is conducting the operations that protect and defend information and information systems by ensuring availability, integrity, authentication, confidentiality, and non-repudiation.

Availability is the state where information is in the place needed by the user, at the time the user needs it, and in the form needed by the user. **Integrity** ensures that information available is sound, unimpaired, or in perfect condition. **Authentication** is to verify the identity of the user, device, or other entity in a computer system, often as a prerequisite to allowing access to resources in a system. **Confidentiality** is the concept of holding sensitive data in confidence, limited to an appropriate set of individuals or organizations. **Non-repudiation** is a service that provides proof of the integrity and origin of data, both in an unforgeable relationship, which can be verified by any third party at any time; or, an authentication that with high assurance can be asserted to be genuine, and that cannot subsequently be refuted.

Writing a page for the World Wide Web is a child's play today. Millions of pages of information thus get onto the web every day. More and more professionals are relying on the WWW for any form of information. The key difficulty if ascertaining the authenticity of the information fetched from the WWW. The key problem is to prevent spurious information getting into the cyberspace.

Coming to the specific context of students and researchers, traditional information repositories such as the libraries resulted from a careful selection of information that could be housed therein. The users of a library can thus be assured of atleast factually correct information to hasten the process of knowledge acquisition. This feeling is a luxury on the web. Registering the domain names and hosting the web pages on the WWW is highly simplified and does not cost much. The following aspects appear to provide a sense of assurance to the users of WWW.

1. Information Assurance is a Function of Time and Specific to Formal Characteristics of Sites.

2. Six Fundamental "Forms" Communicate the assurance :

   - brand,
   - navigation,
   - fulfillment,
   - presentation,
   - up-to-date technology and
   - the logos of security guaranteeing organizations

3. Users begin seeing the world of the Web as one of chaos, offering both possibilities and threats. Only after a reasonable period of experience they believe they have secured control over the navigation and start believing the content.

4. Effective Navigation is Generally a Precondition to Communicating Trust and the Perception that Sites Meet user needs even if the user does not have a clear idea of his needs. Effective navigation is by far the simplest way of establishing a new site and its content.

5. Web-Based Seals of Approval Matter More than Credit Card Brands in Communicating Trustworthiness.

6. The Most Trusted Web Brands Are Well-Known Brands. Only well established institutions stand a chance of convincing the user about the quality of the content.

7. Information Assurance Isn't the Most Important Attribute a Site Can Possess. It is a fundamental aspect amongst many other factors.

8. Clearly-Stated Policies, Limited Information Requests and Guarantees are Keys to Future Growth in Information Assurance.

9. Users expect the web to be like the present mode of an organizational behavior.

10. Brand Now Matters More than Medium.

Computer Crime

A computer crime is any illegal activity using computer software, data or access as the object, subject or instrument of the crime. Computer crimes costs more than US $20 Billion dollars a year. About 80% of all computer crimes happen from within the company. Over 60% of all computer crimes go unreported. Common crimes include:

- Credit card fraud
- Making long distance calls
- Unauthorized access to confidential files
- Stealing hardware
- Selling information or intellectual property
- Software piracy
- Hacking
- Viruses and Worms
- Identity theftDisruption of network traffic

A false sense of 'anonymity' seems to be abetting computer crime. In the internet world, there is a gap between the IP address of the machine and the person using the machine. A typical netizen is aware that only the IP address or the corresponding machine from which a crime has been committed can be traced. A 'log' of computer usage is thus becoming vital to deter cyber criminals.

'FAITH' as the Primary Preventive

The solutions for these challenges are 'People-Centric' and are thus influenced by the "personal" and "professional" ethics of individuals. All the challenges cited above lead to many ethical issues. Internet being a global phenomenon the ethical issues need to be examined in Intercultural perspective.

Ten Commandments of Computer Ethics

A commonly cited reference is the 'Ten Commandments of Computer Ethics' written by the Computer Ethics Institute that is reproduced below.

- Thou shalt not use a computer to harm other people.
- Thou shalt not interfere with other people's computer work.
- Thou shalt not snoop around in other people's computer files.
- Thou shalt not use a computer to steal.
- Thou shalt not use a computer to bear false witness.
- Thou shalt not copy or use proprietary software for which you have not paid.
- Thou shalt not use other people's computer resources without authorization or proper compensation.
- Thou shalt not appropriate other people's intellectual output.
- Thou shalt think about the social consequences of the program you are writing or the system you are designing.
- Thou shalt always use a computer in ways that insure consideration and respect for your fellow humans

The real challenge is to ensure that every netizen behaves as envisaged in the above set of doctrines.

Tacit Knowledge

There is a vast body of knowledge that cannot be captured explicitly in the form of books, formulae, web content or derived from formal analysis. This body of knowledge is termed as 'tacit knowledge'. Tacit knowledge is generated through personal experiences and/or by inherently personal qualities and competence. Tacit knowledge involves intangible factors embedded in personal beliefs, experiences, values and ethics. This plays a major role in providing effective ICT based solutions.

Personal convictions develop from family, community, education, religious/spiritual upbringing, and peer influence. The general perception is that the same yardstick cannot be applied for both personal and professional lives. Increasingly, the courts are concurring with this position.

The implication is that the private conduct is not evaluated as long as the job performance is not degraded. However, a subset of morals are perhaps important for the individual to demonstrate high standards of professionalism and command respect as a leader in the professional life. This blurs the distinction between 'personal' and 'professional' ethics.

The author observes that individuals are intrinsically good. Yet, the present day internet scenario is chaotic. The reason for this is not entirely technology. Faith simply defined is belief without reason and is thus anti-theitic to the current approaches and methodologies in science and technology. Repeatability is the cornerstone of scientific proofs. Repeatability has to be demonstrated by same or different individual observers. Science and technology do not take the individualistic aspects that border on spiritualism (faith in) of the individual into account.

Faith

Faith as on date has not been integrated into the scientific methodology. As a result individual's faith in oneself, in the society, in the nation and in the world has rapidly eroded. This attribute of individuals needs urgent resurrection. The author opines that 'preventive solutions' for many of the challenges cited above would then become feasible.

Curiously, in the late twentieth century, even agnostic cosmologists like Stephen Hawking—who is often compared with Einstein—pose metascientific questions concerning a Creator and the cosmos, which science per se is unable to answer. Several leading scientists of the last century expressed similar views. The author opines that science has to address the notion of 'faith' at the earliest.

Indian ethos has been prescriptive of good and bad. Goal setting was not considered entirely free from unethical practices. In fact, the modern theory of anomie predicts the formation of internal pressures within organizations for deviance from ethical practices. Choice of a deviant means to achieve an end is more likely when achievement of goals is emphasized.

'Faith' is the key deterrent in arresting the decay of values in people. Today, the notion of 'faith' is unfortunately confined to the framework defined by religion. Hence, the approach being suggested by the author is 'Sociological'. As there are many faiths across the globe, the intercultural issues need to be understood.

The English word "religion" is derived from the Latin word "*religd*' which means "*good faith*," "*ritual*," and other similar meanings.

Defining the word "*religion*" is fraught with difficulty. Dictionaries have made many attempts to define the word *religion*:

1. **Barnes & Noble (Cambridge) Encyclopedia** (1990): *"...no single definition will suffice to encompass the varied sets of traditions, practices, and ideas which constitute different religions."*

2. **The Concise Oxford Dictionary** (1990): *"Human recognition of superhuman controlling power and especially of a personal God entitled to obedience"* That definition would not consider some Buddhist sects as religions. Many Unitarian Universalists are excluded by this description. Strictly interpreted, it would also reject polytheistic religions, since it refers to "*a*' personal God."

3. **Webster's New World Dictionary** (Third College Edition): *"any specific system of belief and worship, often involving a code of ethics and a philosophy."* This definition would exclude religions that do not engage in worship. It implies that there are two important components to religion:

   - one's belief and worship in a deity or deities
   - one's ethical behavior towards other persons

There is essentially no consensus among religions on any factor related to:

- religious belief, ritual, organization
- family structure

Non-theistic ethical and philosophic systems also exhibit a wide range of beliefs. But there is near unanimity of opinion among almost all religions, ethical systems and philosophies that each person should treat others in a decent manner. This is called *Ethic of Reciprocity*. It is often expressed as "*Do onto others as you would wish them do onto you*." It is a basic tenant in almost all religions: Christian, Hindu, Jewish,Confucian, Buddhist, Muslim.

A logical development of this *Ethic* is the principle that each individual is of equal worth, simply because they are human. The United Nations has formalized this developing consensus as *Universal Declaration of Human Rights* (UDHR).

The Preamble of the UDHR starts by referring to the rights of all humans: "*Whereas recognition of the inherent dignity and of the equal and inalienable*

rights of all members of the human family is the foundation of freedom, justice and peace in the world..."

It ends by stating that the UDHR is "*a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms*."

Some pertinent articles of the UDHR are given below.

> ***Article 1:*** *"All human beings are born free and equal in dignity and rights."*
>
> ***Article 2:*** *"Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status."*
>
> ***Article 7:*** *"All are equal before the law and are entitled without any discrimination to equal protection of the law.*

Thus the three virtues inculcated by all religions are:

- Humility: to regard oneself as fully one, but not more than one.
- Charity: to consider one's neighbor to be as fully one as you are.
- Veracity: the capacity to see things exactly as they are, freed from subjective distortions.

'Faith' induces in an individual

- A refined sense of moral imagination
- A proclivity to recognizing ethical issues
- An aptitude to hone the necessary analytical skills
- A higher sense of responsibility
- Tolerance for disagreement and ambiguity

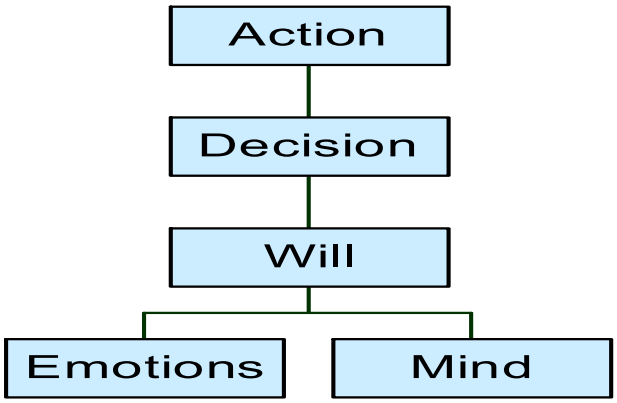

Figure 1 Simple Model of a Person

'Faith' breeds the following virtues that determine the final actions of an individual.

- Prudence (mind): to think about a moral problem clearly and completely
- Temperance (emotions): control attraction to positive emotions
- Fortitude (emotions): control aversion for negative emotions
- Justice (will): choose according to truth and fairness.

Obviously, 'Faith' is a primary preventive. Character and Courage should finely blend with the competence of an individual to provide the necessary clarity of thought and confidence to act ethically. This process is greatly facilitated by the notion of 'Faith'.

'Faith' and Indic Scriptures

Every civilization produced visionaries who had the innate urge to uplift their fellow beings. They have designed ways and means of development. A few individuals produced startling effects on otherwise declining or perishing societies. The cause for this innate urge is dependent on several factors that range from suffering to divine grace. It is not rare that these people are either treated as gods or messengers of gods depending on the prevalent customs and practices.

Voltaire, an eminent French thinker, goes to the extent of suggesting that a society has to invent a god if they do not have one already. Thus gods in every society encapsulate certain qualities that can be inculcated in individuals through faith and diligence. The author refers to these everlasting qualities as 'Godliness'.

Max Mueller testified that India is the fountain-head of philosophical thought and that in the Indian religious scriptures [Indic Scriptures] may be found references to every philosophical conception that the western mind has since evolved.

Indic scriptures go beyond human beings in search of Godliness. This is recognized in all beings right from Brahma to Ant [Brahma Pipilikadi Paryantam]. The common denominator of all these beings is 'Chetana'. Lord Krishna asserts in Bhagawadh Geetha that he is the chetana in living beings. The scriptures permit one to choose a deity and attaining the corresponding godliness or unison with that deity. This state of (mind) achievement is often termed self-realisation. The process of achieving this state of mind is called 'Tapas'. The descriptives about the deities are found in the Four Vedas, Upanishads [10 of them are considered very prominent] and Puranas [18 of them are considered very prominent].

For one who tries to understand control of mind it is understood as

"Yato manah tato buddhihi"

The implication is that the 'manas' [seat of emotions] needs to be controlled through 'tapas' to gain control of the mind. Faith is the conerstone of the process called 'tapas'. Recitation of hymns (mantras) and/or practicing yogic postures catalyses the process.

The process of tapas is believed to awaken certain dormant forces in the human body. These forces release a special form of energy that reaches the brain through certain 'psychic centers'. Modern science has neither proved nor disproved these claims vividly recorded in various Indic scriptures. The culmination of tapas is a highly energetic and excellent individual.

Conclusion

It is useful to observe that every religion has faith in the almighty as its foundation. History of mankind is replete with noble souls who served as role models to induce faith into large societies. However, retaining the same intensity of faith and handing it over to the future generations is a tough challenge. Faith erodes when the very existence of its sources including the notion of God is questioned. This erosion needs to be checked to ensure that every 'netizen' addresses the challenges posed by ICT mentioned in this paper in an ethical manner.

In summary, the author observes that 'faith' instills the following attributes in a 'netizen'.

- Sensitivity to the feelings and emotions of other netizens
- Empathy for fellow netizens
- Responsiveness to the changing demands of the Internet World
- Integrity
- Commitment
- Excellence

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Jessica Heesen

Universalisation, Totality and ICT, or: Are there any reasons for demanding ICT-free areas?

Abstract:

In the following contribution we will investigate the digital divide with respect to a philosophically and ideologically founded concept of universalisation. The documents of the World Summit on the Information Society (WSIS) show that the creation of a global information society not only concerns a technical structural transformation, but also a technical implementation of a normative guiding principle. I will show that overcoming the digital divide corresponds to the inner logic of universalisation as an ethical model of reasoning. Furthermore, we will see that in reality this formal approach to reasoning proves to be a means of realising certain ideological perspectives. This interdependency of cultural dispositions and technical developments in the global information society will be shown in five aspects:

- The creation of a global social utopia based on the concept of the information society.
- The objectification of the concept of universalisation in information and communication technology (ICT).
- The linking of global internet use to a normative idea of the public sphere.
- The tendency towards totality as a problem of the public sphere and ICT.
- Possible reasons for demanding ICT-free areas.

Agenda

Information Technology as a defining technology

The information society as a social utopia

The Objectification of Universalism

Totality as a Problem of Public Sphere, or: The Trojan Horse

Totality as a Problem of ICT

Are there any reasons for demanding ICT-Free Areas?

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Information Technology as a defining technology

The term "information society" is one of the most prominent guiding principles at the start of the new millennium. It is associated with innovation, knowledge, mobility, transparency, participation, globalisation, or the New Economy. The broad thematic spectrum points to the high degree of penetration of new technology in society. ICT is not only a new technical application, but it is also a medium of a Weltanschauung.

Communication technologies have a far-reaching influence not only due to their geographical diffusion, but also because they have a mediative function in public spheres of society (societal reflection) and in contexts of every-day life such as the professional or family sphere (individual reflection) where they shape verbal communication as means of expression and reflection.

The vision of an information society relates to a comprehensive and fundamental system of values. Information technology can be labelled a "defining technology" (J. D. Bolter):

> *"A defining technology develops links, metaphorical or otherwise, with a culture's science, philosophy, or literature; it is always available to serve as a metaphor, example, model, or symbol. A defining technology resembles a magnifying glass, which collects and focuses seemingly disparate ideas in a culture into one bright, sometimes piercing ray. Technology does not call forth major cultural changes by itself, but it does bring ideas into a new focus by explaining or exemplifying them in new ways to larger audiences."*[i]

Various research streams investigate the relationship between media technology and cultural form (R. Debray, V. Flusser, P. Bourdieu) or the interdependency between the history of culture and the history of technology. Constructivism underlined the relevance of media for the organisation of social reality and the important role media plays in the formation of individual consciousness. Constructivist theories emphasise the participation of media on the emergence of the non-intentional structures of reality.[ii]

Constructivist theories of media as well as the above mentioned theories on the relationship between media technology and culture tend to supersede an empirical concept of media in favor of an epistemological concept. All positions, however, stress the close interdependency of technical developments and dominating social values, forms of experience and forms of organisation. Media technologies, just like technology in general, make certain paths accessible to exploring the human environment. They determine how we have to discern objective and social reality. From an epistemological perspective, these technologies are "filters" between us and the environment we can experience.

The information society as a social utopia

One of the aims of WSIS is to provide answers to the requirements of the new millennium. "To help all people to communicate" indicated Kofi Annan[iii] as one of the great millennium developing goals. The success of the information society depends on its ability to realize the equal participation of all nations. This is one of the fundamental differences between the information and the industrial society – because the latter is functionally-based on the worldwide inequality in economic and societal development. For example, "leap-frogging" is mentioned in this connection to characterize that now, all societies can start from the infrastructural and technical level of industrial countries without making the same mistakes or going through time-consuming development processes.[iv]

Hence, the information society is seemingly a comprehensive project that, similar to the great guiding principles "sustainability" or "justice" achieve their moral legitimation through the general participation and the uncoerced agreement of all who are affected by the effects of these goals. It is a concept of high normative imprinting, i.e. it contains strong normative claims.

> *"Our challenge is to harness the potential of information and communication technology to promote the development goals of the Millennium Declaration, namely the eradication of extreme poverty and hunger; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; to combat HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and development of global partnerships for development for the attainment of a more peaceful, just and prosperous world.*

> *We also reiterate our commitment to the achievement of sustainable development and agreed development goals, …"*[iv]

However, if the inner relationship between this social utopia and the so-called new digital media is considered as such, this relationship does not seem to be very strong. The establishment of air transport (accessibility), of cinema (information and clearness) or of telephone (communication) could, as a consequence, have had similarly euphoric visions. What is the reason for the "ethical overloading" of information technology?

The Objectification of Universalism

The reason for the overloading of information technology with moral expectations lies in the affinity to a certain tradition of thinking: ICT is the technical counterpart to universalisation as a historically intellectual basis of enlightenment. The era of enlightenment enforced the basic principle of universalism. Methodological generality of knowledge in natural sciences was groundbreaking for technical and medical progress. In the range of ethics, the procedure of universalisability guaranteed the impartiality of judgement and therewith the justness of an activity (I. Kant). The universalistic claims of the enlightenment are politically reflected in the justifying of democratic polity. In the 20th century the idea of universalisation became particularly relevant in relation to the normative dimension of discourse. In this context, universalisation is the characteristic of a specific discourse rationality (K.-O. Apel, J. Habermas). So far, Universalism can be characterised as the "meta-narrative" of the enlightenment (Lyotard).

The link between the concept of universalism and the democratic principles of "general participation" and "deliberation and discourse" lead us to a normative concept of the public sphere. It describes the function of the public sphere to criticise state and government through institutionally and judicially guaranteed possibilities of control. Even if this idea of public sphere is constructed in an ethically and religiously indifferent way, it is de facto connected to the social model of the western style liberal democracy respectively the highly developed industrialized countries.[vi] Such a concept of public sphere, that links the structural order of societal communication with particular ethical and ideological standpoints, is the basis of the ideas of the United Nations to bridge the digital divide.

For the first time in history, the new information technologies and the internet offer the possibility to realise a generally open interactive communication that is not reduced to individual communication. It supports a sort of communication that indicates the typical characteristics for the public sphere. Because of the interactive and theoretically unrestricted access to the internet it could be used for democratic and discursive processes. At the same time, it is a globally expanded network that some consider to be a suitable medium to build up a global public sphere (H. Rheingold, O. Höffe). In the vision of a free information society, everyone is able and allowed to express any opinion. To express this in a more exaggerated way, we could say that the principle of universalisation is practically realised or objectified here. Furthermore one could say that in the information society the principle of universalisation is augmented from a counterfactual level (making decisions as if everyone could agree) to a quasi-factual level (factual possibility to agree).

Because the idea of universalism emerges from a model of justification and reasoning that is grounded in the ability for consensus of an imagined general public the conservation of the digital divide would be a performative contradiction: "The Information Society is intrinsically global in nature …"[vii] The Information Society has to include everyone to prove itself at its own principles. Thus, bridging the digital divide complies with the already known notion of establishing a universal service to build up a critical Public Sphere within nations connected to ICT services. When we talk about the globalisation of the information society, it is a matter of the installation of a normative guiding principle that occurs in the shape of a technical innovation.

The term information society has the status of a regulative idea. It is the fictional centre of activities to reshape the real contexts, in other words the environment. "The information society creates an environment where all national sovereignties, religious, cultural, social and linguistic interests without any discrimination are respected and protected." The "Environment" is the intrinsic heart of the information society. The information society is not a material environment and not an actual form of society, but a principle of organisation with normative implications. The information society is a technically metaphorised meta-society. It is a dematerialised form of society, like the visions of

cyber space existing without national territories and social contexts.

Totality as a Problem of Public Sphere, or: The Trojan Horse

The generalisation of the model of western society has obvious but also invisible cultural, societal and intellectual implications. For this, Michel Foucaults coined the term: microphysics of power.

Foucault is one of the critics of the idea of regulating of the public sphere. He connects the public discourse to an analysis of power relationships. Foucault argues that discourses are not guided rationally but through a power struggle. As a result there is no rational legitimation of the results of public discourse.[viii] Like another critic of the public sphere, Reinhart Koselleck, he points out the problem of totality. The normative authority of the public sphere enables the penetration of ideological components into the private sector. Koselleck maintains that sovereignty is not controlled and produced but mediated and masked by the public sphere.[ix] According to this, the public sphere is based on a totalising discourse.

Without criticising the critics of a discursive type of democracy here we can state that in connection with the guiding principle information society, the expansion of the western horizon is accomplished with reference to humanistic visions, which no one, who wants to participate on the global communication-community, can reject. The "price" is a change of circumstances caused by technology. "We are indeed in the midst of a revolution, perhaps the greatest that humanity has ever experienced" (ITU, Basic Information)[x].

An example of cultural change is an alienation from common traditions provoked by ICT. The WSIS Declaration underlines the protection of cultural diversity:

> *"The creation, dissemination and preservation of content in diverse languages and formats must be accorded high priority in building an inclusive Information Society, paying particular attention to the diversity of supply of creative work and due recognition of the rights of authors and artists.*
>
> *[…] The preservation of cultural heritage is a crucial component of identity and self–understanding of individuals that links a community to its past. The Information Society should harness and preserve cultural heritage for the future by all appropriate methods, including digitisation".*[xi]

The infiltration of various ICT applications in all cultural and societal spheres can help to save, archive and transfer traditional particularities of a community or nation. But moreover, it has the effect of alienation in respect of a practice previously integrated into everyday life. The assortment, systematisation and designation of heretofore disparate phenomena make them available for media-usage and open them to a broad audience. At the same time, this process provokes the aesthetification of the content and thus its objectification. At this level the content is much more readily disposed to criticism and reflection. An additional contribution to this de-contextualisation of a particular social and cultural context is given with the indispensable canonisation of its pluralistic form of appearance. Because of ICT-formatting, tradition can easily become folklore.

As a result on a normative level a process starts to work, which communitarians describe as alienation from common values. Here communitarians identify the reason for the transformation from pluralistic common tradition to abstract and unified legal systems.

For the strategy to provoke a cultural change beyond the facade of a helpful technology one can use the metaphor "Trojan Horse", even if I don't want to deny the willingness and results of many activists in overcoming the digital divide. After all, it becomes clear that the information society is not a matter of bridging the digital divide but about the trial to found a more just social order within a particular cultural and political paradigm.

Totality as a Problem of ICT

The internet, but also new developments in the field of ICT like the so called Ubiquitous Computing, stand for an individualised use of media. Another typical characteristic of ICT in the future is its omnipresence. For example, Ubiquitous Computing (also called Pervasive Computing or Ambient Intelligence) expands the electronic communication networks into the objective environment. The idea is to connect local networks and the World Wide Web with intelligent objects of utility. A ubiquitous ICT should disburden the human being while assisting in his or her activities in a unobtrusive and invisible

way. The creation of a reliable infrastructure for everyday life should be guaranteed through wearables and robotics in the area of hardware and moreover by building up a "virtual space for matching people"[xii], a kind of personalised world of electronic interaction.[xiii]

In spite of this increasing presence of a technical system in everyday life, the individual[xiv] with his or her personal needs and preferences is at the centre of new ICT applications, particularly in the area of network technologies. Following the visions of software developers, autonomy and individuality should be conserved even if the user is involved in an all-embracing technical system. Scenarios of the future development of ICT show subjects in a constitutive way as parts of social networks. "Maintaining existing relationships and creating new ones is an essential feature of human life."[xv] With this anthropological assumption, software developers argue similarly to the critics of subjectivity and post-modern concepts, who particularly stress the permeability of human identity for determinants from outside.

But how can this favourable image of individuality be realised if ICT and normatively imprinted concepts of a public sphere raise suspicion due to a tendency towards totalitarianism? In other words, how are liberal societies able to meet their claim to guarantee pluralism and self-realisation?

Are there any reasons for demanding ICT-Free Areas?

To raise the issue of the relationship between human beings and an intelligent or networked environment from an *aesthetic* point of view could be a contribution to answer this question.

If a society connects the constitution of individuality and personality with social relationships and worlds of experience from outside, it is confronted with the task of creating this "outside" in a diverse manner. Only by coping with this task can the individual capacity of autonomous and spontaneous reflection, radical critique and the new-thinking of habitual types of reflection in an enduring way be assured. Even in an ICT world centred on individuals we can find the unknown and unavailable only outside of data networks.

Resources of individuality are not only situated in the subject itself, but also in the freedom to choose a space of experience that is not restructured by ICT. A setting free of ICT offers different aesthetic qualities[xvi] to an environment that is integrated into data networks.

Many aesthetic theories deal with the impact of the external environment on the constitution of human beings as being one of sensual-bodily existence.[xvii]

In the context of Gernot Böhme's concept of an aesthetic of nature for example he points out the dependence of human dispositon on aesthetic values.[xviii] It can be assumed that we consider an environment pervaded by computers in a different way to one not touched by ICT regardless of whether the setting is urban or rural.

We can speak about different qualities of impression[xix] in a networked environment on the one hand and a setting free of ICT and free of an independent "intelligence" on the other hand. Qualities of an ICT-free area are its insularity, its limitation on the local situation and its particular charisma. A networked world stresses its usability,[xx] interaction and participaton in public communication. The negation of ICT applications promises the absence of control through a "big brother technology", the absence of a public sphere and of a system of organisation according to an instrumental rationality as well as the avoidance of being addressed by an omnipresent digital network. Parallel to certain forms of argument of aesthetic theory referring to experience of nature, an ICT-free environment could mediate values like spontanity, autonomy and end in itself. Here, freedom shall be understood as an alternative to a ubiquous organisation and communication according to the principles of ICT.

The question is whether a technology with such a great influence on human experience and self-perception should be allowed to diffuse into all spheres of society and into all geographical areas. Why shouldn't the experience of an ICT-free environment – similar to the experience of nature – be a necessary component of a concept of the good life?

To eliminate usable and helpful ICT applications from our everyday environment seems to be illusionary and without basis. In any event we have seen that there are good reasons to build up single ICT-free zones as parts of urban or rural areas. In a future world of ambient intelligence and ubiquitous digital networks they could offer - similar to nature reserves areas in the context of industrialised landscapes - a different dimension of experience. ICT-free zones could aesthetically enrich (maybe

with ethical implications) the experience of reality. Even if such "reserves" are not desirable or relevant for the majority of population, like the so-called high culture they could be a valuable contribution to plurality and to the diversity of human experience and, last but not least, to the support of individual identities.

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ii See, Monika Elsner u. a., Zur Kulturgeschichte der Medien, in: Klaus Merten/ Siegfried J. Schmidt/ Siegfried Weischenberg (Hg.): Die Wirklichkeit der Medien. Eine Einführung in die Kommunikationswissenschaft, Opladen 1994, pp, 163 – 187, pp. 163 f. .

[iii] Kofi A. Annan (2003): Presse und Meinungsfreiheit gehören zusammen. Erklärung zum Weltfernmeldetag – 17. Mai, http://www.gipfelthemen.de/globalegemeinschaft/uno_infogesellsch/index.shtml

[iv] See, G8, Okinawa Charter on Global Information Society, Parapgraph 12, http://www.dotforce.org/reports/it1.html

[v] WSIS, Declaration of Principles, Paragraph 2, without accentuations.

[vi] See the debate between communitarians and liberals.

[vii] WSIS, Declaration, Paragraph 60.

[viii] „Die geringe Verschiebung, die hier für die Geschichte der Ideen vorgeschlagen wird und die darin besteht, daß man nicht Vorstellungen hinter den Diskursen behandelt, sondern Diskurse als geregelte und diskrete Serien von Ereignissen - diese winzige Verschiebung ist vielleicht so etwas

wie eine kleine (und widerwärtige) Maschinerie, welche es erlaubt, den Zufall, das Diskontinuierliche und Materialität in die Wurzel des Denkens einzulassen“ Michel Foucault: Die Ordnung des Diskurses. Mit einem Essay von Ralf Konersmann, Frankfurt a. M.: Fischer erweiterte Ausgabe 1997, p. 38.

[ix] See, Koselleck, Reinhart: Kritik und Krise. Eine Studie zur Pathogenese der bürgerlichen Welt, Freiburg/ München: Alber, second edition 1969, pp. 136 ff. .

[x] Information Technology Union (ITU), Basic Information: About WSIS, in: www.itu.int/wsis/basic/about.html.

[xi] WSIS, Declaration, Paragraph 53 und 54.

[xii] European Commission, Information Society Technologies Advisory Group (ISTAG), ISTAG Scenarios for Ambient Intelligence in 2010: www.cordis/lu/ist/istag.htm, p. 33.

[xiii] See, Futur-Leitvision, Leben in der vernetzten Welt: individuell und sicher. P. 3. See also, the “Global Brain Project“, Los Alamos.

[xiv] See, Futur-Leitvision, Leben in der vernetzten Welt: individuell und sicher. P. 3.

[xv] ISTAG-Annex 2, p. 32.

[xvi] Gernot Böhme: Für eine ökologische Naturästhetik. Frankfurt a. M.: Suhrkamp 1989, p. 30. He used in this context the expression *„Umgebungsqualitäten“.*

[xvii] In the past for example Friedrich Schiller, *Über die ästhetische Erziehung des Menschen* …, Immanuel Kant, *Kritik der Urteilskraft*, or Theodor W. Adorno in his aesthetic theory.

[xviii] See, Konrad Ott: Ökologie und Ethik. Ein Versuch praktischer Philosophie, Tübingen 1993, p. 140.

[xix] Ott: Ökologie und Ethik, p. 140.

[xx] Friedrich Dessauer used the term *Dienstwertcharakter.*

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Kenneth Einar Himma

The Ethics of Tracing Hacker Attacks through the Machines of Innocent Persons

Abstract:

Victims of hacker attacks are increasingly responding with a variety of "active defense" measures, including "invasive tracebacks" that are intended to identify the parties responsible for the attack by tracing its path back to its original source. The use of invasive tracebacks raise ethical issues because, in most cases, they involve trespassing upon the machines of innocent owners. Sophisticated hackers attempt to conceal their identities by routing their attacks through layers of innocent agent machines and networks that are compromised without the knowledge of the owners. The use of invasive traceback technologies in such cases, then, involves an act is presumptively problematic from an ethical standpoint: intentionally entering upon the property of an innocent person without her consent constitutes a prima facie trespass.

I argue that there is no ethical principle that would justify the use of invasive tracebacks by private persons or entities (as opposed to governmental persons or entities). First, I argue that invasive tracebacks cannot be justified under the Defense Principle, which allows one person to use proportional force to defend herself or other innocent persons from attacks. Second, I argue that, in ordinary cases, the use of an invasive traceback impacting innocent persons cannot be justified under the Necessity Principle, which permits the infringement of an innocent person's rights when necessary to achieve a significantly greater good. Since these are the only applicable principles, I conclude that, in the absence of special circumstances, it is not ethically permissible for private parties and entities to implement invasive traceback technologies.

Agenda

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Introduction

Hackers are posing an ever-greater threat to Web-based governmental and corporate activities. While hackers are increasing in both number and sophistication, the resources available to law enforcement agencies is increasing, if at all, at a much slower rate. Hackers are clearly winning the battle with law-enforcement agencies, which must content themselves with investigating and prosecuting only the most spectacular cases.

Not surprisingly, private firms have begun to take matters into their own hands, responding to hacker attacks with a variety of "active defense" measures.[i] Some of these responses are aggressive in the sense that they are intended to inflict the same kind of harm on the attacker's machine or network as the attack is intended to have on the victim's machine or network. While private firms may sometimes employ these measures for purely defensive reasons, they are also frequently motivated by a desire to retaliate and deter future attacks: in many cases, the attack can be stopped with far less aggressive measures.[ii]

The use of aggressive measures by private firms is ethically problematic for a variety of reasons. To begin, most sophisticated attacks are staged from a layer of machines that have been compromised without knowledge or fault on the part of their owners; in such cases, aggressive active defense deliberately causes harm to innocent persons – something that is, at the very least, presumptively problematic. Moreover, in sophisticated attacks, aggressive measures are more likely to escalate hostilities than to end them. Finally, it is generally accepted that it is the province of the state, and not the aggrieved individual, to direct force at an offender for the purposes of punishing and deterring wrongdoing; for this reason, aggressive active defense is not unreasonably characterized as wrongful "vigilantism."

A different (and more difficult) set of ethical issues, however, arises in connection with less aggressive active defense measures that attempt to identify the parties responsible for a digital attack by tracing the path of the attack back to its original source. There are a variety of "traceback" technologies and techniques available to victims of Internet-based attack. The most benign of these techniques is simply to take attacking IP addresses – information contained in the attacking traffic itself – and then conduct a "whois" lookup for that address at the various domain registry services. In contrast, the more invasive techniques and technologies attempt to identify the identity of parties culpable for a digital attack by *entering into* compromised machines or networks.

While there is little reason to think that the more benign technologies are unethical, the use of "invasive tracebacks" raises ethical issues when hacker attacks are staged from innocent agent machines. Although the use of invasive tracebacks does not cause harm to these agents, it involves unauthorized entry upon the property of innocent persons – something that is presumptively wrong: intentionally entering upon the property of an innocent person without her consent constitutes a *prima facie* trespass. Accordingly, the use of such technologies can be justified only insofar as it falls within the application-conditions of some generally accepted moral principle that protects a more important interest than the interest in being free from trespass.

In this essay, I argue that there is no ethical principle that would currently justify the use of invasive tracebacks by *private* persons or entities (as opposed to governmental persons or entities).[iii] To begin, I argue that invasive tracebacks cannot be justified under the Defense Principle, which allows one person to use proportional force to defend herself or other innocent persons from attacks. The problem is that tracebacks are used to identify parties and cannot, strictly speaking, be used to "defend" against an attack.

Further, I argue that, in ordinary cases, the use of an invasive traceback impacting innocent persons cannot be justified under the Necessity Principle, which permits the infringement of an innocent person's rights when necessary to achieve a significantly greater good. The problem here arises because the use of tracebacks can result in a variety of significant intra- and inter-cultural harms that are not balanced by a sufficiently greater moral good because tracebacks are currently unreliable in identifying the parties responsible for an attack. Since these are the only applicable principles, I conclude that, in the absence of special circumstances, it is not ethically permissible for private parties and entities to implement invasive traceback technologies.

Two preliminary observations are in order here.[iv] First, the arguments in this essay apply only to existing traceback technologies. It is not unreasonable to think that traceback technologies will continue to improve over time as researchers

develop better techniques and cleaner codes. Thus, we can reasonably expect that future traceback technologies will not have the same morally significant limitations of existing technologies; they will likely be more efficacious with fewer unintended harmful inter- and intra-cultural consequences. If so, then future technologies might very well be justified under the Necessity Principle.

Second, the analysis here is not grounded in any general ethical theory like consequentialism, the ethic of care, or Kantianism constructivism. Rather, as is common in applied ethics, the analysis is grounded in principles and case-judgments which figure prominently in ordinary ethical practices. Accordingly, the analysis begins by identifying ethical principles that I think that most people would accept as correct and proceeds by attempting to identify the implications of those principles.

This means that the analysis here is capable of persuading only those persons who accept the principles and case-judgments that ground it. While these principles and judgments are incorporated into the law of every Western industrialized nation and hence widely accepted as just, they might not be universally accepted in all cultures. If not, then the analysis here will not persuade persons in all cultures – though I would be surprised if something like these principles were not universal.

Innocent Persons and the Defense Principle

At the outset, it is important to realize that the risk that active defense measures will impact innocent machines is not just "theoretical."[v] *Most* sophisticated attackers attempt to conceal their identities by compromising innocent machines and staging their attacks from these "agents" – which are frequently located all over the world. To adequately defend against or investigate an attack, active countermeasures will have to be directed, at least initially, at the agents used to stage the attack. Accordingly, it is nearly inevitable that any reasonably efficacious active defense strategy will impact innocent persons.

Anyone sophisticated enough to implement an active defense strategy even remotely likely to succeed in countering an attack presumably realizes this. Indeed, one could not make an *informed* choice of active defense strategies without understanding the structure of the attack and the various countermeasures most likely to stop it. And anyone who understands these things must surely know that an efficacious response will likely impact innocent machines in a variety of ways that are potentially problematic from the standpoint of morality.

While it is generally impermissible for one person to infringe the rights of innocent persons, there are exceptions.[vi] One obvious example is the principle that allows us to use proportional force when necessary to defend against an attack:

> **The Defense Principle:** It is ethically permissible for one person to use force to defend oneself or other innocent persons against an attack provided that (1) such force is proportional to the force used in the attack; (2) such force is necessary either to repel the attack or to prevent the attack from resulting in harm of some kind; and (3) such force is directed at, and likely to harm, only those persons who are responsible for the attack.While there is considerable disagreement among cultures about the content of moral principles, most cultures accept something like the Defense Principle, which is also incorporated into the criminal law of nearly every developed legal system in the world.

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The Defense Principle is generally thought to allow force against innocent persons in one fairly narrow situation. While I may never direct force against innocent *bystanders* to defend against an attack, I may direct force against what are plausibly characterized as innocent *attackers*. If, for example, I am attacked by someone who is obviously insane and not morally responsible for his actions, I may, under the Defense Principle, defend myself against him with proportional force. Despite the fact that the attacker is innocent of any wrongdoing because incapable of instantiating a culpable mental state, I may direct force against him under the Defense Principle as long as it is necessary to defend against the attack. This interpretation of the Defense Principle is nearly unquestioned among theorists and laypersons.[vii]

Though innocent agent machines seem to fall within the application-conditions of the Defense Principle as innocent attackers, this principle cannot justify

the use of invasive tracebacks for a couple of reasons. First, the use of invasive tracebacks does not necessarily involve anything that is plausibly characterized as force. It is part of the conceptual nature of force that it be capable of inflicting damage, injury, or harm. It makes sense to characterize redirecting a DoS attack back at the attacker as *force* because overloading a network results in something that is fairly characterized as *harm*; if the victim's business is taken offline, she will lose business – something that clearly involves an injury of sorts. But while invasive tracebacks involve entering the machines of other persons, such acts do not necessarily inflict damage, injury, or harm. Insofar as these traceback technologies do not involve anything that necessarily inflicts (or attempts to inflict) damage, injury, or harm, they are not properly characterized as "forceful" and hence cannot be justified by the Defense Principle.

Second, and more importantly, invasive tracebacks do not have any features that would either *repel* the attack or *prevent* the attack from resulting in harm to the victim. The point of using a traceback technology is to identify the culpable attacker by following an ongoing attack back through intermediate sources to its origin. Indeed, insofar as such technologies do not involve anything plausibly characterized as force capable of inflicting an injury, they *could not* repel an attack. Further, insofar as such technologies do not involve anything that enables the victim to escape from the act, they do nothing do prevent any harm; the only ways to prevent an attack from resulting in harm is to either repel the attack or escape.

At this juncture, invasive tracebacks can succeed in identifying the culpable parties only while the attack is ongoing. In this sense, they resemble technologies for tracing a telephone call; a telephone call can be traced only while the calling party remains on the line. It is no accident, then, that invasive tracebacks do not incorporate techniques plausibly characterized as forceful; the concomitant use of force would diminish the likelihood of identifying the parties by increasing the probability that the attacker will end the attack. These technologies can succeed only insofar as they do nothing that would repel or defend against the attack. Accordingly, since the Defense Principle can justify only the use of measures intended to repel an attack or prevent harm, the use of invasive traceback technologies cannot be justified by reference to the Defense Principle.

Innocent Persons and the Necessity Principle

There is one other widely-accepted ethical principle that allows one person to infringe the rights of innocent persons that might justify the use of invasive traceback technologies. An example will help to develop the principle. Assume that the following are all true: (1) Attacker is attempting to set Victim's house on fire by throwing Molotov cocktails at Victim's house; (2) Victim's child is in the house; (3) Attacker is throwing these cocktails from the property of Innocent Bystander who is away on a business trip; and (4) the only way Victim can stop the attack before it succeeds is to trespass onto Bystander's land. Most people (indeed, in most cultures) would agree that, under these circumstances, it is permissible for Victim to trespass onto Bystander's property. Though such an act clearly *infringes* Bystander's property rights, it does not *violate* those property rights precisely because it is morally justified.[viii]

There are four considerations that explain this judgment. First, Victim will achieve great moral value by saving her child's life and her dwelling from a culpable attack. Second, Victim cannot achieve such moral value without trespassing onto Bystander's land. Third, the threat to Victim's interests is much greater, morally speaking, than the threat to Bystander's interests. If Attacker succeeds, then an innocent child will be killed and Victim will be forcibly dispossessed of her dwelling without any claim of right. The threat to Bystander's interests involves no more than a temporary presence on her land since Victim does not need to cause any damage to the land in order to stop Attacker's assault and thereby save her home and child. Finally, Victim's objective is a morally respectable one – namely, to save her child's life and home from a culpable attack.

Putting these four features together suggests an uncontroversial general principle that limits the moral immunity of innocent persons to measures that potentially infringe their rights:

> **The Necessity Principle:** It is ethically permissible for one person *A* to infringe a right ρ of an innocent person *B* if and only if (1) *A*'s infringing of ρ is reasonably likely to result in great moral value; (2) the good that is protected by ρ is significantly less valuable, morally speaking, than the good that *A* can bring about by infringing ρ; (3) there is no other way for *A* to bring about

this great moral value that does not involve infringing *ρ*; and (4) *A*'s attitude towards *B*'s rights is otherwise properly respectful.[ix]

While this formulation is somewhat more technical than is customary, something like this principle is widely accepted across cultures and, like the Defense Principle, incorporated into the criminal law of nearly every developed legal system.

It is worth noting that the Necessity Principle augments the Defense Principle by allowing some action would infringe the rights of even innocent bystanders: the Necessity Principle seems to allow one person *A* to infringe the right of an innocent bystander *B* if necessary to defend *A* or some other person from a culpable attack that would result in a significantly greater harm than results from infringing *B*'s right.[x] But insofar as the Necessity Principle requires the achievement of a *significantly* greater good, it will not allow a person to direct force at an innocent bystander that is proportional to the force of the attack.

Though there is some overlap between the two principles, the rationales for the two principles are clearly different. On the most common conception of the right to self-defense, the culpable behavior of the attacker "forfeits" her right not to be attacked – at least to the extent that proportional force is involved; someone who threatens your right to life by shooting at you has forfeited her right to life for the duration of the attempt on your life. But it is clear that this cannot be what explains the validity of the Necessity Principle since one can forfeit a right only by expressly consenting to its forfeiture or by committing an act that directly infringes the rights of innocent persons. Since, by definition, an innocent bystander has not committed a culpable act and since we have no reason to think that she consents to the forfeiture of any right, the considerations that explain the right of self-defense cannot explain the Necessity Principle.

The most plausible remaining explanation is that the scope of many rights simply does not extend to situations in which a significantly greater good can be achieved only by infringing the relevant interest. On this line of analysis, my property right to exclude persons from using or being on my land does not extend to situations in which a person can save a life from culpable attack only by entering onto my land without my permission. In such cases, the person defending against such an attack has a moral permission/liberty to enter onto my land as long as she otherwise evinces proper respect for my interests and rights.

Applying the Necessity Principle to Invasive Tracebacks

An Epistemic Precondition for Justifying Action under an Ethical Principle

Before evaluating the application of the Necessity Principle to invasive tracebacks, I should note that there is an evidentiary (or epistemic) precondition that must be satisfied in order to justifiably take action under any ethical principle: one can be morally justified in taking action under an ethical principle only to the extent that one has adequate reason to believe that its application-conditions are satisfied. To see this, consider that Paul Hill argued that he was justified in murdering John Bayard Britton, an abortion provider, by the Defense Principle, which allows deadly force in defense of the lives of innocent moral persons against culpable attack.[xi] Since, according to Hill, fetuses are moral persons from conception and since murdering Britton was necessary to save the lives of fetuses he would culpably abort, he was justified in killing Britton under the Defense Principle – just as he would be justified under that principle in killing someone who was trying to murder a newborn infant.[xii]

Nevertheless, Hill's murder is not justified under the relevant the Defense Principle precisely because the epistemic preconditions for its application were not clearly satisfied. Insofar as reasonable persons disagree sharply on whether fetuses are moral persons from the moment of conception, much more argument is needed to provide adequate reason to believe this is the case. Since Hill lacked morally adequate reason to believe that the principle allowing deadly force in defense of innocent persons applied to *fetuses*, he could not be justified under the Defense Principle in killing Britton and was rightly convicted of murder. As a general matter, a person who takes forceful action against a person without adequate reason to think some moral principle's application-conditions are satisfied commits a moral wrong against that person.

It follows that the victim of an Internet-based attack can justifiably take action under the Necessity Principle only if she has adequate grounds for believing that its application-conditions are satisfied. The Necessity Principle permits an agent to perform act *a* knowing that it will infringe an innocent person's rights if and only if three conditions are satisfied: (1) the good secured by *a* significantly outweighs the evil that is done; (2) there is no other

way to achieve the significantly greater good than to do *a*; and (3) the performance of *a* is reasonably likely to succeed in achieving the significantly greater good. Accordingly, the victim of an Internet-based attack can justifiably take action under the Necessity Principle only if she has adequate grounds for believing that (1) the relevant moral value significantly outweighs the relevant moral disvalue; (2) there is no other way to achieve the greater moral good than to do *A*; and (3) doing *A* is reasonably likely to succeed in achieving the greater moral good. If the victim of such an attack of any kind lacks adequate evidence for any of these three propositions, she cannot justifiably act under the Necessity Principle. If she nonetheless acts in a way that infringes an innocent person's rights and if there is no other moral principle that would justify doing so, she has committed a moral wrong against that person. It is argued below that, absent special circumstances, only two of the three conditions above are satisfied with respect to the private use of invasive tracebacks.

Identifying and Weighing the Relevant Goods and Evils

In evaluating the permissibility of invasive tracebacks under the Necessity Principle, we can rule out one important good at the outset. Since these tracebacks are not designed to repel attacks or prevent the harms that result from such attacks, they cannot achieve the significant moral good of minimizing the victim's losses or damages. While this is a good that *defensive* measures are capable – at least in principle – of securing, invasive tracebacks are not, strictly speaking, defensive measures in the relevant sense. Accordingly, they are not – and *cannot be* – used to prevent the significant economic losses that frequently result from, say, DDoS attacks on commercial websites.

Even so, we need not look far for an important moral good that invasive tracebacks are contrived to secure. Criminal attacks are traditionally regarded as offenses against the general public – and not just against the individual victim or victims – for a couple of reasons. First, criminal attacks directed at one member of the community can, and frequently do, have harmful effects on other members of the community. When, for example, a defendant commits a murder, it can cause considerable fear and anxiety that can lead other persons in the community to modify their behavior in morally significant ways. Second, and equally importantly, criminal attacks always violate the legitimate expectations of the public and thereby breach the peace against the public.

Accordingly, though the individual victim has a special interest in wanting to see the criminal offender brought to trial and punished, the public also has a compelling interest in the fate of the criminal offender. Legitimate punishment of the guilty not only gives the offender what, as a moral matter, she deserves, but also helps to restore the peace. As long as the offender remains at large, the community is likely to continue to experience the sort of anxiety that can have a significant chilling effect on the exercise of their liberties. Bringing the offender to justice restores the peace by alleviating such collective anxiety and vindicating the legitimate expectations of the community.[xiii] Additionally, public punishment of the offender serves as a deterrent to future attacks and thereby helps to reduce the probability of further breaches of the peace. It is utterly uncontroversial that the restoration of the peace following a criminal offense is a good of considerable moral significance.

To the extent that invasive tracebacks can reliably be used to identify the culpable source of an Internet-based attack, they function to secure the important moral good of restoring the public peace by bringing a wrongdoer to justice. Identifying the party responsible for an Internet-based attack enables the state to bring that party to justice, to alleviate the public anxieties that typically follow criminal behavior, and to deter future would-be hackers. In theory at least, then, the use of invasive tracebacks conduces to moral goods of tremendous importance.

It is also uncontroversial that the magnitude of such goods is sufficient to justify comparatively minor infringements of an innocent person's rights if necessary to restore the peace. Suppose, for example, that an offender who has committed a robbery is attempting to escape from a private security officer who is chasing her down a public street. The robber's path eventually takes her onto the land of a private citizen who is away from her home at the time. If the only way that the security officer can apprehend the shoplifter is to come uninvited upon the innocent party's land and commit what would otherwise be a trespass, then it is clear, under the Necessity Principle, that it is morally permissible for her to do so.[xiv] The moral value of restoring the public peace greatly outweighs the moral disvalue of a simple trespass onto the land of an innocent party.

Likewise, the moral value of restoring the public peace greatly outweighs the moral disvalue of a simple digital trespass onto an innocent party's computer or network. As long as the user of such technologies does not infringe other rights of the innocent parties (by, for example, examining or troying files obviously unrelated to the attack), the relevant moral benefits associated with restoring the public peace greatly outweigh the relevant moral costs. Insofar as invasive tracebacks are used only to gather evidence that enables prosecutors to bring the culpable parties to justice, their use conduces to a significantly greater moral good.

Are there Other Plausible Methods for Identifying Culpable Parties?

At this point in time, it is reasonable to think that there are no other methods for identifying the culpable parties to an Internet-based attack that are generally reliable. Even if we assume that public law-enforcement agencies have some special ability to identify attackers during the course of an attack, they are typically slow to respond; as the point has been recently put, "Unless your company is a large organization[,] whatever help is forthcoming from agencies like the FBI will take a relatively long time especially in 'Internet time.'"[xv] Since the probability of identifying a culpable attacker is highest during the attack,[xvi] the inability of public law-enforcement agencies to respond in a timely way significantly diminishes the likelihood of identifying the ultimate source of an attack.

This should not be construed as a criticism of law-enforcement agencies in any particular culture. These agencies have to do the best they can with whatever resources the taxpaying public is willing to subsidize. Given that digital attacks are non-violent crimes against property and that resources are extremely limited, it is perfectly appropriate for law-enforcement agencies to treat them with less urgency than violent crimes against persons or property. If there is any fault here, it ultimately lies with the legislatures that fail to adequately fund law enforcement agencies.

But the absence of a consistently timely response in such cases does suggest, as a general matter, that the likelihood that law-enforcement agencies will be able to determine the identity of culpable attackers is comparatively low. If a timely response is needed to maximize the probability of identifying culpable parties, then it follows that an untimely response diminishes the probability of doing so. Accordingly, since tracebacks can be implemented by the victims of an attack more quickly than by any other party, the use of traceback technology by the victims arguably provides the *only* genuine opportunity to identify the ultimate source of an attack – information that law-enforcement agencies *must* have in order to bring about the great moral good associated with restoration of the public peace.

Again, the Necessity Principle will not justify any other infringements of the rights of innocent persons than are necessary to restore the public peace. Someone who, for example, attempts to gain access to content on an innocent machine not needed to identify the culpable attacker commits a violation of the owner's rights; such an infringement is not justified under the Necessity Principle because it is not necessary to achieve the greater moral good of restoring the peace. For these reasons, the Necessity Principle limits the private utilization of traceback technology to only those uses essential to gathering evidence that will conduce to bringing the culpable attacker to justice; any other use by private entities is morally problematic.

The Efficacy of Invasive Tracebacks in Identifying Culpable Parties

So far, two of the three conditions needed to justify the private use of invasive tracebacks under the Necessity Principle seem to have been satisfied. First, it seems clear that the moral value involved in bringing wrongdoers to justice and thereby restoring the public peace significantly outweighs the moral disvalue of committing a simple digital trespass. Second, it seems equally clear that, at least in the absence of a timely response from law enforcement agencies, there is no other method for identifying culpable parties that is reasonably likely to succeed. Whether the private use of invasive tracebacks can be justified under the Necessity Principle, then, turns on whether the third condition is satisfied – that is, whether there is adequate evidence that invasive tracebacks are reasonably likely to succeed in identifying culpable parties.

In thinking about this third condition, it is crucial to reiterate that any reasonably sophisticated hacker will attempt to put some distance between her and her victim by attacking the victim through third-party intermediary machines. A sophisticated hacker will usually compromise a set of vulnerable agent machines or networks in such a way as to permit her to control those machines from another remote machine (e.g., her home machine), thereby interposing a layer of insulation (or a "hop in the chain") between her and her victim: the immediate

source of the attack is the set of agent machines controlled by the hacker's remote machine, which is the ultimate source. And hackers are not limited to one layer of insulation: it is possible to compromise two sets of intermediate machines, using one to stage an attack directly from the other. In such cases, the attacker interposes two hops in the digital-causal chain that links the attacker's machine with the victim's machine.

The efficacy of any particular traceback technology, including invasive technologies, in identifying culpable parties depends on the structure of the attack and, in particular, on the causal proximity of the culpable party's machine to the victim's machine. The greater the number of hops in the causal chain linking attacker and victim, the less likely that any traceback technology will succeed in identifying the ultimate source of an attack. While tracebacks can be highly effective in tracing attacks that are staged directly from the hacker's machine, they are considerably less effective in tracing attacks that are routed through layers of intermediate agent machines or networks – and the probability of success drops dramatically as the hacker adds additional hops in the chain. If the hacker is reasonably careful in selecting mechanisms for controlling the different layers of machines, the probability that the culpable party can be identified by tracebacks is fairly characterized as negligible.

As an empirical matter, direct attacks are becoming less common as hackers become more sophisticated. As one prominent security expert explains:

> *"[A]ttacker[s] sitting at home on their PCs very rarely (unless they are rather naïve) will connect to a PPP server (or use a broadband/DSL direct IP connection) and then attack some site. This is just too easy to trace back. Instead, they will use one or more (the more, the better) compromised systems…."*[xvii]

At this point in time, then, only the most naïve hackers would stage direct attacks from their own machines or networks. Any reasonably sophisticated hacker will attempt to insert as many hops in the chain between her and her victim as is needed to minimize the likelihood of being identified.

But this means that the victim of an Internet-based attack will be justified in using invasive tracebacks under the Necessity Principle only insofar as she has adequate reason to think that the attack is being staged directly from the hacker's own machines without the use of intermediate agent machines or networks. As will be recalled, the third condition for justifiably using invasive tracebacks under the Necessity Principle is that there must be adequate reason to believe that such a measure is reasonably likely to succeed in bringing about the greater moral good of identifying the culpable parties. Since it is uncontroversial that invasive tracebacks are reasonably likely to succeed only in direct attacks, the third condition will not be satisfied unless the victim has minimally adequate evidence for believing that the attack is direct.

While it is undoubtedly true that there may always be cases in which this is true, these cases are, at this point in time, the exception and not the rule – and will become increasingly rare as hackers generally become more sophisticated not only with respect to the techniques they adopt but also with respect to how they convey those techniques to other would-be hackers. Absent special circumstances or special knowledge on the part of the victim contemplating the use of invasive tracebacks, the presumption should be that the use of invasive tracebacks is not likely to succeed in identifying the culpable attackers. For this reason, the moral disvalue associated with trespassing against the innocent agent machines cannot be justified, in ordinary cases, under the Necessity Principle by the significantly greater moral value of bringing the wrongdoer to justice and thereby restoring the public peace.

Here it is important to emphasize again that the reasoning above applies only to existing technologies. One can reasonably expect that, as traceback technologies are improved, they will become increasingly efficacious in identifying culpable parties. Indeed, it is not inconceivable that they might very well be improved to such an extent that invasive tracebacks become so highly reliable in identifying culpable parties that a victim is justified in presuming in any given instance that executing a traceback will be successful in identifying culpable parties. This, of courses, does not, by itself, imply that using tracebacks is permissible because there might be problems that counterbalance such advantages. But it does imply that the reasoning in the preceding paragraph referring to existing technologies would not apply to sufficiently efficacious technologies.

But insofar as current technologies are comparatively unreliable in identifying culpable parties, their use cannot be justified under the Necessity Principle as needed to bring about the

greater moral value of identifying culpable parties for the purpose of bringing them to justice.

Potential Impacts of Widespread Use on Intra- and Inter-cultural Community Building

While I think the foregoing analysis is sufficient to rule out the use by private parties of invasive tracebacks, there is an additional problem involved in trying to justify using invasive tracebacks by reference to the Necessity Principle. Up to now, I have considered only the direct effects of invasive tracebacks on the interests of the parties immediately involved in a digital attack: the victim, the owners of innocent agent machines, and the hacker. So far, the argument has considered only these effects in calculating the moral value and disvalue that would be achieved by the use of invasive tracebacks.

Unfortunately, the morally undesirable effects of any exchange between hacker, owners of innocent agent machines, and victim potentially extend far beyond just their interests. How such attacks are handled can have grave effects on those trust relationships within a particular culture that are essential to community-building efforts.[xviii] Consider, for example, a hacker who compromises the networks of a number of large U.S. businesses to stage attacks on the websites of *other* large U.S. businesses; such an attack would appear to the victim businesses to have been staged by its local competitors and likely interpreted as an act of corporate espionage.

Attacks like this can obviously impact a variety of intra-cultural trust relationships in harmful ways. Most obviously, they impact the relationships of the relevant U.S. businesses in ways that make them less likely to cooperate in socially useful ways and, indeed, may have the effect of making them far more likely to engage in unethical practices like corporate espionage. Less obviously, these attacks are likely to impact consumer trust in U.S. businesses because these attacks call attention to the security vulnerabilities of E-commerce.

The economic effects of these impacts within a culture are potentially great. The importance of E-commerce to economic activity in the U.S. has increased to the point where billions of dollars are at stake. Damage to "horizontal" trust relationships between competing businesses and to "vertical" trust relationships between consumers and businesses can result in significant economic losses and ultimately in the loss of jobs. Contractual economic activity has always involved a leap of faith; one must have trust that the other party is behaving in good faith and will fully abide by contractual terms. But the new Web-based information technologies require a greater trust from consumers and businesses for a variety of reasons. Since, for example, Web transactions the transmission of data from one theoretically vulnerable network to another, consumers must trust that businesses are not only operating in good faith, but also are making adequate efforts to secure the transmission of such data.

Moreover, how victims *respond* to attacks can also have significant effects on intra-cultural trust relationships. Suppose each of the victims in the above example launches a counterstrike directed against the agents from which the hackers is staging the attack. Now the innocent agent networks in the U.S. are also being directly attacked, but these attacks are being staged by U.S. businesses. These counterattacks are likely to compound the economic damage caused by the original attacks by increasing the damage to the various trust relationships.

Indeed, a situation in which major U.S. businesses are launching digital attacks against one another is fairly characterized as an intra-cultural "worst-case scenario." Consider John Pescatore's description of one possible scenario:

> *"My fear is that U.S. government agencies [involved in information warfare] will build in react capabilities. A smart hacker will launch a [denial-of-service] attack using those agencies' IP addresses and they all start attacking each other. The worst case is Amazon shoots eBay who shoots the IRS who shoots Cisco who shoots...."*[xix]

The idea that major U.S. corporations would engage in something that resembles cyberwarfare could have a variety of ramifying effects on socio-psychological and economic phenomena. Clearly, the intra-cultural impacts of aggressive countermeasures are potentially devastating.

Even the use of less aggressive active defense measures, like invasive tracebacks, is problematic from the standpoint of intra-cultural community-building. Imagine the likely reaction of the U.S. businesses in the example above to finding out that traceback technologies have been used to track the attack through *their* servers and networks. The same networks and servers from which a digital attack can be staged might also contain sensitive information about clients and customers. The

attempt by one U.S. company to trace a digital attack through the equipment of other U.S. companies can have significant effects not only on the relationships among the businesses, but also on the relationships between the businesses and their potential customers. The effects of adopting any aggressive or invasive active defense measure on intra-cultural community-building efforts can clearly result in profound moral disvalue.

The potential effects of such measures on *inter*-cultural community-building efforts are significantly more worrisome. Suppose, for example, that a hacker attack against commercial machines in the U.S. is staged from a number of compromised machines which include machines used by government officials in North Korea, a state that has made no secret of its attempt to develop a significant nuclear arsenal. The adoption of aggressive or invasive active defense measures by commercial firms against these machines has the potential to increase tensions between the U.S. government and the North Korean government, potentially putting millions of people at risk by derailing efforts to build community connections between two nations with nuclear weapons.

It is clear that the moral disvalue involved in the worst-case scenarios in both examples would outweigh the moral value to be achieved by the adoption of invasive tracebacks. In the worst-case scenario involving the intra-cultural example, the use of invasive tracebacks results in significant economic damage because it undermines the trust-relationships vital to cooperative economic activity even in a highly competitive economic environment like the U.S. In the worst-case scenario involving the inter-cultural example, the use of invasive tracebacks could conceivably bring the world to the brink of nuclear confrontation. Clearly, the moral disvalue in both scenarios outweighs the good to be done by identifying the party ultimately culpable for the attacks.

At this stage, it might be tempting to conclude that these examples show that the use of invasive tracebacks *violates* the Necessity Principle. Since their effects in the worst-case scenarios on intra- and inter-cultural community-building efforts results in significantly more moral disvalue than can be counterbalanced by the moral value achieved by their use, it follows, on this line of reasoning, that the use of invasive tracebacks violates the Necessity Principle.

This reasoning, however, fails to show that, as a general matter, the use of invasive tracebacks violates the Necessity Principle because the use of such technologies in any given instance need not result in the worst-case scenario. Just because an act *can* result in a particular scenario doesn't mean it *will* result in that scenario. Indeed, in any given instance, a party contemplating an active response using invasive tracebacks will have little reliable evidence regarding the probability that the worst-case scenario will result.

Nevertheless, we can justifiably draw the conclusion that, as a general matter, private parties cannot justifiably use invasive tracebacks on the strength of the Necessity Principle – precisely because the probabilities of the worst-case scenario cannot reliably be estimated. Here it is essential to recall what I described as an evidentiary (or epistemic) precondition that must be satisfied in order to justifiably take action under any ethical principle: it is a necessary condition for justifiably acting under an ethical principle that one has adequate reason to believe that its application-conditions are satisfied.

As a general matter, this evidentiary condition will not be satisfied in ordinary situations where private parties are contemplating an active defense involving invasive tracebacks. Insofar as private parties, as a general matter, lack sufficient information to reliably estimate the probabilities of the worst-case scenarios, they lack adequate reason to think that the moral value outweighs the moral disvalue associated with using tracebacks and hence lack adequate reason to think that the application-conditions of the Necessity Principle are satisfied. Thus, absent special knowledge, private parties cannot justify using invasive tracebacks on the strength of the Necessity Principle.

It is true, of course, that the claim that one *cannot justify* using invasive tracebacks by reference to the Necessity Principle is weaker than the claim that the use of invasive tracebacks *violates* the Necessity Principle; but the practical implications are the same. In neither case is it permissible for private parties to use invasive tracebacks under the Necessity Principle. Since, as I have argued, there is no other principle that would justify use of such technologies, it is morally impermissible for private parties to respond to hacker attacks – absent highly unusual circumstances – with invasive tracebacks.

Acknowledgments

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[i] "Active defense" may be slightly misleading since it suppresses the fact that there is a range of potential responses available to the victim of an attack; Dave Dittrich and I have proposed the adoption of "Active Response Continuum" to call attention to this important feature of active defense. For a comprehensive discussion of the technical, ethical, and legal issues, see Dave Dittrich and Kenneth Einar Himma, "Active Defense," forthcoming in Hossein Bidgoli (ed.), The Handbook of Information Security, John Wiley & Son, Inc., 2005. Nevertheless, I will defer in this essay to existing conventions.

[ii] For example, the host of WTO servers responded to a denial of service (DoS) attack on those servers by redirecting the incoming packets back to the attacking network instead of simply dropping the packets at the router, which would have sufficed to end the attack. See, e.g., D. Radcliff, "Should you strike back?" *ComputerWorld* (November 13, 2000); available from http://www.computerworld.com/governmenttopics/government/legalissues/story/0,10801,53869,00.html.

[iii] State use of active defense raises a very different set of issues, as a morally legitimate state can permissibly do many things that private individuals and entities cannot permissibly do – such as tax and punish private persons and entities.

[iv] I am indebted to Rafael Capurro for making me see the need for this qualification. See *Polylog: A Forum for Intercultural Philosophy* (http://www.polylog.org/index-en.htm) for helpful resources dealing with cultural and intercultural issues in philosophical methodology.

[v] On this imprecise but common usage, a purely theoretical risk is one of such small probability that it can be dismissed from practical deliberations as mathematically insignificant.

[vi] By definition, to say that a right has been "infringed" is to say only that someone has acted in a way that is inconsistent with the holder's interest in that right; strictly speaking, then, the claim that a right has been infringed is a purely descriptive claim that connotes no moral judgment as to whether or not the infringement is wrong. In contrast, to say that a right has been "violated" is to say that the right has been infringed by some act and that the relevant act is morally wrong. Accordingly, it is a conceptual truth that it can be permissible for an individual or entity to infringe a right, but it cannot be permissible to violate a right.

[vii] Not everyone accepts this view. Michael Otsuka argues that there is no morally significant difference between innocent attackers and innocent bystanders. Both are immunized from infringement of their rights by persons defending against culpable attack by the fact that they bear no moral responsibility for the attack. Otsuka, "Killing the Innocent in Self-Defense," *Philosophy and Public Affairs*, vol. 23, no. 1 (1994), 74-94.

[viii] For an explanation of the distinction between infringing and violating a right, see Note 6 above.

[ix] There is, of course, some vagueness in the notion of "reasonable likelihood." Unfortunately, most ethical principle can be adequately expressed only in language that is vague at the margins. What uncertainty there is about the boundaries of "reasonable likelihood" will not, however, affect the argument I give in this paper.

[x] It is worth noting that the Necessity Principle is a principle of the criminal law of many Western jurisdictions. For example, Section 35.05 of the New York Penal Code provides that "conduct which would otherwise constitute an offense is justifiable and not criminal when … [it] is necessary as an emergency measure to avoid an imminent public or private injury which is about to occur by reason of a situation occasioned or developed through no fault of the actor, and which is of such gravity that, according to ordinary standards of intelligence and morality, the desirability and urgency of avoiding such injury clearly outweigh the desirability of avoiding the injury sought to be prevented by the statute defining the offense in issue." Similarly, section 3.02 of the Model Penal Code provides that "[c]onduct that the actor believes to be necessary to avoid harm or evil to himself or to another is justifiable, provided that … the harm or evil sought to be avoided by such conduct is greater than that sought to be prevented by the law defining the offense charged."

[xi] For Hill's tragically misguided views, see http://www.armyofgod.com/PHillonepage.html.

[xii] Indeed, this is a very consequence of the claim that a fetus is a moral person. If a fetus has a full and equal set of moral rights, then murdering a fetus violates the same right of life that murdering a newborn infant violates and is just as grave a moral offense. This is why the issue of fetal personhood is so crucial to the abortion debate.

[xiii] Indeed, it is for these reasons that criminal cases are prosecuted by the state instead of the individual. In civil cases, it is entirely up to the victim to decide whether she wishes to seek compensation and to initiate the legal steps that would result in an appropriate court order; since only the individual victim of a civil wrong has a compelling claim for compensation, the individual victim has discretion to prosecute her own lawsuits as plaintiff. In criminal cases, it is the state that decides whether to pursue criminal charges against an offender.

[xiv] Notably, the same is true of a situation in which the innocent party is home at the time and can be asked by the security officer for her permission to come onto the land. It seems clear that the security officer would be justified in coming onto the land even if the innocent party refused her permission. While the infringement of the innocent party's property rights in this case is specifically intended, the infringement is so small relative to the great moral good it accomplishes that it does not constitute a violation; the innocent party's legitimate interests in her property do not include authority to deny its use in such circumstances.

[xv] Vikas Jayawal, William Yurcik, and David Doss, "Internet Hack Back: Counter Attacks as Self-Defense or Vigilantism?" *Proceedings of the IEEE International Symposium on Technology and Scoiety*, Raleigh, NC (June 2002), 5. Available from: http://www.sosresearch.org/publications/ISTAS02hackback.PDF.

[xvi] *Id.*

[xvii] Email from Dave Dittrich, Information Assurance Research at the Information School and Senior Security Engineer at Computing and Communications, University of Washington, November 29, 2003.

[xviii] I am assuming that nations are fairly characterized as "cultures." These, of course, are not the only cultures; there are a variety of cultures that are located inside national boundaries and that transcend them. I am grateful to Rafael Capurro for pointing this out to me.

[xix] D. Radcliff, "Should you strike back?" *ComputerWorld* (November 13, 2000); available from http://www.computerworld.com/governmenttopics/

government/legalissues/story/0,10801,53869,00.html.

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Informational Self-Determination Databases in an Intercultural Perspective

Abstract:

An Informational Self-Determination Database System allows to store, manage and query data while at the same time respecting the data subjects' rights of information privacy. We argue that in a world of everincreasing amounts of data that are directly or indirectly related to identifiable individuals and which are being maintained by many organizations, it is of utmost importance to offer strong, effective and reliable concepts and mechanisms – technical, organizational as well as legal – to avoid adverse effects of information processing on people. We present a short motivation for our claims. We then sketch our vision of an Informational Self-Determination Database System and its working. We maintain that our approach offers a realistic, practical and pragmatic solution for enhancing people's privacy, without hindering organizations in getting their business done.

Agenda

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Introduction

Information systems and electronic data processing have increasingly become a part of our daily lives. Ever growing amounts of personal data are being stored and processed and the explosive development of privacy-invasive technology such as RFID tags (radio frequency identification), bioimplants or DNA sniffers make informational privacy a growing concern. Although many countries have enacted data protection laws, many people perceive these laws as being inadequate and are concerned about the loss of privacy in the Internet age. Privacy-enhancing technologies have been developed to curb the use of personal data in information systems. However, both technical and legal measures have yet failed to give people control over their personal data. Generally, most people do not know where data about them is stored or how this data is used.

In this paper, we propose a novel approach to build privacy-protecting database systems, so called informational self-determination database system. With our database system we aim to give people better control over their data and heighten transparency in data processing. As a major innovative feature, we propose that data processor and data subject establish a contract before engaging in data processing. This contract clearly specifies for what purposes data may be processed. Through this form of contract, the privacy principle of consent (as stipulated by Alan Westin [15]) can - for the first time - be truly implemented. Furthermore, the proposed system leads to increased transparency, as citizens can view a detailed log file for each data collection that states when and for what purpose their personal data have been accessed. These log files are accessible through an easy to use portal service. This enables the compliance with a major section of the data protection law.

Our approach builds on existing work in the domain of privacy-enhancing technologies. In particular, the approaches made by Karjoth [6] (EPAL) and Agrawal [2] may be cited as related work. However our approach differs in several aspects: we aim at restoring transparency and control over personal data. This is achieved by redesigning database systems in combination with a contract that is established before any data is processed (consent principle). Our solution comprises both legal measures and a new approach to information systems in order to improve informational privacy. Our main goal is to find a realistic and practical solution to return the control and autonomy over personal data to private individuals. Therefore, our approach differs significantly from existing approaches, both in technical and conceptual aspects. We do not intend our proposal as a replacement for existing privacy-enhancing technologies but rather as an additional concept which could be used to complement these technologies. We also recognize that not all data exist in database systems. We thus feel that the approach of autonomic databases promises to yield benefits that cannot be attained by following existing approaches. With this paper, we hope to contribute to the discussion on privacy issues in the information society. We also make a contribution in the technical and conceptual aspects by proposing a new approach to data processing that pertains to the protection of privacy and can be implemented with available technology.

If such an approach should be widely accepted, its impact dare not hinder business and/or national security. Therefore we do not claim that our system guarantees complete privacy but we believe that this concept can influence people's awareness about their personal data. We hope that the a informational self-determination database system will soon come and that our concept will provide additional inducement for personal data to be sent back to where it belongs. If nothing else, our concept of a usercontrolled Personal Data Identification System may provide guidance for similar structures in other types of data repositories.

In this paper, we begin by providing the founding principles for informational self-determination which are based on privacy principles as defined by Westin, and on current privacy legislation and guidelines. After describing these principles, we discuss a design for informational self-determination database systems. We describe the features of the architecture and explain how the consent principle is implemented and how a portal service helps citizens to keep more control over their data. We also discuss changes in data protection legislation which would be necessary to complement our approach. The paper closes with an extend discussion on the intercultural perspective of informational self-determination database systems.

An overview of privacy invasive technology and related privacy and security issues, state-of-the-art in privacy enhancing technology and the concept of privacy revisited is described in the appendix for interested readers.

Founding Principles for Informational Self-Determination Database systems

Privacy enhancement can be understood as an increase in the control which each customer has regarding personal data which is shared with organizations. In this section, we introduce our concept for privacy enhancement and point out the key principles on which our system design is based.

Our founding principles are motivated by the value of privacy itself. These principles are rooted in existing data protection laws. They articulate what it means for a personal data collection system to responsibly manage private information. We argue for the following six 'new' principles, in addition to the several privacy regulations which already exist. In a few aspects some of the principles are related to but not similar to [15] and [2].

- Consent: People know when their personal data are stored and have to consent this storage.
- Purpose: Persons affected (see consent) must have the possibility to specify the purpose and usage of their data.
- Separation: Personal data and any other business data have to be stored separately.
- Audit: Transactions involving personal data must be recorded in transactional logs. Persons affected can then follow executed transactions and retrace usage of their personal data.
- Participation: Persons affected have access to their personal data, its usage and purpose specification. They can choose where and how to manage their personal data.
- Ease of use: Persons affected have the choice to bundle access to personal and audit data through portals and can define automatically applied patterns.

In comparison with [15] and [2], principles such as 'limited collection', 'limited use' and 'limited retention' are not requested within our approach, but each individual can regulate the mentioned principles as they wish. Within our approach, the 'consent' principle is enforced by law and is strictly connected to the 'purpose specification' principle, which is supported by technology. This infrastructure is expanded in such a way that each individual knows all his or her data sources. This makes principles like 'limited retention', 'openness' and 'compliance' traceable, so that mistreatments of the data-protection law can be investigated. Principles such as 'accuracy' or 'safety' are essential requirements, and as such, will not be mentioned again.

Consent

Nowadays almost any transaction, regardless of what it represents, is recorded. As long as no exact identification of a specific person can be made by using these data, no privacy issues are involved and there is no need for us to care about it. As soon these data are linked to personal data, however, privacy could be jeopardized as described in the appendix.

The first principle is that people, whose private data are stored, must give their consent for this storage, and the specified organization is obliged to inform these individuals 'where and what' data are stored. In most cases, people do not remember which companies store their data; they often have no chance to know this because in many cases they are completely unaware of such a data collection.

Personal data can be used for evaluations and for marketing purposes. It may be sold to other companies without the customer's consent or knowledge and as well as that, such data could even be stolen. Generally people do not pay attention to who manages or what happens with their data, but as soon as they are harassed with spam, telemarketing calls or advertising mails they want to know how this problem has arisen. On the other hand, it is important that organizations are not able to refuse services to any individual on the grounds of an eventual risk. Excluding customers from setting up a life insurance policy, denying access to buildings or generally concealing information are just a few examples of this. The importance of giving customers more information about data storage and the necessity of the customer's consent for further usage of that data is evident. At the same time, organizations gain competitiveness while data management transparency is offered to customers.

Purpose

The first principle illustrates the importance of customers being informed where and what personal data is stored. Now we outline why it's important to specify the purpose as to how personal data can be used.

Personal data can be used for different purposes and it is often used against people's intentions. This data-misuse problem can be solved if organizations put the people affected in a position from which they can influence the further data management. Each organization defines its own purposes which determine the intended use of personal data. Individuals are then able to decide how these settings should be applied to their personal data. For example, a purpose specification may be to receive special offers by e-mail. Organizations can distinguish themselves from competitors and at the same time enhance trust and confidence in their services. This method of participation naturally varies from organization to organization. The only exceptions when peoples personal data is passed without their consent are defined by legal regulations or occur during criminal investigations.

Separation

An area which urgently requires more attention with respect to privacy and security, is the stage at which business data is separated from personal data. During such a separation, business data, which contains sensitive information (e.g. about executed transactions), can be used for data mining without any need for the person's consent. Only an identifier indicates that these data belong to a specific person, so the data are anonymous as long as no connection to personal data can be made. As soon as personal data are requested for a specific purpose by linking to these data, this process must be permitted by the person affected and subsequently recorded in the audit trail.

Audit

Both people and organizations must have the possibility to understand and detect unauthorized uses of personal data. This leads us to the need for audit information where all executed transactions which accessed personal data can be traced. Such information should contain all of the following: who had when with which purpose access to what kind of personal data. This knowledge provides more security to individuals and organizations. This audit information simultaneously supports data protection and helps to minimize fraud. Usually these data are stored at the organizational side, but should be readily accessible to the persons affected.

Participation

While discussing the principles above, we saw why it is so important for people to manage and control the usage of their data. On the one hand, customers must be informed about further utilization of personal data, and on the other hand, they must be able to give their consent for any usage purpose.

To fulfill these requirements, customers need access to personal data which is stored on the organizational side. This participation can be realized in different ways, such as per telephone, forms or internet.

Ease of Use

A possibility for accessing personal data is realized via web portals. The central idea is to aggregate the information shared with all the organizations we are dealing with, and to create one personal portal. This provides people with a better overview and ensures that organizations know where users are managing their data and that they are informed of any changes. The resulting benefit for organizations is improved customer contact, enhanced trustworthiness and a higher level of confidence.

This kind of information aggregation results in a possible security gap. Each person can minimize this problem by depositing their personal data on different web portals. Each portal is physically separated, certificated and protected by a password.

This solution encompasses good standards, open interfaces and the possibility for organizations to buy these systems out of the box, its main objective being to enhance the ease of use by offering standardized interfaces and always adhering to the security requirements.

Design

In this part of the paper, we discuss the design aspect. We study a scenario and visualize the idea of purpose specification with the help of two examples. Furthermore, we outline the structure to indicate the direction in which the setup of such databases could be preceded, however it is not a full implementation guide.

A Use Scenario

Avatara and Belios are two online booksellers who want to enhance customers' confidence in their

company by implementing an autonomic database system. The main idea is to provide a service which gives customers the possibility to define what happens after personal data is entrusted to their companies. Basically, customers set purposes for their personal data usage. During the process in which business data is separated from a customer's personal data, this anonymous business data can be used for data mining and data analysis. References from business to personal data always need a customers' consent.

Additionally, customers are able to see and verify all executed transactions in a transactional list (audit trail), which is automatically updated each time the personal data is accessed.

In this section, we look at examples revealing how the two booksellers handle this requirement and what purpose specifications they define.

Purpose Specification Belios

Avantara and Belios must observe legal regulations and inform customers about these exceptions. For example, in the case of criminal investigations, personal data may be handed over to public agencies without the customer's consent.

Avantara and Belios have different opinions about how much information and customer's cooperation is necessary. Belios defines only a few settings for purpose specifications of personal data, and only asks general questions, for example, if the customer would like to receive advertisements.

Purpose Specification Avantara

Avantara, on the other hand, gives customers various possibilities to define purpose specifications regarding the use of their personal information. For instance, Avantara assumes that customers have preferences as to which information should come via which channel. Hence Avantara offers various channels for communication and makes distinctions between private and business phone numbers. Furthermore, customers can classify how they prefer to be contacted. These options are contracted under the tab "Contact". Under "Order", general order properties are defined, such as whether or not customers wish to be informed about their order status. Other companies and individuals are also employed to perform functions on Avantara's behalf. Examples include fulfilling orders and delivering packages, sending postal mail and emails, etc. They require access to personal information which is necessary in order to perform their functions, but they are not permitted to use it for any other purpose. Avantara guarantees that business or personal data is never passed to third parties without the customer's prior agreement, and that customers are always asked if data may be used for purposes other than those defined at the beginning. For customers who don't want to answer each single question under the "Defaults" tab, Avantara defines settings-categories for data usage. The data usage allowance can be set on "Minimum" or "Maximum". Last but not least, Avantara gives customers the chance to define the intensity of advertisement.

Alice and Bob (compare [2]) are looking for a skilled online bookseller, whereby Avantara and Belios are short-listed. Alice is a privacy fundamentalist who normally doesn't want companies to retain any information once her purchase transaction is complete. However she is willing to commit her personal data in order to receive some specific information if she can be certain that her data will be handled confidentially and only for the chosen purposes. For this reason, Alice decides to buy her books at Avantara since there she has the best overview of her personal data usage. Bob, in contrast, is a privacy pragmatist. He appreciates the convenience of only having to provide his email and postal address once when registering with organizations. He likes to receive new recommendations, but does not want to be part of purchase circles. He also chooses Avantara but his reasons are different from Alice's.

Tent is Avantara's privacy officer. He is responsible that the information system complies with the company's privacy policies. Mallory is an employee and he has questionable ethics.

Architecture

Finally, we present the architecture of an autonomic database. Central to the design is the active participation of customers in providing specific information within the organizational systems.

Components

Customers Data Requestor is responsible for opening a communication channel to the Request Handling Agent, which is located on the Customers Data System side.

Request Handling Agent only accepts properly formulated requests from the corresponding Customer Data Requestor.

Privacy Settings Rule Model covers rules which determine for which purposes customers' personal data can be accessed. These rules are constituted in the Privacy Control Settings. Trent designs these privacy definitions with regards to the company's privacy policy. For instance, he determines the purposes as to when a customer's email address can be used.

Rule Compliance Validator examines whether or not a personal data request complies with the Privacy Control Settings of each user.

Access Control takes care of accesses before and during query execution. Access Control is carried out on both the Business and Personal Data Identification System.

Query Intrusion Detection checks the accuracy of accesses after the queries by comparing the access with the usual access patterns for queries with that purpose and by that user. For example, Mallory decides to steal all email addresses of Avantara's registered users and to sell them to Avantara's competitors. Normally customers' email addresses can only be accessed for sending them recommendations or offers, or to enable order status tracking etc., as defined in the Privacy Settings Rule Model. Before the query results are returned, the Query Intrusion Detection matches these queries with the usual access patterns and detects the fraud.

Audit Trail records all possible queries for privacy audits and addresses challenges regarding compliance. Furthermore, this is where the customer's personal preferences as well as any changes to the Privacy Control Settings are maintained. Since customers have access to audit information, they are in a position to view all transactions and to detect any fraud.

Privacy Policy

Fig. 1 illustrates the separation of customers' personal and business data. The privacy policies of the two systems therefore differ in certain aspects, as explained in the following section.

Business Data System

Authorized users and applications of the Business Data System are specified in the privacy policy. These are the set of Avantara's employees and applications who, or respectively which, can access particular information. The anonymous business data is accessible for purposes such as data maintenance, data mining and data analysis. As a result of the data separation, Avantara doesn't require a customer's personal information for most data mining and analysis activities - that is, not until Avantara addresses its customers directly.

Personal Data Identification System

The privacy policy for the Personal Data Identification System is more sophisticated and consists of three main parts.

Authorized users: This is a group of employees, customers and applications. Employees and applications access this data for maintenance purposes only. Customers, in comparison, access the Privacy Control Settings to assign their preferences and restrictions with regard to data usage. Moreover, customers access Audit Trail information to view and verify the suitability of the use of their personal data. Returning to our example case, Mallory is employed by Avantara to maintain customers' business data, therefore he has no authorization to access customers' personal data.

Rule Mechanism: Privacy rules are defined in the Privacy Settings Rule Model. This model covers rules which determine the general purposes for which customers' personal data can be accessed. The Rule Compliance Validator checks customers' Privacy Control Settings to examine if specific accesses should be allowed.

Request / Reply Mechanism: The only way of connecting anonymous business data to customers' personal data is via a communication channel between the Customer Data Requestor and the Request Handling Agent. The Customer Data Requestor asks for information from the Request Handling Agent, which handles these requests and sends back a reply verified by the rule mechanism.

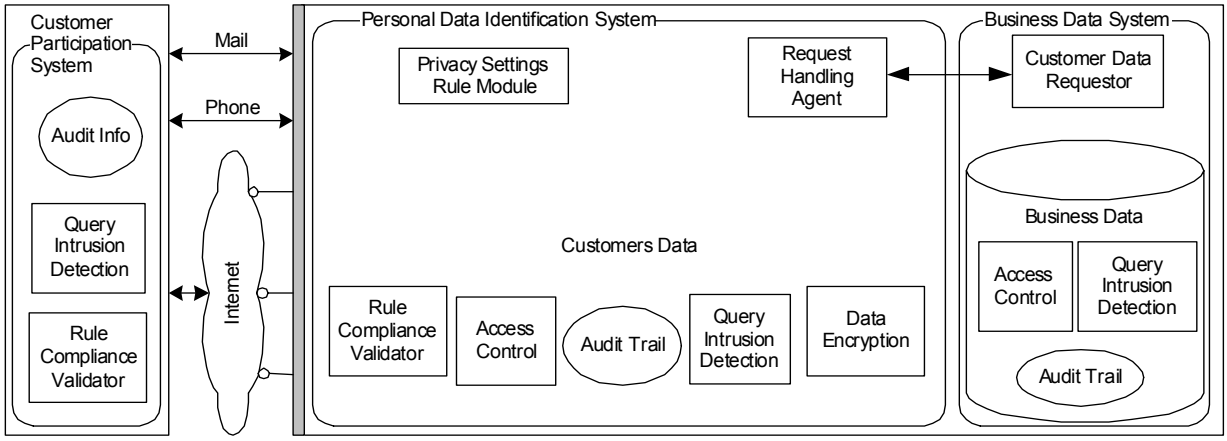

Figure 1 Architecture

Queries

Avantara decides to launch a new marketing promotion, and therefore selects 500 records from the Business Data, with the intention of sending these customers specific recommendations per post or per email. In order to do so, Avantara needs to access the Personal Data Identification System where customers' addresses are stored. The access from the Business Data System to the Customers Data System is only possible via a controlled channel. All queries for customers' personal data are first sent to the Customer Data Requestor. The Customers Data Requestor forwards these queries to the Request Handling Agent, which is located in the Personal Data Identification System. The Request Handling Agent passes all properly formulated queries it receives to the Rule Compliance Validator. The query for customers' postal or email addresses with the purpose "recommendation" was sent by an authorized employee at Avantara. The Rule Compliance Validator now checks, in accordance with the Privacy Settings Rule Model, if this query can be accepted. After the commit, customers' Privacy Control Settings are checked. Alice stipulated in her Privacy Control Settings that she doesn't want to receive any recommendation whilst Bob would like to be sent recommendations per email. Therefore only Bob's email address is sent back to the Customer Data Requestor.

Let's suppose that Alice unexpectedly receives a recommendation from Avantara, despite having told them that she doesn't want this. Since Alice has access to the Audit Info where all transactions are recorded, she can verify the permission of the received email and complain to Avantara about the mistreatment of her personal data.

Design Considerations

In this section we outline the six principles, upon which our approach is based. The purpose of this exercise is to demonstrate the feasibility of these principles.

Consent

The guarantee that explicit consent is required before personal data can be stored or utilized for further purposes has turned out to be a challenge. The first premise is to be absolutely sure where our personal data is stored. With the constitution of a data protection law, this requirement can be fulfilled.

Data which belongs to a person can be distinguished between being assignable or not assignable to a person's identity. Assignable data is, for instance, our surname, forename, address, telephone number, email address, etc., and can be directly assigned to a person, i.e. a person can be identified with this information. From now on, the term personal data will be used instead of assignable data. Data which is not assignable includes a person´s age, the items he or she purchased the previous month, the amount of rent he or she pays, etc. This information, viewed separately, can belong to anybody and isn't directly assignable to a certain identity.

Organizations mainly produce business data, as opposed to assignable data, and for the majority of processes, such as data mining, market research activities or individual steps within a whole business process, they do not require personal data. Therefore data which is not assignable can

theoretically be used for these purposes without the person's consent. Anyway, within the described system the usage of these data could be controlled, too. There are a few cases in which it makes sense, as for example data mining applications within medical data.) However as soon as institutions claim to use assignable data, the person's consent must be obtained.

The first step, concerning how data storage can be regulated, is the identification of all existing data islands. Possible institutions and service providers who may retain personal data are: Education, Financial and Legal, Government, Health and Medicine, Home, Media & Telecommunication, Personal Care & Recreation, Shopping, Travel and Transportation. The list is not complete and can, without doubt, be extended. We simply want to illustrate how widespread personal information can be, and how easy or difficult it is to get consent. The astonishing result is that most institutions can theoretically obtain a person's consent for collecting personal data very easily.

Now we will take a look at some cases where it is more difficult to obtain consent, or where organizations are not concerned with obtaining consent.

In cases of criminal investigation, it is particularly difficult to obtain consent. For instance, DNA information and fingerprints of suspicious persons are collected, although the individuals are not asked for their consent. In Great Britain, the DNA database already holds 1,8 million samples [1]. If persons behave in a suspicious way, information is recorded about them without their knowledge. For example, telephone calls can be intercepted, or the caller's position can be located via mobile phone. These privileges are regulated by law, and are only permitted to certain security institutions, such as the police, the civil defense agencies or the military, all of which are legally allowed only for specific purposes. The informational selfdetermination concept does not hinder this kind of investigation, however all transactions, where personal data is involved, are registered and can be used in cases of law abuse.

Another hidden data record is to be found in buildings and areas where high security is needed. Examples of this may be airports or banks, where face scans and observation cameras are installed. In such buildings, any suspicious persons must be identified in order to control their access rights and to observe their behavior. For this form of identification, it is difficult to obtain consent and is often not reasonable.

Furthermore, the protection of data privacy is particularly difficult when institutions hold various personal data. Administrative bodies, for example, hold all sorts of personal information: birth certificates, marriage and/or divorce papers, official documents certifying a person's citizenship and religion, employment contracts or registration cards, information concerning taxes, penal records or monetary records. Especially under E-Government, numerous web applications are integrated, and are used by various national administrative bodies. Any interactions and information flows, which take place for the processing of services between these bodies, must be revealed and consented by the persons involved.

If personal data is obtained illegally, often for use in marketing purposes, it is more difficult to retrace. Institutions sometimes carry out indiscreet market researches or advertising, without the express permission of the person being interviewed. Another problem arises when personal information is handed out to third parties, who carry out instructions on behalf of an institution. Some institutions are even requested to collect personal information and to resell it to other interested institutions. Many are network marketing specialists: they make home visits in order to present their products, and in return, they expect the host to provide them with the addresses of friends and acquaintances. Friends and acquaintances generally know a lot of information about us, and could hand out private information to organizations without realizing that revealing these data may be unwanted. Another simple method of collecting personal data is by organizing lotteries and contests. Afterwards, these entrusted personal data may be further used for unapproved marketing purposes. Some software companies even gather personal data when persons try to get help or get an update from their websites. At the time a person installs these programs, he/she is not explicitly asked for their consent, and in most cases he/she is not even aware that personal data is illegally stored in organizational systems. To prevent illegal data usage, persons must insist on more transparency on the part of institutions. Transparency can be obtained by specifying all business processes and transactions when personal data is used, as described in this paper. Illegal treatment of data is not hindered with the informational self-determination concept, but the detection of such data handling is strongly supported.

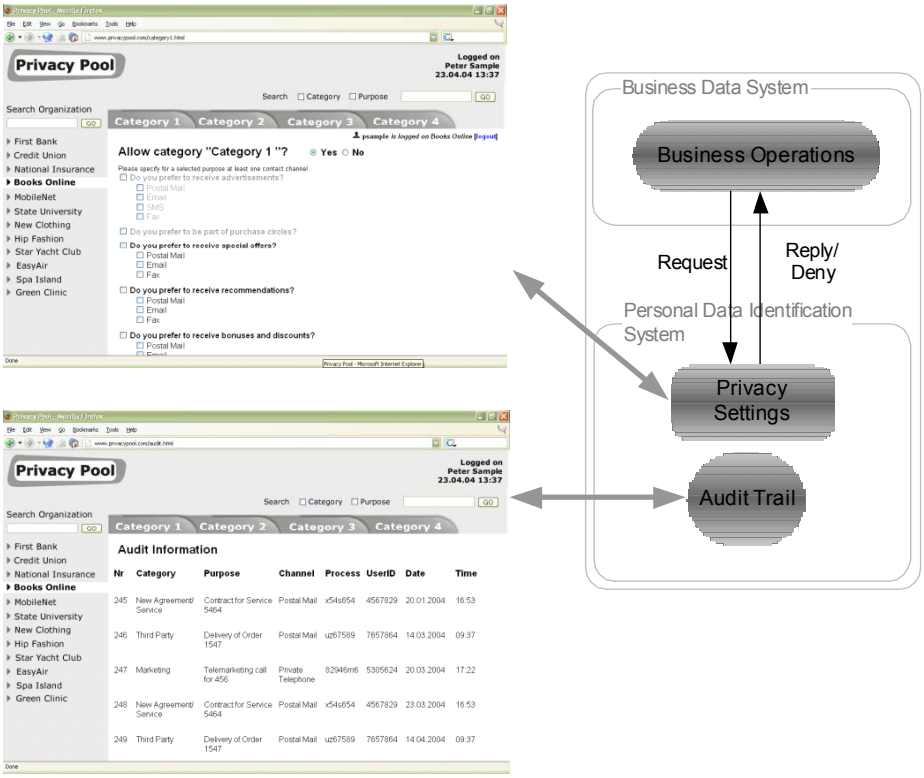

Figure 2 Data access

Purpose

Once institutions have been given a person's explicit consent that personal data can be stored on their institutional databases, the person wants to know what is going to happen with their personal data in the future. Therefore individuals must be able to access their data, in order to view audit information or to specify future purposes for which their data may be used.

As already mentioned in the founding principles, the user relevant information can be provided to persons via telephone, mail, forms or internet. In this part of the paper, we concentrate above all on a person's participation via the Internet. This approach makes it easy to access relevant data on the institutional side, in order to define settings for data usage or to view audit information, as shown in Fig. 2. Due to the fact that no personal data is stored directly on the privacy pools, there is less risk of unauthorized data being viewed.

The access can be realized by means of privacy pools, which are comparable with web portals. Everybody registers themselves at the privacy pool of the institution which holds their data. After having done this, they can log in from their personal computer over a web browser.

Many institutions can be registered at the same privacy pool which means that persons access a portal where different services of different institutions are available. To minimize the risk of unauthorized access, separate access information for each institution can be provided. This solution assumes that only the access information to the privacy pool is the same for all institutions. (see Fig. 3) gives a concrete illustration of three privacy pools with their registered organizations. Different possibilities are outlined, as to how persons can use their personal computer to log in to the privacy system. Due to the fact that access via the Internet is not secure, the identification of and communication between customers and organizations must be secure and reliable.

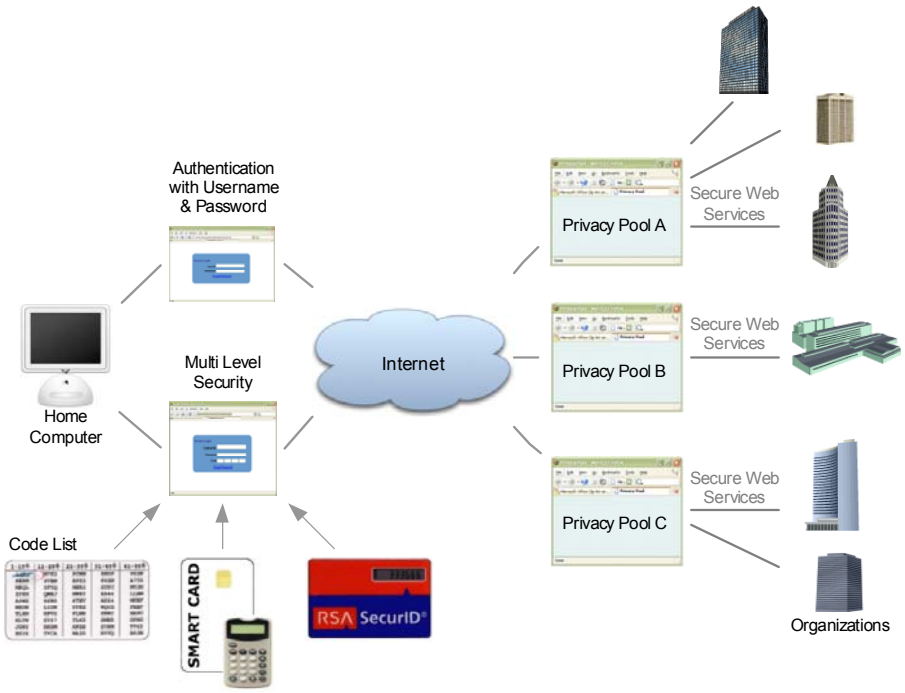

Figure 3 User acces to privacy pool

Separation

The separation between the personal data identification system and the business data system can be either logical or physical. For smaller organizations and companies, the personal data identification system could be developed and operated by another company.

Audit

Audit is connected to the described queries and visualized within the portal.

Participation

Participation is an integral part of ease of use.

Ease of Use

Considering that the list of all possible data islands can reach an unmanageable complexity, a simplification of the data access is a prerequisite. For the requirement "Ease of Use", the access to the different privacy pools can be unified to one single point of entry. As shown in Fig. 3 a person logs directly into the shared access point where a separate username and password is needed. This information is stored at each organization. To access resources on organizational Web servers, separate authorization and authentication is needed, otherwise the loss of security would be unacceptable. From the single point of entry, persons are redirected over the internet to the corresponding privacy pools.

To apply a unified access to the privacy pools, a standard must be established which fulfills the highest security requirements and is accepted by a great many institutions.

Categories

In part 4.1 situations and organizations possibly holding personal data were identified. To enhance the protection of personal data, an institution can only access these data if a reason or purpose for the data usage can be proven and if the owner of the data allows this access. In order that persons can choose if they would like to be contacted regarding a certain purpose, or that they can stipulate for which processes their data may be used, institutions must define all probable purposes and present these to their customers. Moreover, institutions shouldn't be able to introduce and define new purposes, which weren't initially defined, without first obtaining a customer's permission for these additions.

If every institution or organization would define their own purposes, this would quickly become unmanageably complex. Therefore all existing data usage purposes are defined in such a way that

every institution is able to apply them for their own specific services. Purposes which are similar and belong together are grouped into rough categories. The categories must be of central importance in order that a wide range of purposes can be covered.

Order customization: For customization reasons, the preferences of existing customers, such as order history or order status, are recorded and can be requested to facilitate the next order.

Payment: Personal information, such as address, is needed in order to send invoices, or the credit card number must be known, if the payment transaction should be made this way.

Shipment: Addresses of persons are also needed in order to deliver the ordered items.

Abstracts of accounts: To generate and send abstracts of accounts, a link to personal data must be made. Abstracts of accounts can be made by banks, insurances, bonus or shopping card companies, etc.

Personal customer care / services: In order to provide services, customer consultants or front office employees generally need access to personal information, through counter applications for example.

Agreements for new / altered services: The first registration usually only contains basic personal information, such as name, address and telephone number. In order to perform new or different services, additional data input is usually required.

Internet & computer information: Organizational web servers store cookies and information about browsers, operating systems, internet service providers, IP numbers, websites visited, along with the time, date, and duration of the visit.

Marketing: The marketing category contains advertisements, purchase circles, telemarketing, special offers, recommendations, etc.

Data mining & market researches: Data mining and market researches can often be performed without personal data, but in some cases access to personal information is necessary.

Information brochures & newsletters: Contrary to the marketing category, information brochures and newsletters primarily inform customers.

Third parties: Third parties access personal information to perform functions on behalf of an organization. For instance, this could be the delivery of orders, postal mail, etc.

Legal regulations: This category contains all purposes for which data access is permitted without the explicit consent of the data holder, for instance, the data protection law and banking secrecy.

Customizing Categories

Each organization chooses categories which cover their services. The categories and corresponding purposes are then customized in order that services can be provided correctly and all specific business features are taken into account. Customers access these adjusted categories and purposes via a privacy pool, and agree on which service they want to accept or not (compare Fig. 4).

The next question which arises is how to present these categories and purposes to customers. Where convenience is concerned, some customers want to make simple and, at the same time, very general decisions. Other customers want to customize each purpose or category individually. For example, one customer wants to define that he/she never wants to be contacted by telephone. Furthermore, he/she can deny entire categories. If somebody is sure that he/she never wants personal data to be used for any marketing purpose, the complete category can be quickly and simply disabled. However disabling an entire category carries the risk that desired purposes are also denied. By disabling the whole marketing category, for instance, purposes such as bonuses or discounts are also disabled. Therefore, before a category can be disabled, a combined extract of purposes must be shown under the category, or customers should at least be informed about the undesired effects of disabling a complete category.

Some categories cannot be disabled at all. Generally speaking, the importance and adaptability of categories differs considerably. Categories like payment, shipment, abstracts of accounts and personal customer care necessitate personal data so that minimal services can be provided at all. Some information should reach the customers in any case. For instance, abstracts of accounts are necessary in order to ensure transparency. The exclusion of the definition of new/altered agreements makes it impossible for new services to be offered. If payment and shipment details could also be disabled, it would be impossible to sell anything. Legal regulations are the exception in this respect

since they only inform, and must be accepted by the customer in any case. These were examples where categories can't be disabled. The accepted categories can be better adapted to meet personal needs and requirements. Categories such as customization, internet information, marketing, data mining & market researches, brochures & newsletters, and to a certain extent, third parties, can therefore theoretically be disabled.

Could there perhaps be further possibilities than manually defining if a category or purpose can be accepted or disabled?

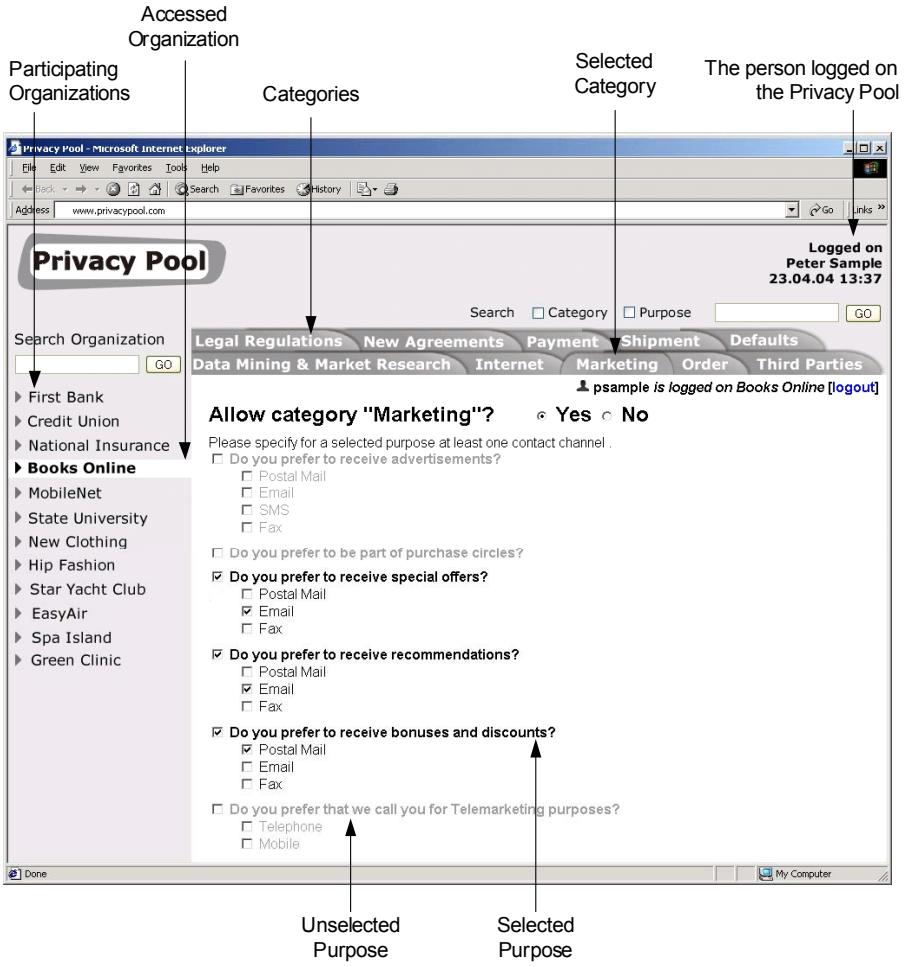

Figure 4 Settings for Books Online

Institutions define templates with privacy levels to simplify the customers` choice between categories and purposes. A template for customers with very high data security requirements denies all unnecessary data usage. A template with standard security precautions assumes that customers want customization, but don't want to receive all information, such as newsletters or advertisements. Furthermore, all competencies can be delegated to an institution. This template contains the most costeffective settings. Customers are preferably contacted via email as opposed to via telephone or postal mail, because this method is cheaper.

Manually defined settings are also stored as a template. The advantage of this is that customers can always return to settings which have once been made: for instance, a customer can remove the category marketing while he/she is on vacation, and can later reset it. The general and manually-defined templates should be available to all institutions which are part of the privacy pool.

Fig. 4 illustrates an example where the person Peter Sample is logged into the privacy pool, and at the same time, into the organization Books Online, which sells books and media over the internet. As shown in Fig. 4, he is customizing the category

'Marketing'. He has allowed the category 'Marketing', and he has selected the preferred purposes and contact channels. The unselected purposes are inactive and are therefore colored gray.

New Challenges

Now we describe some interesting problems which we identified in our principles and design. This list is by no means complete; its purpose is to initiate discussions.

Consent

The cornerstone for informational self-determination database systems would be a new international data protection law, which requests the explicit consent of a person before personal data can be stored. Furthermore, the law stipulates that this person must have access to their data, to specify purposes and to control audit information.

Within this law, several questions are raised. There will be a certain amount of administrative work and it will not always be clear how to set the process up. For instance, the user must first give his / her consent, before his / her personal data is stored, and not the other way around. How can organizations which do not care about this law be identified? Are normal individuals qualified to handle their personal data or instead to instruct a company specialized for this purpose?

However - and this is a crucial point – at least a person knows which databases store information about him / her.

Purpose

At a first glance, purpose specification may appear easy. However selecting what kind of usage from personal data a person allows depends heavily on the way in which this can be achieved and how these usages can be presented and categorized. No one is willing to spend several minutes specifying purposes, therefore a low amount of fixed categorizations have to be defined in which each category includes several purpose specifications. Then people can choose to make settings either only on the category level and / or for each purpose. The categorization must also be independent of the branch or industry. To setup, define and become widely accepted, such a general categorization of purposes is essential and its development may be a tough task.

Separation

Business data and personal data are often already separated in large-sized companies. Different applications use these data. On the other hand, in small and middle-sized companies these data are normally stored together and are only used by one main application. A physical or logical separation is necessary according to the principle of separation. This makes any IT-architecture more complicated. In addition, the architecture has to be extended with a strong identification functionality. To increase trust and confidentiality, the 'Personal Data Identification System' (see Fig. 2) should be certified by a third party.

Audit

Generating audit trails that are in the hands of the people affected could provide a strong and powerful tool for protecting privacy. First of all, these audit trails can be investigated by the organizations themselves in order to detect internal misuse. Secondly, each person can scan these data and convince himself / herself in compliance with the audit trail of his / her personal data, or in the case of misuse, can place a complaint. Last but not least, a person can engage external software agents to monitor his / her audit information and to be automatically informed if a violation is detected. Within this scenario, three main questions arise. How can an individual set up his / her complaint and who will receive this message? What kind of competence or interest could such a 'compliance office' persecutes? What kind of consequences may occur for the principal offender? Furthermore, 'Rule Compliance Validator' agents activated by the customer represent several security and privacy risks, despite being convenient for the customer.

Participation

Participation requests a certain kind of connection to the control equipment of the purpose specification and audit information. This communication and requested identification must be secure. Misuse cannot be tolerated.

Ease of Use

We propose a hybrid solution. Each person can decide how centralized he / she would like to treat

his / her personal data. A centralized system is quicker and easier to handle but encompasses more privacy risks than a decentralized system; however they could both provide a higher level of security. A centralized system is a far more attractive target for illegal transactions, because full data profiles related to specific users are available. The system's structure should at least be digitally secured against possible misuse and should guarantee the respect of a citizen's privacy.

Intercultural Perspective

Basically, an Informational Self-Determination Database System is applicable in every institution and country. But the global differences between countries could theoretically hinder a worldwide diffusion of a self-determination system. Considering the technological, cultural and legal differences between countries the question arises if it is reasonable at all to introduce an Informational Self-Determination Database System in countries for instance with a lower technological development or a totally different cultural and legal background then where I live. Therefore, it will be discussed now which oft these factors are globally responsible if the system is accepted in a country or not?

Data Protection

For a successful implementation existing data protection regulations of the different countries plays an important role. The differences between national legislations complicate transborder data flows or made it impossible. How to solve this problem was the major task of the European Data Protection Directive and as well it is a major global problem. Optimally, in each country a specific data protection directive for the privacy enhancing system is postulated or at least the system is supported by existing data protection regulations. To show the different impact of data protection the current situation in Japan, India and Latin America will be outlined.

The consciousness for sensibility of personal data is in Japan very high. According to a study of the Center for Social and Legal Research [14] Japanese people are in equal measure skeptic when personal data is used by the government and by organizations for commercial purposes. For the study 1000 people were interviewed per telephone. The result points out that the fear of potential abuses is high. 74% of the interviewees are disappointed how the government maintains personal data and 67% believe that consumers have no control how organizations handle personal data. The uncertainty toward the government is reinforced through the occurrences in the year 2001 where the government has passed to the Public Security Investigation Agency (PSIA) personal files without the consent of the data holders. This privacy violation was allowed under the excuse that PSIA examines groups which are suspected to threaten the national security. Although the law stipulates that data requests must be constituted by law this personal information were handled out to PSIA. Furthermore, persons were illegally intercepted or their privacy was otherwise violated. Nevertheless, a lot of people in Japan still believe that telephone and email intercepts are necessary to minimize the growing number of crimes.

To this topic in the late nineties it has been lot of media: „There has been a flurry of news reports on privacy and data security violations. Likewise, government privacy initiatives, including the revised Residence Registration Act, the new Wiretapping Law, the Freedom of Information Act and the proposal for a comprehensive data protection law, have received broad media coverage. The news media has publicly aired comments and reservations to the draft for new comprehensive privacy legislation." [4]. According to that most Japanese were concerned about privacy issues. Finally, in March 2001 new data protection regulations were enacted to form a framework for the commercial usage of personal information. Main content is that personal data can not be passed to third parties without the consent of the person concerned. Every institution is liable to disclose which personal information is stored. The usage of personal data is prohibited for other purposes then claimed at the beginning. Collections of personal information must be transparent. Japan's Personal Information Protection Act which regulates both private and public sector was finally passed in May 2002.

The security needs and consciousness on privacy of Japanese population is clearly present and definitive. Additional data protection which is provided by the Informational Self-Determination Database System people definitely gains more confidence in institutions including the government.

In contrast, in India the importance of outsourcing is crucial for the economic. Out-sourcing is the act of transferring some function, for instance software maintenance or development, operation of a data processing center, or operation of a "call center", from one location or company to another. India is

particularly attractive for outsourcing because the salary structure is much lower then in the United States or in Europe and there is a multitude of highly trained individuals who are comfortable speaking English [3].

A data protection and privacy law such as the EU Data Protection Directive or the Safe Harbor is inexistent. So far, according to the Information Technology Act of 2000 only unauthorized access and data theft from computers and networks are prosecuted with a monetary penalty, but specific provisions relating to privacy of data are not covered.

The absence of data privacy legislation in India has also proved to be a disadvantage for Business Process Outsourcing (BPO) to Indian companies and is a strong reason for stopping the movement of BPO work to the country [11]. The only way to beware India from an outsourcing stop is to enact new data protecting regulations. The Indian Business Process Outsourcing industry has already pressurized the Indian government to enact a data protection law in order to prevent from adverse impact on the economy. The other concern is that the Indian BPO companies and their employees are becoming privy to personal data of the clients and customers of outsourcers [9]. There was even a case reported of an employee in a call centre, who has misused credit card information and other details of a US citizen [11].

"It is becoming extremely important for India to have in place a distinctive legal regime promoting data protection," said Pavan Duggal, a Delhi-based cyber law consultant. "This is necessary to create appropriate confidence among investors and foreign companies to the effect that the data they send to India for back-office operations is indeed safe, and there are appropriate statutory mechanisms in place should a breach of data take place." [12].

The Indian government is on the way to insert new clauses in the Information Technology Act of 2000. The main objective of the new clauses is to conform to the socalled adequacy norms of the European Union's Data Protection Directive and the Safe Harbor privacy principles of the US. "The adequacy norms allow the EU to declare that third-party countries have levels of data protection that conform to European standards and thus allow data on EU citizens to be transmitted outside of the union" [11].

Similarly to Japan, India is anxious to gain more confidence, in order to keeps the supremacy as BPO offering country.

In central and south America various countries including Argentina, Brazil, Chile and Peru have already implemented data protection laws. In Latin America privacy is referred as Habeas Data. The constitutional right shows variations from country to country, but in general, it is designed to protect among other things the privacy and information self-determination of persons. Habeas Data has been described as: "a procedure designed to safeguard individual freedom from abuse in the information age" [5]. An objective of the Habeas is to comply with European Standards in the first instance because the European Directive on Data Protection requires its members to impose strict restrictions against the transfer of data to countries that do not posses data protection regulation as postulated in the Article 26 (4) of the Directive 95/46/EC. Chile has enacted a data protection law that regulates data handling and storage in a very European way. "Brazil and Argentina have also decided to follow the European lead." [10]. Being based on the existing legislation of the EU, it is fair to assume that it will provide more protection than the existing Habeas Data Constitutional provisions and that it will include some of the principles required for obtaining adequacy level from the EU [7].

Since July 2003, the European commission recognizes that Argentina provides an adequate data protection level for personal data [8]. Argentina has become the first country in Latin America which has received the EU Data Protection Working Party's approval for its data protection framework. This means that data flows between Argentina and EU member states are freely and do not violate the European Data Protection Directive.

The effort of Latin American states to adjust their data protection regulations, e.g. the Habeas to the European Data Protection Directive shows an increasing importance of data protection. The Indian government is constrained by the Business Process Out-sourcing industry to enact new data protection regulations. These efforts cohere definitely with the hope to enhance own abilities to compete on the market through closer cooperation with EU member states or the US. Missing data protection regulation can definitely harm trading partnerships or the people's confidence in institution's trust-worthiness. But out of the need for more privacy regulations and protections it can be concluded that an Informational Self-Determination Database System

which supports additional personal data protection will be faster accepted and implemented. Furthermore, it strengthens the established privacy laws. For instance, in countries where data protection regulations have not yet a European protection level an establishment of an Informational Self-Determination Database System can nevertheless enable institutions to act internationally. This can be either to trade with international institutions or to fulfill services for those where personal data is needed or to offer international customers equally high or even higher data protection. These gain of high importance since the explosion of the Internet (where people are able to buy goods world wide).

Cultural Aspect

The question here is how the culture influences people in respect of personal data. As we have seen, in some countries data protection regulations are far behind the EU Data Protection Directives. Because of differences in data protection regulations it is assumable that people in every country seize data protection differently. For instance, the Indian citizens have been more open in divulging their personal information. This can be explained through the lower and less explosive increase of the technical progress. Comparing to the developed countries in the west, in India the penetration of the Internet and technology was much lower. Thus data privacy has not yet become such a concern as it is in the west. Before the enormous growth of BPO industries there was no pressure on the government to enact a data protection law as it is now [9].

This interdependency between people's attitude to privacy and the existing data protection regulation is also observable in other countries with a similar technological development. The technological achievements produce higher flows of information. These higher data flows implicate also higher data usages. Therewith, also the possibility of undesired data insights and abuses escalates. Mailings and telemarketing calls are bothering and telephone interceptions or observations are a deep cut in the privacy. Illegal data misuses can lead to people's exclusion from services, such as insurances, accesses to places can be denied or they can be excluded from schools or jobs. Hens, according to all the possible harms that can appear, people get independently from their culture and origin equally concerned about privacy. An Informational Self-Determination Database System helps to prevent from possible harms. But the people must be informed of the advantages before the system can be accepted everywhere. The importance, efficiency and profit of an enhanced database system must be transparently communicated. Important for people is to know what additional rights are supported through the system. For instance, that the people can gain awareness where personal data is stored and for what purposes personal data can be used for.

As already mentioned data protection has in each country a different significance. In Europe everyone is considered that his / her data is handled very carefully for commercial purposes because people have made already bad experiences. Personal data is collected illegally. People often receive unwanted telephone calls or advertising mails without knowing the initiator. In contrast, in the USA or Japan the people are more sensible when personal information is used by the government. Since people were intercepted without their consent or even any knowledge about it. Consequently, everybody and everywhere appreciate that his /her personal data is protected by additional privacy regulation, independently which institution is using personal data, and this does not depend on the culture.

Technological Aspect

According to the Technology Achievement Index from the year 2001 [13] which reflects the capacity to participate in the technological innovations of the network age most Latin American countries are either "potential leaders" or "dynamic adapters" for creating and diffusing technology. India is as well part of the "dynamic adapters". Mainly between the "dynamic adapters" and some "leading" European member states huge technical deficiencies exist. Only countries with a certain technological development will consider the possibility to implement an Informational Self-Determination Database System. Furthermore, the slower development of technologies has also leaded to a slower development of data protection regulations. This can be explained among other things by the marginal amount and frequency of personal data usages by institutions. In contrary, Japan ranks among "leading" countries and has nevertheless vary late adapted privacy regulations for personal data. Absolutely not all technologically developed countries have sophisticated data protections; there are always additional aspects relevant. In Japan, for instance, the political development and powerful position of the government are also responsible for the slow development.

Position of the Institution

Besides the technological aspect of a country also the position of each single institution is important. A difference between small and medium sized businesses and major enterprises must be made. Generally with the size of an institution also more resources are available. Missing monetary and human resources or the absence of technical skills and know-how can hinder an adoption. However, every interested institution should be able to implement the system. For institutions which have rare resources a ready-made Informational Self-Determination Database System can be purchased where the complexity is reduced to the minimum and the system can be easily installed. Existing lacks of the underlying infrastructure and technical fundamentals can be thereby made up. Looking at the global aspect, then this can arise especially in less developed regions and countries.

Nevertheless, institutions which have a particular size and a subsidiary structure can easier support a privacy enhanced system then smaller organizations. Additionally, if an institution is already a global player, i.e. internationally acting a new system will be rather adopted, mainly to conform to other cooperating global players or countries which already have a higher standard for data protection.

Conclusion

The aspects which could hinder an implementation worldwide were so far outlined, but what happens if one country successfully introduces the system and another which is for instance an important trading partner does not? Are data flows between trading partners entirely exposed and vulnerable to unauthorized misuses?

The privacy enhancing system guaranties that customers are always informed about third parties, which services are carried out by them and for what purposes which data must be handed on. Only information is handed on which is absolutely necessary to provide services. Nevertheless, third parties can misuse and divulge personal data and their partner institutions are not able to hinder them. Consequently institution will rather enter into a partnership where they can guarantee customers' the trustworthiness of their partners. Hens, cooperation where data flows are necessary are definitely securer if all partner support an Informational Self-Determination Database System.

A lot of institutions do not have third parties or transborder data flows. This is applicable in areas such as the education, health care, insurances or home services, etc. Then, in the first instance an institution and their customers can profit from the system. These institutions are independent thereof if another country or institution decides to implement the system or not.

But if the government supports an Informational Self-Determination Database System then it is necessary that also all authorities implement the system; whereas institutions are free to implement the system.

However, there are two problem areas. Institutions which act globally and support privacy enhanced databases have not the same profit from the system in countries where the system is not yet known or achieved. Nevertheless, the institution can still offer the system and try to convince their international partners of the system's efficiency.

An institution which is already acting globally and has not yet the system must adjust their system in order to be able to cooperate with these countries which already have adapted the Informational Self-Determination Database System.

Generally an institution can stand out from other institutions by offering better personal data protection. However, an international adjustment would be the optimal solution.

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Appendix

The explosive development of privacy-invasive technology like identifying technologies [12] [40] (biometric technologies, radio frequency identification, bio-implants, DNA sniffers), location based services (cellular systems, wireless local area networks, bluetooth, ultrawide band) and ambient intelligence [13] [41] shifts privacy issues onto a global level.

In this paper- also in the context of a digitalized world - we interpret privacy as the right of individuals to exercise autonomy in controlling their personal data. In order counter privacy-threats resulting from today's information systems, privacy-enhancing technologies such as digital identity managers [Registratiekamer 1995] [16] [26] [23], pseudonymous credentials [10] [8], anonymous communication technology for the internet [19] [35] [6] [9], and the platform for privacy preferences or privacy-protection systems at the enterprise level [25] [2] [42] were developed. All these systems contribute valuable solutions for enhancing privacy.

We are inspired by the tenet of autonomy from Immanuel Kant, and promulgate the informational self-determination database systems. It is time for individuals to regain control over their private data, and that people get control over their virtual shadows, which are spread over a number of information systems in different organizations. We argue that future database systems must provide autonomy with regard to data processing. We will enunciate the key principles for data processing systems that pertain to autonomy in data processing. Our principles are built on current privacy legislations and guidelines, and do not only address technical issues, but also include legal and organizational points. We propose a design based on our principles, identify privacy and security challenges, and suggest some approaches to solving these problems.

Privacy Invasive Technology: an Overview

This chapter examines new and emerging technologies which potentially threaten an individual's informational privacy. These are technologies related to identification, location-based services and ambient intelligence technologies. However this chapter does not claim to cover the topic in full.

Identity-Related Technologies

Identification is the process of establishing the identity of a person [32]. This is achieved by means of a set of characteristics that describe a person. After all, the essential and unique characteristics of an individual are the features which give it an identity. With the ongoing shift towards electronic transactions in both commerce and government, the need for electronic identification of individuals is growing. The term digital identity, however, is as difficult to define concisely as is the concept of human identity. It should be noted that no commonly agreed upon definition can be found in literature. On a very general level it can be said that a digital identity is a machine-readable representation of a human identity which is used in electronic systems for interactions with local or remote machines or people. The purpose of a digital identity is to tie a particular transaction or a set of data in an information system to an identifiable individual, and also to enable access control functionality. With the help of a digital identity, a user can be identified, authenticated and authorised to access a given resource or service. The security of an information system relies to a large extent on the ability to identify and authenticate users [34]. The identity-building process involves unity, permanence, and physical characteristics. Digital identity [12], comprising digitized human characteristics such as identity, behavior, biological features, etc., will in many settings replace today's indicators like, for example, name, telephone number, etc. This new form of identity enables new digital services but at the same time brings new risks. A uniform system to identify users in cyberspace would have dramatic consequences.

To manage and control these many electronic identities that a person may have, identity management systems were developed. A unique access tool manages the many parts of the citizen's online identities. The advantages and disadvantages of identity management systems are discussed within the appendix.

Under biometric technologies we understand the use of physiological or behavioural properties for identification of users [3]. Using biometrics for authentication is itself not new, but that machines are able to process biometrics is a new dimension. This technology, using unique human characteristics such as fingerprints, iris, face, voice and DNA, is the quasi-perfect solution for identification. Some methods, like iris scan and face recognition, are contactless biometrics technologies. Several

biometric measurements can be combined to try to achieve a higher level of protection. In addition, it is very difficult to change biometrics for the user.

From a privacy point of view, biometrics are a threat as they constitute a very strong form of identification. Such a string means of identification may not be necessary in many applications. The biggest problem is that biometric measurements include more data than are needed for an identification. A retina scan may give hints concerning a person's health. DNA samples taken by sniffers would enable a service provider to learn about the user's genetic disposition to illnesses etc. Furthermore, there is also a risk loss of loss: we leave fingerprints almost on everything we touch. There is thus a risk of counterfeiting. Last but not least, it is still debated by scientists and privacy activists which biometrics are really ready for deployment at the current point in time.

Radio frequency identification (RFID) technology is a wireless system for identification.It allows remote non-contact automatic reading of RFID-enabled objects. These objects are built-in 'active' and 'passive' tags. Active tags, powered by an incorporated energy supply, offer a permanent connection and a long distance communication. Passive tags are energized by an antenna emitting radio signals. They just have a short-distance communication, up to about four meters. These tags can be embedded in nearly any object, such as bank notes, clothes or even razor blades, because they are almost invisible.

Future identification technologies are bio-implants and DNA sniffers. A bio-implant is a tiny implanted chip which has communication capability. This could be management of access levels, location data, personalization of the nearby environment, or communication with other chips (e.g. bio-sensors) or with real-time medical systems, for example. Bio-implants can build an 'augmented' human body [40] and can there-fore also be used in creating an identification process. DNA sniffers work on the basis of DNA fingerprints, a far simpler method than DNA sequencing. It can be compared with RFID, because identification also occurs without direct contact. The sniffer correspond to the RFID reader and human cells act as the equivalent of tags. This technology is the leading candidate for future identification systems.

Location Based Services

Location-based services (LBS) is a term that describes services offered to users based on their current location. Providing services based on location implies that a user's position can be determined with a given accuracy. LBS can be deployed in a variety of services ranging from commercial, location-specific content for tourists to services as diverse as health administration or entertainment services.

Wireless communication technologies serve as the basis for providing location-based services. We will briefly describe some wireless technologies in this section, such as cellular systems, wireless local area networks, bluetooth and ultrawide band.

Cellular systems are the most common type. The European standard GSM (Global System for Mobile communications) has become the main mobile system world-wide with about 909 million subscribers across 200 countries (September 2003) [22]. As a 'third generation' standard, UMTS (Universal Mobile Telecommunications System) will succeed GSM and bring broadband services to handsets.

Wireless local area networks (WLAN) is another wireless technology that has a connectivity range of about 100 meters, more commonly known as 'hot spots' (physical locations where WLAN access is provided). It is often used in train stations, airports, city halls, hotels, business centers, university campus, enterprise premises, as well as in private homes.

Bluetooth was developed to replace cables with devices up to a range of about 10 meters, but can be extended to more than 100 meters.

Ultrawide band technology enables the reuse of frequencies already assigned to wireless services and is therefore an alternative to cellular systems.

The geographic coverage is mapped by cells in a cellular system. User equipments run in a specific cell, which can always be determined by the operator. By means of enhanced observed time difference and observed time difference of arrival techniques, measurements from a pair of downlink transmissions, the position of an electronic device can be located with an accuracy of around a hundred meters. Bluetooth and WLAN are able to compute any user location from the position of the fixed access points. WLAN can do this with an accuracy of about 100 meters, and Bluetooth, with the additional possibility of getting their positions from other recently located users, to within about 30 meters. By using the signals transmitted from a satellite constellation, users can compute their

position with the global positioning systems (GPS). Such satellite techniques are accurate up to half a meter. Further advantages of GPS are its global coverage and low impact on existing communication networks; its disadvantage is the signal's weakness indoors. A major impact on the performance of location technologies is achieved via the combination of the different terrestrial and satellite techniques.

Different location computation technologies exist, based on the underlying wireless technology. Some of these services allow users to keep control over their location data. Satellite techniques (Navstar, Glonass, GNSS) are controlled entirely by the user, whereas terrestrial techniques (Cell id, observed time difference, Bluetooth and WLAN) are normally processed by the operators. Privacy problems arise as operators can determine a user's position without the user's consent. Wireless technologies may even enable network operatos to seamlessly track an individual throughout their network. It is clear that such location data is highly privacy-sensitive and also valuable for providers of commercial services.

Ambient Intelligence Space

Ambient intelligence and virtual residence seemed once a vision of the future that is by now – at least in part – becoming reality. Humans will be surrounded by intelligent interfaces supported by computing and networking technology which will be embedded in everything. Smart objects, such as smart paper, smart roads, smart furniture, smart clothes etc. will be ubiquitous and always "on". Smart devices will be able to interact with each other and with the environment. These devices will become increasingly smaller and cheaper and will be able to sense, think and communicate [41]. Several terms reflect this vision: ubiquitous computing, pervasive computing, disappearing computing, proactive computing, sentient computing, affective computing, wearable computing and ambient intelligence. The term 'ubiquitous computing' was coined by [41] "the most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it". This vision carries with it a high risk of losing one's privacy. Consequently, the Information Society Advisory Group has stressed the importance of giving control over ambient intelligence services and interfaces to ordinary people. Ambient intelligence is a vision which would has tremendous social implications. The academia and industry investments in research and technological development within this field are enormous.

Privacy Issues

The abovementioned technologies certainly raise a number of privacy concerns. Some noteworthy points about these technology are discussed in this part of the paper.

Biometric data are sensitive and of a personal nature. Therefore, even if forbidden by law, the risk of disclosure to a third party is given. Biometric data fully identify a person and provide additional and sensitive information. Medical specificity can be found in fingerprints, iris image, and retina scan, for example. A further danger is that some biometric measurements can be taken without physical contact between person and sensor. For instance, face recognition can be performed without consent by the concerned individual. It therefore poses a more serious threat for privacy, as sensors can be hidden in the local environment.

RFID tags can be accessed as well in a contact-less manner. Therefore RFID tags raise specific privacy concerns such as user awareness and empowerment. RFID tags represent a reliable form of identification as soon as the tags can be linked to the owner of an object.

In the near future, cellular system and WLAN technologies will bring mobile broadband services. Wireless communication has the potential to raise privacy concerns, especially regarding location data. Negative consequences may arise for users when databases of network operators are mined. Different parties are involved in the value chain of location-based services, therefore there is an even higher risk for the protection of privacy.

Monitoring and surveillance capabilities, using ambient intelligence, will emerge on a large scale. This kind of technology constantly detects and monitors what people are doing, both offline and online. Some argue that this represents the end of privacy [17]. "The right to be left alone" [39] would not exist any more. Furthermore these technologies create the opportunity to 'cross the border' [29]. Crossing borders usually implies a privacy-invaded feeling. These borders have natural (walls, doors, clothes), social (family, doctors, judges, work colleagues), spatial , temporal, (different parts of a persons life is conveyed to different target groups), ephemeral or transitory (information may get lost and have to be deleted) characteristics. Ambient intelligence makes the crossing of these borders

easier and more likely, even though the borders are always fluid, relative, multidimensional, and dependant on context, culture and personal preferences. This new world of interconnected objects creating smart environments could become an Orwellian nightmare without privacy, data protection laws, organizations and technology [30]. The 'smart home' [20] and 'virtual residence'[5] concepts are just two examples of visions within this field.

Security Issues

Privacy concerns are deeply intertwined with security issues. IT security in general comprises measures both at a technical and an organizational level to achieve the generic security goals of confidentiality, integrity, availability, accountability and authenticity [14]. Security consequently has to be seen as a prerequisite for enforcing data protection. It is a 'conditio sine qua non' for informational privacy. Notwithstanding, issues of data security constitute only a small part of the considerations comprised in the field of informational privacy.

We will discuss selected security issues that are related to the privacy-invasive techniques described above.

Cellular systems from the 2G digital network communication are rather insecure while 3G security features tend to be more efficient. The GSM encryption is fairly easy to break and the lack of strong security in GSM cellular networks allows for a wide range of fraud [33]. WLAN security is even less efficient. 802.1x, 802.11b and 802,1i standards offer strong authentication between access points and wireless LAN cards. Wired equivalent privacy (WEP), dynamic WEP and WiFi protected access (WPA) provide a better layer of armor against hackers.

Location-based services and the accompanying data, including where and who the user is, can improve security in certain situations (e.g. by making it easier to locate accident victims). The main danger of wireless services is however the increasing surveillance in the information society. The collection of location data is made possible and provides interesting information regarding users habits. This situation leads to data mining, discrimination and surveillance, even if the data is only processed by machines. These data might be stolen and could therefore threaten personal security.

The scale of ambient intelligence, its mobility requirements, its heterogeneity, the complexity of its hardware and software, and its distribution of knowledge and resources increase security concerns in matters of trust and dependability. Paradoxically, ambient intelligence best reflects our real world interactions. This paradigm can be described with attributes such as flexibility, mobility, temporality, context dependency, heterogeneity, decentralization, dynamism and change. Interactions will be based on trust and confidence

Conclusion

Though many benefits are gained from identity-related technologies such as location-based services and ambient intelligence space, the potential dangers of monitoring, surveillance, data searches and mining cannot be ignored. At the very least, protection of citizens from various types of intrusion and law enforcement must be ensured when using these technologies.

Balancing security and privacy in the information society [28] [38] will be a tough task. Respecting somebody's private life has to be weighed up against issues of national security, public safety, economic wellbeing, prevention of disorder and crime, protection of health and rights and freedom of others. It is impossible to make a prediction as to which side the future will lie on, but the risk of losing privacy, the "right to be left alone" [39], "the right to select what personal information about me is known to what people" [42] in the information society is rather high.

From our point of view, citizens will lose their entire privacy if nothing is done against current developments. To strengthen privacy and security, actions on legal, organizational and technical issues are required [27]. These three elements are included in our approach to privacy-enhanced database systems. In the following section we summarize what has already been done in the field of privacy-enhancing technology in order to combat the aforementioned risks within this area.

State-of-the-Art Privacy Enhancing Technology

In this section, we consider the concept of privacy-enhancing technologies. We will discuss the PETs that are available today and illustrate their benefits and shortcomings. We will consider identity management, P3P, digital credentials, anonymisers and privacy-enhanced database systems.

The term Privacy-Enhancing Technology (PET) originated in the midnineties from a study that investigated technological measures to curb the use of identifying data in information systems [Registratiekamer 1995]. Nowadays the term PET is widely used, and refers to technologies which aim to eliminate the use of personal data in information systems or to restore the user's control over the revelation of personal data [7]. In a wider sense, one could say that the term PET represents all technologies which pertain to protecting an individual's privacy.

Identity Management

Identity management aims at giving users of electronic services the power to determine for themselves which data concerning their identity should be disclosed to other parties in the course of an electronic transaction. It intends to restore the power of informational self-determination to the user. For that purpose, an electronic identity manager is installed on the user's machine that assists the user in all electronic transactions. Such a software lets the user create several profiles for transactions on the Web that each contain different amounts of personal data. Furthermore, an identity manager supports the user in the creation and management of pseudonymous identities. Such identities may be realized with the help of pseudonymous credentials.

The identity protector as proposed in [Registratiekamer 1995] was the first proposal for an identity manager. A Web-based identity manager was developed by Bell Laboratories [16]. Identity managers were also proposed on the basis of PDAs (Personal Digital Assistants), which the user can carry along with him at all times [26] [23]. Users conduct all electronic transactions with the help of a PDA, on which the identity manager is installed.

The use of identity management solutions alone is not effective enough to prevent the creation of personal data. Nowadays, most higher value transactions require the disclosure of an identity. In such settings, identity management is hardly efficient. Therefore pseudonymous credentials (see below) must be combined with the approach of identity management to allow for anonymous transactions which provide security to service providers (e.g. by guaranteeing that users who engage in unlawful behavior can be traced). Another problem is that users can't control how their data is processed once they have released it. We see the potential of identity management solutions in the context that they may help users to manage pseudonymous identity while at the same time hiding the complexity of credential systems from them.

[10] introduced pseudonymous digital credentials as a building block for an electronic transaction system which lets users conduct anonymous, unlinkable transactions. Users setup a different pseudonym with every organisation they deal with and conduct all transactions under pseudonyms. Since several pseudonyms of the same user can't be linked, transactions can't be traced beyond organizational boundaries. Users can obtain credentials from organizations which are used to prove statements about the holder and thus serve the purpose of establishing trust. Pseudonymous credentials also incorporate a mechanism to hold users accountable for their actions. This may e.g. be a trusted third party who can divulge the identity behind a pseudonym in case of unlawful behavior.

Pseudonymous credentials can be used to achieve anonymous electronic transactions while maintaining security. Anonymous transactions are clearly the most effective way of avoiding the creation of personal data records. Since statements in credentials can be disclosed selectively, they also pertain to the privacy goal of data minimization [42]. Currently, the most advanced implementation of a pseudonymous credential system is the one by [8].

Although credentials afford users the possibility of anonymous transactions, it has to said that these technologies are rather complex and may be difficult for users to understand. Anecdotal evidence suggests that many users even find the handling of X.509 certificates, which have been around for much longer, rather cumbersome. Some of the complexity of these systems can be hidden from the user via measures taken at the level of interaction design. Identity management solutions can make such systems manageable even for the average user. Deploying such systems at the current point in time may be difficult, as there are not yet any official standards regarding algorithms, key and message formats.

Anonymous communications and transactions in the Internet can only be achieved if the underlying network allows for the creation of anonymous communication channels. Several proxy services exist that afford anonymous Internet communication to users and enable users to surf the Web anonymously: examples include onion routing [19], crowds [35] or the Java Anonymity Proxy (JAP) [6]. Onion routing and JAP make use of the mix

approach, a technique proposed by [9] to enable anonymous untraceable email communications.

There are also tools for anonymous email communication. Such tools enable users to send and receive email under pseudonymous addresses. Two types of systems exist: The first type removes identifying information in a message and forwards it. The second type uses mix networks to anonymize messages. A very well-known remailer service was anon.penet.fi, which was closed down by its owner after Finnish police demanded the disclosure of a user's identity.

On a political level, giving users the possibility to use Internet-based services in a fully anonymous manner is often perceived as a danger to society. Anonymity makes it more difficult to pursue offenders who use the Internet to access illegal content. In the current political climate, it is more difficult than ever to argue for fully anonymous communications in the Internet.

Privacy in Ubiquitous Computing

It can be argued that the vision of pervasive computers in combination with powerful, new sensor technology poses a threat to an individual's privacy. This threat creates a need for technology to counteract the negative effects on privacy that ubiquitous computing environments may bring about. As an example, one might cite RFID tags: once clothes are tagged with RFID-based price labels, it is possible to read the information contained in these labels in a number of situations. It then becomes possible, for example, to bar entrance to clubs or restaurants to people wearing clothes that are more than 12 months old.

However sensors such as DNA sniffers, surveillance cameras or RFID tag readers make it difficult to come up with technological solutions that protect an individual. Unless RFID tags are destroyed, they can be read out. Similarly, contactless smart cards pose a risk of operation without a user's consent. Unless such cards are carried in a steel envelope that shields them from contactless card terminals, access is possible at any time.

Currently, the most promising approach to protecting privacy seems to be an approach that relies on an integration of P3P (platform for privacy preferences) into ubiquitous computing environments. People would then declare their privacy preferences. Service providers would have to read these statements (e.g. via wireless communication) and dynamically react to personal privacy settings. If users do not express consent to data processing in a ubiquitous computing environment, they can have services deactivated. Such an approach would again rely on machine-readable privacy policies such as P3P. However users must trust service providers that their privacy preferences will be respected. Thus, such an approach still requires users to put a fair amount of trust in service providers. Furthermore, it may be difficult to react to every user's privacy preferences in settings where many users are active (e.g. in a public place where users are under constant camera observation). Thus many problems remain to be solved in the area of ubiquitous computing, if privacy is to be maintained in scenarios such as these.

Privacy Enabled Data Processing

The Platform for Privacy Preferences (P3P) is a W3C standard which enables users to inform themselves about a Web site's privacy policy and to discover potential discrepancies with their own privacy preferences. Organizations declare their privacy practices in a machine-readable format which, with the help of a P3P-enabled Web-browser, can be compared with the user's own privacy settings. Depending on the browser's comparison, a user can choose not to visit a site, or to 'opt-in' to or 'opt-out' of a specific use of data.

P3P is useful for warning users about sites that engage in privacy-invasive data processing. It also helps users to discover sites which offer them a higher level of privacy. There has also been some criticism of P3P however: first and foremost, users have no way of telling whether service providers really adhere to the principles stated in P3P policies. Unless sites are audited and certified with regard to policy implementation, users do not know whether policies are really implemented. It is also debatable whether P3P really empowers the user. In many cases, a user does not have the option of selecting a site and will just have to accept the data processing practices of a given site. In the opinion of the authors, P3P won't dramatically change the power balance between organizations and consumers.

Privacy-protection at the enterprise level as well as privacy policies which are published on Web sites are essentially promises made by organizations that they will ad-here to certain data processing practices. Users have no way of verifying whether these promises are kept. The Platform for Enterprise Privacy Policies (E-P3P) is an approach to privacy enable the processing of personal data. Privacy

policies are formalized and are then automatically enforced throughout an enterprise [25].

Users are presented with privacy policies at the time of data collection and can consent to a specific use of data. The consent of the user to a given purpose is stored along with all data items which were collected from a user. Whenever personal data is to be processed for a given purpose, the system consults the policy attached to the data and denies an operation if it is not in line with the practices stated in the policy. This leads to a system that effectively prevents the misuse (including unauthorized disclosure) of personal data.

Such a system can guarantee that a user's data can only be processed in accordance with a published policy – provided the system is administered correctly. However, existing systems need to be modified in order to support this approach.

[2] propose a new category of privacy-enhanced database systems called 'Hippocratic Databases'; these include responsibility for the privacy of data as a central design goal. The name is inspired by the Hippocratic Oath, which has guided the professional conduct of physicians for centuries. The founding principles for these databases mostly stem from privacy legislation and guidelines, such as the Fair Informational Practices [42].

When data is collected, users express consent to the processing of specific data items for a specific purpose. A Hippocratic Database keeps privacy metadata which records for every data item: the agreed processing purpose, external recipients (if any), authorized users and the retention period. Based on this metadata, the system checks every query and only executes queries that are compatible with these policies. Further components include a data retention manager that deletes data when no longer needed and a query intrusion detector that flags suspicious queries based on heuristics.

Conclusion and motivation for autonomic databases

Many privacy enhancing technologies aim to allow anonymous transactions and anonymous communication in the Internet. While this is clearly the most effective approach to avoid the creation of personal data, it remains to be seen whether service providers are willing to embrace these technologies. The approach of enterprise-level privacy policies promises to guarantee that enterprises do indeed process data according to their declared policy.

We propose autonomic databases as a technology that complements existing privacy-enhancing technologies. The approach is different from existing technologies. Autonomic databases are intended for settings in which personal data is processed and in which an individual's identity is stored in the database. We perceive that transactions should be conducted anonymous wherever possible and perceive pseudonymous credentials as the most effective technological means to support a migration towards anonymous transactions.

The approach of autonomic databases further develops existing approaches to privacy-enabled data processing. We envision a data processing system that guarantees by technological measures that data is processed in line with polices. The approach of autonomic databases has this characteristic in common with the approach of [Agarwal 2002] and also with the approach of [25] for privacy in data processing at the enterprise level. However, we see further need to tailor data processing to the needs of the individual if privacy is to be maintained.

Our approach comprises new legislative measures to complement the existing legal framework on data protection. On the one hand, we propose a differentiation between personal data and transactional data. Individuals are to be given full access to personal data, but not to transactional data (which is thought to be owned by the company rather than by the individual). Furthermore, we aim to bring more transparency to data processing: through a structure of portal services, an individual can monitor data processing in two ways: First, an individual can view all personal data that is stored about him or her, and second, for every data item, an organization must state how this item of personal data was acquired.

The portal aggregates views on all organization who store data concerning this individual. Through the use of a portal service, individuals do not have to manage accounts with several organizations who store data about that individual. Instead, all data can be accessed through a single point of entry.

The approach of autonomic databases thus aims to give users more control in wettings where identified transactions take place. In the next section, the design goals for such a system are stated.

The Concept of Privacy Revisited

More than 100 years ago, Warren and Brandeis wrote the landmark paper 'The Right to Privacy', published in the Harvard Law Review in 1890 [39]. They defined privacy as 'the right to be let alone' and argued that legislation should give this right to every individual: "Political, social, and economic changes entail the recognition of new rights". In the twentieth century, many legal scholars and philosophers have attempted to define the concept of privacy [21]. However, it is impossible to come up with a universally valid definition of privacy as the concept depends on social aspects, cultural values and the legal framework. The issues of privacy are "fundamentally matters of values, interests and power" [18].

An implication of privacy as an interest, is that it has to be balanced against other competing interests. People´s interest in their own privacy may conflict with the interests of other people or organizations [15]. The concept of privacy does not apply to mere information only. Privacy rights have a long tradition and are implemented in many fields [36]:

- territorial privacy: protects the physical surroundings of a person, i.e. in a domestic or other environment
- bodily privacy: protects the physical integrity of a person against undue interference (e.g. physical searches, DNA testing)
- communication privacy: protects the personal communication of a person against monitoring by other persons or organizations
- informational privacy: the right of a person to control what data about his resp. her person can be gathered, processed and disseminated

In the context of information systems, the consideration of privacy leads naturally to the notion of informational privacy. This restriction makes sense as an information system usually does not affect territorial or bodily privacy (with the exception of robotics applications or some ubiquitous computing devices, which are outside the scope of this paper).

A very common and well-accepted definition of informational privacy is the one given by Alan Westin in his classical work on privacy. Westin defines informational privacy as

'...the claim of individuals, groups and institutions to determine for themselves when, how and to what extent information about them is communicated to others' [42].

At the heart of the notion of informational privacy lies the understanding that certain information about a person is not public but rather private, however it is not possible to give a precise definition as to which data falls into which category. Such a notion depends on cultural understanding and personal views. Informational privacy is, just like other forms of privacy, the interest of an individual and that may compete with the interests of other parties.

With the wide-spread use of information systems, the focus on privacy shifts towards an understanding of privacy as the right to informational self-determination. An individual should have the right to control the release and dissemination of personal data as well as the context the data is going to be used in, to the greatest possible extent. In addition to Alan Westin's definition of informational privacy, we state that in general informational privacy and the measures to protect it should address

- the release and dissemination of personal data
- the right to remain unidentified (anonymous) when we choose to
- the protection of highly sensitive data in electronic systems (see 5.1.3)
- the latent danger of tracking and logging of users and their activities
- the right to be let alone when we choose to be let alone
- the right to live without the threat of constant surveillance by electronic means

We claim that the advent of new technologies poses a threat to the citizen's privacy. The fact that computers are becoming ubiquitous - and that information technology is becoming more and more a part of our daily lives – leads to an erosion of informational privacy. An awareness for privacy problems must therefore be created urgently. We maintain that any technology that can enhance privacy is thus worth discussing. We see our paper as a contribution to the discussion on privacy issues and aim to point out new directions in which technology and legal frameworks may be developed in order to work towards offsetting the negative effects that information technology has on privacy.

The next section explores the tenets of participation and transparency. Transparency and participation are considered in the context of the data protection tradition. They will be discussed in the context of private public sector data processing. We consider how these two principles are implemented by our architecture and explain why the architecture leads to both more transparency and better participation as compared to most of today's data processing systems.

Motivation for Transparency and Participation

The interest in informational privacy increased in the 1960's and 1970's due to the wide-spread use of information technology. Legislative bodies began addressing the problem in the 1970's. The first modern data protection act was adopted by the German State of Hesse, the first national law by Sweden in 1974. A very influential piece of data protection legislation is the US Privacy Act. The act was passed by the Congress in 1974, thereby acknowledging that the rapid development of information systems posed a threat to personal privacy. Although the Data Protection Act was not very successful in the US, it found much attention abroad. This resulted in the fact that many elements of this policy can be found in data protection laws of other countries.

The US privacy act was crafted after the work of an advisory committee, which established the notion of 'fair informational practices'. This concept turned out to be very influential in shaping data protection legislation around the world. These practices are based on work by Alan Westin. Westin stated 8 important principles for fair information processing [42]. These principles are also incorporated into the OECD guideline on data protection of 1980 [31] and the EU directive 95/46/EC on the protection of individuals with regard to the processing of personal data (EC95 1995).

One of those principles is the principle of openness and transparency. It states that there should be a general policy of openness about collections of personal data. Especially, there should be no secret data collections. Means of establishing the existence and nature of collections, the main purposes of their use as well as the identity of the data controller should generally be known. Another important principle is the principle of individual participation: an individual should have the right to request information from a controller as to whether a collection contains data about them. Requests should be answered within a reasonable period of time and at a reasonable price. Furthermore, individuals should have the right to have records rectified, completed or erased where appropriate (i.e. in the case of incorrect or illegally stored data).

Transparency in e-Commerce Data Processing

Various surveys have shown that privacy is a substantial concern on the Internet, particularly in e-commerce transactions [1]. Users are obliged to divulge personal data in almost every transaction, and in so doing, leave traces each time such a transaction is carried out. In most business relationships, users have neither insight into what data the other party collects nor do they have access to these data.

For e-commerce purposes, P3P is slowly gaining in popularity. This standard, how-ever, only addresses privacy declarations. The use of P3P does not lead to any form of participation or to a much enhanced transparency. There are very few companies who allow users to see ther personal data and to control how this data is to be used. An approach such as EPAL is therefore a step in the right direction: such technologies ensure that data is processed in accordance with specified polices. However EPAL does not lead to a heightened user participation in data processing.

We thus conclude that in the domain of e-commerce, participation and transparency in data collections is the exception rather than the rule. An approach such as the one presented in this paper can help to make data collections more transparent and to give users more participative power in data collections. We propose that portals should be operated that give individuals access to the audit data that is stored about them and thus increase both transparency and participation.

Transparency in e-Government Data Processing

Informational privacy is an especially important issue in e-government. The data that are processed in e-government environments are often of a much more sensitive nature than the data processed in the domain of electronic business [24]. People are increasingly concerned about privacy issues related to e-government, and tend to feel the same way about citizen cards [11], [4]. Although information and communication technology provide tremendous opportunities for reshaping the relationship between government and stakeholders and creating more efficiency in bureaucratic systems, it also creates significant security and privacy challenges.

Data in governmental databases contain highly sensitive data such as social security numbers, information related to individual taxation, data concerning religious beliefs, criminal records, demographic information and medical records. Furthermore, governmental bodies process high volumes of data. They are empowered by public law to collect data on citizens and can enforce their right to do so. Governments thus have the potential to accumulate large data collections, which may create potential conflicts with the citizen's interest in informational privacy [37]. Given these facts, it is even more desirable that citizens know what data administration keeps about them.

Administrative cultures and procedures in Europe vary, and so do the views on the sensitivity of data. The religious affiliation is considered a very sensitive issue in the Netherlands and in Greece, while inhabitants of Finland are very sensitive about data that relates to the gender of a person. Many other examples can be found illustrating the differences that exist with regard to the sensitivity of data.

We feel that there is still a general lack of transparency and participation in governmental data collections. In most European countries, citizens do not have the right to access their own data in governmental data collections. An exception is the country of Sweden: all data that is collected by the state is deemed public. As a consequence, any citizen has the right to see e.g. their neighbour's tax declaration. Another fairly advanced country (with regard to participation) is the Netherlands: here it is currently being discussed if citizens should have access to their own data in all governmental data collections. In most European countries though, citizens do not automatically get access to their own public records.

Conclusion

With the wide-spread use of information systems, the focus on privacy shifts towards an understanding of privacy as the right to informational self-determination. An individual should have the right to control the release and dissemination of personal data as well as the context the data is going to be used in, to the greatest possible extent.

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The Ethos of the Great Bifurcation

Abstract:

In the information age ethical questions are raised about the actual course of the evolution of humankind which is now at a critical crossroad – the Great Bifurcation. Values like peace, respect for nature, justice, solidarity, freedom and equality assume greater importance. They all constitute the ethos of the Great Bifurcation. This ethos has practical implications. E-policies when based on this ethos have to go beyond techno-oriented solutions in order to bring about a sustainable global information society.

Agenda

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The Great Bifurcation: from evolution of consciousness to conscious evolution

The evolutionary perspective of ethics integrates the internet and our experience with technology, our own history as part of the history of nature, our planet and the known cosmos, and it enables us to relate the advent of internet society to ever-more fundamental trends and, most significantly, to link ethical considerations to real-world processes.

In 1983 Jonathan Salk wrote (112): "The most meaningful activity in which a human being can be engaged is one that is directly related to human evolution. This is true, because human beings now play an active and critical role not only in the process of their own evolution but in the survival and evolution of all things. Awareness of this places upon human beings a responsibility for their participation in and contribution to the process of evolution." And Bela H. Banathy added in 2000 (203): "If we accept this responsibility and engage creatively in the work of evolution we shall take part in a crucial and a first ever event in the seven million years of our evolutionary saga: We shall be the designers of our future, we shall become the guides of our own evolution and the evolution of life on earth and possibly beyond." These ideas resemble the ideas of the noosphere to come, a term coined by Pierre Teilhard de Chardin (1975) and Vladimir I. Vernadsky (see Hofkirchner 1997) between World War I and II. In the information age social evolution can be said to approach a crossroad that allows evolution of consciousness to shift to conscious evolution. This shift is the progressive upper branch of the great bifurcation of human history and of the history of the cosmos as well; the regressive, lower branch might decline and decay if humankind is not able to close the gap between technological and social evolution (Banathy 2000, 193): "While our recently emerged communication capabilities created the potential and the conditions for global human community, our consciousness is still locked within ethnocentric, racial, and national boundaries. ... Furthermore, the technological revolution, while giving us an earlier unimagined power, has accelerated to the point where we have lost control over it." "We have simply failed to match the advancement of our technological intelligence with an advancement in socio-cultural intelligence, and advancement in human quality and wisdom" (Banathy 1996, 315).

In short, the development of human society may be entering a critical phase which requires a particular kind of conduct to enable humanity to succeed. Evolution itself suggests a particular ethos to guide humanity if it is to survive and to take advantage of the opportunities that present themselves. This is the ethos of the Great Bifurcation.

The praxeo-onto-epistemological stance: praxis as point of departure

The rationale for dealing with ethical questions from this point of view is what one of us calls elsewhere a praxeo-onto-epistemological stance (Hofkirchner et al., in preparation). Praxeology is defined as the philosophical theory of praxis. Praxeology, therefore, refers to the philosophical theory of human actions in regard to their efficiency, effectiveness and efficacy as well as their moral value and beauty (see divergent views in Mises 1999, Kotarbinski 1965, Bunge 1999, Collen 2003).

As the most general way to reflect on human beings and their position in the world, philosophy has always posed a number of fundamental questions. One question deals with values, norms, imperatives and guidelines for action. Another is about the world as it is, i.e. its properties - with humanity or without it. A third question is about our ability to produce knowledge. The first question deals with the domain of ethics, aesthetics and axiology. We propose to subsume it to the above defined praxeology. The second deals with the domain of ontology. The third, the domain of epistemology, includes the methodology of inquiry. These three domains may be handled either as separate fields of philosophy or they may be networked or even nested. The latter is the solution proposed in this paper.

From our praxeo-onto-epistemological position, the fundamental questions of philosophy can be reformulated by starting with the praxeological question and subsequently proceeding to the ontological and the epistemological questions:

1. What should the world be like?
2. How can humans make the world what it should be like?
3. How can humans understand how they can make the world what it should be like?

Guidelines for action require ideas about where human actors start from and ideas about where human actors start from require tools with which to recognise the starting point. If human beings want to succeed in changing the world they need to know the circumstances that promote the goals they have set themselves. And in order to gain this knowledge they must apply all appropriate means. Hence the praxeo-onto-epistemological standpoint is indeed one in which praxeology does matter: ontic propositions bear the stamp of practical instructions and they pass this stamp on to epistemic methods.

Many cultures and one world: unity-through-diversity

The ethos of the Great Bifurcation assigns a positive value to every action that creates favourable conditions for the advent of a sustainable global information society and it assigns a negative value to every action that is detrimental to the advent of a sustainable global information society. The point is whether or not a sustainable global information society represents a universal human value and how it relates to a particular one. Possible and actual answers reflect four ways of thinking in the intercultural discourse. They are about the relationship of the One and the Many.

How to conceive of the relationship of the One and the Many turns out to be of utmost importance when applied to our divided human society (which – for reasons of simplicity – we will refer to in terms of cultural identity). Due to global challenges that endanger our species as a whole and that must be met by a single set of intelligently co-ordinated actions, the partitions of humanity are at the point of forming a unit on a planetary scale. The design of all our future depends on it. There are two options. Either one of the antagonists gains the upper hand or they are reconciled. While the former may be perceived as subjugation under a strict rule or as "anything goes" the latter indicates the antagonists need each other. The latter, the idea of unity-through-diversity, was the leitmotif guiding the work of the founder of the general system theory, Ludwig von Bertalanffy (Gray & Rizzo 1973).

In this respect the diversity of cultural identities represents the so-called Many (see Hofkirchner 2002). The question here is how one of the Many relates to another and how the Many relate to the whole that consists of all the diverse elements of the manifold. Is world society to become the common denominator of the various identities? Or is one of the Many the only One? Or is the One merely an aggregate of the Many? Or do the Many participate in a One that rises above them?

The reductionist way of thinking in intercultural discourse is called "universalism". Cultural universalism reduces the variety of different cultural identities to what they have in common. Identities are homogenized by a sort of melting pot which has been referred to as "McWorld" (Barber 2001). Modernism, the striving for human rights, democracy and capitalism based on the same kind of metabolism and realized everywhere by means of the same technology is universalistic – teetering between a claim to liberalism and pompous imperialistic behaviour in the eyes of its adversaries. In either case it destroys the richness of cultural identities; the Many are reduced to a shallow One; there is no diversity in this unity.

A second strand of intercultural discourse revolves around a school of thought that misuses projection. It may be called "particularism" or "totalitarianism". Cultural particularism or totalitarianism extrapolates what separates one cultural identity from the rest and construes an imaginary common universal. It also leads to homogenisation. The melting pot in this case, however, was referred to as "Jihad" (Barber 2001) because it is anti-modern fundamentalism that may be a good example of the imposition of a particular One chosen from of the Many on the rest. Here a culture that is credited with very specific social relations is elevated to an ideal in order to serve as a model to all other cultures. Thus a particular form is made the general norm. In as much as it is *something particular* that is promoted in this manner, it is particularism. In as much as it rises to be the *general norm*, it is totalitarianism. This too produces unity without diversity.

A third way of conceiving of intercultural discourse is "relativism". Cultural relativism rests on the idea of dissociation. By denying that different cultural identities have anything in common it yields fragmentation. The Many fall apart. These concepts of multi-culturalism and separatism suit postmodern thinking. Here each one of the many cultures is conceded the right to exist as well as freedom from external interference. Each particular culture constitutes an autonomous norm. In as much as it is one of the Many that is made a norm, we may speak of pluralism. In as much as every particular culture is treated thus, we are obliged, however, to speak of indifferentism. Relativism does not claim general validity and it does not wish to unify

anything or anyone. The postmodernist approach leaves differences alone. Anything goes. World society would simply be diversity without unity.

None of these three options is satisfactory. None of them can conceive of a sustainable global information society. Either the One is regarded as the necessary and sufficient condition for the Many. Or the Many are considered necessary and sufficient for the One. Or the One and the Many are deemed to be independent.

The One and the Many can only be reconciled in terms of unity-through-diversity by an integration-and-differentiation approach. It integrates the differences of the manifold cultural identities and differentiates what they have in common at the same time. W. Welsch (in Pongs 1999: 243) coined the term "transculturalism"; and the notions of "glocalisation" (Robertson 1995) and "new mestizaje" (a term introduced by John Francis Burke in Reconciling Cultural Diversity with a Democratic Community: Mestizaje as opposer to the Usual Suspects; in Wieviorka 2003, 80) are useful in this context. They may be linked to the concept of reflexive modernism (Beck 1998).

The process of emergence of a sustainable global information society may be sketched as follows: diversity is sublated and leads in an evolutionary leap to a unity-through-diversity which, in turn, enables and constrains diversity in order to produce diversity-through-unity which leads to a new base for unity-through-diversity. The Many are the universal that undergoes a transformation from an abstract universal without a One to a concrete universal; the One is the particular that colours the universal. World society is located on the macro-level; the partitions of world society which are located on the micro-level take care of world society in order to preserve humanity. The ethos of the Great Bifurcation guides us on our way to a sustainable global information society, one constituted by the Many and resting upon the manifold that, in turn, is in line with the One.

Individual and society: inclusiveness

The proper relationship between the One and the Many in the sustainable global information society is an inclusive one. This inclusiveness of cultural identities as partitions of humanity on the one hand and in world society on the other applies to a more fundamental relation as well – the relation of the individual to society.

According to the different roles human actors play as members of a social community there are different forms of inclusion of the individual in the subsystems of society or of exclusion from the latter as well as different values. We may distinguish the following social systems: the technosphere, the "ecosphere" and the sociosphere with the economic, political and cultural sphere. And we may accordingly distinguish the following basic values each of which relates to one sphere: peace, respect for nature and justice (solidarity, freedom and equality) (see Hofkirchner et al. 2003).

In detail: Technology is to augment the actors that take the role of productive forces in that they produce something when they aim at something. The technosphere is the sphere in which the actors of society carry out their instrumental activities. Instrumental activities are the use of technologies as well as the creation of new technologies. The overall aim to which the technological augmentation of productive forces is to contribute is to secure a peaceful development of civilisation. Thus, peace is the value we find at the level of the technosphere.

"Ecosphere" is the label for that sphere of society that comprises the flows of matter and energy in support of the physical life of the actors. Contrary to all the other forms of life on our planet, humans are able to consciously design their metabolism and to produce their *umwelt* whenever nature itself is not capable of reproducing itself for the sake of human beings. Sustainability denotes such a delicate balance between human nature and humanised nature. Sustainability can only be reached when the value of respect for nature scores high.

Technosphere and ecosphere set up the basis of society. The sphere in which the actors as social beings construe social relations concerning resources (economy), regularities (polity) and rules (culture) may be termed "sociosphere". In the sociosphere social actions are carried out. Tangibles and intangibles (goods, be they material or immaterial) are produced and consumed. Every social being is called on to co-design the collective in which the supply of the goods is provided. The more access the actors have to the supply, the better-balanced, fair and just the sociosphere is. Thus justice is the value we can identify at the level of the sociosphere.

Economy is about the social survival or self-preservation of the actors through access to

resources. Economy is that sphere of society where the actors do work in order to meet their needs. The social relationships that emerge here and channel the self-preservation of the actors are property relations – property being the disposition of resources. In accordance with the power of disposition, resources are allocated to the actors, that is, goods are distributed to them. The regulative idea for the allocation is solidarity.

Politics is about power, the power to decide or authority. Disposition over the means to exercise power is the ability to influence decision-making processes about circumstances of life in general including economic affairs. It represents regularities in the way actors pursue their interests. By resorting to authority actors are authorized to decide themselves. The more political actors influence decision making, the more they are deemed free. Thus freedom is an inherent value of the political sphere.

Culture is about rules in society, including regularities of political life. It is the field of discourse in which the actors can express themselves as long as they gain influence by sharing the power to define values, ethics and morals (Artigiani, 1991). The power of definition legitimises actors to act in a particular way. The ideal of equality would be realised if all cultural actors shared the same power of definition.

Exclusion from activities in one of the spheres means that the respective value intrinsic to the sphere in question is not fully realised. Exclusion from activities in the technosphere yields alienation from technology and exclusion from activities in the ecosphere results in alienation from nature. Exclusion from activities in the sociosphere produces alienation from fellow humans, that is, non-compliance with solidarity in the economic sphere is tantamount to expropriation; the failure to implement freedom in the political sphere generates a lack of political power and the failure to achieve equality leads to a loss of influence by members of society. Exclusiveness is a characteristic of social relations governed by domination. Exclusion identifies societies in which some actors dominate other actors. Weaknesses in the interplay of the individual and society tend to lead to domination. Since a sustainable global information society is inclusive, the interrelation between the individual and society is the basis of their mutual enrichment.

Contradictions of the internet: basic values contested

The ethos of the Great Bifurcation is all inclusive, it is about peace, respect for nature and justice (solidarity, freedom, equality). Informatization catalyzes fundamental societal developments causing them appear in a new light rather than opening new options *ab novo*. The aggravation of antagonistic tendencies in societal development on the threshold of the global information age is the continuation of the antagonisms that are due to the particular construction of the societies in the epoch of domination. This particular construction is the realization of the potential inherent in the general conditions of human processes.

From the perspective of society as a whole, the advent of the information age is characterised by an antagonism between the information rich and the information poor which continues the antagonism between inclusion and exclusion in a different way.

In the technosphere domination has been exploiting potential weaknesses of human technological activity and fighting alienation from technology in the cause of peace and security. ICTs intensify this conflict as human beings take up the fight against the "Megamachine" (Mumford, 1964). The spread of ICT revolutionizes the use and creation of technology. Technology itself undergoes change. The machine of the industrial age, which merely mechanised physical human capabilities, turns into an automaton when coupled to the computer in order to mechanise particular abilities of the human brain. This process applies to the infrastructure of society as a whole. The ambivalence of informatised technology reveals itself: Will automation contribute to augment productive forces and advance security and peace and thereby the integrity of our civilisation? Or will it serve destructive purposes and raise the vulnerability of the information society?

In the ecosphere the human process of survival has been unfolding the contradictory tendencies of respect for and alienation from nature under the sway of domination. These tendencies metamorphose into the contradiction between human beings and "Gaia" (Lovelock, 1987) in our developing information society. Industrialisation multiplied material and energy fluxes to an extent never seen before. They threatened to get out of control. James R. Beniger (1986) calls the information revolution in this respect "control revolution" by which control over such flows can be regained. The question arises: Will the control

revolution be used to restore the balance between human beings and their *umwelt* and will it raise ecological integrity? Or will it accelerate the degradation of the environment by the increasing use of computers?

In the sociosphere there is an underlying antagonism between human beings and the "Net" (as pointed out by Castells).The antagonism in our information age is reminiscent of the antagonism between justice and the alienation from fellow human beings, which is the form in which the production of sense appears in the epoch of domination. The increasing number of ICT applications dislocated throughout the sociosphere creates our network society (Castells). Networking means the increasing interdependence of actors and the increasing dependence of these actors on access to the means of managing the interdependence provided by ICTs. Will networking facilitate the access to supplies and will it promote justice to raise social integrity? Or will it contribute to social disparities, increase potential conflicts and raise the digital divide?

In the economic sphere the drive to remain economically viable has suffered under the conflict between the principles of solidarity and expropriation in societies characterised by domination just as it has under the conflict between the great hypertext, "cosmopedia" (Pierre Lévy, 1994), which comprises all human knowledge, and the information monopolies under the influence of ICTs. The information age is characterised by knowledge becoming an essential resource, as well as a new factor in the economic production process of society (Toffler, 1981). "Knowledge mining", however, has to deal with a particular attribute of knowledge which affects its handling as a commodity. In sharp contrast to other goods, knowledge is a good that, in principle, is not used up after use - it does not vanish. For that reason, knowledge is a seemingly infinite resource while the economy is said to deal with scarcity only. Thus the basic question about the informatisation of the economic sphere is: Will knowledge be made accessible to every economic actor who is in need of it? Or will knowledge be kept within the bounds of private ownership and treated as a commodity?

In the political sphere self-determination becomes antagonistic when domination prevails. The antagonists are freedom and lack of power. They reappear as e-democracy and Big Brother when entering the information age. The introduction of ICTs alters the nature of the polity: it becomes the agora of "noopolitik" where governmental and non-governmental actors meet, while bureaucracy turns into "cyberocracy" (Arquilla, Ronfeldt, 1999, Ronfeldt, 1992). What is at stake here is: Will the informatised polity empower the political actors? Or will it extend its control over them as nationals or foreigners (Information Warfare)?

Under the sway of domination in the cultural sphere, the self-expression of human actors brought on the antagonism between equality and a lack of influence due to a false consciousness. This antagonism turns in the course of informatisation into an antagonism between (sientific) rationality and (mass) media manipulation. The information revolution affects the mutual dependence of science on the one hand, and values, ethics, morals on the other, by giving more scope to the role of scientific thought in society. Science is committed to truth. Will the penetration of everyday life by science help suppress rules of social interaction that are not in compliance with findings that are claimed to be true and, in turn, will it help place an obligation on science to undertake inquiries in the interest of truly human purposes only and will it thereby help to create a true noosphere as Teilhard de Chardin and Vernadsky envisioned? Or will it contribute to distorting consciousness by infotainment and disinformation and to distorting conscience?

Historically, the ethos of the Great Bifurcation pursues the establishment of values that are antagonistic to the rule of domination. ICTs can promote these values. But they can also be used to prolong the exclusion of people from influence and thus to hinder the advent of a sustainable global information society.

Building capabilities: e-policy ethically based

In order to facilitate the advent of a sustainable global information society, the digital divide between information haves and have-nots has to be overcome both within nation-state-bound societies and between them. E-policies, that is the strategies for the introduction of ICTs in a certain technological, ecological and social or economic, political and cultural environment have to be based on the ethos of the Great Bifurcation. They have to consider the whole spectrum of societal practices in which the One and the Many may have dissociated. Hence the techno-deterministic concepts "access" and "usage" seem not to reach far enough to really get people involved and informed (Maier-Rabler, in

preparation). Most governments around the globe emphasize the diffusion and implementation of ICTs and particularly the Internet as a major opportunity to preserve and to strengthen economic competitiveness and as a chance to overcome social and economic divisions within their states. By means of e-policy strategies governments aim to overcome the Digital Divide within their societies. The objectives of these initiatives are in the first place to strive for economic growth and development followed by measures to raise democratic participation. The goal is a more inclusive society, one where inequalities between rich and poor, between men and woman, young and old, urban and rural, decline due to increasing wealth through competitiveness and more jobs. Yet, "what characterises policy documents is the dedication to neoliberalist discourses that seek to legitimate control over the production and distribution of new technologies" (Sarikakis & Terzis, 2000, p. 117). But the neo-liberalist rhetoric and techno-determinism of most e-policy papers are not adequate to resolve the targeted issues. This view is shared by most critical e-policy-studies (Golding & Murdock 2001; Light 2001; Burgelman 2001, Cammaerts/Burgelman 2000; Warschauer 2002, Aichholzer 2002).

Going beyond the techno-deterministic critique, Robin Mansell argues "for a rights-based approach to new media policy. [...] Because of the power of the new networks, it is essential to move beyond concerns about issues like media and Internet access and social inclusion. We need to link discussions about the new media and the power of networks with discussions about human rights" (Mansell, 2001, 2). Drawing on a capabilities approach to e-policy strategies, Mansell argues, more than technical access and technical skills are needed if we want a society that includes everyone on the basis of individual capabilities. Simple access orientated concepts without conceptual consideration of social, individual, and cultural factors will show unintended negative consequences.

Capabilities are acquired capacities and the ability to discriminate between alternative choices. They are the essential underpinning of the freedom to achieve whatever lifestyle people want. Sen (1999) argues that striving for capabilities is a basic human right and that people are entitled to acquire capabilities.

Therefore, e-Policy must ensure the same opportunities to all when they try to acquire capabilities in order to make informed decisions regarding the Internet. This rights-based approach to new media politics stands for a complete rethinking of e-policy. The responsibility of the state does not end with the provision of a technical infrastructure to people and with the promotion of preparatory training courses. The state has to provide equal opportunities to everyone trying to acquire these capabilities. To entitle people to acquire capabilities means empowerment rather than just passing on skills. It revolutionizes most of the existing plans for introducing the Internet into our education system. Aiming at people's cognition does demand less standardized and broader and more individualized concepts. People must be made familiar with all the consequences of the Internet for their personal lives as well as for society as a whole. This embraces knowledge of abstract consequences on the one hand and awareness of options for its utilization.

Therefore, the capabilities-approach to e-policy is a matter of the distribution of power and influence between the involved institutions of society. There is however an inherent danger - that of capable people making unintended and unwanted choices. Mansell acknowledges that Sen's work offers a very helpful way of thinking about issues of rights and entitlements in this context. She is concerned about how much human potential is lost because of people who are unable to use the new media networks. Whereby usage by her definition is not simply about acquiring skills to get on the Net or use diverse net services (p. 3). A capabilities-approach to e-policy aims to ensure that people can acquire and expand cognitive capacities as well as the ability to discriminate between alternative choices offered by new media and the Internet.

"These capabilities are the foundations of the freedom which allows individuals' needs to be met" (Mansell 2001, 3). She argues for a public obligation to develop new media spaces in ways that augment people's capabilities in this respect and argues that more policies to reduce the so-called digital divide are not the answer here. "We have to consider questions about new media policy, democracy, social development and distributional equity together" (p. 7).

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Email and Intercultural Linguistics

Abstract:

One of the matters that seem to preoccupy all the more the researchers of ICT and the sociologists, along with the parents and teachers, is the relationship between the child and the products of new age technology, especially the internet. And the results this relationship could have in personal and social level in important institutions like family and teaching and in important functions like writing and speaking. Having the study of the representations an important field of the social and anthropologic research the recent years, able to offer in the comprehension of the social operations and the relations of power they encompass, email language is proven all the more a rising field of research. This is not only attributed into the "inner status itself" of the email that offers a combination of "writing" and "oral" logos along with "new technology", but is equally attributed into the "external dynamics" that the social subjects whom correspond carry into the e-mail communication.. Because as email brings "together" persons from a diversity of origins and a variety of cultures, its language is filled with various social, cultural and psychological connotations.

All the more, having western world the recent decades (due to mass immigration and the intercultural societies that were evolved), to meet "the disappearance of the Self and the State" as we knew it, it is worth trying to explore the dynamics of this procedure using one of society's orienting concepts. Communication.

In this framework an email correspondence between a girl of Greek origin living abroad (a girl from "Diaspora") and a native Greek girl seems an intriguing case of research but also a case that requires an equally complicated method of analysis. Using a synthetic method, (combining the theories of Wierlacher, Gennete and Bachelar), in other words a method able for us to bring forth not only the linguistic but also the psychological parameters that intervene in correspondences between people of different sub-cultures, we tried primarily to exhibit the complexity of those correspondences and secondly to locate interesting data.

We should point though, that this was an experimental research *from the point of humanities*, and more specifically from the point of Intercultural Linguistics, in a brand new field and we should wait the new researches that already follow to justify or un-justify its results. In both cases this research probably will prove its value being one of the first question marks in a strange yet exciting new field of interest.

Agenda

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As already mentioned, the relation between social structures and the symbolic forms has become an important field in the social and anthropologic research the recent years, mirroring various cultural and social connotations. It was "new sociology" that (contributing, among others, into this evolution), created a new prospect in the methods of reading, creation and finding of the cultural message. Since became understandable that the symbols acquire their importance not only **from** the attributes of the object, but **according** to the "meanings" and the "sentiments" that the social group attributes into them, or "invests" on them. And this investment is not irrelevant with the values and the attitudes of the social group, which are shaped by the expectations of the social subjects, but also from the social and historical reality and the models that carries. After all, the emergence of email "is less of a radical departure than a natural extention" (Douglas Banks, 2000, p.549) of status quo. Which expectations and models are mirrored in the electronic correspondence that was developed between two representatives of two different sub-cultures, a teenage girl from the Greek-American Diaspora and a native one? This we will try to investigate in the pages that follow. However, some basic significances have to be clarified first.

Mass Technology: From a Force of Adaptation into a Force of Change

If we could accept something as a social or historical "given", is that at a great extent, societies evolve because the social and the economic activity changes the natural and social circumstances in which any person (with all his or her peculiarities) is shaped and functions.

Thus, the social behaviour is as a result: 1) Of the socio-cultural structures of a system. 2) Of the interposed factors of natural and cultural environment that intervene in each case 3) Of the factors that have to do with the personal idiosyncrasy - personality, meaning the biological and psychological characteristics of each member-person (Georgas, 1989).

Technology, being a basic parameter in the sociocultural structures of any hierarchy, and thus of the economic activity, was for centuries the most systematic way of environmental and social adaptation we have had create. At the same time it was also related with the complicated system of relations that evolves between persons and groups. Limited until yesterday from the kind of production and from the distribution of labour, technology is turned into a factor of environmental and social change today. In this way, we can argue that not only technology becomes autonomous, but also proves itself into a contemporary energetic factor that sets the boundaries of production and of the distribution of labour (Touraine, 1992) becoming a basic agent of social change.

After all, the passage from a collective feudal economy to an industrial and then to a technological-postmodern one, carried with it much more than changes in the means of production and in social leadership. Most significantly carried a subversion of the distinctive features of the world, that had to do with the ideological and psychological investments that social subjects relate with the 3 specific factors of social consciousness's and personal behaviour's formation we referred. As a result, in this framework of modernity were the "teleological readings" of the world became dominant, a scientific –primarily- "teleology" appeared. A belief, in other words, that humans can create a better world through the progress of the arising sciences and communication, reflecting, among others, into the Comte's belief that the industrial machines will lead to an utopian socialistic community. While, on the other hand, the -industrial oriented- urbanisation (which bestowed human beings into the slums of the cities) led to the withdrawal of the previous ways we had to relate with nature and which «preserved the virtues of earlier periods of the history of mankind» (Cunningham,1991).

Eventually, the industrialisation and the consequently urbanisation that led to the replacement of the suzerainty by the ascendancy of the universal patriarchal capitalism, created a society of a constantly growing diversification and segmented exclusion from the socio-economic mainstream, in which naturalisation was achieved mostly through giant mercantile institutions, demonstrating the growth of a highly segmented production and progress that were both promoted as 'collective' . And this 'collectivity' was based in its own turn in a highly nationalistic narration of the 'self' and the 'state'.

Yet, this giant Market, projected as, if not the unique, at least the main pole of the social being, spreading its antagonistic and technocratic values in all sectors of society, was based on the arising of the new technologies of communication, in which popular culture signs and media images, increasingly dominate our sense of reality, and the

way we define ourselves and the world around us. This created a techno-centric society of a post-industrial way of production that, being articulated in virtual and not in spatial borders, had to (and should) replace the previous collectivities we used in order to aquire our identity and our world view.

Indeed, if the Narrative of Modernity was, in a sense, the attempt to save the idea of Individualism charging it with all the miscellaneous societal and metaphysical notions that contributed to «the manifestations of the Other, which so powerfully shape the narrative of the self the last two centuries» (Cox, 1996, p.127) the Narrative of post-modernity is the articulation of the Self in the context of coexistence with (virtual or national or religious) Others. This is the great challenge facing the European Mind, or simply, facing Western civilisation nowadays, as we develop constantly into an inter-cultural society.

Inter-culturality and "Logos" (Language)

No idea, (mirroring the present and the deliveries of the previous era), does not posses the "absolute truth" and no theory does not emanate from 'parthenogenesis'. The notion of 'Interculturality', thus, should be considered a "child" of an era of blasting changes in the communication, economic and social level. Those changes–creating a post-industrial society of a hyper-technological capitalism- "impose" a society the populations of which have to seek a meaning and an affinity beyond the fundamental institutions like nation or the state that supported the post-modern world-view and the (ideological, religious and national) fables that carried with it. The Inter-culturality, practised consequently in a wide field of everyday life, and faced as one (positive or/and negative) reality, is not presented only in questions of immigration and globalisation. But it constitutes a basic reference of emerging scientific sectors, like the Cross-cultural Education, the Cross-cultural Theology, the Cross-cultural Philosophy, the Cross-cultural communication, the Cross-cultural Literature and so on (Mplioumi, 2002).

However, although it appears to exist a general acceptance of the epistemologic establishment of 'Inter-culturality', the notion itself has not been determined. We would say in deed that the 'charm' of the term is drawn from its conceptual variety, as Inter-culturality tries to answer in the newer social, political and economic developments.

Thus, the interdisciplinary approach of inter-culturality's significance is 'imposed' by more than one sides, since each sector can lit up a concrete side of the phenomenon. In these frames the mixture of the term with the literaryanalysis, the critical theory and the criticism about communication technologies, through the clarification of fundamental notions and the analysis of concrete texts, seems provocative and particularly interesting:

Fundamental notions: Culture and Interculturality

In order to comprehend "interculturality" is essential to determine the notion of culture. In "Cultural Studies" (Cox, 1997) and in other scientific sectors, a common admission is the so-called "dynamic notion of the culture" (Tsoukalas, 1996, Mplioumi, 2002). According to it and on the contrary to the 'one-side' or 'manihaistic' readings that supported the structures of the previous "one-nation-state" status, "culture" is a field disparate and permanently converted, "because of the wide variety of social experiences, roles and relations that compose the social life" (Mplioumi, 2002). Cohesive ring of all these disparate units of a "cultural total" is the "cultural compromise", that is publicly acceptable "constants", which 'as times goes by' they become permanently "present yet changeable". In no case in the Cross-cultural theory culture is considered as a homogeneous expression" of the community.

As it was written, the notion of culture is essential for the comprehension of Inter-culturality's significance, because the last one was developed in the frame-work of the national state and in reality it constitutes an 'overcoming' of the national ideology (Karasavvidou, 2002) that wants "one state" to be constituted from 'one' nation, 'one' language and 'one' homogeneous culture. A culture based on the idea of a "common origin".

What happens, therefore, when this idea should be exceeded due to the requirements that reality places (as happens in cases like the correspondence between persons from disparate environments) and how this procedure mirrors itself in their linguistic production of these people? What happens, thus, in a production that - like all the collective undertakings more or less- is a collective representation? That is to say "represents the collective rules of society and the historical era in which it belongs" (Stone, 1982)? Even more what happens when this historical era is an "era of digital convergence" where "in spite of the promise of the

information society to erase the structural barriers posed by geographical isolation, inequities in the use of information technologies are expected to persist"? (Blanks Hindman, 2000, p. 549). Is this also mirrored in the linguistic production and in the other parametres of communication and what ethical, geopolitical and social parameters brings forth?

Inter-culturality and Writing

If "theory" is the way that we approach an object, "theory of literature" is, inter alia, (according to the Veloudi', 1988) the methodology of science of literature, the object of the science (text), and the determination of its limits a dialectic inter-dependence and interaction with the historical and social circumstances.

As long as the "aesthetic object" (and amongst it "the writing object") is "privileged", (Dufrenne, 1953) *-meaning that "despite its background character"...it "maintains... an element of no-time, of resistance in time" (Breadsley, 1989, p. 358)-* we can always speak for a "double world". The world which the object itself carries, (being thus a "preferential" object that reflects "the expressed world" according to Ingarden 1958) but also the world in which the object is shaped.

This means that each creation of a human being (such as language and even more writing...) is a carrier not only of the characteristics of the social structure, but also a carrier of an energy or action, which in its turn interacts with the social position and with the social structure, in a direction of an eternal development and creation. After all, "what we call "reality" is a certain relation between the sentiments and the recollections that surround us" (Ampatzopoulou, 1980).

Accordingly we claim that the linguistic representations of the minoritary but also of sovereign populations can and should be analysed inside the conditions of this transaction. That is to say -from the one side- inside the frames of national state's constitution and the monolithic linguistic fables it carried. And, on the other side, inside the frames of the modern "relativity" of cultural identities, thus inside of a cultural "hybridism", or a –via-cultural 'between', (as the prefix – "via" submits), where the surpassing of the dichotomy between the 'foreigner' and the 'familiar' is considered a necessity, since the 'foreigner' becomes part of 'a wider total' and it cannot exist driven away as entrenched entity.

'Ethnogenesis' and Language

The relation between "language and nation" began to occupy the Western world from the primary days of nation-birth, dowering the language with "political importance". The difficulties of the passage to the nation state were mirrored in the "war" that was developed between old and newer structures and their (various) representatives. This was recorded f.i. in the phobic reactions that were caused on the occasion of typography's invention: In the effort of the old structures to maintain the ideological map and hence their "vital space", seeking to legalise again their power, an entire literature (so similar with the one of the tehno-fobics today) was developed for «the "bad effects" of the "printed reason" and the danger of resulting in the restriction of the "oral" one, that were going to lead to the shrinkage of the "entire culture"». Actually, what happened was the mutation of the previous cultural model through (among others) the shrinkage of the local idiomatic languages ('idiolekton') that led to the layout (or the "manufacture") of the "national languages". Thus, the "national language" that for the advocates of the "holy blood" of each nationality is considered "obviously" 'an eternal national and racial characteristic', is the result of activities and changes that were caused by transformations in the methods of communication and hence in technology and language itself.

Regarding to the relation of the nation-birth with the linguistic and hence literary production, we should point that the fabricated argument of homogeneity and progress, "the most coercive transport of modern culture" (Jenks, 1996, p.7), acclaimed the political, social or religious teleologies into "absolute truths", using the national, racial, class, sexual, or religious "different" as political weapon. In fact as a threat. In the agenda of this use was the maintenance of the new structures and of the charismatic power of their sovereigns, presenting the last ones as the 'ipso jure' leaders of a society which would be destroyed by "the different", without their ideological or social hegemony (Karasavvidou, 2002) that could and should be imposed by social leaders and sustained in an energetic way by their subjects.

Elie Kedurie in deed, a researcher of the cultural parameters that led to the layout of nationalism and whom recognizes the nationalism as a movement of mainly young intellectuals that promoted the primarity of language or incorporated in this all the other "national" characteristics, writes: "considering that the state owed to provide a linguistically

homogenous nation, follows that the linguistic mixed regions recommended a threat in the sovereignty of the national state" (Kedurie, 1999, p. 110).

Taking into consideration most of the above, we comprehend the reasons why so many phobic reaction and literature is produced by the defenders of national language for the e-mail writing, as it is articulated mostly in English. Considering that email is mostly reproduced in Latin characters when an ethnic language with different alphabet like Greek, had to be reproduced, we may realise that this phobic phenomenon is not irrelevant to the idea that the use of communication technologies is different among residents of metropolitan versus non Metropolitan communities[i], (or between economical and thus linguistically strong and less strong nations). And to the idea that "In the era of digital convergence, non-use and non-acess to information technologies may lead to perceived (symbolic) non-exience" not only of "persons" in the symbolic field but also of historic languages ethics and traditions. The reproduction of Greek phrases in English (latin) alphabet and (some say) "logic" is called "Greeklish" by the combination of two words (Greek and English) and consist a very interesting exampe of "hybridism" (inter-cultural product) on the Internet.

Email generally, by mixing written and oral language and logos, (different terms according to Saussure's theory) creates new, disparate, dynamics. From this point of view, the convergence of Inter-culturality with the language (field that has not been researched yet, apart from a few exceptions) seems fruitful and "natural".

Research Method

The methodology of this article was based on the examination of the email-texts of two young girls, (adolescents from different cultural/national even religious environments). A Greek-American and a Greek. The method of the analysis was based in the combination of 3 theories and methods. 1) on the theory of the "catholic and local pictures" of Wierlaher (naming as catholic the 'scenes' that "link us' as they are considered "common" for "humanity"), like scenes of birth, or death etc), and as local (those pictures related with the cultural particularities, for instance 'Ramazani' or Greek Easter).

2) in the content analysis of concrete textual points, ("pictures") the research was based on the theory of Genette. According to this the antithesis in the representation of the "foreigner" vs the "local" in literature can be analysed through the "Imagologie", a sector of the "Comparative Grammatologie", that tries to explore through the tructure of narration the "icon of the other, the foreign country, its people and its culture'" through the structure of the narration. The theory of the narration seems necessary in those parts of the text were the inner connection of the motives and the function of the view-point of the heroes need to be lightened in order to realise the ways of representation of the foreign (the different) vs the local (the identical).

This is achieved examining the structure of the text in various levels, such as the words that are chosen, the hierarchy of the relationships between the factors of language, the scenarios and the theoretical motives (Ampatzopoulou, 1998).

Genette distinguishes the notion of the "story" (the series of events, their articulation and their order in real life) and the "narration" (the ways those events are presented in the text, their articulation and their order in the narration). The last one, "narration", is examined in a more detailed way through 3 basic axes: a) Time, b) Obliquity (inclination) and c) Voice. All 3 are examined through the notion of "order" of the presented 'items' or 'thoughts' etc. Time (that is related with the dimensions of order, duration -meaning the length of time- and frequency) is related with the analogies between the "story" (real series of events) and the narration (choices of which event the writer will present first, second etc irrelevant from their appearence in real life) the possible differences and divergencies from a pragmatic nartration of the story, the narration that are pro or post the real time and the ways of narration (who is the narrator? the actual hero or a mediator? what kind of dialogue we read (intermediated or not) and if the language in general is direct or not and who's point of view reproduces etc)

3)The choice of surnames or phrases became an object of an analysis based on the pro-Freudian theory of Bachelar, that examines the psychological/ideological background of those words, which reflect that background and on which finally they depend. The choice of Bachelar is justified because the attitudes related to the "other" do not reflect the objective reality, but the ways the social subject perceives that "other", something that has obligatorily a lot of psychological parameters. It is interesting, consequently, that for Bachelar the phenomenology should be analysed not as a conscience of the external but of the psychological

phenomena. "A new approach to the poetic pictures, the … systematic psychological analysis of the 'landscapes' of our internal life" (Samara, 1987, p. 27). Bachelar uses collective signifiers of our civilisation in a way that reminds us a mix approach between Jung and Freud. For instance "water", "sky" "land" or words with strong investments like "light" of "fear" etc are used in order to reveal and explore the cultural parameters that construct our psychic reality and vice versa and all their possible connotations and relations from mythology to modern aspects of social evolution.

We applied the notions of the 'catholic' and the 'local' in 5 main sectors of social action or personal operation: 1) Social relations, 2) School, 3) Family, 4) Love, 5) Perception of the country-land, that constitute basic anthropologic constants. We should clarify here that even if all and each one are common events of all persons, (that is why they are determined as "anthropologic constants") the way with which they can be expressed or they can be described in the literature, can (bringing forth all the different cultural environments) function not as a "universality", but as we will see as "locality". This way a dipole (a two-edged oobject) is created, in which the opposition is that the existence of an "anthropological constant" can belong in the first category (universality) while its expression in the second (locality). A phenomenon that Wierlacher does not appear –at least – to have locate. From each one of these 5 sectors we selected only one (1) picture, in order to avoid 'babblings'.

The textual extracts that remained to investigate were studied with this mixed method, 'inter-textually' and 'exter-textually". In the first case (analysis of "how" in the "Econology") we used, as it was previously mentioned, the method of analysis of Genette (Tziovas, 1987, p. 54-68). In the second, (analysis of "why", thus extra-textual), having the a-chronic (no time-limited) nature of the narrative analysis not able to cover a subject "filled" with circumstances that have to do with time and social parameters, and hence with the ways they are filtered by the social subject - we used the "pro-freudic'" theory of Bachelar.

This mixed technique of analysis (with selective loans from the Cross-cultural literary theory, the Iconology and the Narrative analysis of structuralism) allowed us to create a selected inquiring body of textual extracts and a constant method of explanatory categories. We hope, thus, that using this complex method we could correspond in a subject complicated by its own "nature".

A case of an Intercultural Linguistic correspondence via New Technology: Findings

As we mentioned, if "theory" is the way that we approach an object, the 'theory of literature' in our approach is, 'inter alia', the way that an "object" (a real story) and a selected methodology of narration interact with the historical and the social circumstances next to they exist in a constant dialectic and historical interdependence and interaction.

Thus, selecting the 5 main categories we mentioned before (main values of the contemporary social circumstances as well) we proceed in setting 2 major questions:

1. "**How**" deals with those categories (or in fact with the scenes referring to these categories) each one of the girls, the answer(s) of which consist the narrative part of the analysis and

2. "**Why**" choses to deal with them in the way 'she' chooses, the answer(s) of which consist the Extra-Text (outside of the Text) part of our analysis. The "How" part was analysed with the method of Gennete (since it brings forth the structure of the phrase). And the "Why" part with the method of Bachelar (since it brings forth the various psychological investments that intervene into scenes of this category.

The first worth mentioning data is that in an experimental research (and in an article that has to be of restricted space) we trace various connections and conclusions that exist but have to come forth in future researches. Yet a primary registration of conclusions may be the following: The entire correspondence was written in Greeklish as it was easy for the Greek to find and use the English alphabet but was not easy for the Greek-American (at least at that time) to download or use the Greek alphabet.

Beside that in the correspondence various "local" and "catholic" scenes are distinguished. The first concern mainly the Greek-American, (the girl from diaspora) that in a spirit of idealization of the country-root, speaks for the landscape and the

customs most frequent. The second concerns mainly the Greek-girl (the native), that (maybe being reassured about her relation with her country, or feeling tired by the everyday life and not having the need for idealisation that absentia creates), can "look" perhaps at the external environment interested for other cultures, (like the American culture) which are being idealised possibly by absentia in their turn.

The correspondence follows complex technique, (narration in the 1st person from intensely subjective 'homo-narrative' narrator and apposition of 'ramming stories', that are included mainly in texts that follow a 'post-narrative' level. As for the 5 categories:

1)The leading scene of "universality" concerns the category of 'Love', (as it was to a large extent expected for teenagers), but also, in a second level, concerns the sexual attraction to various Hollywood actors or singers, that are transformed into "publicly acceptable constants", in the globalized environment of cinema and contemporary teenagers: *"o Giorgos moiazei poly me ton Brad Pitt. Otan ertheis to kalokairi tha patheis plaka!.... Einai apisteyta koul!"(Giorgos looks like Brad Pitt. When you come you will be astonished!... He is unbelivably cool!" As one may concludeat least in this dialogue wtth its special characteristics (2 teenagers one living in the States) we have the American culture to "win over" and this may be a sign of what it has been previously called*[i] *in mass communication theory a* 'mild but persistent cultivation effect" (Tamborini, R, Dana E. Maestro, Rebecca M. Chory-Assad, Ren He Huang, 2000).

What else we have here is a sample of typical Greeklish by the Greek, however not only in the ostensible-"phonetic" spelling but also in the deepest meaning, since it takes a loan from the NewYork 'slang' and changes it into Greek (κουλ!) that however is re-written as Greeklish (koul!)

2)The leading scene of "locality" concerns the social relations and it emanates from the Greek-American: *"Piga me ti mitera ke ti theia mou ston syllogo na boithisoume gia ton xoro. Variomouna alla piga. H theia mou elege gia to Pasxa kai tous xairetismous sto monastiri tou giou Athanasiou, opou kathotane stin anastasimi kai tous moirazane mpomponieres me kokkina agva. Kai eipe gia to arni pou trogane tin alli mera.... H mitera epimenei na min trome kreas aytes tiw meres. Moy trexane ta salia.... Kathe xrono leme tha erthoume ellada alla kathe xrono eimaste edo afou protimoume to kalokairi."* (i went with mum and the aunt in the club to help for the dance. I was bored yet i went. My aunt was saying about Pasha and the church celebrations in the monastery of Saint Athanasios, were she used to sit in the night of Pasha and there were red eggs distributed. And she said about the lamp they were eating and i felt so hungry... Every year we say we will come for the Easter and every year we are here (Connecticut, USA) as we prefer the summer".

Here we dont only have the maintenance of customs from the community of Greek-Americans, even from the newer generations ("variomouna alla piga": I was borring yet i went) but also "the memory of the Easter", as a "holy remnant" of an origin that follow them in abroad, and the folklor of the Greek summertime that constitutes the "big barker" for the return.

3)The pictures that concern the school are pictures of 'locality', (different educational systems and mentalities) in which however (similarly with what it has been also proved in other inquiring research for the local/catholic pictures) enter elements of 'universality', like the need of acceptance, common for the adolescents in both environments. Yet, in this case that the 2 girls "play" in an "age-related and age-determined" environment, the Greek-American uses more phrases/idioms from the place of her maintenance: " *kai tou pa Of course i m not a baby! Give me a fag!"* (cigarette) or " *Hold your horses sis!"* " *He rocks! ",* while the Greek uses certain phrases influenced from the American culture of adolescents, all articulated in Greeklish!: "Tou pa na Koylarei, frikare, rokarei!" (worth mentioning the similarity of the last one with the phrase: He rocks!). A fair explanation is that when they deal with this object (school) their main "reference team"[iii] are not the relatives but their pupils (Postman, 1994), meaning teenagers, that to a large extent they share a homogenised "American-centric" culture.

4) In the category of the "Family" the main scene contains many elements of universality, (since it shows the way that 'a family with strong bonds' faces a challenge) and of locality as well, (since the challenge concerns the "particular" conditions of each country/place. (The mother in America works many hours in a mole, in the shoes section, while the father in Greece faces problems in his seasonal work that relates himself with the tourism.) "I mana mou doulevei apeires ores ki ego spazomai, ti zoi! » (says the Greek- American "My mum works for ages! What a life! While the Greek : "O pateras den exei statheri douleia ki as doulevei poly. Den

katalavaino...” Father does not have a stable job despite the fact he works hard. I dont get it...”)

5) In the Perception of the Homeland we have as the main one, a scene of locality. The Greek: *"Piga me to Gianni kai ta paidia sto.... kai perasame fa -nta –sti-ka!... Eixe plaka kai fygame the vrady!"(I went with Giannis and the kids into... (a place in central Macedonia) and we had the ti-me of our li-ves!"*

The Greek-American: *"Moy Aresei ekei giati exei to potami kai ta platania kai pame gia pik nik Thimamai pou plisiazame otan pigame proti fora os pidia kai akoysa kai fonaza pos exei nero. Near to us "... "H giagia omos den ithele na pigainoume syxna, eklaige gia ton Vangelis ton aderfo tis pou skotosane ston polemo. Ton pirane paidi ki i mana tis fonaze.Olo aytin tin istoria leei». "I like it there because there is a river close by and big trees and we go there for pik-nik. I remember that when we first approach it i heard the river and i screamed there was a water, near to us"... "Granma though did not want us to go there, she used to cry for Vangelis(ps wrong spelling...) her brother that was killed in the war. They took him despite the fact he was a child and her mother was screaming. She tells that story all the time".*

As we an see in the perception of the homeland enter 2 different scenes in the same text. Those of the 2 young girls that have no historic past to burden their perception and ‘see’ the “present” and the one of the grand-mother whom- like history itself- ‘filters’ homeland through the pain of the past. Interestingly similar results were located while researching texts of contemporary teenage literature in Greece and that is possibly a ‘cultural pattern’....

In the question of “How”, linguistically, this has as a consequence to have an anachronism that belongs in the category of "post- narration", (according to the theory of Genette) in which enters ramming narrations (inserted narrations). All are narrations with ‘internal focus’ (meaning a narration based on the subjectivity of the narrator.) But the first approach is of “homo-narration” level and the second of “hetero-narration”, with simultaneous change in the type of narrator (meaning that in the first case the girl tells ‘her own story’- in fact her own ‘experience’ reffering into a story in which she was personally involved- and in the second the girl transfers the story of another person- her grandmother). This way the “How” can be connected to the “Why”, since the time distance is expressed not only in the ‘type’ of the narration but also in the grammar and thus the writing structure of its written formula. Further more what is submitted for the profile of the persons involved here from the above is a hero (the first girl) –the ‘homo narrator’- without any weight from the past that sees "now" and a hero –the ‘hetero narrator’, (the second girl) - that perceives homeland through the pain of the past, and more particularly the German occupation and the Greek civil war. Thus the girl from diaspora lives “now” but partly percieves the root-country through a “then”.

In the Extra-Text field the image of the homeland (something that is a lot of interest since it was also located in literary texts) is connected with the clusters of water and in particular with the "water-mother", according to Bachelar’s terminology and theory. As in deed points out Bachelar in "Water and the Dreams", the imagination of the "poet" should go to water of the spring, that plays the part of the “womb” (‘Water’, p. 18). This “transformation” equals with the return to the womb, a liquid ‘water’-environment, yet an environment that gives birth to memories and “presents”.

Conclusion

As we may conclude, ‘email language’ (written ‘English’ alphabet and logic even when we have to spell not English languages) reproduces a lot of what W. Lippman back in 1922 has called –cultural-stereotypes of the dominant culture. Thus is connected in a very special way with what N. Katzman (1974) has refered to as the -“information rich and information poor”. This division is extended (at least in our survey) deep into the first world as the inequities have to do not only with the access into the communicational mean but also with the choices that are in power inside that mean. This reflects the power relations and heterogenies and reveals that West should not be considered as a ‘cohesive monolithus’. Yet on the other hand we have the maintenance of many icons of the homeland and in its history, based possibly not into real acceptance but into an idealisation of absentia.

Further more email language has various characteristics that may transcend the classic divisions between the 2 traditional forms of ‘logos’ (‘writing’ and ‘oral’) but at the same time includes characteristics that can enlist it in the analytical methods that were used in order to describe the previous classical forms. Using a synthetic method, able for us to bring forth not only the linguistically structural but also the psychological parameters that intervene in correspondences between people of

different subcultures, we tried primarily to exhibit the complexity of correspondences like that and secondly to locate interesting data.

Using Wierlacher's notion of local and catholic (universal) pictures we locate some major scenes (pictures) and then we adapt them into 5 main categories, related with the interests of today's western teenagers (Social Relations, School, Love, Family and Perception of the Homeland). In the 5 main "scenes" exist a scene of universality (Love), two of locality (Perception of the Homeland, School) and two (Family, Social Relations) having elements of both (locality and universality). This can be explained since love is an anthropologic constant that we can talk more or less openly about, especially today having the lifting of 'conservative' mentalities in the assembly of the Western world. Interesting is however that linguistically in the "picture" related to the category of School the girls follow idioms that have to do with locality, and more concretely the "American locality" (and not their own if their locality does not belong to the dominant culture) that concerns the homogenized language but also culture of teenagers. This way this American locality is turned in universality. (A phenomenon, along with its reverse, that Wierlacher failed to locate as we already mentioned).

Questioning "How" the 2 girls exhibit their thoughts/ideas/stereotypes/feelings linguistically, we concluded that the email language of the 2 girls follows in its structure complex techniques that were classified according to Genette's structural theory. While the spelling of their language was classified in the category of the 'Greeklish' and follows their own conventional spelling. (In this article we kept even the misspellings).

Further more we analysed the "Why" according to the post-Freudian theory of Bachelar, finding interesting connections that were previously located in the poetic (mainly but not only) language. With which wider and deeper ways the "How" and the "Why" that rise in the correspondences between the representatives of "Dissemination" (Diaspora) and the natives, are mirrored in the use of language – and in particular in this unique mixture of written-oral reason that is said that email represents - are expected to be clarified in researches that will follow.

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[i] Douglas Blanks Hidman, reffering to e-commerse, "Journal of Mass Comunication", 2000, 77/3, p. 549-560.

[ii] This term was first articulated for television that was the main communicational mean of the era.

[iii] According to Mead, the team that our super-ego wants to be a part of, influencing our world view and our behavior. (Giorgas, 1995)

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Buzzwords and indicators about the networked society: metaphor, vacuity or fraud?

Abstract:

Even though the notion of an information revolution is quite old, recent years have witnessed a proliferation of expressions and measures that tend to depict a radically "new" situation. This reflects in part genuine attempts at describing, explaining and popularizing phenomena that are themselves all but understood. Behind the scene, one may detect less commendable attempts at transforming ignorance into universal evidence or vested commercial interests into millenarian visions. Thus an urgent need of recovering the true sense of the words.

Agenda

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"Quo usque tandem Ca**TI C**lina abutere patientia nostra". Cicero – by proxy[i]

In most Latin languages TIC is the acronym for Information and Communication Technologies, ICT. With this forged quote we intend to set the tone for this paper. It does not pretend to be anything but an outcry. Breaking away from the advertising rhetoric that shapes contemporary discourses about the new society supposedly brought by the advent of ICT, should be regarded, in our opinion, as a basic requirement for information ethics to become a lived reality rather than remain a subject of scholarly enquiry.

One more revolution ?

The representation of humankind history relies more often than not upon milestones that are generally called "revolution". This word may in fact be a hidden tribute to the intrinsically conservative nature of human beings, through the implicit reference to celestial revolutions which bring the planets back to the very same post they originally occupied. The revolution that precede the one we are supposed to experience was the industrial revolution which is presented as follows (The Columbia Encyclopaedia, Sixth Edition. 2001):

> *"Dramatic changes in the social and economic structure took place as inventions and technological innovations created the factory system of large-scale machine production and greater economic specialization, and as the laboring population, formerly employed predominantly in agriculture (in which production had also increased as a result of technological improvements), increasingly gathered in great urban factory centers".*

Post-you-name-it

If there is obviously a noticeable wave of technological innovation, the dramatic changes in the social and economic structure are yet to be seen. The shift toward the service sector, though observed in both developed and developing economies[ii], may need further investigation. On the one hand the value created or social usefulness of many "service" activities are questionable signs of "progress" (e.g. more "security" businesses and employment due to growing insecurity generated by growing inequalities and urban concentration). On the other hand, especially in the case of "global" corporations, the reduction of blue collar employment in advanced countries, where the former have their headquarters, and are therefore included in the respective national accounts, reflects more the delocalization of production in emerging countries with cheaper labour. A phenomenon that was already witnessed in the European textile industry in the 19th century. At a time national boundaries are continuously loosing their reality in the structure and operation of companies, national accounting principles might need a radical revision. Before they lead to report that 50% of the world's wealth is produced in half a dozen countries whose workforce consist of a handsome CEO's and their aides. Bell's coming of post-industrial society may be no more than a venture in optical illusion (Bell 1973).

The illusion is even greater when workers in the services sector, especially those in clerical roles are promoted "knowledge workers" for the one and only reason that they take part in the information cycle, would it be with a large proportion of typos and mis-filings. The post-modern version of my old master's say that "Everything is in everything and conversely" might now sound "Nothing is in everything and conversely". One may at least suspect this is happening when hearing Peter Drucker (Drucker, 1994) say:

> *"Some knowledge work requires a fairly limited amount of knowledge examples are some paramedical technologists, the X-ray technologist, the technologist in the clinical laboratory, or the pulmonary technologist."*

This fairly limited amount of knowledge might indeed be far outweighed by the vast quantity of knowledge of any traditional healer in the Amazon communities. Projecting speculation at this level is only equalled by Pollock's art.

Thinking the new anew

A key feature of a revolution is that what comes after is radically different from what existed before, thus is completely "new". The cult of newness has apparently taken over any concern for the truth that was once meant to be an attribute of information. But this was before communication, read advertising, age and its associate "creativity", read art of manipulation. In contemporary advanced societies, most products are "new" every year, at least in their package or name.

Concern for the importance of information, at that time the scientific and technical one, in the

transformation of society, and the need to manage it, can be traced back in the Mediterranean world, at least to 1895 with the establishment of the "Institut International de Bibliographie" (international bibliographic institute) by Paul Otlet and Henri La Fontaine, if not to the first Alexandria library. Around the middle of the XXth century the proliferation of scientific information gave rise to the concept of an information explosion. The latter might however have been mostly the effect of a demographic explosion in the ranks of scientists, academics and engineers. As a matter of fact Alexander Mikhailov and co-workers (Mikhailov et al., 1969, p. 8) noted:

> *"Thus it appears that the basic external characteristic of what is now know as the "information explosion", namely a rapid quantitative growth of scientific, technical and other literature, was already manifest 2000 years ago."*

The only newness rest thus with the ICT. A group denomination that, thanks to the convergence of digital media, includes not so recent technologies as fixed telephone, photography, radio and television. And a set of technologies that rely upon quite old techniques of expression, especially language, script and writing. Given the time frame required for significant social transformations, on the one hand, and the fast pace of evolution of the digital technologies, on the other hand, it may well be that they would have disappeared – at least in the form we know them today - long before a radically new world has taken shape. Without mentioning the ICT dependence upon electricity, and the uncertain prospects for energy supply in the coming century.

A dog or a Gamma plus [iii]?

What is intriguing in most political discourses about the "new" era, and even more in the indicators supposed to represent it, is the absence of the human being as an independent and self determined entity. As if the modern human being was entirely conditioned and depicted by its use of ICT. Gender, age, literacy, education, profession, etc. come in the picture only as predictors and determinants of ICT use. While the media change, it is always people that express themselves and communicate within the different groups and according to the different rituals and modes that are appropriate, as Colin Cherry emphasised long ago (Cherry, 1971, p. 5).

One can find a number of striking new forms of communication as a result of the use of present ICT, for instance the altered language used in SMS. But communication by fax had also its particular rules. Both have disappeared but same people are still there. The notion that modern human beings would be quite different from their predecessors is a somewhat abusive interpretation of evolution. Especially when one takes into account the time frame. Compared to the years that separate homo erectus from homo faber, the distance between the 1866 users of the telegraph and the contemporary hackers is indeed insignificant. Yet is over these millions of years that human intellectual and communication abilities have been developed. "Pre-historic" patterns are still quite apparent in our behaviour (Menou, 1966, p. 43).

As long as the cyberworld will remain populated by the kind of human beings we know today, living their real lives in the kind of society we know today, the much heralded radical transformation will remain hardly perceptible. When most social interactions will be mediated through "intelligent machines", that won't presumably be called computer networks anymore, according to centrally prescribed protocols, thanks to nanotechnology devices implanted in the body of human beings that have been genetically "enhanced", the situation will be different and totally new, except for the readers of Aldous Huxley.

X-Soc

Does the name of the thing makes a difference ? It is not less intriguing to observe the semantic variations around the possible name for the present, or supposed, time, age, era, in which we have the privilege of living. The hesitations regarding the appropriate name for the time portion reflects the hesitation about the very nature of the transformation. Is it a transformation of the industrial society, that otherwise continues, or is it a new socio-economic structure, thus a new age. As for the preceding ages, only historians will be able to make an informed decision in a still remote future.

If you can't name it ...

Some decades ago the choice for the contenders of a new age was between an information or a communication age. The focus on ICT has sort of indirectly evacuated the problem by putting emphasis upon the technologies that support both. At the same time this permitted to forget about the complex relationship between information and

communication and their social, economic and cultural roots. Perhaps because of the vexing ambiguity of such a designation, and more likely because of the higher attractiveness of other expressions, we have seen flourishing a number of other words, such as knowledge, learning, networked, intelligent, smart, cyber, etc. supposed to indicate what is the main characteristic of our times, their ultimate principle and goal. As if any society had ever wanted to be known as the stupid society. As if information and communication were not the very basis of any society, or even more generally of living organisations.

A name for the place

The same semantic confusion noted about time can be observed about space. It is sometimes implicitly assumed under the generic expression of society. What perpetuates the abusive alignment of all societies on the planet, and all segments of these societies on the most "advanced" ones. Even though a significant proportion of people on this planet have yet to be connected to telecommunication and power networks[iv]. When the traditional words of country or nation are qualified on the basis of the respective Gross National Product level one may fear that a number of socio-cultural realities have become negligible. The situation is even clearer from this stand point when these expressions are substituted by the word economies. The latter being probably the politically correct form, so far, for market.

The poesy of autopoiesis

A further step in dematerialization is reached with such expressions as networked economies, cyberspace, virtual world or simply The internet. Here we are finally freed from old-fashioned constraints such as geography, transportation economics, language, class differences, social inequities or other contingencies. The world that counts is made of the connected ones who all speak ASCII and do cool things on the net. As Geoffrey Kirkman and Jeffrey Sachs (2001) put it:

> *"Many of the world's poorest countries are poor in part because they are isolated – cut off by mountain ranges, desolate land barriers, country borders with neighbours – and thus outside the global flows of goods, finance and ideas. But with the new information and communication technologies, the historical barriers of geographic isolation and distance from markets are no longer as daunting."*

At this stage a new world is thus idealised as an autopoietic organization[v] as it pleases its promoters. More than facts and their analyses, all is a matter of belief, as Kirkman and Sachs (ibid) said:

> *"There can no longer be any doubt about the importance of every economy plugging into global information and communication networks."*

Experiencing the way ICT are used in the many services of which each of us has the privilege to be a happy customer, one may however become a bit circumspect regarding the rising effectiveness of ICT based business processes. A recent study of ICT use by NGO's in Ecuador (Borja 2004) showed that 78% of them use computers daily, 19% of them have all their machines connected to the Internet and 31% connected to a local area network. In all countries most small businesses which are the bulk of the productive sector still make a limited use of ICT. A study of small enterprises in Tanzania (Mungunasi, 2000) found that 23%, 12% and 67% of Manufacturing, Services and Tourism SMEs respectively declared regular use of access to the Internet and 16%, 12% and 23% respectively regular use of spreadsheet analysis. This should lead to reconsider even the more cautious expressions such as "information intensive" (e.g. Moore and Steele, 1991) or "IT based economy" (e.g. Miles, 1988), or even "new economy" (Statistical Office of the European Communities, 2000) at least from a world-wide perspective.

Penetrating happiness

Since the appearance of the first measures and models of the "information society" in the early sixties e.g. by Fritz Machlup (Machlup 1962), literature on the subject has steadily grown. However the variety of theoretical backgrounds, special scopes and concerns make any attempt at a classification somewhat vain. If one considers the more recent wave of studies, three subsets might be distinguished among the documents in the public domain: subject specific studies, e.g. E-commerce or E-Government, descriptive studies and data collections, such as those of the International Telecommunications Union, and E-Readiness studies that pretend to offer a comprehensive review of a country's preparedness to the global networked economy.

What is measured ?

The scope of the measures deemed necessary, not only for Governments, is quite well presented in the report of a recent UN meeting (UNECE, 2004, p. 7):

> *40. In order to support their policies, Governments need indicators enabling them to assess the extent to which their countries are prepared to implement the new technologies (ereadiness), to observe the progress of implementation (e-intensity) and to measure the impact (e-impact) of their development on the course of business and on the population.*

In other words the penetration of ICT is clearly the focus. The assumptions behind this perspective being that:

a) ICT use brings progress, in particular economic growth; and

b) The positive effects of use far outweigh the negative ones (it the latter are at all considered).

Of course a number of side considerations are eventually added, such as the infrastructure and social environment. But the supporting evidence is basically a tautology. The richest country being the more active users of ICT, more use of the latter is going to bring a country closer to richness. However the same could have been said for any other technological development. For instance the more cars the richer. The more typewriters, the richer. The more pencils, the richer. Where does the actual knowledge creation come into the picture. Yes, the more scientific literature output, the richer. And conversely. What are witnessed are two side of the same coin, the effects of the accumulation. Accumulation by whom at the expenses of whom? Anything new on this front?

Whose race is that one?

More often than not the figures that are supposed to depict any of the above mentioned situations are presented in the form of country rankings. Like headlines for the evenig news on the FOXiest channel, the good news are who won the race, who is in the top league, how many ranks were gained since last report and these sorts of things. The answer may be inferred from the many statements regarding ICT and "competition". In the above mentioned report (UNECE, 2004, p. 7) one finds for instance the following statement which replicates innumerous instances of similar narratives:

> *38. All countries are concerned by the new technologies. They create new conditions of competition in numerous markets. They provide high-impact access possibilities for consumers and the public.*

This puts an useful counterpoint to the repeated affirmation that what is indeed at stake is "the people", as reassured in the first point of "Our common vision of the information society" in the Declaration of principles of the World Summit of the Information Society (2003). Or is it "homo economicus"? According to a KPMG report (KPMG 2000):

> *"The general view is that e*ICT[vi] *has the* potential *to benefit developing countries. It can be seen as moving the world economy closer to an economic ideal of perfect competition. This is a result of reduced costs, increased competition and an improved price mechanism. In this sense e*ICT *can be viewed as reinforcing the process of globalisation which, in neo-classical free market theory, should increase overall welfare."*

Thus, in fact, what we are told about is how deep, far and fast ICT is penetrating the various countries. What led us to call these forms of tachometric analyses "TachICTometrics" (Menou, 2001, p. 1). If there is one area where the benefits of ICT deployment can be quickly cashed, it seems that is in employment, according to a recent declaration of the U.K. Chancellor (Morgan, 2004):

> *"It is precisely because the public sector has invested £6bn in new technology, modernising our ability to provide back-office and transactional services, that I can announce, with the detailed plans departments are publishing for the years to 2008, a gross reduction in civil service posts of 84,150 to release resources from administration to invest in the front line," said Brown, unveiling his spending plans for the next three years."*

Extase-stistics

What is astonishing at a time all socio-economic phenomena are considered under the prism of "globalization", on the one hand, while the many discrepancies, if not divides, within and among

countries are widely acknowledged, on the other hand, is the persistance of the country as a basis for data collection and analysis. What implies that one country equals one country, therefore Belize and Brazil are the same thing.

Are we all equal ?

We are therefore told that there are x Internet users per 100 habitants in a particular country. The notion of Internet user is quite vague but this is not the major bias. When it comes to using the Internet 100 inhabitants of a country are not equal to 100 inhabitants of any other country even in the seme region or income group. Many other factors are at play in delineating the size of the subset of potential users. To name a few: age and gender distribution, income level, literacy, availability of power and telephone, cost of access, etc.. Likewise some physical characteristics may make it far more cumbersome and expensive to install and maintain appropriate infrastructures in countries that are huge, with low population density in vast areas, with high mountains, deserts or rain forests, with exposure to natural risks, etc. Not to mention a number of socio-cultural constraints that may initially exclude some groups from the use of ICT. In this respect Maria Edith Arce and Cornelio Hopmann (2002) throw many useful considerations in their study of E-Readiness of Nicaragua. Until the relevant variations are accounted for in defining the basic unit of measurement that is the "country", the data that are presented will continue to be an abstraction.

Growth mistakes

Since the early analyses of the information economy, calls have persistently been made for the statistical categories and data elements to be adjusted to the new conditions and special characteristics of information activities and intangible goods. A number of attempts have been made, with limited results, and efforts are currently underway[vii].

The key issues may however lie elsewhere. In first place even though lip service is paid to ICT contribution to people's happiness, the bottom line remain with their contribution to economic growth. Most data related to ICT diffusion are in fact highly correlated to income levels, and correlated between them. As Ilkka Tuomi puts it nicely (Tuomi, 2004):

> *"If we argue that the growth accounting studies reveal something essential about the impacts of ICTs, the justification has be based on some intuitive knowledge about the expected research results, which enables us to decide that the errors made in growth accounting studies do not really matter in practice."*

The alleged disappearance of ideology in the contemporary societies may in reality be the smokescreen behind which the universal church of liberalism is pushing its faith. Those who may object to the word "faith" in this context may wish to observe the both the language of the present Lords of the universe and their resistance to the doubts cast upon the validity of the dogma. An interesting point in case is intellectual property rights whose effect on innovation is discussed in a recent article by Stuart Macdonald who reminds that in the pharmaceutical industry, research and development costs are estimated at 12% of revenues, administrative and marketing costs at 30% (Macdonald 2004).

With a minimum of common sense, one may in fact begin by questioning the sanity of the dominant Weltanschauung which calls for endless economic growth in a world whose main resources are not renewable. What indeed should be looked for is ways to secure an overall zero growth or even a sustainable de-growth, within a process of redistribution from those who have too much to those who have don't have even the most essential. Even when such views are presented through an articulate scientific discourse as is the case with the works of Nicholas Georgescu-Roegen (1995) they surprisingly do not permeate much of the policy and opinion making spheres.

Smart cloudsters

Knowing who is crunching the numbers may bring some light into the process of representing the information society.

Data sources

Because of the newness and dynamic nature of ICT and their reflection in economy and society, a good deal of the data are not part of the established statistical collections. It is thus natural to seek alternative sources. Many industry organizations, marketing and consulting firms are currently collecting such data. In doing so they may be more interested in cros-checking their views than discovering the reality. Even if there is some legitimacy in such a process, within certain limits,

the situation becomes a bit embarassing when such data are mixed with official ones and published by statistical offices. They thus appear to the inattentive reader as having the same neutrality and rigour, as the other productions of the issuing office have, in principle.

Another vexing problem arises with the otherwise useful qualitative data with regard to both their sources and the combination of such soft data with hard data. It may be legitimate for instance to account for the business friendliness of the policies of government that were put in place as a result of democratic (in principle) votes. However when these data are the opinion of a panel of CEO from multinational companies, one may have some doubts about their objectivity. Especially when no complementary opinion is sought from leaders of civil society organizations. The number of legislation passed to soften rules applied to businesses and the size of public direct and indirect subventions might anyhow help consolidate the picture. The "Executive opinion Survey" regularly conducted by the World Economic Forum plays not only a key role in the Global Competitiveness Index, as explained below, but also in the Networked Readiness Index of the Global Information Technology Report (World Economic Forum, 2004 a & b):

> *« Indeed, one of the fundamental objectives of the* Global Competitiveness Report *is to evaluate the potential for the world's economies to attain sustained economic growth over the medium and long term. With this goal in mind, the World Economic Forum developed the GCI. The index is based on economists' understanding of the determinants of the complex process of economic growth and development. Again, our understanding is far from perfect. In fact, we learn new things every year as new development experiences teach us new lessons and as new data become available. But our existing knowledge can be used to evaluate the growth potential of a country by combining available data and the Executive Opinion Survey conducted annually by the WEF into an index that we call the GCI. »*

The volatility of such kind of data led other analysts to exclude them, as in the ITU Digital Access index, whose presentation (ITU, 2003) mentioned:

> *"It deliberately omits variables subject to qualitative judgment such as the regulatory environment. "Market structure and degree of competition are open to levels of interpretation," explains Minges. "We purposely exclude qualitative factors - to avoid subjective bias in the calculation."*

Self service

As a matter of fact it is interesting to note the smooth migration of the Global Information Technology Report. It started as the production of a prominent academic entity, the Center for International Development of Harvard University, with collaboration from the World Economic Forum. The following year it had become a publication of the latter with academic contribution from a major business school, INSEAD, and the World Bank Infodev program. This institutional evolution may be the reason why the first issue is priced 23% more than the following one, in spite of the obsolescence of ist contents. One can see in this case an interesting application of the concept of smart clusters, strategic alliances, public-private partnerships and other wonders of post-modern governance. Except that, like for the place of their wives in the biography of great men in history, civil society is once again forgotten.

Any organization has the right to defend its interests and present its views. What is troubling in present virtuous circles is that one has the greatest difficulty understanding who is who, who speaks for whom or what, and more importantly who at the end of the day has the legitimate authority to authentify the basis upon which decisions are going to be made.

Draw me a sheep

Where thus is the Little Prince who will bring us back to reality and at the same time unleash our true dreams? Whether or not it is an "information society", today's society is sure not a wisdom society, nor a society in which there is a clear, and effective, boundary between information and propaganda.

It seems quite obvious that ICT like any other technology can bring positive effects upon the welfare of human beings. It may as well be far too early for us to be able to articulate what the pros and cons might be, especially because of the concentration of ICT use among the happy few on the planet. Nevertheless we would be well inspired to return to Jacques Ellul's warnings (Ellul, 1964):

> *"In our cities there is no more day or night or heat or cold. But there is overpopulation, thraldom to press and television, total absence*

> *of purpose. All men are constrained by means external to them to ends equally external. The further the technical mechanism develops which allows us to escape natural necessity, the more we are subjected to artificial technical necessities. . . The artificial necessity of technique is not less harsh and implacable for being much less obviously menacing than natural necessity."*

The above mention of the media is opportune. We heard a lot of pleas for the educational promises of television. We are now hearing the same kind of discourse about the economic, social and cultural promises of ICT. The latter will nevertheless operate within a world in which as Stuart Macdonald (ibid, 2004) says:

> *"The drivers of a modern economy are public relations, advertising and the media: presentation and spin are crucial."*

In this respect a quote from the President of the major TV channel in France, which won the competition for the privatisation of the earlier public channel on the justification that their offer was the best from a cultural stand point, might be appropriate. Mr. Le Lay, President of TF1 said (Libération 2004):

> *"The job of TF1 is to help Coca-Cola, for instance, to sell its product. ../... For a TV commercial to be received, the brain of the TV watcher should be receptive. Our programs have as a vocation to make it available: that is to say to entertain, to relax, to prepare it between two messages. What we sell to Coca-Cola is time of this receptive human brain."*

The same brain will make use of ICT. No need for further comment. "Ite missa est"

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[i] Freely adapted from the famous « Quo usque tandem abutere, Catilina, patientia nostra? » Oratio in Catilinam Prima In Senatu Habita. http://www.utexas.edu/depts/classics/documents/cat1.html . Retrieved July 14, 2004

[ii] We use these expressions for lack of better ones and on the assumtion that they are somehow understood by all in spite of their inappropriateness.

[iii] Combining here the famous say «On the Internet no one knows you are a dog » and one of the demographic groups in Huxley's Brave new world.

[iv] In 2001, Low income countries had an electricity consumption of 317 KWh per head against 8,688 for OECD countries in 2000; Low income countries had 32 telephone connections (fixed or mobile) per 1000 inhabitants against 1,116 in OECD countries (same years).

[v] « an autopoietic organization constitutes a closed domain of relations specified only with respect to the autopoietic organization that these relations constitute, and thus it defines a space in which it can be realized as a concrete system, a space whose dimensions are the relations of production of the components that realize it. (Maturana and Varela, 1979) ». Web Dictionary of Cybernetics and Systems, Retrieved July 25, 2004, http://pespmc1.vub.ac.be/ASC/AUTOPO_SPACE.html

[vi] "new economy ICT developments and in particular the internet (*e*ICT)" (KPMG 2000, p. 4).

[vii] e.g. the STILE (STatistics and Indicators on the Labour Market in the E-economy) project http://www.stile.be, or the Partnership on Measuring ICT for Development set up in 2004 by ITU, OECD, UNCTAD, UNESCO Institute for Statistics and UN Regional Commissions (ECA, ECLAC, ESCAP, ESCWA).

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Privacy and Terror: Some Remarks from Historical Perspective

Abstract:

In this essay I will investigate if in the discourse on different ideas of privacy the reference to the obvious abuse of personal data in totalitarian states is necessary or if we are able to debate both necessity and limits of privacy without having to refer to this extreme example. The aim is to show that the experience of terror has been fundamental for the European tradition.

Agenda

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Introduction

In his essay "Privacy and the Varieties of Moral Wrong-doing in an Information Age" (1997) M. J. Van den Hooven remarked that "it seems somewhat odd to say that the Nazis invaded the privacy of the Dutch Jews. They murdered, tortured innocent human beings." By help of this historic example he wanted to point out to the fact that sometimes we tend to saying "privacy" when actually individual safety is meant. In the context of the essay the example is used to differentiate our understanding of privacy and to work out appropriate solutions for the various problems which meet in the field of privacy.

Basically supporting this approach and estimating this example as appropriate, I used this quotation for an essay – and was surprised when in a peer-review there was the remark that this example was "socially charged" and thus inappropriate. On the one hand, I could understand the objection, as the essay was not on National-Socialist crime but on "Business Ethics". Insofar I was thankful for the advice, for my intention had not been to blacken the names of those who are in support of a different idea of privacy – even if I consider it insufficient – by accusing them of speaking out for a totalitarian police state. On the other hand, I considered the objection somewhat confusing, as the reference to the National-Socialist rule of terror still seems to be a common worst-case-scenario of a society without privacy and without any kind of privacy protection. By this, I do not even try to state that the above mentioned example does not look odd. But at the same time it looks as odd to me not to care about withdrawing the protected zone "privacy" in totalitarian states, as – to again use the example of National Socialism – I consider the availability of data and the lack of any kind of data protection one of the foundations of National-Socialist mass-murder: without knowing which person belongs to which part of the population, discrimination against a certain part of the population and its extinction is impossible.

In the following, I will investigate if in the discourse on different ideas of privacy the reference to the obvious abuse of personal data in totalitarian states is necessary or if we are able to debate both necessity and limits of privacy without having to refer to this extreme example. Doing this, I will – at least as far as liberalism is concerned – stress the significance of the experience of terror in the French revolution, something that seems to be forgotten in American tradition.

The Problem of "Privacy" – European vs. US-American Strategies on Solution

In this essay I like to focuse on the differences between European and US-American ideas of privacy, refering to Lawrence Lessig who both in his volume "Code and other Laws of Cyberspace" and in his essay "Privacy as Property" demands an American solution as an alternative to the European tradition of privacy protection. In the following, I will take over these comparisons.

Certainly, it means to simplify matters strongly if there is talking about only two lines of tradition. On the one hand, we must presume that both in Europe and in the USA different ideas of privacy and conceptions of legality were and still are expressed. On the other hand, there is the question if also other, non-western ideas of privacy should be discussed. Particularly the latter must be strongly emphasized if we think of the global basic technology of the internet. Especially some approach like Lessig´s, who considers technology and law a unity, could be interpreted as being a kind of cultural imperialism, for by adjusting a certain technology to the normative ideas of a different culture it gets to be the bearer of a certain ideology at the same time. Indeed, also due to this I will concentrate on two western ideas in the following to point out to the fact that even within western liberalism there exist different ideas of privacy. At the same time, this discussion offers a chance of necessarily turning our attention to further positions.

According to Lessig, the American way of solving the problem of "privacy in the internet" is in the possibility of defining who shall be entitled of have access to one´s own personal data. With this, the exchange of data shall be mostly automatic and shall stay in the background of the real exchange of information. Data protection is strongly emphasized insofar as any other people´s possibility of having access to these data is restricted by law and technology. This turns against the European idea that certain data should be protected anyway, as he offers to the user the possibility of specifically disclosing such data. Thus, ways of doing business are made possible which in the view of European tradition at least look questionable. In this way, European tradition is doubted as being outmoded –

a view which is also shared by German authors (e. g. Kuhlen 2000).

Lessig´s American sketch deviates from European tradition also as he grants to the state the right of controlling any kind of communication. By help of technology and law and in the name of safety the state shall be entitled to utilize data, discretely and staying in the background. The internet shall be organized like an airport which also can only be entered after strict security checks (Lessig 1999, 156f). The last aspect seems to contradict the European idea which understands data protection as a possibility of restricting the state´s access to personal data. This difference may be due to different historic experience of withdrawing privacy.

The Gap in the Genealogy of Privacy

By "Public Goods, Private Goods" (2001), Raymond Geuss offered a genealogy of privacy which shows a remarkable gap. Thus, in his chapter on liberalism he stresses the central role of religious freedom in John Stuart Mill´s thoughts. But he does not look at the experience of a totalitarian kind of democracy after the French revolution. On the other hand, in "Two Concepts of Liberty" (1969) I. Berlin points out that Mill´s view not at last must be understood to be a reaction to Rousseau and the French revolution.

This gap is remarkable insofar, as in the introduction of the German issue Geuss places Berlin – together with other authors (Max Weber, F. A. von Hayek, J. Habermas, R. Rorty, M. Walzer a. o.) – into a tradition which was seriously influenced by Mill´s study "On Liberty". But why does he not take seriously his resumption of negative historic experience but focuses on the aspect of religious freedom?

Besides the fact that the idea of tolerance might well be historically connected to religious freedom, I think that here it is important to look at Geuss´s aim. His aim is to show that there is not such a thing as the *one* difference between privacy and public, which might justify, for example, different criteria for private or public behaviour. I do not think that he wants to doubt privacy itself. But by reducing his thoughts to single aspects of privacy he comes very close to this, when, for example, he comments on the "Right to Privacy", as it was demanded by Warren and Brandeis (1890), that their main motivation might well have been writing a report on Warren´s wife. Surely it cannot be denied that writing a report on Warren´s wife might have played some role for the authors. This aspect has already been mentioned by a. o. Miller (1973, p. 205) and Wunden (1994, p. 173). But also it does not look possible to deny that this very seriously written article goes far beyond the special problems of the married couple Warren. Here it looks to me as if Geuss rashly deduces the incorrectness of a statement from the possibility of analyzing its historical conditions.

Indeed, especially Warren´s and Brandeis´s essay makes clear that liberal distinction of the private and the public sphere is not only about defendig privacy as a privileged place of self-discovery. It is at least as important to secure the quality of the public sphere, from where information about the private sphere shall possibly be banned as a kind of trivial information: "When personal gossip attains the dignity of print, and crowds the space available for matters of real interest to the community, what wonder that the ignorant and thoughtless mistake its relative importance" (Warren/Brandeis 1890). Thus, the two authors emphasize the triviality of privacy which does not make it appear to be a suitable matter of media public. Concerning this, triviality must also be interpreted to be part of the protective function of privacy (Nagenborg 2004). In my opinion, this deliberate triviality of the private sphere is not taken seriously enough by Geuss, as his reconstruction of privacy aims to much for defending a field which is especially worthy of protection.

Triviality being a desirable quality of private life is difficult to understand if one does not have in mind the opposite, i. e. a society in which no action is trivial at all. Just this must be said about the time of the French revolution, particularly about the terror by the Jacobins, when expressing private interests or retreating to privacy was enough to be considered counter-revolutionary. Thus, it was not at last this expanding kind of public where everything was declared a matter of public interest, which in the 19th century opened the eyes for the necessity of distinguishing privacy from public (e. g. see Hunt 1992).

These experiences then were the background against which the totalitarian states of the 20th century were interpreted by liberal thinkers like Berlin. Thus, the gap in Geuss´s genealogy is symptomatic.

Liberalism and Totalitarism

If Berlin recalls the origins of the liberal approach of privacy to come from the time of terror, this is not only to recall some forgotten aspect. At the same time, he shows a way out of the crises of liberalism, as it was perceived after the end of World War II.

On the one hand, World War II could be interpreted as a struggle between liberal and totalitarian, anti-liberal states. The victory of the liberal states lead to the question, in what way liberalism was to be re-defined towards social security and economic equality. Behind this challenge there was and still is the question, in how far a wrong interpretation of liberalism might have contributed to the coming up of totalitarian states (see e. g. Schapiro 1964). Today, such a share of responsibility by liberalism is emphasized, e. g. by P. Berman in his volume „Terror and Liberalism“ (2003). Berman´s analogy of the totalitarian challenge of liberal democracy and the Islamist rejection of the western idea of development has rightly been questioned, among others by H. Münkler (2004). But here his view is of interest as it helps to achieve a better understanding of I. Berlin´s specific accomplishment: by emphasizing the Jacobins´ terror being a fundamental historic experience for liberalism, Berlin is able to tell an alternative history of liberalism, in which the struggle between liberalism and totalitarism does not start as late as in the 20th century. Of course it is still possible to state that totalitarian movements were able to make a profit from liberal tolerance but at the same time it gets clear that we must dinstinguish different kinds of liberalism from each other. At least some liberal philosophers – Mill and Constant – are accepted by Berlin for having recognized the problem. Thus, general criticism of liberalism seems to be invalid and a fundamental distinction between different kinds of liberalism seems to be necessary.

Concerning this, it is a widely discussed question by what the different kinds of liberalism are put together. Since 1989, this has been asked not only concerning foreign policy. But doing this, we must not fail to see that also concerning one of the focal questions of liberalism, i. e. the relation of citizen and state, there are different views. In this field, the European tradition seems to distinguish itself by restricting the state a. o. by emphasizing the demand of privacy. The American tradition, on the other hand, considers the state a guarantor of freedom which for defending the fundamental values of liberalism and in the interest of the community is allowed to ignore individual demands, maybe at the same time protecting privacy from interventions by others. The European tradition emphasizes the possibility that democracies might end up as totalitarian systems while the American tradition emphasizes the idea that a liberal society should be protected from totalitarian tendencies and threats by every means.

In so far, the experience of terror has been fundamental for the European tradition while the US-American tradition can point out to the positive experience of its own past. Thus, to make this difference clear, terror must be taken into consideration for the dialogue of the two traditions.

Some Conclusions

Now, the significance of terror in the European tradition should not be understood in the way that American tradition does not know the problem of totalitarian democracy. It is only that in my opinion it is dealt with on a different level: while in Europe the state´s power is restricted by data protection acts in order to hem totalitarian tendencies, in the American tradition trust in the democratic state seems to be more distinctive, which is thus considered a guarantor of protecting privacy and a protection from totalitarian tendencies.

In the dialogue of the two traditions it is as important not to generally castigate surveillance as being totalitarian as not to dismiss the reservations against controlling the internet as a space of communication as being hesitant and indecisive. Both approaches must be interpreted as being a fundamental part of each tradition. Concerning this, I imagine it to be quite helpful even for the defenders of the European tradition to recall that kind of liberal tradition pointed out to by I. Berlin.

At the same time it may still seem “odd” that privacy is discussed and defended against the already mentioned background of historic experience. Many data, whose exchange Lessig wants to make possible by his sketch, are considered rather trivial in our society. But just because of this we should remember that trivializing privacy is a means of protection to protect us from a society without anything being trivial.

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Self-organization in Open Source Communication Networks. Red Académica Electrónica de CLACSO -RAEC- (CLACSO's Electronic Academic Network -EANC-) case.

Abstract:

Throughout 1980 two main processes started. The first process was the creation of an area of free information exchange at a low cost and with a diversity of collaborators.

The first revolution in the Internet based on the newsgroups, the ftp, the electronic mail and the emergence of the free software were the paradigm of the new world in information. Today, we can think about the existence of are new elements to be linked to this paradigm, such as free encyclopedias, the open source scientific publication, the genomic information, etc.

The second process witnessed how huge industries (pharmaceutical, food and agriculture, means of transport, software packing companies) were being built.

These industries are now trying to reach the property or the control of the use of information and knowledge and there is a strong pressure to increase the control upon the spreading of knowledge and information by using a mixture of technical and legal tools. These two tendencies are opposed in various cases and these clashes are shaping up the future.

In Argentina and in Latin America, these two trends are growing due to the emergence of projects that put special emphasis on the appropriation of the Internet technology in order to create communication networks, using open source technologies, such as the case of the RAEC. Red Académica Electrónica de CLACSO (CLACSO's Electronic Academic Network -EANC-) with regard to the generation, creation, utilization, storage and transfer of information on one hand, and the benefits and the sources of innovation in the evolution of this Network at concentrating on open technologies, on the other hand. The fact is to show and cast some light on the deep debate about how knowledge shall be dealt in Argentina in the next years, taking into account values and typical styles of our country and how this is related to the use of digital technology.

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First process - Preliminary inquires

Since halfway through the seventies, the e-mail lists, the cooperative work in institutions such as the IETF (Internet Engineering Task Force, sources of open source standards publicly discussed and led by individuals), the RFC (Request for Comments, standard documentation on the Internet) have been going around. It was the Internet the one that has enabled this process, which was at first exclusively limited to the virtual communities of hackers, to spread out. The innovation of the software has thus come out from state-of-the-art scientific research laboratories, in which everything used to be put at risk throughout the '60s and the '70s, and from companies' equipment to grant a much vaster social field. In fact, the Internet, as a connection structure, constitutes the form of the molecular organization of this fantastic cycle of immaterial production. Even in the '80s the BBS (Bulletin Board System. Electronic Boards, Fidonet (BBS network, created in 1984 and made up by thousands of on-line communication amateurs), Usenet (group of people exchanging articles within one or more newsgroups, universally or locally acknowledged by a subject), and the Electronic mail have supplied platforms conducted by the user with a more sophisticated and specialized functionality. The latter allowed two ways of connecting to the Internet: 'on-line' or 'differed'. The classification was very simple: 'differed' meant that the only service they had was the electronic mail, and 'on-line' was all the rest, already known today as FTP, WWW, IRC, etc.

Due to the monopoly established by the law of privatization of ENTel, only the firm Telintar (a company formed by Telefónica and Telecom, the ENTel's heiresses) was able to give the on-line service at international level. And this company offered the service ONLY to educational or research institutions. That was why the only institutions having a complete Internet connection were the Science and Technology Secretariat, the University of Buenos Aires, the National University of La Plata, the National University of Cordoba, the National Commission of Atomic Energy and a few more (the Comisión Nacional de Actividades Espaciales (National Commission of Space Activities) had its Internet connection through another via and other legal resource). Obviously, this service was not free and each institution paid a monthly fixed canon of ~6,000 us$.

The fact that these institutions had the Internet connection did not mean that they were able to provide it to everyone who wanted it. On one hand, each institution fixed a policy; in the case of the UBA, the organism who had to manage the network policy was the Centro de Comunicación Científica -CCC- (Scientific Communication Center –SCC-, or the CESPI in La Plata. All in all, they were the ones who decided which type of connection they would give to a 'customer', whether 'differed' (electronic mail only) connection or 'on-line' connection.

But there were also private companies that offered 'differed' connection ONLY (because of that fact about the monopoly...). So, those who wanted to have electronic mail had two possibilities:

a. having an account in a computer at any institution
b. having an electronic address at home

Option a) was typical of students from some University. The only way to find out the possibility was to get in touch with the person in charge of the computing resources of the Institution and ask for the relevant requirements.

Option b) was typical of those who hired a private service, although it could also be granted by a public Institution (depending on its policy). To gain access to this service it was necessary to have a computer (it could be that old 4-MHz XT), a modem (from 300 baud onwards) and a telephone line at home.

We can mention the following institutions among others:

- The Science and Technology Secretariat, where the ReCyT functioned, which connected scientific institutions, universities, public departments, schools and non profit foundations. It provided electronic mail and other Internet services.
- Red de la Universidad de Buenos Aires –REDUBA- (Network of the University of Buenos Aires: It provided Internet services to professors, researchers, students and other academic institutions at national level. It provided electronic mail, and, in some Colleges, all Internet services. It emerged in 1986 through the initiative of a group of professors and students from the Computing and Exact Sciences Department, which started to work on the RAN project -Red Académica Nacional- (National Academic Network). In 1988 they carried

out the first international communication through a digital network, between the UBA and the University of California, in Los Angeles (UCLA).

- Health Network –OPSARG-. It linked hospitals and professionals working in public institutions. It provided electronic mail.
- Red Teleinformática Académica –RETINA- - REd TeleINformática Académica- (Tele-computing Academic Network): Created by the Asociación Ciencia Hoy (Association Science Today). It connected users from scientific institutions. It emerged with an important financial support of the Fundación Antorchas.

RETINA established agreements with the CRIBABB, CERIDE, Centro Atómico Bariloche –CAB- (Bariloche Atomic Center) and with the Instituto de Astronomía y Física del Espacio –IAFE- (Space Astronomy and Physics Institute) for the user's service and the test of the communication software between the nodes.

The national traffic was carried out through ARPAC, the public network of data transmission (the only available means at the time). The international traffic was channeled from the nodes, through ARPAC, to the State Department, which had an analogical 9600-bps link, with SURANet.

RETINA regarded the only way out with other countries as insufficient; therefore, an agreement with the University of Chile (UCH) was signed, which counted on a 64-kbps dedicated link, at the time, with the University of Maryland.

By virtue of that agreement, RETINA's nodes could have access, via ARPAC International, to the central node of the Chilean network, and from then on, they could continue through the channel to Maryland. In the reverse order, in order to make the messages for RETINA's users reach their destination, the UCH got in contact with the nodes through Chilepac, the Chilean public Network.

Due to the low speed of the ARPAC network and the increasing cost of this means of transmission, RETINA was forced to find another means of communication.

A solution was quickly found for the national traffic, since the data transmission was deregulated. The installation of V-Sat links was contracted, being theses links replaced later by SCPC 64-Kbps links, between CRIBABB, CAB, the Embalse Nuclear Power Station and the Constituyentes Atomic Center.

- Los Pinos II. It provided electronic mail, newsgroups, shareware programs with free distribution and teleconferences. Average cost: 20 monthly dollars.
- The Argentinian Compuserve subsidiary provided on-line access to Compuserve International, which at the same time has a gateway with the Internet. The average fare was around 100 dollars.
- ITINET (ex-Delphi) was an on-line information and service system. It supplies electronic mail, but also the possibility of performing telnet with remote computers (the cost of the overseas connection is chargeable to the user). There were conferences, newsgroups, shopping areas and distribution of news from international agencies. The average cost of the electronic mail was around 50 dollars and the 'on-line' services varied according to the communication time.
- Satlink supplied companies and individuals with an Internet output at 27 dollars a month. The subscription included, among other services, electronic mail, newsgroups and entertainments.
- Publinet provided electronic mail and some 'on-line' services. It did not charge for time but for traffic. The basic subscription was 29 pesos plus VAT.

Some of those companies provided differed gopher and WWW, which was quite interesting for learning what they consisted of, but too slow for the user to get discouraged. It was estimated that in some months' time -if there was a previous decision from Telintar, which monopolized international communications- the 'on-line' cost would go down just enough to become more accessible.

In the '90s up to 2000, many of theses platforms were outshone in view of the emergence of the WWW.

Throughout nearly two years, RETINA asked TELINTAR, the bearer of the monopoly on international communications, for the supply of an international high-speed, point-to-point link, at a fixed cost, without getting any answer from the mentioned company.

In the '90s, the Comisión Nacional de Telecomunicaciones –CNT- (National Commission of Telecommunications) authorized the Asociación Ciencia Hoy, for its RETINA project, to install by itself or by third parties the required link to be able

to provide researchers with efficient access to the Internet services. In view of the lack of answer by TELINTAR, a 64-kbps link was installed, whose download in the USA was agreed with the National Science Foundation to be performed in its router of Homestead, Florida. A few months later, the capacity of that link was increased to 128 kbps, at the proposal of the NASA, which was in charge of the improvement costs, in order to reach a good connectivity with the Comisión Nacional de Actividades Espaciales (CONAE).

The international link was carried to 256 kbps due to the increasing demand from the new institutions that had joined RETINA.

Through agreements with Secyt, the Ministry of Justice, the Ministry of Foreign Affairs and Impsat, the national connectivity was enhanced, enabling those networks that were accessed through the USA before to be reached more efficiently.

With the objective of keeping the quality of service, the bandwidth of the satellite link with Homestead was increased to 512 kbps.

The international bandwidth was doubled, taking the connection with Sprint to 1 Mbps.

With the objective of improving the connectivity of the academic networks in Argentina, an agreement with Impsat was achieved to take the link with RECYT to 2 Mbps.

At the ends of the '90s the bandwidth of the international link was doubled again and RETINA gets integrated to CABASE as another way of improving the national connectivity.

El Consejo Interuniversitario Nacional –CIN- (National Inter-university Council) awards RETINA the administration of the RIU -Red de Interconexión Universitaria- (University Interconnection Network) particularly, to perform it during the important change of topology to which the RIU should be submitted, according to the new agreement held by the CIN with TELECOM.

A POP from RETINA is added into the IMPSAT's Teleport for the access of the institutions that take part in the network with a superior bandwidth.

In 2001 the intention letter with the UCAID (University Consortium for Advanced Internet Development) is signed for the integration of RETINA to the Consortium Internet2. On December 12th the international 45-Mbps access to Internet2 is inaugurated in the auditorium of the Rector's office of the National Technological University in Buenos Aires.

Finally, in 2002 together with other eighteen Latin American countries the CLARA alliance -Cooperación Latinoamericana de Redes Avanzadas- (Latin American Cooperation of Advanced Networks) is constituted to make the interconnection of South America, Central America and the Caribbean with the advanced networks from Europe and the other regional networks feasible.

It is carried out the participation in the ALICE project of interconnection of Latin American academic networks with GEANT, the European academic network.

This scene shows how intricate the first Internet revolution in Argentina was.

Today, we can think that there are new types of elements to be linked to this paradigm: the groups type hacklabs or medialabs; furthermore, even the effort to put documentation and translations on-line, finds in the web a favorable space for its development, being such a space an opening to effective possibilities for collaboration and reciprocal enrichment, not only between the development teams and the users but between the users themselves, as well.

Forums through the web ("webBBS" or weblogs) or the newsgroups from software users, are very rich in this productive traffic of knowledge, in this exchange of experiences and inventive among these, which, undoubtedly, contribute to the code improvement, but, above all, allow the constitution and broadcasting of a know-how among users, as well as the innovation of the possible uses of a certain software. The cyberspace is the unlimited area where this fantastic collective intelligence is displayed.

The foundational work by Tim Berners Lee (1997) about web rules was based on the peer-to-peer collaboration among the scientists all around the world. Communication networks, such as Peer to Peer type Gnutela (-decentralized networks to share files- lack a central server and all the elements connected to the network are simultaneously servers and customers. They are able to exchange any type of files, text documents, photographs or videos) and instantaneous messenger type ICQ, Nupedia (combination of free software and free encyclopedia), Debian (association of individuals having the common cause of creating a free

operative system) and others of the sort, have each of them a different story that have led them to develop different technical and social strategies, and to carry out some or all the collaborative principles of the free Software.

Moreover, hackers and their philosophy of work took on the discussion of the development pattern for the free software as an alternative model and quite different from the development of the traditional software. Even though they defined themselves as individuals that were devoted to program passionately, they also believed that to share the information and work out free software[i] was a duty for them.

The Free Software Foundation, (FSF,) managed by Richard Stallman[ii], started the creation of an operative system that could be freely distributed among its users, Gnu/Linux[iii]. From the very beginning, most of the participants developing free software belonged to universities and research laboratories, whose financing came from science academies, financing government agencies and private institutions of I + D". This movement of software flourished since 1984 by integrating the work of the above scientific institutions and generating a cooperative pattern of network production, called bazaar pattern"[iv].

The development of public property based on this pattern was exponential to such an extent that great part of the technology on which the Internet is based today, from the operative system Unix to the network protocols, comes from those years. In order to prevent private interests from appropriating this work, Stallman invented the concept of copyleft (1989), with the political purpose of guaranteeing the free traffic of the knowledge contained into the software and the possibility for everyone to contribute to its improvement[v]. So, since the spreading of personal computers and the access to the Internet, the movement of the free software reached its critical mass, it stopped being a thing just for some hackers[vi] and became a phenomenon of liberated social cooperation (Vidal, 2001). But not only does the free software refer to the programmers' right to have the code sources[vii] at their disposal; it means the freedom to copy and redistribute those programs as well.

Furthermore, it is worth mentioning that the hacker culture carried out by computing science in the '60s, had the necessary tools and the source code of most programs at its disposal. That is, collaboration and joint work was part of the habits of a scientific community since its early beginning.

But in the '90s, that pattern reached a crisis point and went through a second process, in which a privatizing and mercantilist pattern began to emerge.

In this way, programs began to sell as commercial items and only with the binary code in order to hide the programming techniques from the competitors. The new industry of software began to be supported on the legislation about copyright. The Unix world was fragmented into several privatized versions and gradually incompatible among each other. What was up to then a habitual practice became a crime: the hacker that shared the code and cooperated with other individuals began to be regarded as a "pirate". This context explains the subsequent peak of Microsoft empire and others: the business of proprietary software was awakening.

From the community of free software itself there have been attempts to explain these phenomena through the theory of games[viii]. The classical dilemma between "collective property" versus "selfish attitude" is surpassed by an axiom that vaguely reminds of the "prisoner's dilemma" of the theory of games: the cooperation is preferable also from a selfish perspective. The "prisoner's dilemma" was used to study the concept of rational choice and to illustrate the conflict existing between the individual benefit and the collective property[ix]; it meant a great surprise to the mathematicians, psychologists, economists and biologists that have studied in depth the diverse strategies of the theory of games[x]. In the free software it means the desire that everybody has the same freedom we do have at our disposal.

Stallman, R. was the first in raising the question about the struggle for the freedom of information and divulgation starting from the free software in his book: "*The right to read*" (1984). Another referent of the above discussions is Raymond, E., the author of *The cathedral and the Bazaar* (1997), a classical work in the world of the free software, which contrasts the bazaar pattern to a model of software production, which he called "cathedral pattern"[xi], based on the need of an architect managing a rigidly structured and hierarchical staff and the strict control of errors. As another dimension of analysis, we can point out that the activity of these networks is organized on an autonomous basis. Not only can the developers of these networks find but also should find the way of organizing that, their collective activity. It can be clearly seen there how it

is possible for individuals to carry out common activities without any external direction. The novelty introduced by these networks is that they set in motion a non-commanding cooperation pattern[xii]. What is more, the lack of leadership, corporate or hierarchical control, seem to be a sine qua non condition: there, where command reappears, either under a proprietary interest or under its authoritarian variant, the pattern fades away, becomes exhausted and in the end disappears. No one can demand, there is no guarantee and there is no money as a stimulus to work[xiii]. At the same time, cooperation is a phenomenon that produces a positive feedback: nobody enjoying the benefits of the free software may avoid promoting the use of it. Therefore, the community keeps a certain proselytizing tone, besides having a more or less generalized perception that the power and the future of the pattern depend very directly on the fact that there are quite a lot of people taking part actively in its development. In these networks there is the coexistence of an approach that is based exclusively on the efficacy, the technical and productive superiority that the bazaar pattern generates, with another one that puts cooperation, ethics and freedom in the first place[xiv]. The sector that goes beyond the technical superiority and that carries out a bet in favor of the ethical dimension of the free software relies on the strength of the movement and at the time being no alarm is perceived in this sense. It is considered that pattern of the free software production cannot be privatized and recovered by the market, which is reinforced legally (the GPL), technically (the superiority in various magnitude orders of what has being created through the bazaar pattern in contrast with proprietary systems) and politically (some of the most significant promoters of the free software come from countercultural movements or sympathize with causes pro civil rights). However, there is no reason for rejecting a more critical reading capable of making us be alert: the capitalism has been able to "recover", privatize and market nearly all the aspects of production and life, from the material to the immaterial point of view. A materialist ethics that regards freedom and social cooperation as the best way to defend something that is good for everyone and that finds other stimuli different from the economic benefit[xv]; there is a very important background political matter that differentiates them clearly: whether the software can be privatized or not. Whereas for the pragmatic sector this is not relevant, for Stallman and those who emphasize the ethical vision, this is a central and non negotiable subject: the software, quite different from immaterial property, cannot be owned, since it can be enjoyed by an indefinite number of individuals without depriving nobody of having it at their disposal at the same time[xvi]. These characteristics make competitiveness in these networks to have no sense at all, since no competence relationship is established among developers. On the contrary, it is profitable for all the individuals involved, that developers help each other, taking advantage of the others' work and enjoying, consequently, the benefits of cooperation.

As we can see, The "Self-organizational approach" for developing information products has been fantastically successful, particularly in the area for which it has been developed. On the other hand, apart from the software, there are other important successful projects of the Open Source, such as the Red Académica Electrónica de Clacso www.raec.clacso.edu.ar, a project of writing and open publication, database, radio, video, bibliography and wiki. The interesting point in the RAEC is that it does not constitute a technical innovation and it does not concern the matter of whether a certain information is worthy of credit or not.

What the RAEC is developing is to modify the parameters of the production of knowledge through its wiki and to draw out a new pattern for carrying out the content through collective contributions in CLACSO's network, and eliminating the role of the traditional author (social scientist) that is opposed to CLACSO's full text digital library, which keeps the pattern of the traditional author and just modifies the process of broadcasting or divulgation of ideas and knowledge in social sciences.

However, especially outside the software's domain, open source projects remain relatively marginal. This can be partly explained through the relative novelty of the approach and, above all, because it is motivated by the fact that they are complex collaborative processes, in which social bonds, gratuitousness and self-organization are also like this. The current development pattern is based on a specific number, though not acknowledged, of conditions restricting its applicability to more diverse contexts, as for example the production of literary works. The space delimited by these conditions is quite large and not completely explored yet. Only a few could have predicted the success of Wikipedia (an international project managed by volunteers, with the scope of creating a free and gratuitous encyclopedia), only three years ago, although the free Software had already reached success in that moment. However, it is clear to do research on how

these networks, such as RAEC, are going to maintain themselves in the future within a world with such generosity. Can it turn out to happen that what is gratuitous at present might provide great value in the future? To what extent may the generosity that is in the domain of these networks at present become wealth in the future?

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[i] The word "free" refers to freedom, not gratuitousness. To get GNU software a price may be paid or not. Anyway, once the software is achieved, there are three specific types of freedom for using it. Firstly, the freedom to copy the program and give it out; secondly, the freedom to change the program as desired, because of having complete access to the source code; thirdly, the freedom to distribute an improved version contributing, thus, to build the community.

[ii] Researcher of the Artificial Intelligence Laboratory of the Massachusetts Institute Technology (MIT). It was 1984; he left the MIT and works together with other hackers interested in the GNU project.

[iii] Free operative system based on Linux nucleus. The Proyecto GNU started in 1984 with the scope of developing a complete operative system type Unix from software libre. See http://www.gnu.org.

[iv] According to Raymond, the bazaar programming is summarized in three principles: 1) liberating quickly and often; 2) distributing responsibilities and duties as much as possible and 3) being open even as far as promiscuity in order to encourage cooperation at the most. Even though these rules are observed, the bazaar pattern is not always possible: it can only take place in an environment of freedom, cooperation, community and having the open code available.

[v] The GPL or Licencia Pública General (General Public License) is the legal expression of the copyleft concept. As time went by, the GPL has become the foundation of the free software, its legal bastion, and constitutes, for many people, an extraordinary exercise of legal engineering: with the GPL it is assured that works arising from cooperation and collective intelligence do never stop being public property freely available, and that any development derived from it may become public and free, as if by magic. The copyleft made use of the international laws of copyright to turn them over, since it protects the use instead of the property.

[vi] The word hacker does not refer to "computing pirate", but in its original meaning, just as Eric Raymond, for example, defines it: "There exists a community, a shared culture of expert programmers and networks gurus, whose history can be traced from decades before to the first shared time mini-computers. The members of this culture coined the word hacker".

[vii] By having the source code at one's disposal it is possible to locate errors and correct them, and even to detect the existence of maligned code (virus), which power companies and groups may possibly introduce into the programs and closed operative systems, as a way of controlling and striking privacy.

[viii] See, for example, Juan Antonio Martínez's article, "Free Software (Software libre): an approximation from the games theory", in Linux Actual, num 11.

[ix] The creators of the "prisoner's dilemma" illustrated it as follows: two people, detained and suspect of committing a crime are placed in separate cells and are interrogated. Each one is invited to betray the other colleague, turning into a repentant individual. What is going to happen depends on what both prisoners do, and none of them knows what the other has said. If both shut their mouths (that is, if they mutually cooperate, according to the games theory), they will be condemned to a minimum punishment of one year due to lack of evidence. If they accuse each other (that is, they do not mutually cooperate, according to the games theory), they will serve a three-year penalty. But if only one of them accuses the other, he/she will receive a reward (and will be free), while his/her accomplice shall go to prison for five years. In view of this dilemma, and supposing that both of them are motivated by a rational interest and that they cannot speak to each other in order to make an agreement, it seems as if the only rational option is to mutually accuse in order to minimize the punishment (he/she shall be free if his/her accomplice shuts the mouth and shall serve a three-year penalty if he/she speaks; instead, he/she may be given a five-year penalty if he/she shuts the mouth and his/her accomplice speaks). The most rational option will force them to accuse mutually and get a greater punishment. Unless the player is unwary, he/she will have to reject the most desired solution for both – the cooperation (that is, staying quiet). This dead-end dilemma has made generations of games theoreticians become crazy, and only by means of a variant called the "repentant prisoner's dilemma", which consists of being able to play the game several times while observing the other's behavior, could they find a way-out condition.

[x] See Richard Dawkins' work: The selfish gene, published in its second edition in 1989. The chapter: "Good boys finish first" is especially relevant for this matter .

[xi] It should be more precise to call the hierarchical and planned pattern that Raymond describes in his article: "pyramid pattern"; the "cathedral pattern" does not correctly describe the phenomenon, since the construction of gothic cathedrals was owed to the 'compagnons', nomadic and itinerant groups of the bricklayer, carpenter, blacksmith, etc. sort, who built them here and there, spreading works with no division between manual and intellectual craft, and with a decentralized and autonomous planning and construction: "To the ground plan of the gothic compagnon, the metric plan on the architect's paper is opposed exterior to the work." (Gilles Deleuze and Félix Guattari, Mil mesetas (A thousand plateau), Pre-Texts, 1988).

[xii] In the Grundrisse, a text that prefigures our times more than a hundred years before, Karl Marx resorts to the general word intellect (or "general intellect") to refer to the collection of the types of abstract knowledge (of "epistemological paradigms", as we would say at present), which, at the same time, constitute the epicenter of social production and organize the whole context of life. A "brain" or general intellect, based on cooperation and abstract knowledge, including scientific knowledge, which tends to become, by virtue of its autonomy with regard to production, non less and non more than the main productive force, pushing the parceled-up and repetitive work of the industrial production to a marginal position.

[xiii] "In fact, a lot of people are going to program with no monetary incentive at all. Programming has an irresistible fascination for some individuals, usually for the best ones in the area." (R. Stallman, El Manifiesto (The Manifest) GNU, 1985)

[xiv] "It may be possible that in the long run the culture of the free software succeeds, not because the cooperation is morally correct or because the ` appropriation' of the software is morally incorrect (supposing that the latter is really believed, which is not certain neither for Linus nor for me), but just because the commercial world cannot win an evolutionary armament race to the free software communities, which can set greater orders of qualified time magnitude into a problem than any company." (Eric Raymond, "La catedral y el bazar" (The cathedral and the bazaar), 1997)

[xv] "There is no scarcity of professional musicians that go on with their business although they have no hope of making their living through this way. [...] For more than ten years, several of the best programmers in the world have been working in the Laboratorio de Inteligencia Artificial [from the MIT] (Artificial Intelligence Laboratory) for much less money than what they could earn in another places. They got various kinds of non monetary bonus: fame and esteem, for instance. And creativity is also enjoyed; it is a prize in itself." (Richard Stallman, El Manifiesto GNU, 1985)

[xvi] "Since I dislike the consequences derived from the fact that everybody captures information, I should regard the fact when somebody does so as

wrong. Specifically, the desire to be granted a reward on account of the own creativity, does not justify to deprive the world in general of all or part of that creativity." (Richard Stallman, El Manifiesto GNU, 1985).

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Simon Rogerson

The Virtual World: a tension between global reach and local sensitivity

Abstract:

Society, its citizens and its organisations are becoming more dependent upon technology and its global application as the means of providing information and obtaining services in a virtual world. This paper considers some of issues surrounding a virtual world of global reach yet still having to be locally sensitive. It challenges current thinking and concepts on the basis that we have a new dimension to our person through our Internet existence. Strategic guidance is suggested in an attempt to realise the potential of the technology whilst supporting cultural tolerance.

Agenda

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Introduction

Computers can be shaped to any activity that can be described in terms of inputs, transforming processes and outputs. It is the nearest thing to a universal tool (Moor, 1985). This has become increasingly so with the growing convergence of computing, telecommunications and mass media. Consequently, society, its citizens and its organisations are becoming more dependent upon this technology and its global application as the means of providing information and obtaining services. There is an increasingly wider access to and application of this powerful resource. Many herald these advances as the arrival of the global village mapped out by the Internet. It is a village where every place is only a push-button away. Indeed Moor (2004) explains that "The prospects of a global village in which everyone on the planet is connected to everyone else with regard to computing power and communication is breathtaking. What is difficult to comprehend is what impact this will have on human life. Surely some of the effects will be quite positive and others quite negative."

The world has changed. Once people had to go to a particular place in order to communicate. This is no longer the case with the advent of pagers, mobile phones and laptop computers with communication cards; communication now comes to people. Indeed, the development of communication devices such as the fax, the mobile phone and the Internet has permanently changed the way people live, work and socialise. This paper considers some of issues surrounding a virtual world of global reach yet still having to be locally sensitive.

Digital divide

Wealth and power flow to the information rich, those who create and use ICT successfully. They are primarily well-educated citizens of industrialised nations. The information poor, both in industrialised countries and in the developing world, are falling further and further behind.

Local implementation issues can dramatically affect the potential of the virtual world, restricting access and thus creating or exacerbating social exclusion. Pinto et al (2004) suggest there are three issues that need to be addressed; investment in ICT infrastructure which enables universal access, investing in flexible and adaptive use interfaces which enable users to communicate as they please, developing systems with embedded intelligence in order to process information sent and ensure its timely and qualitative receipt. These social exclusion issues can be particularly problematic in rural areas and yet often go unheeded (Fiander, 2004). The three point strategy would go a long way to addressing this rural deprivation.

The dominance of the developed world, particularly the USA, can negatively affect the Internet. It has been the prime reason why the majority of accessible and catalogued online content is in English. It is vital that more localised content is funded (Murphy and Scharl, 2004).This would promote cultural identity and improve access for the less able social excluded who for example are unlikely to speak and read English as a second language.

Culture

There is increasingly a homogenisation of culture in the virtual world, yet individuals still come from distinctive cultures. The expectations of individual participants in the information society thus can differ significantly (Fairweather and Rogerson, 2003). These differences threaten the potential benefits of the virtual world. This can be countered by focusing on core values that we all share such as life, happiness, ability, freedom, knowledge, resources and protection (Moor, 2004). However, developing systems for the virtual world based on only core values can be problematic in that such systems might clash with the deeply held convictions of a culture or community. It is for this reason that the virtual world must also be tolerant of the global moral pluralism (Vedder, 2001).

The Internet-based community crosses traditional geographical and political boundaries and as such comprises individuals from many different cultures. Nance and Strohmaier (1994) suggest there are two important dimensions to consider regarding cultural variability. The first dimension is the continuum from individualism to collectivism. Individualism emphasises self-interest and promotes the self-realisation of talent and potential. Its demands are universal. Collectivism emphasises pursuit of common interests and belonging to a set of hierarchical groups where, for example, the family group might be placed above the job group. The demands on group members are different to those on non-group members. The second dimension concerns cultural differences in communication referred to as low context communication and high

context communication. In the former the majority of the information resides in the message itself whilst in the latter the communication is implicit. Nance and Strohmaier (1994) suggest that the USA utilises low context communication whilst Japan uses high context.

> *"So while there is cultural homogenisation, the variability that remains makes it very difficult to provide information or conduct a debate in a way that is acceptable to all. This is especially problematic because to a significant extent the processes of globalisation are now unstoppable." (Fairweather and Rogerson,2003)*

This is certainly one of the great challenges presented by the Internet. It involves establishing a set of common behavioural standards whilst ensuring that there is no dominant participant. The current offerings of Internet are a long distance from this position.

Information

Information providers have taken on a significantly important role in the virtual world. For example, Time Warner AOL is the producer and distributor of much of the information in a various forms that we consume. The emergence of such organisations raises many issues. In many ways they are uncontrollable by governments because of their global reach and operation. They wield great power and influence through deciding information content and format. Not that long ago it was reported that Time Warner AOL had a debt which amounted to the GNP of a sizeable nation. Society as a whole is extremely vulnerable if information moguls such as this should they get into financial difficulty. The pressure is on to support and to protect these information providers.

Information moguls are commercially oriented seeking to maximise profit. Costs are minimised through a policy of homogeneous information offering devoid of cultural context. This seems unacceptable and inappropriate. Yet given the power these moguls wiled in the global village it is very difficult to influence them to move to a more heterogeneous offering.

Freedom and assembly

Access to information as well as the generation and dissemination of information relate to the fundamental concept of freedom in the virtual world. Consider two articles of the UN declaration of Human Rights. Article 19 states that, " Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers." Whilst Article 5 states that, "No one shall be subjected_to torture or to cruel, inhuman or degrading treatment or punishment." The application of these articles to the new context of the digital universe raises some important issues.

In the name of protecting some civil or human rights, some governments appear to reduce the value and freedom of other rights. For example, "Human Rights Watch reported that Chinese authorities have issued more than sixty sets of regulations to govern Internet content since the government began permitting commercial Internet accounts in 1995. …describes recent Chinese efforts to police Internet cafes … cases of several people put on trial or sentenced to prison for downloading or posting politically sensitive material on the web" Human Rights News (2001).

Blocking, filtering, and labelling techniques can restrict freedom of expression and limit access to information. Government-mandated use of such systems violates rights regarding freedom of speech. Global rating or labelling systems reduce significantly the free flow of information. Efforts to force all Internet speech to be labelled or rated according to a single classification system distort the fundamental cultural diversity of the Internet and potentially lead to domination of one set of political or moral viewpoints. It does not seem right to employ such techniques in a universal manner.

Article 20, clause 1 of the UN declaration of Human Rights states that, "Everyone has the right to freedom of peaceful assembly and association." This right has a new twist in the context of the virtual world. Assemblies are an example of the two-way many-to-many communication on which the Internet is based. Bulletin boards, discussion groups, email lists are all examples of new forms of assembly within the virtual world. Therefore an individual under Article 20 has a right to participate in such assemblies assuming they are peaceful. This brings into question the regulation and restriction put on such activities by governments and private organisations. There is a need to revisit this issue from the perspective of assembly. As it stands it is a conceptual muddle and policy vacuum as described by Moor (1985).

Data and self

Conceptual muddles abound in the virtual world. Consider the relationship between data and self. Society has long recognised that taking or using property without permission is wrong. This extends not only to physical property but also to intangibles such as ideas and data these being collectively recognised as intellectual property. The concept of ownership is culturally sensitive. Whilst there is reasonable agreement in countries of the West that individuals or groups of individuals have intellectual property rights (IPR), interpretations in other countries and situations are sometimes different (Spinello 1995). For example, IPR safeguards in countries of the Far East are minimal mainly due to a different philosophy that tends to treat intellectual property as communal or social property. In the poorer developing countries the view often taken is that the right to livelihood takes precedence over other claims on which IPR are based. It is only when prosperity increases that there is shift from a social well-being interpretation of IPR to one with more emphasis on the individual. Regardless of whether the emphasis is on individual ownership or community ownership, there is a big problem which the fundamental concept of data ownership when considering the virtual world of the Internet.

In order to live and prosper in the virtual world an individual must be visible, credible and creditable. As we each develop electronic persona across a range of digital media and through digital icons such as digital signatures, electronic curriculum vitae, electronic patient records and electronic purses, we come to exist electronically and our needs are addressed through having these digital icons. Without them we cannot function and become invisible. It is how these dilemmas are resolved across national and international legislation and regulation that will establish clear rights of citizens in the virtual world. However, our digital persona is not simply characterised by our digital icons. The sense of self is completed through the relationships with others (Prosser and Ward, 2001). These are represented in the virtual world by such things as emails and chat room dialogues. It can be seen that the electronic persona comprises a complex array of digital data.

In the virtual world it is a fundamental right of every person to have control over his or her electronic persona. However this right challenges the traditional views of data ownership because data is the virtual manifestation of self. It is the electronic persona. It is clear therefore that we need to redefine the meaning of self to account for our virtual world existence. We must acknowledge that much of the data relating to an individual cannot be owned by a third party for if we do not we are subscribing to electronic slavery.

One further issue relating to data and self is that of identity. There has been much speculation that people can play with their identities on the Internet and present different electronic persona. Such speculation is characterised in the famous cartoon entitled “In cyberspace nobody knows you’re a dog” (Steiner, 1993). This might be possible in the short term but such mimicry is likely to be spotted in the long term as identity is more than simply learning and applying rules, it is about learning within a context and reacting intuitively to different situations as they arise (Whitley, 1997). In the Information Society, the impact of physical characteristics of those communicating has been minimised. This is potentially beneficial as removing the visual cues about gender, age, ethnicity and social status allow different lines of communication to open up that might have been avoided in the physical world (Whitley, 1997).

Conversation

In any community conversation is essential. There has been concern by psychologists that computers are having a detrimental effect on society in that the “social glue” of casual conversation is being eroded (Mihill, 1997). The increasing use of email at work, the elimination of bank tellers and shop assistants, and the use of telephones and laptops to telecommute from the home illustrate how the opportunity for small talk is decreasing. This phenomenon is thought to be one reason why shyness is increasing in the population. There is of course a counter argument in that by utilising computer based communication tools such as the Internet those who are naturally shy become more outgoing since the psychological pressure of face-to-face contact is removed.

However conversation is culturally founded and this influences the way technology is used. Consider the example of mobile phone take-up in Africa. In December 2001 there were 21 million mobile phones in Africa. This increased to 35 million in 2002 and again to 52 million in December 2003. This amazing growth should be tempered by the fact that only half of sub-Sahara Africa is covered by a mobile signal, many Africans are too poor to buy a mobile and only half of all Africans have ever made

a phone call. However, this technology has proved to be fit for purpose socially, culturally and economically. The right consumer proposition has been adopted through offering pay-as-you-go phones, which account for over 80% of phones in Africa. Most African countries permit competition in mobile networks which has kept costs down and evidence shows this is beneficial to all. The socio-economic benefit of improved communication has increased business activity and economic wellbeing. However the remarkable story relates to culture. Africans are great talkers. They entertain through conversation. Mobile phones simply reinforce these oral traditions. It has become a device for socialisation. For example, Africa has seen the rise of the single-owner multi-user. Friends become a communication centre for a community and enjoy a new social status. The clear message from mobile phones in Africa is that here is an adaptation of both the technology and its implementation which not only is sensitive of local culture but promotes and enriches it. It is fit for purpose.

Fit for purpose technology

The virtual world must be built upon fit for purpose technology. Technology should fit users' needs rather than users fit technology's needs. Technological communication networks should align with human rights. Systems on the Internet should be culturally sensitive. Systems should be designed to minimise complexity and opaqueness thus promoting trust in the virtual world. Bucy (2000) argues that these systems are, in their current form, too complicated for the many people to use and derive benefit. They require a certain level of cognitive ability to navigate successfully. For this reason he argues that, "there is reason to believe that the digital divide will not be completely remedied through universal physical access to computer technology alone." The need to simplify systems radically should form a major design principle for the virtual world.

Law, regulation and ethics

The networks of the virtual world offer exceptional possibilities in communication for exchanging information and acquiring knowledge, and provide new opportunities for growth and job creation. However, at the same time, they conceal risks to human rights and alter the infrastructure of traditional public and private operations. Johnson (1997) explains that the potential benefit of the Internet is being devalued by antisocial behaviour including unauthorised access, theft of electronic property, launching of viruses, racism and harassment. These have raised new ethical, cultural, economic and legal questions which have led many to consider the feasibility and desirability of regulation in this area. Similarly, it is questionable whether technological counter measures will be very effective either. The absence of effective formal legal or technological controls presents grave dangers to society.

The international aspect of the Internet, the transient nature of the content and the rapid evolution of the techniques and strategies raise specific difficulties for the application of penal and commercial law. It is extremely difficult to determine which laws apply, who is responsible, and what proof is required in the event of a transgression. It is probably unattainable to create international law that can provide legal guarantees for this global community. This would require agreement on universal rights and wrongs which may well be possible for obvious cases such as the dissemination of child pornography but is very difficult for debatable issues such as individual privacy and intellectual property. Where once very few people had substantial enough impacts on the lives of distant people to have significant moral obligations to people tens of miles (or kilometres) away, now for many of us they are routine. As increasingly we interact on a global basis, we find that we do have responsibility for each other regardless of location, yet the moral standards to be upheld are often unclear (Fairweather and Rogerson, 2003). Johnson (1997) suggests that there are three general ethical principles that promote acceptable behaviour in the virtual world:

- know the rules of the on-line forums being used and adhere to them;
- respect the privacy and property rights of others and if in doubt assume both are expected; and
- do not deceive, defame or harass others.

The outcome of not subscribing to such principles is likely to result in chaos overwhelming democratic dialogue, absolute freedom overwhelming responsibility and accountability, and emotions triumphing over reason (Badaracco and Useem, 1997).

Work transformation and social responsibility

Psychologists working on-line serve as a good illustration of how such themes are relevant for those working within a modern organisation in the Information Society. King and Poulous (1999) explain that, "Psychologists 'apply and make public their knowledge of psychology in order to contribute to human welfare' (APA, 1992). On-line psychologists who maintain a website advertising their services often include a wealth of information about psychological disorders and their treatment. This psycho-educational service is available to the public 24 hr. a day, can be accessed to the advantage of anyone, not necessarily a client, and is generally provided free of charge. In situations where a recipient of services is in a geographically remote location, on-line therapy may be the only psychological therapy available to them." In this situation the psychologist's traditional approach has been transcended with the advent of the Internet. In this new situation, public welfare, distributed benefit and equality of access are all promoted through exploiting the temporal and geographic independence of the on-line world. It is a good example of socially responsible transformation based on fit for purpose technology.

- This type of transformation is common across many types of work. To assist in promoting social responsibility within the virtual world such transformation should follow a set of strategic pointers as follows (Rogerson, 2004):
- Develop a socially responsible culture within the organisation which nurtures moral individual action
- Consider and support the wellbeing of all stakeholders
- Account for global common values and local cultural differences
- Recognise social responsibility is beyond legal compliance and effective fiscal management
- Ensure all business processes are considered from a social responsibility perspective
- Be proactive rather than reactive

Conclusion

In the virtual world, individuals are subjected to e.junkmail, e.money, e.commerce, e.library, e.identity, e.education to mention but a few. Whether these are beneficial depends on a number of factors some of which have been discussed here. However, what is certain is that individuals deserve empowerment and social benefit, inclusion rather than exclusion, and the right to choose between the electronic and the non-electronic.

Inequitable access to and communication of the priceless resource of information is at best unfair and at worst disastrous for society as a whole. An Information Society that empowers the disabled and less fortunate members of society and sustains equality of opportunity regardless of race, colour or creed is achievable. Governments, policy makers, developers and service providers of the Information Society have the wherewithal to create this panacea which balances global common values and local cultural differences. They must have the commitment as well else apocalypse beckons.

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Toni Samek

Internet AND Intention: An Infrastructure for Progressive Librarianship

Abstract:

This paper is an introduction to progressive librarianship (also known in North America as socially responsible librarianship, activist librarianship, and radical librarianship, and in Europe as critical librarianship). Progressive librarianship is contextualized within a broad international movement, with an emphasis on the United States (U.S.) cultural perspective. Concrete examples are given to show how progressive librarianship deals with select intercultural problems in the U.S., such as international relations and public forum. Special attention is given to the role of the Internet in the rise of progressive library discourse.

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Librarians have a choice between an instrumental view of their profession or principled engagement. Colin Darch

Introduction

Unlike "native on-line movements (e.g., the Electronic Frontiers Foundation)," the progressive library movement is a "pre-existing" movement that has taken its agenda to the Internet where it can organize and coordinate, be open and participatory, and tap into the online potential for persuasion and consensus building.[1]

Progressive librarianship (also known in North America as socially responsible librarianship, activist librarianship, and radical librarianship, and in Europe as critical librarianship) has a tradition that dates from the late 1930s in the United States (U.S.). Dating back to 1939, with the introduction of the *Progressive Librarians' Council Bulletin*, progressive librarianship has produced its own vehicles of discourse with a network base in Argentina, Austria, Germany, Mexico, South Africa, Sweden, the U.K., and the U.S. This discourse gained significant momentum in the late 1960s/early 1970s in the U.S. and elsewhere in the 1980s. In the last decade, the decentralized and multidirectional technology and communications infrastructure of the Internet has greatly enhanced relationship building, grassroots democratic organizing, and the development of "new citizenship groups" around the discourse and practice of progressive librarianship.[2]

Chronological Formation of Key Progressive Library Groups Around the World

1939 Progressive Librarians' Guild (PLG), U.S.

1969 Social Responsibilities Round Table (SRRT) of the American Library Association (ALA), U.S.; Bibliotek i Samhälle (BIS), Sweden

1983 Arbeitskreis kritischer Bibliothekarinnen und Bibliothekare(KRIBIBI), Austria

1988 Arbeitskreis kritischer BibliothekarInnen (AKRIBIE), Germany

1990 Progressive Librarians Guild (PLG), U.S.; Library and Information Workers Organization (LIWO), South Africa

1994 Information for Social Change (ISC), U.K.

1997 Social Responsibilities Discussion Group of International Federation of Library Associations and Institutions (IFLA), International

2000 Círculode Estudios sobre Bibliotecología Política y Social (CEBI) -- International; Study Circle on Political and Social Librarianship, Mexico

2001 Progressive Librarians's International Coalition

200? Grupo de Estudios Sociales en Bibliotecología y Documentatcíon (GESBI) -- Social Studies Group on Librarianship and Documentation, Argentina

Despite a progressive library movement that has been building for decades, scant scholarship has been produced on the subject. As Al Kagan noted in 2001, "There is a proud but sometimes hidden tradition of progressive librarianship in the United States" [and elsewhere]. [3] Colin Darch went so far as to say that the progressive library movement proudly reclaims the library tradition that "we see in the writings and in the practice of such largely forgotten figures as the Danish librarian Thomas Doessing (1882-1947), the American John Cotton Dana (1856-1929), or the Briton Ernest A. Savage (author of A librarian looks at readers)." This "brand of library leaders" promoted variety in collections, all points of view, and democratic culture -- hallmarks of progressive library discourse.[4] Lack of intellectual curiosity for this library discourse has contributed to marginalization within its own institutional and cultural context. The intention of this paper is threefold: (1) To disseminate key elements of the author's recent unpublished original work on progressive librarianship and the Internet. (2) To promote dialogue about progressive librarianship. (3) To spark interest in foundational scholarship on progressive librarianship.

Method

The author's conceptual historical research is shaped by exploration of the following topics related to the development, discourse, practice, and impact of progressive librarianship:

- Historical roots of progressive librarianship.
- Conceptual framework for progressive librarianship.
- Defining characteristics of progressive librarianship.
- Intent of progressive librarianship.

- Participants in progressive librarianship.
- Vehicles of discourse for progressive librarianship, with special emphasis on the Internet.
- The question of to what extent progressive librarianship has influenced library policy and practice, and the larger environment, with special emphasis on intercultural contexts.

Research Base

While there is little scholarship on progressive librarianship, a vast research base exists. The intellectual content of this paper is built on a diversity of material (with a heavy concentration on English language), including:

- ALA archival materials, such as paper petitions and manifestos.
- Autobiography and biography.
- Conference presentations, workshops, and study group resources.
- Historical, theoretical, and foundational works from within and without LIS.
- LIS association rhetoric and policy.
- Websites.
- Weblogs.
- Listserv postings, such as open letters of protest posted on the Internet.
- Bibliographies, reviewing sources, reference works, and awards.

Significance

The importance of this work is to: help understand library citizenship and agency, and the democratizing potential of the Internet therein; help understand diversity and contestation within LIS; help understand the importance of history in librarianship's development; explore moral understanding in the context of LIS; provide identity to progressive librarianship; and identify the origin, development, and influence of progressive library ideas and concepts.[5]

Historical Roots of Progressive Librarianship in the U.S.

"Taking sides on whether or not the profession is neutral is a debate about the nature and ideology of librarianship."[6] Despite the dominant view that librarianship is a neutral profession, Colin Darch has observed, "librarians have always been politically engaged, despite themselves."[7] Historically, progressive librarianship has been a key site of this engagement.

Progressive library discourse is rooted in the 1930s progressive library movement in the U.S., when library activists of the 1930s pressured the ALA to be more responsive to issues put forth by young members involved in such issues as peace, segregation, library unions, and intellectual freedom. By 1940, a new group called the Progressive Librarians' Council emerged in order to provide a united voice for librarians who sought change in the association.[8] By the end of its first year, the Progressive Librarians' Council had 235 members. Many were involved with ALA's Staff Organizations Round Table, formed in 1936, and Library Unions Round Table, formed in 1940. In addition, the *Progressive Librarians' Council Bulletin* provided a forum for activities on behalf of freedom of expression. The Bulletin printed outspoken opinions "not tolerated" by the traditional communication organs - *Library Journal*, *Wilson Library Bulletin* and *ALA Bulletin*. Eventually, after ALA's Staff Organizations Round Table and Library Unions Round Table gained momentum and the number of round tables in general increased, the Progressive Librarians' Council disbanded.[9]

Increased ALA responsiveness to its membership was a central issue for activist librarians in the 1930s and again in the 1960s. While comparing radical librarians of the 1930s with the rebels of the 1960s, library educator and scholar Jesse Shera noted that "the actors are different, but the script is much the same."[10] The nature of library activism of the 1930s mirrors the 1960s in a number of ways: (1) activists called for ALA to operate democratically; (2) criticized the homogeneity of the professional discourse; and (3) paid attention to the needs of the librarian, not just of the institution.

Like progressive library discourse, American library rhetoric on intellectual freedom also dates back to the 1930s. Starting in the late 1960s, however, advocates of an alternative library culture based on the concept of library social responsibility, that included the librarian's right to freedom of

expression, lobbied the ALA to extend the concept of intellectual freedom to include library practitioners as well as library users. For example, these alternative library culture advocates believed that while, as professionals, librarians have "the responsibility for the development and maintenance of intellectual freedom," as citizens, librarians have the fundamental right to freedom of expression (e.g. library employee freedom of speech in the workplace on professional and policy issues and freedom of the library press).[11]

Progressive librarianship is inextricably linked to the concept of intellectual freedom and the more "universal" concept of human rights. But as Al Kagan wrote in the context of the ALA Intellectual Freedom Committee's opposition to an international boycott of an apartheid regime, "many intellectual freedom supporters do not appear to recognize that all human and political rights, including intellectual freedom, are constantly impacting on each other and as a consequence none are absolute."[12] Indeed, progressive library discourse is a site of contestation for various stakeholders in the dominant culture of the profession, because it challenges librarianship to re-conceptualize the traditional ethic of intellectual freedom.

In the context of contemporary American librarianship, the phrase intellectual freedom is widely understood to mean "the right of every individual to both seek and receive information from all points of view without restriction." Intellectual freedom "provides for free access to all expressions of ideas through which any and all sides of a question, cause or movement may be explored" and "encompasses the freedom to hold, receive and disseminate ideas."[13] Traditionally, this interpretation of intellectual freedom has been applied to libraries' public(s).

In the late 1960s and early 1970s, when social protest movements in larger society were mirrored in American librarianship, progressive library discourse flourished against the backdrop of the urgent politics and culture of "Sixties" society. While the nation was divided by deep philosophical debates over the Vietnam War, librarians themselves were arguing over library neutrality, the personal versus the professional, the librarian versus the institution, all in the context of profound social issues such as war and peace, racism, and sexism. The arrival of the social responsibility movement in librarianship, marked by such events as the formation in ALA of a Round Table on the Social Responsibilities of Libraries in 1969 and the Black Caucus of ALA in 1970, signified a new library era. Meanwhile, the very notion of library culture was transforming -- so was the library press.

A one-page entry titled "The Library Free Press," published in *Booklegger Magazine* in 1974 noted that "Our profession has finally birthed its own alternative press, with the voice of change publishing ideas, hopes, demands. There are at least five totally independent, adventurous library mags. [*Booklegger Magazine*, *Emergency Librarian*, *Sipapu*, The *Unabashed Librarian: A Letter for Innovators*, and *The Young Adult Alternative Newsletter*.] They are not slick with ad money and please-everybody. They are home-grown, in touch, labors of love. Staffs are paid in freedom of expression and its warm response." [14]

These new alternative library titles were "a political use"[15] of print culture because they were intended to foster a "universe of discourse."[16] For example, they allowed progressive librarians, "and implicitly, though indirectly," librarianship, "to debate the burning issues of the day," to "define and promote shared meanings," and to encourage freedom of expression.[17] Perhaps the single-most influential print "index" to the new library culture is a book titled *Revolting Librarians*, published by Booklegger Press in 1972.[18]

Edited by Celeste West and Elizabeth Katz, the daring anthology took the field by storm with its diverse collection of library workers' uncensored voices on topics such as the librarians' image, library schools and education, professionalism, mainstream bias and representation in Library of Congress subject headings, undemocratic library work practices, paraprofessional issues, homophobia, alternative libraries, alternative education, young adult services, libraries for migrant workers, and the library press. *Revolting Librarians* "sold 15, 000 copies in about three years with virtually no promotion."[19] Despite the "underground smash," however, life above ground was mostly business as usual. [20]

Print culture scholar Rudolph J. Vecoli asserted that "rather than simply serving as transmitters of information, communication media" are "forces actively constructing social reality and identity in the minds of their audiences."[21] Based on Antonio Gramsci's concept of ideological hegemony, Vecoli noted that, "communication is viewed as the means whereby the ruling element manufactures and secures consensus to its view of the world among subaltern groups. Since such hegemonic conceptions are subject to challenges by oppositional views, the

media become the site of ideological contestation of a struggle over meaning."[22] Contributions to *Revolting Librarians* (e.g., essays, articles, poems, fictional stories, and fables) were aimed at library administrators and managers, not just workers. Indeed, a key purpose of the book was to "oppose the influence of the dominant culture" of librarianship and its publications -- "that is, to subvert the hegemony."[23]

In 1972, ALA was the world's oldest and largest national library association and its complex structure and slow pace presented an impediment to anyone who wanted quick action.[24] Following two quieter decades, however, progressive library discourse gained a new momentum sparked by the many social, cultural, political, legal, economic, and philosophical issues introduced by an emergent digital and global society in the 1990s.

Today, in general, progressive library discourse reflects the divergent voices on the margins of librarianship (both in the U.S. and elsewhere), "both inside and outside of the 'official' library organizations,"[25] that question the absolutism of the library ethic of intellectual freedom. These (primarily leftist) voices generally concur that the core value of library neutrality (on which the ethic of intellectual freedom is based) is unrealistic in the context of library practice. In particular, however, these voices have represented a range of viewpoints on a continuum that spans from an anarchist stance to varying degrees of a social responsibility perspective. The Progressive Librarians Guild, "the (self-styled) 'left-wing' of SRRT,"[26] for example, defines its purpose as follows:

> *Progressive Librarians Guild [PLG], an affiliate organization of the Social Responsibilities Round Table of the American Library Association, was formed in January 1990 by a group of librarians concerned with our profession's rapid drift into dubious alliances with business and the information industry, and into complacent acceptance of service to the political, economic and cultural status quo … Current trends in librarianship assert that the library is merely a neutral mediator in the information marketplace and a facilitator of a value-neutral information society. Members of PLG do not accept this notion of neutrality, and we strongly oppose the commodification of information. We will help to dissect the implications of these powerful trends, and fight their anti-democratic tendency.*[27]

Progressive library discourse is shaped through a variety of communication media. In the U.S. alone, for example, vehicles of discourse include alternative monographs (e.g., *Zoia! Memoirs of Zoia Horn, Battler for the People's Right to Know*), monographic series (e.g., *Alternative Library Literature*), publishers (e.g., *CRISES Press*), journals (e.g., *Progressive Librarian: A Journal for Critical Studies & Progressive Politics in Librarianship*), websites (e.g., *Anarchist Librarians Web*), news digests (e.g., *Library Juice*), newsletters (e.g., *Social Responsibilities Round Table of the American Library Association Newsletter*), and listservs (e.g., *PLGNET-L*). These media are the descendants of the original pioneers (the first wave) of alternative library press outlined below.

Vehicles of Discourse: First Wave (Select Chronology of U.S. Print Titles)

a few international titles (marked by *) are included for context

Forerunner 1939 Progressive Librarians' Council Bulletin

1967-1973 Synergy

1969 *Bis : Utgiven av föreningen Bibliotek i Samhälle

1969-1975 Liberated Librarian's Newsletter

1969-1979 Women Library Workers--continued as WLW Journal until 1994

NON-LIS BUT INCLUDED FOR HISTORICAL CONTEXT 1970- Alternative Press Index

1970-1995 Sipapu

1970- Women in Libraries

1970 Top Secret

1971 Prejudices and Antipathies: A Tract on the LC Subject Heads Concerning People

1971-1980 Alternatives in Print

1971- Unabashed Librarian

1972 Revolting Librarians

1972-1984 Librarians for Social Change—continued as Social Change and Information Systems (1985-)

1972-1980 Current Awareness-Library Literature

1973-1976 Booklegger Magazine

1973-1979 Young Adult Alternative Newsletter

1973-1998 *Emergency Librarian--continued as Teacher Librarian (1998-)

1975 The living Z : A Guide to the Literature of the Counter_culture, the Alternative Press, and Little Magazines

1977 On Equal Terms: A Thesaurus for Nonsexist Indexing and Cataloging

1977-1978 Collectors' Network News

1978- VOYA, Voice of Youth Advocates

1979-1991 New Pages [electronic, 2000-]

1980- Feminist Collections

1982 Alternative Materials in Libraries

1984- Alternative Library Literature

1985- Social Change and Information Systems

1990- Progressive Librarian

1990-? *LIWOlet: Newsletter of the Library and Information Workers Organisation of Natal

1993- Librarians at Liberty

1994- *Information for Social Change

1994- Alternative Publishers of Books in North America

1995 Zoia! Memoirs of Zoia Horn, Battler for the People's Right to Know

1996 Alternative Literature: A Practical Guide for Librarians

1997- Counterpoise: For Social Responsibilities, Liberty and Dissent

1998 Poor People and Library Services

1998- *HERMÈS: revue critique

2003 Dismantling the Public Sphere: Situating and Sustaining Librarianship in the Age of the New Public Philosophy

2003 Revolting Librarians Redux: Radical Librarians Speak Out

Just as "print media" enabled a shift in library culture (including the first wave of progressive print titles) in the U.S., the Internet has enabled new forms of library culture and media, "community, and identity," as well as "new forms of connectivity at transnational levels." [28] These are reflected in the second wave of vehicles of progressive library discourse – the Internet based media outlined below.

Vehicles of Discourse: Second Wave (Alphabetical List of Internet Resources)

Akribie - Arbeitskreis kritischer BibliothekarInnen (Working Group of Critical Librarians), Germany. http://www.akribie.org/

KRIBIBI - Arbeitskreis kritischer Bibliothekarinnen und Bibliothekare (Working Group of Critical Librarians), Austria http://www2.bvoe.at/%7ekribibi

Activist Librarians and Educators http://polaris.gseis.ucla.edu/actlib/index.html

Alternative Press Center http://www.altpress.org/

Anarchist Librarians Web http://www.infoshop.org/librarians.html

BiS (Bibliotek i Samhälle) (Swedish radical librarians) http://www.foreningenbis.org/

Collection Building by the Seat of Your Pants http://www.geocities.com/SoHo/Cafe/7423/collectionbuilding.html

Counterpoise and CRISES Press http://www.liblib.com/

Critical Media Literacy in Times of War http://www.tandl.vt.edu/Foundations/mediaproject/

Cuban Libraries Solidarity Group http://www.cubanlibrariessolidaritygroup.org.uk/

Daniel Tsang's Alternative Research Page http://sun3.lib.uci.edu/~dtsang

Electric Sandy ("The Sanford Berman website") http://www.sanfordberman.org/

The GATS and libraries http://libr.org/GATS/

Gay, Lesbian, Bisexual, and Transgendered Round Table http://calvin.usc.edu/~trimmer/ala_hp.html

IFLA Social Responsibilities Discussion Group http://www.ifla.org/VII/dg/srdg/index.htm

Information for Social Change http://libr.org/ISC/

Information Professionals for Social Justice http://www.lis.uiuc.edu/%7Ebishop/new_social2/index.htm

Labadie Collection homepage http://www.lib.umich.edu/spec-coll/labadie/

A Librarian at Every Table: Librarians and Community Initiatives http://www.cas.usf.edu/lis/a-librarian-at-every-table/

LibrarianActivist.org http://www.librarianactivist.org/index.html

Librarians Against Bush http://www.librariansagainstbush.org/

Librarians for Peace http://libr.org/peace/

Librarian.net (Jessamyn West's "daily [or so] weblog of things librarian"...source of image at right) http://www.librarian.net/

Library Juice (library-related news, web site alerts, letters, documents-in-process, etc., with an activist focus) http://libr.org/Juice/

Library Workers of Radical Reference www.radicalreference.info

The Modified Librarian (Eek! A librarian! Pierced, tattooed, and scarred library workers) http://www.bmeworld.com/gailcat

MSRRT Newsletter: Library Alternatives (c. 1996-2000; for activist librarians & others) http://www.cs.unca.edu/~edmiston/msrrt/

Progressive Archivists http://www.libr.org/progarchs/

Progressive Librarian http://libr.org/PL

Progressive Librarian Journal http://www.libr.org/PL/

Progressive Librarians Around the World: A directory of organizations and people http://libr.org/international/

Progressive Librarians Guild and their journal http://libr.org/PLG/

Progressive Librarians Guild Ten point program developed by Mark Rosenzweig for the groups which met at the Vienna Conference of progressive librarians sponsored by KRIBIBIE in 2000. http://www.libr.org/PLG/10-point.html

Renegade Librarian (includes links to special collections: comics, radicalism, lesbigay, etc.) http://www.renegadelibrarian.com/

Revolting Librarians (selections from the 1972 book edited by Celeste West and Elizabeth Katz) http://owen.massey.net/libraries/revolting/index.html

Revolting Librarians Redux (info about the new book) http://www.librarian.net/revolting/

Social Responsibilities Round Table (ALA) http://libr.org/SRRT/ including:

Oregon SRRT http://www.olaweb.org/org/srrt.shtm, New York SRRT http://www.nyla.org/srrt/index.htm Washington State Library Association SRRT http://www.wla.org/srrt/ and its links page http://www.wla.org/srrt/links.html ("Internet Resources: Libraries, Information, & Social Responsibility")

SOL-PLUS - Spanish in Our Libraries, http://www.sol-plus.net/

Street Librarian http://www.geocities.com/SoHo/Cafe/7423/

Study Circle on Political and Social Librarianship (Mexico) http://www.cebi.org.mx/

Grupo de Estudios Sociales en Bibliotecología y Documentación (Argentina) and Círculo de Estudios sobre Bibliotecología Politíca y Social (México) Together working on Foro Social Informacíon Documentación y Bibliotecas http://www.cebi.org.mx/indexsf.html

Internet and Library Movement

Much has been written about the Internet and democracy and the potential of universal access.

Perhaps less has been written about its limits. But these limits should be noted and taken into account in any study on the Internet and the progressive library movement. As well it is important to consider that "the forms, organization and goals of social movements are dependent on their historical context."[29] For example, although it is accepted thinking that "the rise of global social movements is rooted in the secular trend of the expansion of democracy and civic activism over the last three centuries that has become intertwined with the new technologies of communication,"[30] online radicalism is both compelling and yet no so powerful as to destabilize highly concentrated forms of corporate control."[31] This point of view is reinforced by Michael Apple's assertion that "while pluralism, individual difference, and the local are upheld in postmodern rhetoric (and to be realized through networked technology and media), information capitalism is a leading drive toward global cultural standardization and consumption." [32]

With limitations and historical context in consideration, one can critically explore benefits of the Internet to social movements. For example, while Langman and Morris observe that the "Net is the means through which global firms move capital, finance investments, conduct business, coordinate branches, design/produce, sell goods/services and sustain profits," they also note that the Net can also be used a medium for resistance. "Through internetworking and cyber-activism, net-based organizing enables social actions and mobilizations in which progressive social movements confront globalization through new forms of community building, resistance, and mobilization." [33]

An Internet notice for the Summer Institute for Digital Empowerment (July 8-9, 2004) at Syracuse University in Syracuse, New York describes the Internet as a place where researchers, scholars, activists, and grassroots organisers can pursue social and political engagement. Other common themes identified include the Internet and political institutions, the Internet and the development of social capital, teaching civic engagement, institutional vs. counter-cultural Internet movements, and wiring minorities and creating empowerment. And as I write this paper, the Internet is being used with the intention of social action for the Barcelona Forum 2004, which concentrates on cultural diversity, world peace, and economic sustainability. The event, held in Barcelona May 9 to September 26, 2004, anticipates the participation of approximately five million people "through worldwide television broadcasts, web casts, and ongoing interactive web sites." The "progressive exchange" offers "a powerful ongoing means of global cross-cultural communication and action."[34] In the library context too, Tuula Haavisto noted that the Internet "has qualities that seriously challenge traditional professionalism within the libraries."[35]

Haavsito's examples of potential benefits of the Internet to librarianship include: communications between decision-maker and citizen, easier international communication, information production by the library and its users, new international relationships at the grass root level, and keeping a more effective eye on the authorities.[36] Indeed, as noted earlier in this paper, in the last decade, the decentralized and multidirectional technology and communications infrastructure of the Internet has greatly enhanced relationship building, grassroots democratic organizing, and the development of "new citizenship groups" around the discourse and practice of progressive librarianship.[37] However, echoing Bushman and Apple, Colin Darch noted that a "tradition of engagement has a long history within the [library] profession, valuing such concepts as freedom of expression and human rights, [but that] this is now challenged by a view of information as capital and processes of commodification and privatisation."[38] And of particular importance to librarianship, Christopher Merrett, recognized that "in this age in which information has not only become a commodity used increasingly for profit, it remains vulnerable to a host of forces that amount to censorship."[39]

Progressive librarians deal with threats to intellectual freedom, and as Lennart Wettmark of Sweden's critical library group BIS has pointed out on his welcome to the LIB-PLIC list, "We believe that there is a need for an international list for the purpose of exchanging views, submitting early warnings, sending signed petitions or other letters in urgent issues. There are many threats ahead: GATS, outsourcing, privatisation etc., which urge us to act internationally."[40] On a global library scale, the efforts made by librarians to address these threats are signified by several important manifestos identified below.

Helen Niegarrd noted how the 1994 update of the *UNESCO's Public Library Manifesto* departs from its previous 1949 and 1972 versions in several important ways. Monographs do not play a central role. Rather the emphasis is on "all appropriate media important to users in the socalled developed world" as well as "oral and aural transfer" common

in the "socalled developing world." This is a significant step in shifting the manifesto from a western context to a more global one.[41] Another important change is the directive for collections and information to be selected "on a basis of quality and standards, related to local demands without any kind of censorship." The document emphasizes universal accessibility, recognizes the needs of cultural diversity, and gives special attention to oral and aural transfer of knowledge. And it endorses the concept of library services being free of charge.[42] In essence, the 1994 manifesto "highly stresses that the local public library should be seen as the gateway to a national information and library network."[43]

But it is important to note, as Martha Smith has observed, "although UNESCO seeks to influence members states, it does not exert governing or enforcement authority. Therefore persuasion and consensus building are its primary tools."[44] A parallel in U.S. librarianship (and others in the Western tradition) is that rhetoric such as the ALA *Code of Ethics*[45] and the ALA *Library Bill of Rights*[46] are directives that carry no sanctions when violated. As Shirley Wiegand brought to light in her legal analysis of the *Library Bill of Rights*, "the ALA has no authority over library administrations."[47]

Like UNESCO, IFLA is a leader (not an enforcer) in both supporting human rights (see *Statement on Libraries and Intellectual Freedom* approved by the Executive Board on 25 March 1999) and through its Free Access to Information and Freedom of Expression Committee (FAIFE). IFLA launched FAIFE in 1997 to promote and further intellectual freedom "in all aspects, directly or indirectly, related to libraries and librarianship." For example, FAIFE "monitors the state of intellectual freedom within the library community worldwide, supports IFLA policy development, co-operates with other international human rights organisations, and responds to violations of free access to information and freedom of expression." In recent years, this has had a heavy emphasis on technology and the information society.[48]

FAIFE's 2003 *Annual Report* FAIFE stated that "library associations should more directly be involved in the promotion and advocacy of IFLA politics implementation."[49] One of these advocacy efforts is the UNESCO World Summit on the Information Society (WSIS). Through its connection to WSIS, FAIFE "helped advocate the role of libraries in the information society and the inclusion of Article 19 of the *United Nations Declaration of Human Rights* as a core value of the WSIS declaration." Two key IFLA policy statements both prepared by FAIFE: (1) *The Glasgow Declaration on Libraries, Information Services and Intellectual Freedom* and (2) the *Internet Manifesto* are referred to in IFLA's WSIS contributions underlining the federations' commitment to intellectual freedom.[50] Both documents push for human rights and emphasize the inherent connection between human rights and intellectual freedom.[51] The *Internet Manifesto*, for example, states that "unhindered access to information is essential to freedom, equality, global understanding and peace", pushes for "richness of human expression and cultural diversity in all media", demands that "access to the Internet and all of its resources should be consistent with the *United Nations Universal Declaration of Human Rights* Article 19, and that "access should neither be subject to any form of ideological, political or religious censorship, nor to economic barriers."[52]

A contemporary example of such an approach is the Budapest Open Access initiative, described as an effort librarians should promote "before their working milieus, management, authorities, and propose laws and acts before their legislations so citizens and all individuals in society have assured their free, free of charge, unhampered, egalitarian, democratic and expedite access to open access scientific and scholarly publications as any other basic social and human right."[53]

The connection between human rights and librarianship is underscored in IFLA library policy, as well as other association policy such as that of the ALA (e.g., *Resolution on IFLA, Human Rights and Freedom of Expression*).[54] Such policy is of great value to the progressive library movement because it opens the doors for librarians to use the concept of intellectual freedom as a viable means to taking a professional interest in social and political issues such as war and peace, torture, destruction of cultural resources, and government intimidation. In the U.S. context alone, SRRT has expressed interest in topics such as:

- ALA Code of Ethics.
- Alternative Catalog Entries.
- Banned Books.
- Branding.
- Breaking Glass Ceilings.
- Censorship.
- Civil Rights.
- Community Activism.

- Conservative Views.
- Corporate Sponsorships.
- Cuba.
- Disabled Access.
- Environmental Racism.
- Environmental Zines.
- Erotic Literature.
- Feminists.
- Freedom of Expression & Censorship.
- Globalization.
- Green Design.
- Human Rights.
- Intellectual Freedom.
- International Relations.
- Labour Issues.
- Library Twinning/International Outreach.
- Living Wages.
- Missing Government Documents.
- Outsourcing.
- Peace & Justice.
- Progressive Views.
- Serving the Poor.
- Small Presses.
- Socially Responsible Investing.
- Social Responsibilities for K-12.
- Sustainable Communities.
- The Homeless.
- The Library Bill of Rights.
- The USA PATRIOT Act.
- Torture.
- Toxic Trades.

Looking beyond the U.S. perspective, "the UNESCO initiatives are grounded," Smith wrote, "in Western traditions although they seek to be open to other traditions and cultures. Little quarrel is made here with, although it could be, mainstream Western political thought with its bias in favor of democratic capitalistic systems and the value placed on private property and individual independence and autonomy. However, the *Universal Declaration of Human Rights* and the UNESCO statement challenge some of these tenets. To be truly global, non-Western, communitarian, or other perspectives will deserve further attention."[55]

Conceptual Framework for Progressive Librarianship

Conceptually, the tradition of progressive librarianship is inextricably linked to the development of American library rhetoric on intellectual freedom, first marked by the adoption of the *Library's Bill of Rights* in 1938. Since then, Al Kagan noted, intellectual freedom concerns have "permeated" ALA and its Council has "depended on its Intellectual Freedom Committee (IFC). There is also a headquarters Office of Intellectual Freedom and an Intellectual Freedom Round Table open to all members. This is perhaps ALA's most progressive aspect, but exponents of intellectual freedom come in all ideological shades, and the intellectual freedom community has many times over come into conflict with the Social Responsibilities Round Table. For example, the IFC opposed the international boycott of the apartheid regime." [As quoted earlier in this paper, "Many intellectual freedom supporters do not appear to recognize that all human and political rights, including intellectual freedom, are constantly impacting on each other and as a consequence none are absolute."][56]

In the digital and global society, issues of intellectual freedom naturally relate to such conceptual territories as information ethics, global information justice, and intercultural information ethics. Robert Hauptman proposed the phrase "information ethics" almost twenty years ago. It is now used widely in a variety of disciplines. Hauptman defined information ethics as "an applied, extremely broad, encompassing subdiscipline of ethics that takes all informational areas under its wing. Thus for example, medical, legal, journalism, computer science, business ethics, in this context are merely subsets of information ethics." (Bernd Frohmann noted, "whatever is special about information ethics derives from the specificity of the information services provided to specific publics. It is therefore analogous to legal ethics, medical ethics, dental ethics, or the ethics of plumbers. Like these other fields, much of what is unique to it consists in applying ethical principles to the specific services it provides."[57]) Information ethics, Hauptman wrote, "concerns itself with the production, dissemination, storage, retrieval, security, and application of information within an ethical context." Its five broad areas are: "ownership, access, privacy, security, and community." Building on this conceptual work, in 2001, Martha Smith "restructured" and massaged information ethics into the concept of "global information justice,"[58] at its most basic, a blending

of social justice and information ethics. It is intended as a counter to the standardization Apple cautioned against, or in Smith's words "the dangers of homogenizing world culture."[59]

"In the international arena," Smith observed, "assuring access is seen as one way to equalizing the fortunes of the information poor with the information rich in order to move beyond the restrictions of ideological and geographical barriers. The other side of this coin is the danger of eliminating native cultures, languages, and identities in the rush to conform to a global standard. To assure intellectual freedom to impart ideas across boundaries, there is the challenge of conflicting ideas colliding and creating conflicts that would be difficult to resolve. In this sense, intellectual freedom may become a narrow street where crashes can happen and often will. Only mutual respect for diversity and tolerance for pluralism can safeguard peace when these freedoms are exercised around the globe."[60] And in his provocative and ground-breaking work on intercultural information ethics, Rafael Capurro states: "The key question of intercultural information ethics is thus far and in which ways are we going to be able to enlarge both freedom and justice within a perspective of sustainable cultural development that protects and encourages cultural diversity as well as the interaction between them."[61]

Other key concepts that underpin the theoretical framework of the progressive library movement's push for a "political, social, and humanistic profession"[62] include:

- Authentic opinion.
- Citizenship.
- Coalitions
- Communication.
- Communication technology
- Compassion.
- Community.
- Cultural democracy.
- Cultural literacy.
- Democratic practice.
- Dialogue.
- Discourse.
- Diversity.
- Fragmentation.
- Global citizenship.
- Human rights.
- Human welfare.
- International protest movement.
- Internet.
- Peace.
- Politics of identity.
- Positive aggression.
- Principled engagement.
- Public communication, dialogue, and discourse.
- Public sphere.
- Right to know.
- Social movements.
- Social responsibility.
- Sustainable human development at the local level.
- Tolerance.
- Transparency.
- Virtual community.

Defining Characteristics and Intent of Progressive Librarianship

Progressive librarianship has an international agenda that reflects numerous missions, responsibilities, and activities in many languages and cultures. Thus, the author's characterization of progressive librarianship is drawn directly from the rhetoric produced by an international selection of progressive library groups and coalitions. For example, *Progressive Librarian's Guild* (U.S.), *Bibliotek i Samhälle* (Sweden), *Information for Social Change* (Great Britain), Arbeitskreis kritischer Bibliothekarinnen und Bibliothekare (Austria), Arbeitskreis kritischer BibliothekarInnen (Germany), Progressive Librarians' International Coalition (International), Study Circle on Political and Social Librarianship (Mexico), and Social Studies Group on Librarianship and Documentation (Argentina). (Also helpful is the PLG *Ten point* program developed by Mark Rosenzweig for the groups which met at the Vienna Conference of progressive librarians sponsored by KRIBIBIE in 2000.[63]) According to the various rhetoric (much of which is excerpted directly below, with major segments cited), progressive librarianship:

Is committed to the *Universal Declaration of Human Rights* and related covenants, such as from UNESCO and IFLA.

Rests on the basic assumption that librarianship has inherent cultural weight, political significance, and social value.

Admits to libraries "being contested terrains and points of resistance."[64]

Rejects a "neutral" library stance, recognizing that libraries are social structures, and political reality therefore determines, at many levels and in complex ways, the nature of their relationship to the rest of society." As Colin Darch wrote, "librarianship is a social activity and therefore both the subject and the object of ideological struggle."[65]

Aims to make explicit political value choices.

Endorses information as a social good rather than a commercial good.

Prioritizes human values and needs over profits.[66]

Promotes and disseminates critical analysis of information technology's impact on libraries and societies.

Supports the expansion of free access across national borders to cultural resources.

Defends cultural distinctiveness.

Promotes diversity.

"Insists upon equality of access to and inclusiveness of information services, especially extending such services to the poor, marginalized and discriminated against."[67]

Opposes commodification of information, "corporate globalization, privatization of social services, monopolization of information resources, profit-driven destruction (or private appropriation and control) of cultural artifacts and the human record." [68]

Considers the librarian as well as the library institution.

Considers the librarian as citizen as well as the librarian as professional.

Supports democratization of institutions of education, culture, and communications. Therefore holds that "for libraries, internationally, to hold the line and be a force for democratic humanistic development, they themselves and the field of librarianship must be democratized."[69] And so encourages resistance to "the managerialism of the present library culture."[70]

Aims to strengthen individual responsibility of library employees.

Advocates for participation of library users in substantive decision-making in library work.

Applies the concept of intellectual freedom to library employees as well as library users. "If librarians are to be the guardians individually and collectively of the rights of intellectual freedom of others, they need to be assured that they themselves have those rights in their institutions. Progressive librarians fight for those guarantees, or at least do not accept as a given managerial prerogatives that interfere with the exercise of professional responsibility based on intellectual freedom in the work-place. Librarians, like teachers and professors, have a unique claim to such work-place rights insofar as their profession involves as a basic responsibility for the cultivation of an atmosphere of free inquiry and debate in which education and development can thrive."[71]

Supports library employees who take risks in the defense of intellectual freedom.

Provides a forum for exchange/debate of alternative and radical views.

Opposes "one voice" approaches, such as seen in U.S. and South African librarianship, seen to be used "as a tactic to continue to stifle unorthodox thinking and debate."[72]

Employs community coalitions and alliances between progressive librarians and with other like-minded groups -- within and between countries, while respecting the differences in social systems particularly in the developing world (e.g, use of the Internet for public forum via listservs such as lib-plic, biblio-progresistas, PLG-Net AND coalition via events such as the Social Forum of Information Documentation and Libraries: *Alternative action programs from Latin America for a knowledge-based society*[73] held in Buenos Aires, Argentina, August 26-28, 2004 and to include electronic discussions, electronic resources, and a virtual forum in addition to live sessions.)

Progressive Library Influence

While this paper contextualizes progressive librarianship within a broad international movement, it emphasizes the development of U.S. based progressive library culture. There is little question

that U.S. progressive library discourse has had both successes and failures in pushing the profession to move from passivity to activity on central intercultural issues and to influence library policy. A few examples of this tension between success and failure are outlined below.

Example 1: Getting on the Books

On June 30, 2004 ALA Council adopted the *Core Values Task Force II Report,* which states that "The foundation of modern librarianship rests on an essential set of core values that define, inform, and guide our professional practice. These values reflect the history and ongoing development of the profession and have been advanced, expanded, and refined by numerous policy statements of the American Library Association. Among these are:

- Access
- Confidentiality/Privacy
- Democracy
- Diversity
- Education and Lifelong Learning
- Intellectual Freedom
- Preservation
- The Public Good
- Professionalism
- Service
- Social Responsibility"[74]

This adoption was a significant historical victory for progressive librarians in the U.S., because, as Rosenzweig noted, the Association formally highlighted social responsibility as central to librarianship. It is important to note that the original work of the Core Values Task Force I ommitted both "intellectual freedom" and "social responsibility," resulting in what Bushman called "a bland homogenization of euphemisms."[75] And progressive librarians were represented in greater number on the Core Values Task Force II than on the original. (As well, they widely disseminated critiques of the work of the Core Values Task Force I.)

Meanwhile, ALA continues its slippery-slope debate about what constitutes socially responsible library work. For example, at the June 26, 2004 ALA Membership Meeting I in Orlando, Florida, a featured topic was titled: *ALA and Social Activism: Where to Draw the Line? ALA members can give their views on whether ALA should increase or decrease its social action efforts*. Hauptman terms similar token debates empty because of the fact that "librarians are taught and enculturated to avoid consideration; their only task is to provide information regardless of consequences."[76]

Example 2: International Relations

On June 30, 2004, the ALA Council adopted the *Resolution Against The Use of Torture as a Violation of the American Library Associations' Basic Values* (Submitted by Mark C. Rosenzweig ALA Councilor at large, seconded by Al Kagan, SRRT Councilor, [both long-standing and active library progressives]).[77]

However, Kagan noted earlier that "between 1991 and 2001, SRRT sponsored over 120 programs and at least 3 demonstrations during ALA conferences." SRRT approved approximately 66 resolutions during this time, while only 12 were sent to ALA Council. "Most resolutions were considered so far from winnable that they were not submitted. Most that went to Council did not pass … As a practical matter, SRRT's international efforts have usually concentrated on issues and countries that are directly tied to American foreign policy."[78] (To identify some international resolutions that did not meet success, see http://www.pitt.edu/~ttwiss/irtf/resolutions.html.)

Example 3: Politics and Patriarchal Culture

"Another 'Hysteric' Librarian for Freedom" Button (October 31, 2003)

"Today the American Library Association (ALA) Office for Intellectual Freedom introduced a new product for the thousands of librarians who fight everyday to protect the privacy rights of library users. *Another 'Hysteric' Librarian for Freedom* button acknowledges this important work while referencing the recent misstatement by U.S. Attorney General John Ashcroft. For the last several months, the attorney general has toured American cities, trying to drum up support for the USA PATRIOT Act, which gives law enforcement easy access to library records with minimal judicial oversight. In several of his speeches, he has described librarians—among the first to denounce portions of the act as giving unprecedented powers of surveillance to the government, particularly in libraries—as **"hysterics."**[79] "To help raise awareness of the overreaching aspects of the USA PATRIOT Act, ALA's Office for Intellectual Freedom will sell the buttons for $2 each. All proceeds support the programs of the office. To order the button, call the ALA Office for Intellectual Freedom

at 800-545-2433, ext. 4220, or visit its Web site at http://www.ala.org/oif."

This incident signifies the deeply gendered culture of the profession--a major obstacle to a human rights approach to librarianship (a feminized profession in the U.S. context). Related issues to monitor closely include: diversity, institutional racism and white privilege, and public forum.

Example 4: Public Forum

In 2002, Buschman wrote that in recent years, the ALA " has consistently acted, in a number of ways, to limit the scope and the meaning of intellectual freedom in the profession." As example, he cited changes to repressive quorum sizes for ALA membership meetings, ongoing slippery-slope debates about what constitutes a library issue, an increased legalistic atmosphere "toward those portions of the association that do choose to speak out on issues well within their purview and purpose," and a proposal to limit "discussion, topics, language and debate on ALA's Council listserv resulting in a growing corporate sense of the needs for ALA not to behave like a democratic professional organization but rather to speak with one voice." [80]

SRRT has interpreted this as repression "aimed at preventing" its members "from disseminating its resolutions outside of ALA" and as a parallel to the South African library experience where three library associations at the time of majority rule were reduced to one.[81]

A very important issue to monitor in the coming months is that of library employee freedom of speech on professional and policy issues. Currently, a vociferous call is being made from American library activist Sanford Berman (and supporters) for the ALA to add a seventh point directive to its Library Bill Of Rights (first proposed in March 1999), which reads as follows: "Libraries should permit and encourage a full and free expression of views by staff in professional and policy matters."

In July 2001, the Committee on Professional Ethics of the ALA adopted a special explanatory statement of the ALA's Code of Ethics titled *Questions & Answers on Librarian Speech in the Workplace*. The document states, "Through the *Library Bill of Rights* and its Interpretations, the American Library Association supports freedom of expression and the First Amendment in the strongest possible terms. The freedom of expression, however, has traditionally not been thought to apply to employee speech in the workplace."

However, in answer to the hypothetical question--"Since librarians have a special responsibility to protect intellectual freedom and freedom of expression, do librarians have a special responsibility to create a workplace that tolerates employee expression more than other professions?" -- the document states, "Yes … If librarians are denied the ability to speak on work related matters, what does that say about our own commitment to free speech? We need to demonstrate our commitment to free speech by encouraging it in the workplace."[82]

Unless the ALA's *Library Bill of Rights* is amended, by the addition of the proposed seventh point directive, American librarians remain in a "catch-22" situation. This has implications for librarians around the world when it comes to intercultural issues.

Closing Comments

As indicated at the beginning of this paper, unlike "native on-line movements," the progressive library movement is a "pre-existing" movement that has taken its agenda to the Internet where it can organize and coordinate, be open and participatory, and tap into the online potential for persuasion and consensus building.[83] Because library rhetoric is not enforceable by sanctions, persuasion and consensus building are critical tools in furthering the agenda of the progressive library movement. The international scope of the movement is also critical in "getting librarians to work in concert as a coalition against the dominant consensus" of neutrality.[84] As Smith said, "To be truly global" and include "non-Western, communitarian, or other perspectives" in the shaping of the profession.[85] Indeed it has been argued that progressive librarianship is a counter to "the immobility and exclusion of sociopolitical issues from the agendas of library associations at both the local level as well as international," which "have not allowed the creation of new proposals and the reproduction of the world's recent social transformations within our profession."[86]

The Internet has been helpful to progressive librarianship. But the Internet alone will not further the movement. As Rosenzweig stated in a larger context, "Technological innovation does not lead inevitably to a democratic form of globalisation."[87] **Intention** comes first and foremost.

Librarians with intention for principled engagement are the reason progressive librarianship exists. Some library progressives are best recognized within the progressive library community, while other's

reputations cross the boundary between progressive and mainstream librarianship. Perhaps the most influential U.S. figure in the latter category is E. J. Josey, who is widely recognized for promoting library work that is built on the concept of "positive aggression". Josey has been described in the following terms: "exalted library profession elder statesman"; "hero activist"; "gentleman from Georgia who wore neat, clean, gloves over his hard fists"; "ultimate insider who retains an outsider's point of view"; "conciliator and a coalition builder who also retains the fervor of a positive troublemaker"; "not given to silence when he sees the need to speak out"; "synonymous with civil rights in librarianship"; "trailblazer"; "pioneer"; and, "lead gladiator."[88]

Another pioneer is Sandy Berman, often called the "guru of alternative librarianship." Jenna freedman recently noted that "he's actually well respected in mainstream library circles, too, as can be demonstrated by the fact that at this conference [2004] he was given the American Library Association's highest award: honorary membership."[89]

From the icons to the lesser widely recognized figures (such as Celeste West and Jackie Eubanks), collectively, progressive librarians: challenge common understanding about librarianship; ask tough questions about the profession, its philosophical and ethical foundations, and its practices; work for change in library associations; provide leadership in the development of new library services; influence the practice of librarianship through writing, speaking, publishing, etc.; push policy efforts to support social, political, and humanistic library service; and, stick their neck out in the defense of intellectual freedom.

In recent years, progressive librarians "have taken part in protest actions at World Trade Organization summits; taken positions against expanding copyright legislation, threats to free access to libraries, and the privatization of education; resisted censorship and apartheid … other issues include patents, vigorous attacks on fair use copying, impermanent and restricted access to purchased electronic resources, restrictions on end-users and facilitation of electronic micropayments, also termed "daylight robbery".[90] Indeed, a major challenge ahead is to keep a consensus building that is not

fragmented by the proliferation of progressive library voices that have burgeoned on the Internet. (Related to this, Christopher Merrett cautioned about LIWO's demise in South Africa: "It was ironic that there was an inverse relationship between an increasing power of electronic tools of communication and the need to set up national positions and attend meetings in desirable locations. LIWO made the fatal, and foreseeable, mistake of overstretching its human resources."[91])

Individuals who participate in progressive library discourse encounter "a radically different definition" of library "reality" and culture than those who do not. Progressive library discourse both adjusts "our historical focus" of librarianship and continues "to offer alternative visions for the future."[92]

In the future, will a subset of librarians still have an intention for a more social, political, and humanistic profession? Will progressive librarianship be mainstreamed? Will librarianship have made progress on white privilege? Will library schools offer courses on principled engagement? Will librarians and professors have full academic freedom? These are the questions that keep me focused on the progressive library movement. I hope you will join me in my interest.

As I prepare to send this document to Germany, the newly posted PLGNET-L Digest 1891 reads: "Library workers of Radical Reference (www.radicalreference.info) and Librarians Against Bush (www.librariansagainstbush.org) will meet at 9am Sunday morning in front of the Humanities & Social Sciences library of NYPL at 42nd St. and 5th Avenue. We'll rally together there for a bit and then make our way to the United for Peace "The World Says No to the Bush Agenda" protest. Please join us if you're so inclined. Jenna."[93]

Author's Note

This essay (especially pages 3-6) draws on parts of:

Toni Samek. (In press) "Unbossed and Unbought: Booklegger Press the First Women-Owned American Library Publisher" in *Women In Print*. Madison, WI: Center for the History of Print Culture in Modern America and the University of Wisconsin-Madison.

Toni Samek. 2003. "Pioneering Progressive Library Discourse" in *Revolting Librarians Redux: Radical Librarians Speak Out*. Jefferson, NC: McFarland & Company, Inc., Publishers. Pages 137-142.

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Proceedings of the symposium "Localizing the Internet. Ethical Issues in Intercultural Perspective" sponsored by Volkswagen*Stiftung*, 4-6 October 2004, Zentrum für Kunst und Medientechnologie (ZKM, Karlsruhe)

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Philip Scherenberg

Contribution to Information Ethics from an antique point of view

Abstract:

Of course Plato and Aristotle were not using any of our modern communication systems or media. But there was a kind of phenomena that was close to what we consider mass media entertainment nowadays: poetry. Both philosophers used mimesis as an epistemological explanation for how one can possibly understand poetry. One thought of it as being good for mankind and the other thought of it as being bad for the human soul. In a certain way this argument is still going on in today's information ethics discussion. This article stresses the fact that only a certain conscious way of dealing with information will bring sustainable impact on global information ethics – independent of cultural or technical issues.

Agenda

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Introduction: Issues and Context

The debates on Information Ethics are ruled by the "Digital Divide". Within this topic justice and responsibility are the main issues concerning technical and contentual distribution. Internet and unsolved problems within its development are the favourite fields of examination. Examples range from (1) legal difficulties in creating a fair global trade-, information- and communication-law or (2) financial questions about who pays the "spreading" of information technology. Solving these issues has become a global challenge that is even taken care of by the UNO.[i]

Parallel to these burning problems other issues concerning Information Ethics remain untouched. Even though some of these other issues have been around for decades and are still not worked off all the way.[ii] Especially considering the *perception of media* one oscillates in between theories, depending on what there is to observe – whether there are pictures, text, sound or combinations, moving or non-moving, involving interactions or not.

So on one side we are working on a globally valid normative frame of action for the internet and following evolutions, while on the other side multimedia-usage is constantly rising. In the meanwhile the argument on individual media-perception has moved out of philosophical (ethical) sight and into other scientific disciplines such as communication- or pedagogic studies. But the individual fascination towards media is a central point of the discussion. How can we expect thoughtful and responsible (ethically speaking: *good*) media usage if we cannot even describe what exactly media usage is? Without knowing about the phenomenon of media fascination, how can we judge whether media usage is good or bad? Discussing media perception marks the first step in the analysis of good media usage.

Testing TV Instead

Media usage is growing constantly. This development not only effects the individuals using media in the first place, but also their social and cultural surrounding.[iii] Hereby the perception of *real reality* is replaced by the perception of *virtual reality*. Whether this leads to an irritation in the mind of the subject or not can also be examined taking TV as a reference instead of internet. Internet has not become a substitute for TV. At least in Germany people watch TV more than ever.[iv] Due to its simple (one-dimensional) structure of non-responsive perceiving, observation is clearer. Unlike others who work in this field, the opinion held in this article is that keeping apart virtual reality from real reality is epistemologically not impossible. It might require an extra effort, but nevertheless it is possible (and necessary – as we will see).[v]

Statistical data shows, the fascination of TV is unbound. But data does not explain why. Many cognitive transformations take place whilst consuming TV – some of which are conscious, others "sub-" or "unconscious". A proper judgement of the consequences of media usage therefore presupposes an analysis of media perception (or media *consciousness*). Within this context media perception is not meant to be some special form of perceiving, nor does it preliminarily require special social or biological skills. It can however in a way be understood as a special kind of perception, not technically but concerning the expectations. Of course expectations vary if one compares looking at landscapes and watching TV. In the first case one might expect little but a great deal in the other. Dealing with viewer expectations, by presenting a story without letting him participate in the plot, has been part of the reason for Plato and Aristotle to argue about the influence of poetry. Even though both philosophers take imitation (*mimesis*) as the principle of perceiving poetry they derive contrary ethical consequences.

Antique Couch-Potatoes?

The analysis of threats induced by mass media leads us to phenomena that were current also at Plato's and Aristotle's time – unnecessary to mention the technical differences between then and today! Reading Plato and Aristotle one can actually find these similarities in today's media ethics discussion.[vi]

Combining antique ideas and ideals with today's requirements of media ethics is possible due to shared principles of communication. Of course society has changed within the past 2500 years, and so have the technical devices that surround us on a day-to-day basis. But what has not changed is the formal structure of communication between transmitter and receiver. This is the basis of the following idea, to compare two forms of mass media, antique poetry and TV, both of which deal with a limited possibility of direct response.

The intention is to clarify the historical groundwork. Given the *idea of good and bad*, we will evaluate what is necessary for *good media usage*. Whether good usage requires *good media* or *good users*, or both. Looking back to Plato and Aristotle we will try to fit old solutions into modern day problems. The following two chapters (about "revisiting") will therefore show what certain influence one or the other philosopher would take on today's media if he were to formulate a position in media ethics.

Plato „Revisited"

Following Plato's idea of a perfect state, the only media formats allowed would be the ones which (1) praise the work of the state or (2) clear up about the work of the state or (3) educate the people in any other way that can have a positive effect for the state. These would be news and documentaries. Critical or even destructive contents would be forbidden as well as badly investigated ones. Movies, Series, Daily Soaps and Advertising would also be forbidden. As a matter of fact, these ideals have a lot in common with the first days of state-run television in Germany.

As Plato differentiates between various levels of cognition, all that reaches the human mind through media can at best be something "third" in the hierarchy of truth, which makes media in general suspicious of manipulation.[vii] Between the object and the viewer there is always at least a cameraman, who picks a certain angle on the object, an editor, who chooses parts of the material he gets, and some technical equipment, that transports the information from where it is to where it is viewed. An example shows though how difficult it is to transport Plato's idea of a hierarchy of truth into today's world: various forms of media create knowledge in a way that exceeds natural human consciousness. Today mankind knows a great deal through high tech lenses, cameras or other media. Certain "truths" would not be known if there weren't appropriate media. X-ray and Ultrasound show us images of things we would not see without them.[viii]

Would Plato raise an objection against this form of discovering truth, knowing all the information about something true could be something third at best? Probably not. His argument against poetry and so in a sense also against certain forms of media isn't that all is automatically untrue what is "third" but that it has a potential of diluting the idea from the object. What also bothers him about poetry is the artificiality of "pleasure and reluctance" that simulates truth but is something different.[ix]

Summing up, Plato's view can be described as a fear of polluting the human mind through artificial impressions that lead away from truth and virtuousness.

However, not everything he considers "third" automatically leads to a negative proposition. So without further explanation, we can accept certain media as helpful in getting closer to truth. In this sense we can not directly conclude anything between poetry and media, but we can identify poetry as a possibility of language that is not welcome in a Plato-state as movies are one possibility of media that would not be welcome either. Whereas the exclusion of movies in this example does *not necessarily* have an impact on other forms of media.

Aristotle „Revisited"

In Plato's sense the audience is not sufficiently educated to properly understand the essence of poetry.[x] Aristotle on the other hand arrives at a different diagnosis. He makes no difference between people with higher or lower education: the only effect poetry can have is to clean the soul. One can imagine so called *catharsis* similar to a process of an illness: from infection to outbreak to healing.[xi] After this the soul feels free and relieved. This phenomenon is also known as the experience of "tragic pleasure".[xii]

The media system can also be divided into the three central fields of Aristotelian „Rhetoric".[xiii] These actions would be (1) analysis of the recipients psychology, (2) bringing whatever content into presentable form and (3) convincing the audience with tricks as e.g. special effects or other attractions. Today's media world has risen from the beginnings of theoretical rhetoric and is still working on perfecting these above mentioned fields to optimise the communication of *the message*.

What the message entails, is undefined and depends on whose interests are being presented or represented. As most TV networks face economic competition - meaning they have own interests and therefore also individual messages to spread - the message that gets through to the audience will always be at least two dimensional. Factually everybody involved in producing media output automatically adds his dimension to the message to a certain extent (depending on the influence, of course). In the end the audience receives media output that has been optimised on various rhetoric levels.

The Antique Media Ethics Dispute

It took Plato four steps to judge poetry: (1) poetry is mimesis, (2) poetry plays with affections, (3) poetry causes joy, (4) poetry has repercussions on the personality. He concludes: the effects of poetry are at least dubious.[xiv] Aristotle adds, without opposing: (5) the audience recognizes the ontological difference between mimesis and reality (because this is the reason for cognition and pleasure), (6) tragedy leads to catharsis and cleans the soul of affections, and (7) tragedy serves as a typical model for poetry considering generality, structure and focus of the proposition. Therefore Aristotle concludes - contrary to Plato – that poetry encourages the right orientation in life (praxis) as long as poetry operates naturally (meaning according to its nature – so to say as virtuously as all was thought of to be in the first place).

„Tragic pleasure" is Aristotle's hook to questioning aesthetic reception.[xv] Within aesthetic reception he differentiates between *educating* theatre and *entertaining* theatre, whereas he considers entertainment to be the crucial *good* format. The audience is not supposed to gain intellectual knowledge, but aesthetic joy. This aesthetic joy is catalysed though *compassion* and *fear* which lead to cathartic cleansing of the soul. Therefore Aristotle considers poetry and tragedy to be morally harmless.

But how can we be sure that tragedy – and poetry in general – only influences the soul in a way that can be considered to be good? Why does Aristotle not accept it as being the contrary to the cleansing of the soul. Some kind of pollution, as Plato sees it? Because no matter what happens and at what stage of the *illness* the soul is relieved, if there is an effect, it is always and can only be healing. The worst that can happen in this theory is no effect at all.

This is where catharsis carries its enormous potential. The astonishing thing about this is, how little influence tragedy and poetry and therefore catharsis have on Aristotelian ethics. Catharsis is not mentioned within the article on pleasure at all and only plays a minor role within the discussion on the voluntary nature of men.[xvi]

Projecting the above explained points of view into our media landscape today or especially into TV and its leading ethical questions, some further explanation of the settings are necessary.

The debate between the "Old Greeks" touched only the influence of poetry and not that of rhetoric. TV though includes formal and textual elements of both topics. Since most viewers take TV in general as entertainment[xvii], holding up this double lens of poetry and rhetoric up should not bother our following analysis.

Another rearrangement takes mimesis into account: as the fundamental epistemological idea of understanding poetry. Both Plato and Aristotle take recognition of humanity and therefore identification of the audience with the plot as the central epistemological phenomena. Without this phenomena there would be no direct link between sender (on stage or on screen) and receiver (in audience or on couch).

The expansion of Plato's premises starts with a critical point. Aristotle stresses that the audience can differentiate between mimesis and reality. This is the reason, why poetry – and indirectly also TV - is harmless to the human mind. But this exactly is the crucial point in the debate today: the differentiation of virtual reality and real reality cannot be applied automatically. Virtual reality (including news, daily soaps, internet etc.) has submerged into our consciousness too deeply over the past decades to clearly separate it from the rest of reality. What has been perceived as TV quality in the early days of broadcasting (documentation of reality with no feeling for entertainment) is loosening up and transforming into the contrary. Patted by light entertainment the viewer is evolving to be hyper sceptical. A somewhat strange transformation takes place: no more warning is needed regarding fictional content, but instead real content is to be marked extraordinarily.

It is tricky enough to argue against Aristotle. Especially because his fundamental settings are so strong. In case of media this would be the same. As soon as the setting "poetry functions naturally" is bought, it automatically spreads good ideas that lead to a better life praxis. The modern version of poetry, say TV (as it is developed here), destroys this harmonic self-fulfilling prophecy. Here an evil eye is naturally included to media and this harms the idea of a never ending beautiful chain of virtuous thought. But what would happen then? If we add "TV naturally includes bad thoughts" and these bad thoughts are spread and used as benchmarks for life praxis, the self-fulfilling effect of mass media content would still happen, only in an unvirtuous way. Of course this is only the case if the individual set of virtues is not strong enough to

catalyse these bad thoughts cathartically into good ones.

Both philosophers have arguments that can be transmitted into today's debate on media ethics. Aiming for a clean and free human soul, Plato forbids poetry in his state. This attitude is paternalistic but on the other hand shows his visionary judgement concerning the alienation of mankind towards truth. Aristotle who considers poetry to be all good, or harmless in the worst case, gives the audience all the autonomy it wants, knowing that its virtuousness will automatically regulate the impressions and function more mind-building than mind-destroying. Today we face a similar setting in our debate on media ethics: between regulation of media through third parties and individual free choice of media usage.

Consequences for Information Ethics

A consistent mimetical theory of perception flows from a *relativistic starting point*, where the ability for criticism and thus the autonomy of the individual is recognized. This applies independently to specific cultural heritage and a personal record dealing with mimetical cognition. Taking this into account a global idea of media pedagogy falls back on other principles of enlightened education: *identity* and *criticism*. The enlightened media user who is aware of himself and can reflect on external action will be strong enough to cope with information in the idea of catharsis – and from there on will be able to handle any other form of ontological conflict induced by media. Following this track the effect of media- and internet usage is thrown back on the individual responsibility of the user, and therefore is also detectable in his cultural surrounding.

Similar to Dux's theory of morals „in the schism of the logics"[xviii], where the justification for morals is found in phylogenesis *and* ontogenesis, individual *media usage* arises through autononymous determination on one hand, and at the same time through existing cultural habits on the other side. In addition a practical problem would be that in modern media colonisation content arrives before specific enlightenment. This ongoing coil of interaction and prerequisites is one well known problem in the history of philosophy. No matter what we try to explain – morals, culture, ethics – reasoning will always be at least two-dimensional: grown out of the past and matched with present ideas and beliefs.

The genesis of values brings us back to Plato an Aristotle and to the mimesis as a *principle of media perception*. One problem with mimetical cognition is the indefinite source of imitation. Taking theatre as an example, there are at first the actors who imitate human being, and make the audience identify on an abstract level, because of their own experience of being human. A next step introduces the characters which enables further identification with the plot and the actors. Now the difficulty of mimesis becomes clear: when something new happens in the plot it cannot be based on a mimetical structure. Only an explanation (or creativity) allows the understanding of the new content. Concerning the ongoing story, whatever is the imitation can find its origin in the plot - which of course can only be understood, as it is an imitation in a broader sense itself. In this sense mimesis can be continued infinitely. Or is it already infinitely continued? Where do mimetical cohesions find their source if we can assume, they are a mixture of existing and setting? This is the missing link between moral, culture, ethics and mimesis: the origin is indefinable. So dealing with what is present in this dynamic context leaves open whether fundamental changes should be included, e.g. if philosophical reflection criticises the Status Quo to be insufficient.

In the German speaking area it seems as if the media user still feels comfortly over-directed by the Plato-coloured system of state-run media, whereas he is already challenged in an Aristotelian way to take personal responsibility of his autonomy, which is fortified through nothing less than general virtuousness itself. The cultivation of virtuousness, generally or specifically, concerning e.g. media usage meaning *good handling* of media, is, with Aristotle, the task of all which recognize it as task, and the particular task of those who are responsible for others. In the first place this would not only be the task of parents towards their children, but also the task of the government towards its citizens – towards all citizens, no matter what age or education.

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[i] E.g. within the "World Summit on the Information Society".

[ii] E.g. Postman, McLuhan, Benjamin, Adorno/Horkheimer.

[iii] E.g. Capurro: 2004.

[iv] In 2003 average TV-usage in Germany was 203 minutes per day. That is an increase of 13 minutes compared with 2000. Source: AGF/GfK.

[v] A contrary position is held e.g. by Mikos: 1999, p. 7

[vi] The mentioned texts were read in German translations. Plato: „The Republic"/„Der Staat", „Symposium"/„Das Gastmahl"; Aristotle: „Poetics"/„Dichtung", „The Art of Rhetoric"/„Rhetorik", „Politics"/„Politik".

[vii] See: Plato: Der Staat, Buch X.

[viii] Other examples of a similar category would include the electron microscope to „go small" (as close as 1 nm, that is 0,000000001m) and the space telescope to „go big" ("Hubble" show us galaxies that have existed 13 billion years ago). Source: www.de.wikipedia.org, July 2004.

[ix] Plato: Der Staat, Buch X, 607a.

[x] Plato: e.g. Der Staat, Buch X, 595b.

[xi] Aristotle: Poetik 13, 1453a35f., 14, 1453b12.

[xii] Höffe: 1996, p. 74.

[xiii] (1) *Psychology* of the audience („Zuhörerpsychologie"), (2) logical *Form* of argumentation („formallogische Argumentation") and (3) rhetorical *Tricks* („rhetorische Tricks"). Aristotle: Rhetorik, I, 2, 1.

[xiv] Platon: Der Staat II-III und X; in: Höffe, 1996, p. 70f.

[xv] Höffe: 1996, p. 74.

[xvi] Aristoteles: Nikomachische Ethik III 1, 1110a 27-29.

[xvii] Unz, D./ Schwab, F./ Winterhoff-Spurk, p.: 2002.

[xviii] Dux: 2000, p. 3f.

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Corruption, Transparency and a Role for ICT?

Abstract:

Civil society's struggle against corruption has as a major element, (alongside the enforcement of the law and structural reform of public institutions), the introduction of transparency in place of the obscurity and secrecy in which corrupt practices thrive. Various levels of corruption can be distinguished from each other. They include the wholesale corruption of politicians, governments, higher administration and the business sector, in which society is made a prey for the personal enrichment of the powerful few. At the other extreme there is the petty corruption of public officials, which may almost be seen as a substitute for proper payment for employment in the public service. This acts as an extra tax or set of fees for services, falling disproportionately on the poorer members of society and disadvantaging them in competition for scarce resources and inadequately funded services. Transparency has many elements: open government, with access to official forums, and institutions that respond to the citizen; freedom of information laws; protection of public interest disclosure (whistleblowing); a free press practising investigative journalism; and a lively civil society sector campaigning for openness of all these kinds. The poor are frequently portrayed as helpless in the face of corruption. Nevertheless, campaigning organisations in developing countries see transparency as an important component of a process of empowering the poor to shake off the burden of illegal financial demands. Various mechanisms including the use of ICTs to introduce greater transparency are being explored. ICTs are democratic media with ease of access, comparative ease of use, great data capacity and the immediacy of swift updating. The poor are, however, also the information poor with limited access to ICT. Means to overcome the difficulties of using ICTs for the benefit of the poor, introduce increased transparency into their dealings with public institutions, and thus weaken the hold of corruption, are being explored in a group of projects in developing countries in a programme managed by OneWorld International.

Agenda

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Introduction

A traveller (the author) arrives in a foreign city (Kampala, Uganda) for the first time and picks up a newspaper (Sunday Vision). The front-page banner headline reads 'Minister told to give bribe'. (Abbey, 2004) The story tells how a government minister in his private capacity as a motor dealer had successfully sued the government for compensation when it failed to purchase vehicles that it had contracted to buy from him. Leaving aside the issue of whether it is proper for a minister to act as a government contractor in this way, this is a classic corruption story. He alleges that after the judgement unnamed officials at the Ministry of Finance and Justice had told him that to obtain his money he must pay them 40% of the total sum. Then on page 5 of the newspaper the traveller finds an editorial lamenting the high incidence of bribery in the country and saying of those who doubted whether this was so 'What do they know about corrupt policemen, unsavoury judges and crooked politicians? What do they know about lazy civil servants, zealous local government officials and marauding tax authorities?' (Barenzi, 2004) Does the traveller infer from this that Uganda is an unusually corrupt country? No, he merely concludes that Uganda has an unusually outspoken press. Corruption is in fact universal, although particularly pervasive in developing countries. This paper will look at the way in which transparency can undermine some of the basis for corruption and speculate as to whether this provides a possible role for ICT applications.

Corruption

Probably the most common way of describing corruption is to use terms that express loathing and contempt for the process and all those involved in it. Take for instance the words of the UK High Commissioner in Nairobi, Edward Clay, who said of Kenyan government ministers:

> *Evidently the practitioners now in government have the arrogance, greed and perhaps a sense of panic to lead them to eat like gluttons. They may expect that we shall not see, or will forgive them, a bit of gluttony. But they can hardly expect us not to care when their gluttony causes them to vomit all over our shoes.' (Clay, 2004)*

We will return to some of the implications of this accusation later, but it reflects a very common puritanical ethical stance on corruption that locates it in the fallible character of human beings. Natural though this may be, especially when one is faced with a demand for an illegal payment or faces the consequences of someone else's corrupt manipulation of the system, it does not actually say very much that is helpful to anyone wishing to know what exactly is happening and why.

In the 1960s one or two social scientists began to take a more dispassionate look at the operation of corruption in developing economies. A few examples will suffice to show the tendency of their line of argument. Leff (1964) suggested a view of bribery as a way in which entrepreneurs seek to break through restrictions imposed by a hostile or indifferent mode of governance. Leys (1965) recognising the high incidence of corruption in developing countries, also asked whether this might not be a response to the inappropriate and unresponsive state structures inherited from former colonial powers. He identified corruption as a cause for concern, but not for moralising. The concern arises from the way in which corruption can inhibit national development by removing wealth from the economy by those with offshore accounts; lower national morale; divert energy from productive economic activities and discourage outside investors, lenders and donors.

Bayley (1966) elaborated this dispassionate approach somewhat further, introducing the notion that corruption was not necessarily a guarantee that development would be inhibited. After reviewing the harmful effects of corruption he constructed an argument for possible beneficial effects. This line of argument has never been fashionable, but it draws attention to the way in which corruption may encourage productive investment; offer a means by which excluded groups can gain access to economic opportunities; mitigate the rigidity of government planning; and break open the deadening influence of unresponsive bureaucracies. Although such lines of argument may seem distastefully amoral, they definitely have a value in encouraging us to understand corruption and its effects. Furthermore, the study of history offers lessons to be about the progress of societies that were deeply corrupted towards the elimination of most of the incidences of corruption.

For instance, the political conflicts of seventeenth century England, the Civil War of 1642-49, the Commonwealth and Protectorate of 1649 –1660 and

the Glorious Revolution of 1688 were, amongst many other things about subjecting the power of the state, as represented by the crown, to control in a wider public interest represented by parliament. The settlement achieved in 1688 laid firm institutional foundations that can be seen as the basis for modern British society. Political decisions had to be made with the consent of parliament. Revenue was raised by taxes granted by parliament and attached to agreed purposes. The independence of the judiciary was affirmed. After 1694 the Bank of England was created to handle the loan accounts of government and ensure the continuity of payments. Taken together these constitutional arrangements removed the arbitrariness of the exercise of power that was characteristic of the monarchical system and distributed access to power widely through the aristocratic, landed and wealth-owning classes. (North and Weingast, 1989)

The significant thing for our purposes is that it was not the case that rational, uncorrupted governance followed from these significant and highly influential changes. Far from it: for more than a century after 1688 England was an enormously successful society developing securely and swiftly in a host of complementary ways, but ruled through a system frequently referred to as 'the old corruption'. Decisions were taken on the basis of complex and wide-reaching political alliances made possible by the corrupt distribution of access to sources of revenue, offices of profit, perquisites and privileges of many kinds. The system involved unfairness, injustice, waste, and sometimes national failures on a huge scale, but crucially it was open to enterprise, talent and energy and it delivered massive results in trade, agriculture, and manufacturing as well as culture and the arts.

The comparatively narrow, oligarchic nature of the eighteenth century old corruption was unacceptable to thinkers of a democratic mind and in the nineteenth century it became widely accepted that a more rational, accountable system was needed by powerful nation with the most successful economy in the world. A strong concept of the public interest began to dominate political discourse and with surprising speed behaviour patterns that were acceptable in the old dispensation became anathema in the new. Doig (2003, p179) lists decisive aspects of the responses to this shift in public mentality as:

> *Measures that precluded membership of parliament as a means of personal profit in return for government support; required verbal disclosure of financial interests; curbed payments for honours; disengaged MPs and ministers from the spoils and patronage systems that dominated traditional politics; introduced constraints on civil servants moving to the private sector; outlawed voter bribery, and introduced anti-corruption legislation for both public and private sectors.*

All of this and more was needed to create a society that throughout the twentieth century was mercifully free from most of the phenomena of corruption and which still, at the beginning of the twenty first century ranks very low in the international indices of corruption (Transparency International, 2003).

The intention in outlining the progress of eliminating corruption in British life is not to argue some special virtue in British society: indeed it might be said that Britain moved away from corruption because it could afford to do so. It is also true that corruption persists and that Britain is a major exporter of corruption. British companies have several times been exposed as making enormous illegal payments to those with power and influence in countries with which trading links are sought. The oil and defence industries are the most frequently mentioned, but it is likely that payments of this type are a feature of international commercial transactions of all types, and no doubt executives of the companies concerned are willing to justify their conduct in terms of corporate and national benefit.

The point in discussing the history of British corruption is that it shows a society functioning first through the agency of corruption and then moving towards a more open and fairer system. It offers evidence that this is possible and helps in the identification of mechanisms by which it can be achieved. What is missing from the account offered in the previous paragraphs is any real sense of the reasons why corruption is so justly detested, even if in some semi-abstract way it can be shown under certain circumstances to function to the overall benefit of national development. To do this it is necessary to draw attention to two aspects of the phenomenon of corruption as it actually operates in the developing countries.

The first of these is the predator corruption of small and ruthless elites clustered around leaders, whether elected or holding power that they have seized illegally. This corruption has not only cheapened public life, but it has fostered an amoral business ethic to the detriment of commercial life. The enormous fortunes that have been acquired by

leaders such as Mobuto in Zaire or Moi in Kenya are probably not so different in scale from that amassed by the man who was effectively the first British prime minister, *de facto* ruler of the country between 1721 and 1742, and complete exemplar of the old corruption, Sir Robert Walpole. The chief difference is the way in which wealth has been taken out of the country that was in the care of these modern rulers by their own family, friends and political and business associates, to be placed in overseas bank accounts, property and other investments. The predator corruption of leaders has not merely effectively robbed countless individuals, in the way that eighteenth century British corruption did, but also impoverished the national economy as a whole by extracting wealth from it to the benefit of Swiss bankers and the economies of booming importers of capital in the Middle East and South East Asia. In contrast, the eighteenth century predation of the old corruption recycled the money into the national economy. Predator corruption is what Edward Clay was attacking in the speech quoted above and it is virtually impossible for anyone outside the corrupt circle not to share the disgust he expresses.

The second is the incidence of petty corruption of those, including the police, the judiciary, government and local government officials, and health care workers, who are responsible for the delivery of public services. The need to make payments to officials to obtain services diverts the provision of those services towards those who are able to find the means to pay, and away from those who cannot. It is present in such a completely consistent way that it sometimes needs journalists and other commentators to remind people that it should not be taken for granted (as with the quotation in the introduction to this paper). It expresses itself in many ways such as the practice of charging the public for essential official forms that are supposed to be freely available. At the same time, it provides a much needed supplement to the incomes of underpaid and neglected work forces and so prevents the utter collapse of overstretched public services. In this sense it is a form of the 'beneficial' corruption identified by the economists quoted earlier. It may well take the form of a standard and wholly predictable tariff, or it may be unpredictable and arbitrary, but the most consistent feature is its presence in the lives of everyone in the community. To those members of society with comfortable incomes it may be no more than an annoyance or inconvenience, but to the mass of the population it constitutes an illegal tax for which they must try to budget, and which will consume a substantial part of their income each year. This is the reason why it cannot be tolerated and why the elimination of corruption is part of democratic political programmes and a major feature of civil society campaigning throughout the world.

Transparency

Uncorrupted politicians and civil society campaigning bodies propose a variety of approaches to the problem of corruption. Institutional reform, powerful legal sanctions, and the creation of regulatory bodies are amongst the types of approach that appear in anti-corruption programmes. Alongside them, or forming part of them, it tends to be an almost universal proposal that greater transparency should be introduced into systems that have too many areas of ignorance and concealment in which corruption can flourish. The reason why transparency is so consistently advocated that it offers both knowledge of how a corruption-free system should operate and what it should offer, and the capacity to find out about the day-to-day operation of governance and the manipulation of it that is practised by the corrupt. In some ways the faith in transparency is naïve. By itself transparency achieves nothing, or very little. What it offers is a basis for effective action based on knowledge and understanding. This makes it a genuinely indispensable feature of any anti-corruption programme and worthy of some detailed explanation.

Transparency is a term that is comparatively little used by the information professions themselves and yet it encapsulates a great deal of the rationale behind the provision of good information systems, be they libraries, archives, databases, or reporting and monitoring systems. The term is used in conjunction with a range of related and complementary terms such as scrutiny, accountability, audit, disclosure, and it has considerable elements in common with freedom of access to information. Statements on transparency frequently start by citing the same Article 19 of the Universal Declaration on Human Rights that can be seen as the basic rationale behind the activities of the information professions.

> *Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.*

This same formulation is vital for a range of human rights NGOs; it underpins the work of investigative journalists and broadcasters; writers and publishers associations justify the work of their members in its light; and it also has implications for the accountants and economic regulators who seek to induce the business world to operate in a climate of financial transparency. What transparency (and Article 19) means in terms of a establishing a polity in which corruption will not thrive tends to take a number of specific forms. The following will be briefly outlined here as an introduction to some of the main elements of public transparency:

- Open government and public scrutiny;
- Freedom of information laws;
- Protection of public interest disclosure;
- Financial accountability and auditing;
- Investigative journalism;
- Civil sector campaigning.

Probably the best starting point is the concept of open government and public scrutiny. It is rooted in an elected legislature, distinct from the executive arm and supported by an independent and impartial judiciary. Parliamentary scrutiny of the executive through the opportunity to question and debate the decisions of ministers in the legislative chamber, and a system of non-partisan specialist review committees are essential. However, open government goes much further than this. In a system of open government the meetings of not merely the legislature, but the committees that work of specific issues are open to the public. Government financial accounting is full and promptly delivered. Planning documentations, and minutes of decisions are all open to public inspection and consultative forums are called as a matter of course whenever appropriate. A system of ombudsmen permits the citizen to follow up cases of maladministration. The same systems and standards are also applied to the workings of local government, and privatised government agencies. Taken together, these can be seen as aspects of a total national integrity system. (Pope, 2000) Yet open government, as can be seen from this, is much more a culture than it is a system. It calls for politicians and officials who will accept the disciplines that it requires rather than seeking to evade or delay. It also relates very closely to other sources of transparency.

Arguably, the cornerstone of open government is freedom of information legislation. In Sweden there has been a law in force since 1766 granting free access to all official documentation. These rights go far beyond what is offered by the freedom of information legislation of most other countries. In fact the European Commission recently accused Sweden of infringements of Community Law because Commission documents regarded as confidential were released to enquirers under their law. (Campaign, 1996) However, the best-known freedom of information is probably the US law of 1966 that has been used to expose political scandals, throw light on the administrative process, and also provide corporations with valuable business intelligence held in government files. Freedom of information laws cut against both the secretiveness of those in power and the laxity of record keeping in official bodies. The UK Freedom of Information Act 2000 does not come into force until January 2005 because the process of bringing record keeping and pro-active disclosure up to standards capable of providing the information that enquirers might require was considered so big a task that implementation could only follow a lengthy delay. The current state of right to information legislation throughout the world varies greatly, as a survey of the legislation worldwide reveals (Mendel, 2003). Where they do exist, these laws contribute a central structure for the operation of transparency. Yet they are far from guaranteeing it unaided, and what is more, they are frequently hampered by over generous exemptions allowing administrators and politicians to avoid inconvenient revelations. Daruwala (2003) illustrates aspects of the way that these laws are implemented in practice in the (British) Commonwealth countries, and the difficulties involved do emerge from this.

The courage of individuals who are prepared to reveal information that they may be contracted or otherwise obliged to keep confidential is an indispensable complement to formal structures for freedom of information. These are the so-called whistleblowers (Calland and Dehn, 2004). Just one recent example from the many available is that of Katharine Gun, a translator at the British GCHQ security centre. At the beginning of 2003 she revealed a plan by US National Security Agency officials to involve Britain in using surveillance devices against diplomats of various countries who could influence United Nations Security Council decisions on the invasion of Iraq. (Burkeman and Norton-Taylor, 2004) She was charged with infringing the UK Official Secrets Act and it was not until a year later that the case against her was dropped. In fact British law does contain one of the world's stronger measures to protect the disclosure of confidential information in the broader public

interest. This is the Public Interest Disclosure Act of 1998, but it does not apply to prosecutions under the Officials Secrets Act. Despite this, Katherine Gun's defence that her conscience required her to make the revelation was entirely in the spirit of this Act, and the dropping of the case implicitly recognised the justice of this claim. Thus in an indirect way the case shows the significance of public interest disclosure legislation.

From another direction, transparent financial reporting is also essential. The whole business structure that depends on limited liability companies trades the protection of the personal finances of investors in a company, on the one hand, for full, prompt and accurate public accounting, on the other. A series of recent scandals, of which the name Enron has become emblematic, shows the extent to which this system struggles to deliver. (Johnson, 2004) Governments likewise have an obligation to both their international creditors and their own citizens to present accurate and honest budget information. The International Monetary Fund (IMF) has laid down principles of government fiscal transparency that include: full and timely information on past, current and projected fiscal activity; the policy objectives of the budget and their policy basis; classification of budget data to permit analysis; and the subjecting of fiscal information to independent public scrutiny. (Alt, 2002) The role of good record-keeping in both business and public financial accountability is also apparent. A recent report of a Zimbabwean Parliamentary Public Accounts Committee gallantly drew attention to the way in which poor accounting and data capture contributes to the inability of the Ministry of Finance and Economic Development to manage public finances. The subtext of this was, of course, the way in which this facilitated corruption and the misappropriation of funds. (Tsiko, 2004)

A free and independent press is essential as a means of bringing to public notice what is revealed by these and other mechanisms. Investigative journalism feeds on what is revealed by open government and laws that facilitate access to information, but ideally it takes matters a step further. (Waisbord, 2001) There is generally an element of detective work when journalists seek to reveal wrongdoing that affects the public interest and methods that in themselves are ethically questionable (deceptive interviewing techniques or the used of concealed recorders and cameras) are often used. Unfortunately press pursuit of sleaze, defined as 'The way some politicians have used their power to feed their private desires for money or sexual satisfaction' (Basten, 2000) has reached frenzied levels in some countries. This threatens to undermine the press's important contribution to transparency, as influential sectors of public opinion begin to perceive this as edging over into abuse of legitimate personal privacy, particularly when it involves those outside political life. (Travis, 2004) The concentration of press ownership to a small number of owners (most notoriously Silvio Berlusconi, the prime minister of Italy) also raises doubts about press impartiality. Despite this, the press remains a crucial instrument of transparency.

The last element we will discuss here is the role of campaigning civil society organisations. In a sobering warning, Johnston (1997, p.82) points out that:

> *Transparent procedures mean little if there is no external monitoring: corrupt states abound in inspectors, commissions of enquiry, and record keeping requirements that create and conceal corruption rather than reveal it, because no one outside the state can demand a meaningful accounting. Without a strong civil society to energise them, even a full set of formally democratic institutions will not produce accountable, responsive government.*

The point is well made. All of the elements outlined above, and all the others that would be discussed in a fuller discussion of transparency, are vulnerable and in need of the support that a whole integrity system can offer. The whistleblower, the most vulnerable of all, needs the press to report the wrongdoing that is exposed, civil society organisations to provide shelter, legal advice, moral support and logistical backup, laws that recognise the concept of the public interest, responsive institutions and all the paraphernalia of open government to justify disclosure. International and national NGOs are often the moving force behind changes in the system and instigators or supporters of challenges to corruption of all types in high places or low.

A Role for ICT

The implications of transparency for information professionals, defined as widely as possible - records managers, archivists, information officers, computer systems managers, librarians, writers, journalists, publishers and editors – have been hinted at already. Those who deal with official documentation are professional beneficiaries of the demand for

more intensive and effective management of records to serve the demands of freedom of information legislation. They also bear some of the most obvious burdens of responsibility. McKemmish and Acland (1999) show very clearly the way in which failures in public accountability and in record keeping typically go hand in hand. Information professionals might easily feel both threatened and stimulated by the challenges that their role in the creation of transparency offers. The stimulus frequently takes the form of a sense that ICT systems offer exceptionally appropriate facilities by which transparency can be offered direct and in particularly immediate forms to the public for whom it is ultimately intended. There is little point in rehearsing at great length just how appropriate computerised systems are for the capture, storage, organisation, display and presentation of information. Nor is it hard to imagine the ways in which communication technology (radio, TV, the Internet and related systems) can deliver this information swiftly and accurately to the most widely distributed recipients.

What is interesting is the notion that ICT may possibly offer some answers especially appropriate to the problem of the petty corruption of officialdom and the way that it bears particularly heavily on the poor. At first this may seem a ridiculous suggestion. Poverty is precisely the reason why the poor are classed as falling within the category of the information-have-nots when access to ICT is considered. Computer ownership might well be the norm in a majority of homes in the industrialised countries, but those homes that do not have it are mainly those of a poorer underclass. When we turn to the less developed countries, access to ICT in the home is the privilege of a minority measured in single percentages points, and access at work or public institutions is not a great deal more common. Yet the urgency of the problem is also greater. As Gopakumar (2001) puts it:

> *Information barriers and asymmetry are often quoted as major contributing factors to the widespread prevalence of systemic corruption. The situation is acute in the interface between monopoly services provided by the government and service recipients (citizens). Where exit options do not exist, 'voice' mechanisms become the only viable and potent avenue to facilitate better response and demand more accountability.*

Faced with this level of extreme need, it would be foolish to neglect all the things that make ICT a uniquely agile means of providing of information. Records can be managed most effectively using computers, databases of information for the citizen can be updated in real time, information can be read simultaneously at many separate locations and it can be delivered onscreen, in print, speech simulation and other formats.

If the will to create transparency is there in reforming governments or campaigning NGOs, there may be ways to overcome the most obvious of the difficulties. Public institutions and corporations in the developing world are already informatised to substantial degrees, meaning that the databases that can be used as a basis for transparency may often be in existence. At the same time an ICT centre movement is bringing access, admittedly on an experimental basis, to disadvantaged communities in a number of developing countries. (Caspary, G. and O'Connor, D., 2003) Ways of linking these two trends need to be explored, but this does not necessarily need to take high tech forms. For instance, comparatively simple response systems such as toll free telephone lines can be installed to link public enquiry centres to sources of computer-held information. Examples of such systems in practice can be found in the Indian state of Kerala. (Kumar, 2002) Electronic citizens' databases have been created in institutions such as the Public Distribution Service, which is responsible for the rationing of essential supplies to the poor. Electronic information kiosks in villages provide networked access to official electronic services. These initiatives and many more form part of a major e-government initiative which uses free software as far as possible, seeks to standardise systems between government departments and agencies, and is developing data warehousing facilities. Kerala's example is particularly valuable because it presents a particularly clear vision of a role for ICT in the efficient delivery of public services and, by extension, the struggle against corruption.

Conclusion

The potential of ICT for transparent delivery of public services and a consequent limitation of the scope for corruption exists. The challenge is to take the ideas and comparatively tentative beginnings into countries with a variety of different circumstances and find ways of inserting them effectively into corrupt and hostile, or merely indifferent and apathetic, service provision environments. This is precisely what a project, with which the author is involved as academic consultant,

seeks to do. It is funded by the UK Department for International Development (DfID) from January 2004 to June 2005 and has sub-projects in India, Pakistan, Croatia and Nigeria. Each sub-project is addressing a different problem (in India, access to the facilities of an underused public maternity hospital; in Pakistan, the provision of an e-complaint centre for a local government unit; in Croatia, information on waiting lists for hospitals and nursing homes; and in Nigeria information on school places in a region with very low take up of schooling). Each is also being addressed by a different combination of ICT facilities. The outcome is expected to contribute to the development of generally applicable principles for using ICT to provide specifically pro-poor transparency. There is a great deal to be done before the approach can be regarded as solidly established and there is a dangerous paradox at the heart of it. The progress of transparency is dependent on political will and the strength of civil society in countries where corruption is very deeply rooted as a response to the problems of survival and progress. Nevertheless societies do change and the direction of change can be for the better if the conviction is there and the methods to bring about change are sufficiently known.

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Tadashi Takenouchi

A Consideration on the Concept of Information Literacy. Is it really "necessary for all"?

Abstract:

It is often said that information literacy is ability which is "necessary for all" living in the information society. But the concept of information literacy is quite ambiguous, and its meaning is different according to different situation. To put the discussions on information literacy in order, the concept of "information literacy" itself is analyzed. Consequently, it became clear that when we discuss information literacy, it is "necessary" to specify its category, level, and field.

Agenda

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  - Nakada, Makoto et al. (2002): The positive and negative aspects of "digital divide" theories. In: II. ICIE-SYMPOSIUM http://www.capurro.de/augsburg2-papers.htm

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Introduction

The phrase "information literacy" has been used as a focal concept to encourage information education in recent years. It is often said that information literacy is an ability which is "necessary for all" living in the information society. But the concept of information literacy is quite ambiguous, and its meaning is different in according to different situations. Is information literacy really "necessary for all"? In reviewing various descriptions of information literacy, they do not seem to be "necessary for all." Usefulness in a specific field does not mean necessity for all. Before we claim that information literacy is "necessary for all", in relation to issues in information ethics such as the digital divide, the concept of "information literacy" itself should be analyzed from the viewpoint of its categories, levels, and fields. In addition, the principles of education concerning information literacy, and the relationship between information literacy and information ethics should be considered.

Categories

According to "fundamental informatics" proposed by Toru Nishigaki (2004), information is regarded as an effect that is formed inside a living thing (in-formation), and the concept of information is distinguishable into three categories as follows:

1. Life information: Information in the broadest sense. Effects formed in all living things in general (not only human beings).
2. Social information: Information in a narrower sense. Meanings recognized by human consciousness, expressed, and shared by people.
3. Mechanical information: Information in the narrowest sense. Entities processed in machine readable (digital) form with latent meanings.

Nishigaki asserts that these distinctions are not static but overlaps each another, and the dynamism on the borders is an important theme in fundamental informatics. But I think this is a good viewpoint for considering information phenomena. When we relate these categories to the concept of information literacy, we can see three types of information literacy as follows. From the narrowest to the broadest:

a. Ability to deal with mechanical information; skill and knowledge in operating information processing machines.

b. Ability to deal with social information; skill and knowledge in practially using expressed and shared information.

c. Ability to deal with life information; skill and knowledge in reading, understanding, and expressing unrecorded meanings or in-formation. We can call each of them a) mechanical information literacy, b) social information literacy, and c) life information literacy.

We can refer to each of these as a) mechanical information literacy; b) social information literacy; and c) life information literacy, respectively.

Mechanical information literacy is the ability to operate information processing machines. It is often considered the same as computer literacy. With regard to the Internet, the ability to search or create web pages are representative skills. The phrase "information ethics" is often used for issues within this category. In the category of mechanical information literacy, ethical issues such as questionable ways of use of machines such as computer viruses, hacking, chain-letter e-mails, or violent language on BBS, are discussed.

Social information literacy is the ability to "read" or interpret the meaning of information expressed and shared by people, or express new information. It is deeply related to the contents or meaning of information. As for the ability to search and use recorded information with relatively fixed contents such as books, serials, or audio-visual resources, it is almost identical to the objectives of library user education and can be called "library information literacy." Flowing social information, especially critiques of mass media information, is related to the concept of "media literacy." In terms of ethical issues, social information literacy is concerned with journalism ethics, intellectual freedom, protection or release of government information, strategic business information, and so on. This field can be called "social information ethics."

Life information literacy is a kind of communication skill that has a wider meaning. It is the ability to understand "in-formation," that is, meanings generated inside living creatures, not recorded but seem to be shared by people, sometimes on the level of body and soul. (Strictly speaking, "in-formation" is never "shared" because it is peculiar to

each person. It is apparently the exchange of meanings, and for humans, we might call this kind of ability "human information literacy" or "cultural information literacy." (Here I use the words "cultural" or "culture" to describe all kinds of patterns learned and shared by people.) In the field of humanities, this seems to resemble what Gadamer calls "*Takt* (tact)" in his philosophical hermeneutics to describe the ability of understanding others (fusion of horizons and its applications) (Gadamer 1960). Studies in the humanities depend on recorded information (social information), but its understanding and application belongs to another dimension (life information).

In Nishigaki's fundamental informatics, the concept of "life information" is not limited to human information, but includes all kinds of in-formation among living creatures. But if we use the phrase "life information literacy" to refer to the ability of interspecies communication, it sounds rather metaphorical.

Fields

For every concept of literacy that can be applied, there are a number of "fields." For example, in regards to the traditional concept of literacy on the level of national language, it is easy to understand that its field is obviously "the group in which the same language is used," and there is no need to explain it in detail. But in the case of "information" literacy, it is necessary to specify the field where the concept of "literacy" should be applied, because there are various types of information and its use according to the positions or situations of users. Such literacy fields are made up of ggroups of people or specific targets with different attributes from those of traditional (linguistic) literacy fields. If we use an expression such as "ability to use information" without specifying its field, its meaning becomes so large and ambiguous that it ultimately makes no sense.

The lack of specifying the field of the concept of information literacy is also a problem that stems from ambiguity concerning the concept of "information." But defining the concept of information is quite difficult, so it seems more useful to specify "for whom;" that is, the position, status, or situation of the information users. When we specify the position of the information users, it becomes easier to imagine what kind of information they often use and what kind of ability is expected to manage such information.

Each of us as an individual belongs to many literacy fields. In Barnardian's sense, a person belongs to hundreds of "organizations," and we can say that every organization has its own "literacy field."

Although slightly dated, as a means of discriminating among fields (positions) within discussion concerning information literacy, three positions—for individuals, for business persons, and for citizens—are mentioned in the report prepared by the ALA (American Library Association) Presidential Committee on Information Ethics (1989). Here I suggest six distinctions as a trial: 1) For children studying at school; 2) for college students and scholars; 3) for business persons; 4) for information specialists; 5) for those who are handicapped in using information; and 6) for the general public having the right to vote. Perhaps there can be other useful distinctions of fields, and we can expect consideration of more detailed situations about those fields. But I do not think that "Internet users" or "cyber citizens" are good fields because they are too vast and ambiguous. It is better to distinguish, for example, what kind of community in cyberspace they belong to.

When we relate information literacy to information ethics, it is "necessary" for us to specify the literacy field to be discussed. For example, access to information is one of the most important issues in information literacy and information ethics. In the field of school education, some say that it is desirable for children to be able have unlimited access to the Internet, others advocate the opposite.

In my opinion, children do not have "complete" human rights, therefore, complete access rights should not be ensured. Children's access to information should be restricted under parental authority similar to other rights. Parents often restrict their children's television time, and the same should be done in case of the Internet.

I think that the right of information access for children should be considered not according to "human rights" for those who have the abilities to fulfill their responsibilities, but to "children's rights," restricted under parental authority; that is, the right to be educated or to avoid ill-treatment. Children's rights never guarantee the same rights as adults, but are designed to reflect the early stages of their lives.

Levels

"Literacy" is a word that originally means the ability to read and write. Expanded new concepts of literacy such as "information literacy," "computer literacy," "media literacy," "cyber literacy," or "network literacy" are called "functional literacy" which means basic ability, skills, and knowledge. These concepts are, however, further expanded and sometimes used to describe well-grounded and highly skilled people. So, we can say that the concept of functional literacy can be understood in two ways as follows:

a. Literacy with a negative meaning, as being a necessary condition, or having elementary skill or knowledge to participate or act in a specific field.
b. Literacy in a positive meaning, as a sufficient condition, being well-grounded or trained in a specific field or a kind of power for self-realization.

They are apparently different concepts, but they are often confused because the former is actually part of the latter. It is not useful to deal with both of them equally, and may even result in misinterpretations and negative effects in education or making policies on information literacy. The most probable case is that all kinds of information literacy would be thoughtlessly regarded as "necessary" and be listed as "subjects to be taught;" if such is the case, then time and money for other subjects to be taught, which in reality are much more important than some kinds of information literacy, would be reduced.

To avoid viewing information literacy as an ideal and positive ability, it is "necessary" to consider what is really "necessary" for whom (in what field) before we plan or carry out any kind of information literacy education. From this viewpoint, the principle of information literacy education can be stated as follows:

a. Information literacy as a necessary condition should be instructed from the viewpoint of the field where it is needed.
b. Information literacy as a sufficient condition should be acquired by self effort and self investment.

In principle, to acquire the literacy "needed" in a specific field, they should be instructed in that field. For example, information literacy for university students to fulfill their studies should be educated in their universities; Information literacy for business persons to fulfill their works should be instructed in the business organizations they belong to.

Other skills or abilities—given that literacy is a sufficient condition—should be acquired by self effort. "Self effort" means not only independent learning, but also to learn from others including paying tuition fees.

Information literacy and information ethics

In summary, we can say that the concept of information literacy should be specified for its category, field, and level. Considering these points, here I would like to briefly mention the relationship between information literacy and information ethics.

In today's digital divide theory, there are two main foci of issues in information ethics: First, the percentage of Internet diffusion (which is a "divide" in infrastructure), and secondly, the "divide" of information literacy. This is a problem that is mainly related to the category of mechanical information literacy. However, mechanical information literacy or computer literacy should not be regarded thoughtlessly as "necessary for all." We have to consider if this type of literacy is really a necessary condition.

The population of Internet users in Japan was about 62,844,000 people as of February 2004. That is almost half of the entire population. At least 78.1% of the total number of families includes at least one member who uses the Internet; families with at least one Internet user at home are 52.1% (JIA,2004).

But, for example, our survey undertaken in July 2002 showed that there is no relationship between computer literacy and income or social position (Nakada et al. 2002). Until now, it is not realistic to claim that a digital divide based on a gap in computer literacy causes serious social problems.

In fact, we can see problems caused by too much dependence on the Internet almost every day. So, computer literacy as "necessary for all" is not a valid argument at least in Japan. It is in specific fields such as academic or business fields that computer literacy is regarded as a necessary condition.

For example, according to a report by Dentsu Institute for Human Studies, one of the foremost

private research institutes in Japan, "information literacy" of the Japanese is lower than that of Americans, and we should catch up with them (DIHS 2003, 2001). But I think this conclusion is seriously flawed. The concept of "information literacy" in this report consists of "skill factors" (some PC skills) and "mind factors" (positive attitudes towards using information for business). But the relationship between the two factors is unclear, and all the factors are treated equally. What is more, it is said that this is "necessary for all" living in the information age and those who can acquire this ability will win; others lose in modern society, although only information literacy for business persons is mainly discussed in this report. This is a remarkable example that shows how discussion on information literacy without specifying its category, field, and level leads to confused and faulty conclusions. But what is more serious is that this wrong conclusion is often cited in many other publications or the news media as if it shows a significant situation.

As to social information literacy, for example, library information literacy as a necessary condition for college students and for high school students is different. But guidelines put out by the Japan Library Association (JLA 2001) show almost the same contents for both, and specific conditions of college or high-school students are not considered in detail. That is, the guidelines pertain to information literacy as a sufficient condition in general, and do not elaborate on the necessary condition. Although these kinds of guidelines are useful and significant in terms of concretely showing the whole vision of library-use education, what is "necessary" and what is not necessary for each of the targets should be considered. For school children, it is "not necessary" to learn all of what is considered to be library information literacy. In this manner, it is not until its field is specified that the concept of information literacy becomes clear if it is a necessary condition.

In any case, if we had enough time and money, to acquire information literacy as a sufficient condition is "desirable." But in real life, the amount of time and money we can spend are limited, so we should give shape to the concept of information literacy as a necessary condition.

I do not deny all efforts to cultivate information literacy as a sufficient condition. I repeat that it is "desirable." But it should be acquired by "self effort."

It is also the same direction as what Capurro aims at in his study on information ethics. We can see the point of issue: Information literacy as technologies of the self in the modern information / message society (Takenouchi 2004). As this is such a major point of issue, I would like to discuss it at another time.

Conclusion

Is information literacy "necessary for all"? Now we can answer this question in the following manner: It is impossible to conclude such without specifying the category, field, and level of the concept of information literacy in each situation. If we do not care about such matters, discussions will be confused and may lead to faulty conclusions. This is also true in the cases of educational or ethical issues. Although information literacy with different categories, fields, and levels might have no relationship to one another, issues of information literacy as a whole are deeply related to the problem of information ethics in a wider meaning; that is, the problem of "living in the information age." This analysis can be a starting point for developing the discussion on the relationship between information literacy and information ethics.

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Karsten Weber

Social Aspects of Non-Proprietary Software

Abstract:

This paper shall give a brief history of Free Software and Open Source, then shall describe the background philosophy of these social movements and the social aspects of the non-proprietary software community in more detail, and address possible problems which could arise, for instance, for public funding of non-proprietary software development or for concepts of responsibility in the ethics of technology. Finally, a possible future of non-proprietary software shall be outlined, which strongly differs from the bright forecasts of the mainstream Open Source and Free Software supporters.

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- Relevant publications:
  - Informationelle Grundversorgung und Eingriffsfreiheit. Der Zugang zu Informationen aus der Perspektive politischer Philosophie. Habilitationsschrift, in Vorbereitung.
  - Philosophische Grundlagen und mögliche Entwicklungen der Open Source- und Free Software-Bewegung. In: Bernd Lutterbeck, Robert Gehring (Hrsg.): Open Source Jahrbuch 2004. Zwischen Softwareentwicklung und Gesellschaftsmodell. Berlin: Lehmanns Media, 2004.
  - Non-proprietäre Software und Geschenkökonomie: Lösungen für die digitale Spaltung? In: Rupert M. Scheule, Rafael Capurro, Thomas Hausmanninger (Hrsg.): Vernetzt gespalten. Der Digital Divide in ethischer Perspektive. München: Fink, 2004.

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Particularly, the following discussion of the background philosophies or ideologies of non-proprietary software must be understood as a reconstruction. It is plausible to identify the underlying ideas of Open Source and Free Software with libertarian as well as with communitarian positions within the political and social philosophy. But this doesn't mean that all supporters of this kind of software would agree to that reconstruction or would be conscious of these backgrounds. I shall not give a introduction of the historical development of libertarianism or communitarian ideas but shall try to identify the central ideas and their connections to non-proprietary software from a systematic point of view.

Due to several reasons, the discussion of possible developments of non-proprietary has the character of unsafe forecasts. Despite all enthusiasm of supporters of non-proprietary software its social consequences have to be described as marginal. Yet, the social movement behind non-proprietary software cannot compete – with respect to its social importance – with, for instance, the human rights, anti-globalization, or environmental protection movements. One can also have doubts, whether the communities of Open Source and Free Software could be compared with respect to their goals. Richard M. Stallman (2001), founder of the Free Software Foundation, reproaches the ideas behind Open Source for taking technological and not social aspects into account in first line.

Taking into account the broad discussion, statements on non-proprietary software always are in the danger to mutate to declarations of personal convictions to be for or against such software and its background philosophy. The objectivity of statements on non-proprietary software is limited, the discussion is often characterized by loyalty or opposition and debates seldom are free of emotions. All that has to be taken into account if one want to reconstruct the background ideas of non-proprietary software.

Background philosophy

The background philosophies – one perhaps can say "ideology", too – of Open Source and Free Software are different, particularly with respect to ownership of software. Eric S. Raymond stresses that Open Source means to have a non-fundamentalist attitude to the development of software. From his point of view, one can find a lot of pragmatic reasons, which are based on technological considerations, why the source code of software should be open to all (Raymond, 2001: 117). Richard M. Stallman however, founder of the Free Software Foundation, insists that software should be free due to moral obligations to others and to the society we belong to (e. g. Stallman, 1992). But regardless of this antagonism of pragmatic and more ideological arguments the outcomes of Open Source and Free Software are quite the same. So, many authors coined names like "libre software" (Robles, Scheider, Tretkowski, Weber, 2001: 1) or "non-proprietary software" (Renn, 1998) to indicate both the differences and those aspects that Open Source and Free Software have in common.

Primarily Stallman and Raymond speak publicly in philosophical and ideological terms. Both describe themselves as libertarians, but their understanding about what it means to be a libertarian differs significantly. Stallman stresses that it should not be allowed that someone claims property rights on information or knowledge. From his point of view software is a kind of information or knowledge and so he claims that "information wants to be free" (Stallman, 1992). It seems that Stallman tries to argue in a left-libertarian Lockean style. Locke stressed that it is morally forbidden to take possession of natural resources like water or food without leaving enough to other people. If someone gets the exclusive right of disposal on such natural resources this would lead to a lack of resources of all other people. Now one – and Stallman did – can apply this idea to information and knowledge: It is morally forbidden to claim an exclusive right of disposal on ideas, information, knowledge, or software, because this will bring harm to all other people. Actually, one can find several authors who argue that way, in Germany for instance, Helmut F. Spinner (1994; 2002) or Volker Grassmuck (2002). Both argue that treating information and knowledge as a common good will produce more public benefits than exclusive usage by single persons, companies, or institutions; exclusive usage may even lead to a damage or defect. Here, they adopt Robert K. Merton's so called CUDOS model of scientific knowledge.

However, one can try to legitimate non-proprietary software by arguing another way. Within the libertarian philosophy private property is the most important right. Property rights are viewed as unconstrained: In case someone acquired a good legally, that is by taking possession of an abandoned good or by voluntary and fair exchange, nobody else is allowed to intervene in one's property rights. Applied to information, knowledge, or

software, this means that if a person acquires a computer program, she also acquires the exclusive right to do everything she ever wants to do with that program. This includes selling, giving away, changing, reengineering, and so on. From this standpoint, a voluntary exchange of course could include the limitation of the rights that one acquires, too. Here, Stallman and Raymond have quite different opinions on the meaning of libertarian ideas. Raymond as a right-libertarian (2000a, S. 3ff.) clearly would accept that software is a marketable good and that its usage can be limited by license agreements – software can be proprietary. But Raymond stresses that in the end keeping software proprietary will be inefficient (Raymond, 2000b: 4); his decision to support and to produce non-proprietary software finally is based on pragmatic considerations (O'Reilly, 1999), not on decisions of general principle. However, Stallman and other authors, for instance Aaron M. Renn (1998), claim, that software – as well as ideas, information, and knowledge – in principle should be free, because free access to and free exchange of software is an act of cooperation and solidarity among people. They stress that without such a cooperative behavior societies could not really exist.

Stallman (2003a) emphasizes, that "free" doesn't mean "free of charge" at all. He particularly doesn't want to socialize all goods. However, some authors claim that non-proprietary software is a contribution to Marxist or communist ideas (cf. Söderberg, 2002). Notwithstanding all the differences Raymond und Stallman both agree in the rejection of copyright and patents for software. From their point of view copyright and patents are morally unjustified infringements of property rights (Stallman, 2001).

Despite the fact that leading persons like Stallman and Raymond stress libertarian ideas and so the interests and rights of individuals are focused, one will find ideas of social philosophy that in some way contradict this libertarian orientation. Anarchism, Marxism, and Communism already were mentioned.

Libertarismus and anarchism can be united – a good example is Noam Chomsky's anarchism-syndicalism. But it is quite unusual that within the ideas of the proponents of non-proprietary software communitarian and libertarian aspects come together. However, in his book "The Hacker Ethic and the Spirit of the Information Age" Pekka Himanen (2001) clearly addresses, although implicitly, communitarian ideas. He argues that the most important motivation to produce non-proprietary software is to gain social capital. Himanen also stresses that this public welfare orientation is a kind of ethics; he calls it "hacker ethics". Consequently, from his point of view, this moral stance is not limited to the production of software, but could be extended around other parts of life and work, for instance teaching at schools and universities. Not only Himanen talks about this public welfare orientation but one can find many statements concerning that position. Even the attitude of "us and them" – the use of a concept of an enemy, which is very common in non-proprietary software community – can be interpreted in a communitarian sense. It shall help to make identification easier to non-proprietary software. However, many aspects of the background philosophy or ideology of non-proprietary software remain contradictory: the rejection of authority and the personalization or even idolization of some leading persons, the potential conflict of making profit out of non-proprietary software and a public welfare orientation, the sometimes utopian conceptions of common goods, the contradiction of the search for individual freedom and self-determination on the one hand and the sometimes strange sectarian attitudes on the other.

Maybe the social movement of non-proprietary software could be compared to the early beginnings of environmental protection movement in the seventies and eighties – both include complex social relationships and its members are very heterogeneous with respect to motivation. The social movement of non-proprietary software isn't consolidated yet, it is characterized by partisan fights and is to be expected to go through a couple of transformations and splitting-offs.

Historical and social aspects

Since Richard Stallman has founded the GNU project and the Free Software Foundation (FSF) and at least since Open Source – especially LINUX – gains more and more users, economical success (Wheeler 2003) and public awareness, benefits and risks of non-proprietary software are widely discussed – in scientific as well as in public debates. Most times, those discussions are focused on the LINUX-WINDOWS antagonism, some times on non-proprietary software as part of a solution of the digital divide, and increasingly on the economical opportunities that particularly are revealed by LINUX and Open Source.

The development of non-proprietary software is a coordinated and globalized but not institutionalized process which is its main difference compared to

scientific knowledge production. Non-proprietary software is produced either by single persons or (sometimes large) groups of volunteers. In most cases one can find so called maintainers who coordinate the software production process but there are no responsible persons in a moral or legal sense. Often the concept of responsibility is completely rejected by members of the non-proprietary software community as well as the idea that the production of non-proprietary software should be institutionalized. Now the historical development shall be looked at.

In the early sixties computers became widespread especially at universities in the USA. In those times software had to be written by the users themselves – standard software was unknown, a software industry didn't exist. Those who wrote software shared their developments with others – while doing so they behave like scientists. Programs were distributed in source code because of two major reasons: first, the plurality of computer architectures made it necessary to adopt and modify software to make it run. Second and more important, software was treated like the results of scientific research. The source code was open to everybody who wanted to use, change, or develop it further. As in the process of scientific research, nobody had claims on the results except those of authorship and priority but as well as in the scientific realm nobody accepted something like responsibility for consequences that could arise from using the software. Programmers of software, like scientists, felt only to be bound to the duty of accurateness and precision.

The late seventies and eighties brought some major changes in the development of software. The availability of small computers – especially personal computers like the Apple II or IBM's PC – created a software market (see Campbell-Kelly, Aspray, 1996: 260). Software became proprietary and its source code – and so the know-how within the source code – no longer was open in the sense described above. The scientific-styled software *development* became a market-styled software *production* (a brief introduction of the history of Open Source Software can be found, for instance, in Feller/Fitzgerald 2002 or Pavlicek 2000).

Richard Stallman, today one of the most important persons in the community of developers and supporters of non-proprietary software, didn't want to be part of this commercialized software production and left the MIT in 1984, where he worked for several years in the AI Lab (see Stallman, 2003a). He started the GNU project, which means that he wanted to create a free UNIX-like operating system, and founded the FSF. His aim was – and is – to develop free software. It is important to say that "free" software does not stand for "free of charge" but for software which could be used, changed, maintained and distributed by everyone. To protect this status, Stallman created the GNU Public License (GPL, see Stallmann, 2003b). Within this license, the rights of users of free software are formulated and everybody who wants to use Free Software has to accept it. Stallman and the proponents of Free Software claim that this license is enforceable by US-American copyright law and believe that it guarantees that Free Software could not be commodified (see Stallmann, 2003c). Currently, in Germany there is a discussion, whether this viewpoint is correct or not. In the Internet one can find an expert opinion that denies that the GPL really is enforceable (see Spindler, 2003, unfortunately only in German).

In contrast to the moral and ideological style Stallman uses to argue for Free Software the proponents of Open Source, especially Eric S. Raymond, are much more pragmatic. They argue that software whose source code is open to everybody is much more reliable, easier to maintain, and faster to correct. So from their point of view it is much more rational to produce, maintain and use such non-proprietary software. This is true, Raymond stresses, especially in case of software which is part of other products like computer hardware. But he accepts that some people want to produce proprietary software; on the other side he believes that the end of such software is near.

Raymond is socialized similarly like Stallman; he supports basic ideas of the FSF and has published programs under the GPL. The differences in ideological, philosophical, and technical arguments (see Raymond 2001, 67ff.) that both uses to support their positions had the result, that Raymond now supports the Open Source movement. It arose in 1998 as a reaction to the announcement of Netscape to release the source code of its Internet browser as open source (OSI, 2003).

Linus Torvalds, who initiated and still manages the development of LINUX, is one of the most famous persons of the Open Source scene. Like Raymond he thinks and argues pragmatically. From his point of view the benefits of the development of Open Source software are mostly technological; the social benefits are more or less side effects to him. He accepts that commercial and proprietary software production is justified in some cases – he himself works in the software industry.

Simultaneously he manages the development of LINUX, whose first versions he development since 1991. He sees himself as a kind of "figure-head" who represents LINUX in the public; in addition, he makes the final decisions on the LINUX development and decides which code will be integrated into a LINUX release version. In fact, the development process of LINUX is organized hierarchical, which contradicts many opinions about LINUX and Open Source. In many publications one can find statements that Open Source is a kind of grass-roots democracy. But that's not true; one better compare it with a meritocracy in which those people decide who are accepted as experts in the respective field. Interestingly, some comments on the development of non-proprietary software stresses that a hierarchical organization is the only way to provide quality assurance and to prevent that non-proprietary software projects crack down if nobody feels responsible to make decisions.

An interesting aspect of non-proprietary software is that it is characterized by personalization, sense of mission, and opposition. For instance, Glyn Moody begins his book with remarks on the opposition to Microsoft and then continues with Torvald's biography (Moody, 2001). Sam Williams turned over this sequence as he wrote his biography of Richard Stallman (Williams, 2002). Stallman *is* Free Software, Raymond *is* Open Source, and Torvalds *is* LINUX – at least in the public. Among others, this tendency to personalize positions finds its causes in those persons. The publications of Stallman, Raymond, and Torvalds attest their large ego (e. g. Raymond, 2001; Stallman, 2001; Torvalds, Diamond, 2001); particularly Eric S. Raymond gives the impression of an egomaniac who suffers from no self-doubt, Richard Stallman in turn shows a strong non-conformist attitude, and all three men seem to try to be no "flashy" manager but to correspond to the cliché of a hacker. Torvalds, Raymond, and Stallman seem to have something like charisma; at the same time, they are aware of their charismatic effects and specifically use them to promote their ideas. All three men want to spread a message and use the admiration of the Free Software and Open Source community for their own purposes.

Opposition is the connecting tie for all of the people belonging to the Open Source and Free Software community; without opposition to proprietary software and to the fully commercialized software industry and especially to Microsoft and Bill Gates one cannot understand the dynamics of the development of non-proprietary software. Microsoft and its operating system WINDOWS together with all of its applications are the professed opponents or even enemies of the supporters and developers of non-proprietary software. Yet, it isn't completely clear which motives of the developers of non-proprietary software to oppose Microsoft are dominant. The disapproval of the immense profits, the rejection of the – objectively and legally justified unfriendly – business strategies against competitors, the request to have insight into the know-how and the source code of software, the strange believe that Bill Gates and Microsoft plan a conspiracy to rule the world, or the conviction that information, ideas, and so software shall be free to access by everyone: all those motives are amalgamated. Many authors who wrote about non-proprietary software and who focus their arguments on moral and social aspects, stress that one shall oppose Microsoft's business policy. In contrast, however, some other authors criticize this view. They believe that this ideologically grounded conflict could be a risk to non-proprietary software. In the case that this concept of an enemy of non-proprietary software should disappear they fear that the social movement of non-proprietary software will loose its cohesion (e. g. Eunice, 1998; Bezroukov, 1999).

Organization, responsibility and support

Despite all that, non-proprietary software is a great technological success (Wheeler, 2003). The number of users of non-proprietary software, especially of LINUX, grows continuously but actually it is much smaller than the number of users of Microsoft products and operating systems. However, there is some rumor in the software market, at least since IBM decided to heavily support LINUX with money and man-power – IBM, for instance, spent in the year 2001 a billion dollars for the development of non-proprietary software (see Robert, Schütz, 2001: 16). In addition, companies like RED HAT or SUSE are growing continuously. They make their profit with the distribution of Open Source software and primarily with services.

The production of non-proprietary software is coordinated via the Internet. Without it, such projects like LINUX or the APACHE web server could not exist, because development, support, and distribution of such huge projects needs fast, cheap, and asynchronous communication between those people who are involved in the project. Most times, non-proprietary software projects are built around a relative stable development team. Around this core one can find a (large) crowd of people who support

the development by testing the software by using it and who contribute smaller patches to correct software errors. Most projects have a so called maintainer – sometimes there are more than one – who represents the project to the outside and usually decides which code will be used in release versions. The position of a maintainer does not include the concept of responsibility. In fact, there is no person – or a group of persons – who will take on the responsibility for errors of the software, for negative consequences, or for the completion of software releases on schedule.

Writing, supporting, maintaining, or documenting non-proprietary software is a voluntary act. One can easily be part of the community of developers and one can leave this community easily as well. There are only weak ties between those who support non-proprietary software and only in those cases, in which non-proprietary software is developed in an institutional context, for example at universities or in companies, one can find a stable organization. This leads to a severe problem for state authorities or companies, which plan to use or to support non-proprietary software. It is difficult to fund projects without any stable organization or at least a contact person. Probably this is one of the reasons why despite all the enthusiasm of the Open Source and Free Software community many state authorities and companies still hesitate to use non-proprietary software. Its advantages – free access to the source code, a large community of developers, fast debugging, and so on – are leveled out by its disadvantages – uncertainty of further developments, unstable support, lack of responsible persons.

A possible future of non-proprietary software

But at present non-proprietary software has considerable support; this applies both to the developer community and to companies and state authorities (Quirós, González-Barahona, 2001: 7; on the European level see Esteban, 2001). However, this does not have to remain that way. The following scenario undoubtedly is negatively shaded; the future doesn't have to develop that way but it could. Anyway it isn't a law of nature that non-proprietary software will contribute to the advantage of all people for all times.

Non-proprietary software cannot be commodified by companies, state authorities or single persons. It is protected by licenses like the GNU Public License (GPL) and comparable licenses. So the present stock of non-proprietary software will remain open in the future. Its existence is owed to a common aim that is strongly characterized by the opposition against a certain business model or even a particular company – and of course this is Microsoft. In addition, one can find some general ideological aspects: public welfare orientation – sometimes even Marxist positions (e g. Söderbergh, 2002), a distinct view on liberty, the rejection of authority, or the search for new forms of cooperation. Both motivations, opposition and ideology, have made it possible to produce software of high quality that is used by millions of people and by an increasing number of companies and state authorities. But in the contradiction of the success of non-proprietary software and the motivations to produce it rests a great risk. More and more it seems that commercial and professional aims to support non-proprietary software move to the foreground (Fink, 2002; Moody, 2001; Young, Goldman Rohm, 1999). In case that a substantial part of the development of non-proprietary software is done by companies to maintain their interests, this could cause that the support of the world wide community of developers will fade away, because those people could have the impression that they support just that what they reject on emotional and ideological grounds. Now it would be possible that especially LINUX and non-proprietary software in general will share the fate of UNIX: New developments would only be done for the aims of companies and state authorities and non-proprietary software finally would be … dead.

Conclusion

Non-proprietary software represents a technological and economical challenge to the existing software industry. But simultaneously the social movement which aroused around no-proprietary software has to be described as very heterogeneous both in its aims and in its ideological grounds. At present it is completely unclear in which way this movement will develop in the future. It is important for all those who have to decide about using or developing non-proprietary software to recognize that there is no guarantee for a positive future. Social movements aren't companies – they are hardly calculable in their behavior and in their alterations, since their grounds lie in ideological convictions which are more or less irrational or at least do not have the clarity of economic rationality. The self-determination of companies is one-dimensional: to obtain profit. But the self-determination of the people belonging to the non-proprietary software community is multi-

dimensional: for instance public welfare orientation, liberty, utopian world conceptions, and distance to authority, opposition, following, sense of mission, enthusiasm about and curiosity in technology. All these motives can be interpreted in various ways, are changeable, unsteady, and full of contradictions – and therefore their future development is hardly foreseeable. Despite all critical words, however, it remains to recognize that non-proprietary software with its philosophical and ideological convictions lying behind represents an important social challenge not only for companies but for our societies.

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Localisation versus Globalisation – Claim and Reality of Mobile and Context-aware Applications of the Internet

Abstract:

In the vision of ubiquitous computing it should be possible to create situational and context-aware applications of the internet. But there is a conflict between the global claim of the system and the context-aware local application. First of all it must be clear, what context means. Is the context determined by the material local environment or by the special intention of a person's action. What role do cultural factors with their historical implications and scales of value play? The meaning of locality depends on the definition of the term context. Thus the term locality specifies an analogy to the term 'context'. It is necessary especially to also clarify categories like "Leib" and "Lebenswelt". Finally it is pointed out that special claims of ubiquitous computing like the idea of a global world-model are untenable. Though ubiquitous computing technologies are calm and invisible, it is important to make visible their components. The antagonism between localisation and globalisation shows the real potential of, as well as the claims of, ubiquitous computing.

Agenda

What is the vision and the claim of Ubiquitous Computing?

What is a context-aware application?

What is the local?

What is the global?

How much global moments are in the local, how much local moments are in the global?

Are the claims of Ubiquitous Computing really justified?

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In 1991 Mark Weiser first used the term Ubiquitous Computing. The term is intended to describe a mobile application of local and non-local information without the constant presence of hardware. The interface between humans and computers would disappear. The visible reality would be augmented with information, which are accessible everywhere. The user is online permanently and connected with local information services and with the global internet. These ideas are becoming more differentiated now. The German Centre of Excellence 627 Nexus "Spatial World Models for Mobile Context-Aware Applications" at the University of Stuttgart focuses specifically on ubiquitous computing. The focus here is context-awareness, which is realised by spatial world models.

The term glocalization means that localisation and globalisation need not be an antithesis in a global network. Globalisation as a global integration of markets and the consideration of a local identity can exist side by side. But now the question is whether the term glocalisation hides an antagonism. Perhaps this notion articulates a typical fallacy of the first world. It depends on the belief that science, technology and the economy is the basis for every kind of weltanschauung. In the idea of glocalization local premises are seen as global ones. Therefore the local, that means the ordinary "Lebenswelt", is not seen in opposition to the global claims of a global network because the local existence derives from global expectations. But my thesis is that there is a fundamental antagonism between localisation and globalisation. And because of this antagonism it is possible to show the real possibilities and the untenable claims of ubiquitous computing.

By answering following questions this thesis becomes clear:

1. What is the vision and the claim of ubiquitous computing?
2. What is a context-aware application?
3. What is the local?
4. What is the global?
5. How much of the global is contained in the local, how much of the local is contained in the global?
6. Are the claims of ubiquitous computing really justified?

What is the vision and the claim of Ubiquitous Computing?

Marc Weiser believes that the future world will become smart using wireless connected computers without visible hardware. All things will be augmented with information. Things have their own memory and can hold a dialogue with other things close by. Because the hardware is disappearing you can't see an interface. Everywhere and in every situation you can use information for your actions. Maybe the screens are eye-glasses or the display on the mobile phone; maybe we see some information displayed on walls. With the help of nanotechnologies it will be possible to have nearly invisible miniature computers, which obtain information from the environment via sensors. Moreover, our actions will be supported by autonomous information agents, giving us different services. For example, they will help us driving a car, manage our agenda by teamwork with other agents. We are free for more important things, whatever these things may be. Our lives will be highly efficient. Whether this efficiency is really in our interest is another question. Distributed systems accompany us everywhere like a personal angel. Nowadays, three concepts are used to describe this development in information science. Beside ubiquitous computing there are the concepts of 'pervasive computing' and 'ambient intelligence'. But the differences are rather small. Each concept differentiates itself, yet is necessarily interconnected with all others. Weiser's idea of ubiquitous computing means a calm technology working in the background adapted to our behaviour. This technology is able to interpret behaviour. Now our physical mobility can be always online, always connected. The concept of pervasive computing is mostly used in commercial contexts. But the concept emphasises that the whole world is penetrated by information. The physical reality is now augmented with information and affects animated and non-animated entities in the same way, from slaughtered beasts to human patients. Thus our behaviour will be better, namely more rational and effective.

The concept of ambient intelligence is used mostly in EU projects. This concept emphasises the social embedding of technology more than the others . In everyday life we need specific information. Taking a walk on a sunny summer day requires different information than taking a walk on a rainy day in autumn. Going by car in rush-hour needs different information than going by car on a holy day like Easter. At least the term intelligence intends that personal informations be given confidentially.

Indeed it is a problem that the ideas of an augmented reality need, so to speak, the individual to be the donor of information. The individual is not only the user of information, he is a part of the world which is logged by sensors.

Thus each of the three concepts has its own justification but at least they focus on the same technology. The historical first concept is called ubiquitous computing; and so I will use this concept in the following argumentation.

Applications are mostly are inspired by the idea that we can make a digital double of the real world. All spheres of life – the public one and the private one - will be promoted, connected and organized more efficiently by ubiquitous computing. Every behavioural intention would obtain the right information everytime and everywhere – in other words the information, which is adapted to the context of behaviour.

In brief, I will list the essential characteristics of ubiquitous computing:

- Disappearance of hardware due to its integration in the things of everyday life;
- Context-awareness of the systems;
- Adaptability of the systems to users;
- Connectability of information with the physical handling of things around me;
- Augmentation of the physical environment with information;
- The system's ability to self-organise;
- Mobile application of systems by wireless connection;
- Connection of local and global information.

What is a context-aware application?

Rothermel, Bauer and Becker, three scientists, which research in the Nexus project give a definition for the term context: "Context is the information, which can be given for characterising the situation of an entity. Entities are persons, places and objects, which are relevant for our behaviour or our application." First of all the scientists start from the idea that a situation can be understood by what is called information. But there is no agreement on what information actually means, neither in information sience nor in computer science. But even if we did establish a common term, the question arises whether feelings, moods and unarticulated dispositions of the "Leib" can be signified as information. Furthermore it is ascertained that this information constitute relevant data. But what is relevant in a situation? Consider, for example, a shopping experience in this country and in the Orient. I think that makes clear that even simple intentions and actions are connected with fundamental cultural differences. In particular our idea of efficiency plays a less important role in other cultures. Instead shopping is a kind of social game.

Let us answer the question, what characterises the context of a situation. There are some options for questioning and answering:

a. Is context the material environment, which can be caught by physical sciences?

b. Or is context this material environment with its historical, social und value implications; in other words, is context what is called "Lebenswelt"?

c. Or is context an acting relevant personal disposition, that means is it my individual history, my preferences and my values which are characterising the context?

d. Or is context a stereotype of a user or of a special situation of application in the sense that a person has to do this and that?

The last question shows that smart technologies are not adapted to an individual, but to a fixed type of consumer. Even the idea that my usual shopping list is displayed on a screen on my shopping trolley is a problem. My preferences are constantly changing. And is shopping really only an issue of efficiency? Even in a supermarket we sometimes just want to browse. The idea that we can get information for comparing products presupposes an individual who can rate this information. But this is not possible in a complex society. And I do not believe that a supermarket would promote an information system, which dissuades customers from purchasing a particular product in its supply. Thus in the contextual focus of ubiquitous computing there exists only a specific cultural standard type of consumer.

Another problem is the idea of an adaptive system, which is able to interpret situations. In pressing performances it is not possible to have long and difficult dialogues with a system. Indeed it is a great danger that a self-interpreting system would issue wrong information. That depends at least on the

fact that up to now we have not succeeded in implementing a historical sense in a system. A historical sense is knowing when an event cannot be logged in the usual way. Incidentally, this is a classic problem for Artificial Intelligence. A system, which can do everything humans can do would not function in the manner of linear rationality. That means in some situations it would prefer to hope instead of to do, probably it would light a candle in a church instead of taking action.

Thus it is indeed difficult to define what a context-aware application is. Nevertheless, the fourth type probably is the most widespread in the sphere of ubiquitous computing. It certainly depends on the fact that this type is easy to for a system to comprehend. Context aware applications seem to be mostly typical applications. And naturally, local typologies play a main role here. Information which is distributed in the environment is information for a typical user, who is well acquainted with the environment. Naturally this kind of familiarity can become rather abstract. Then , for example, it is the familiarity of a geologist in the Arctic Circle. Thus the user gets only typical information regarding his own standards of behaviour and individual habits. In principle, there is a limit to contextual differentiation, which depends on qualitative changes in the individual. But without question when using ubiquitous computing the definition of the local plays a major role.

What is the local?

From the view of an ubiquitous computing user the local is characterised by the moment of physical proximity. This means fundamental relevancies which are characterised by the presence of my "Leib". As an user I am physically mobile. I need some specific information which is useful where I am. Thus the "Leib" is a central aspect of relevancies, if you look to information from the aspect of behaviour because only using my "Leib" can I initiate something. But it is important to imagine this category of "Leib" as a central determinant in the definition of the local, not in an abstract way, which only orientates the world according to proximity and distance and to left and right. The "Leib" is a historically disposed part of the natural world which has its own memory. It is possible to develop the "Leib" or to differentiate it or to extend it by prosthesis, indeed also by medial apparatus, which increases our physical capabilities. The physiologists Semon and Hering stated in their theory of "mneme" in the late 19th century that the "Leib" not only has its brain as memory, but rather the whole of animated matter has memory. Furthermore the "Leib" is culturally disposed. Every culture develops its own gender specific ideals of the "Leib". Specific abilities are preferred, others are neglected. In the "Leib", so to speak, culture is articulated, its sensibility, its views and its hardness. Thus the local is characterised not only by a geographic primacy, but also by a cultural primacy. That means that the local is essentially characterised by our physical presence. The environment is rendered meaningful by the culture and history which is embodied in my Leib. Thus the local is loaded with something which is not part of the material environment in an immediate sense. The landscape in front of my eyes is focussed in a romantic, threatening or economic way. To this extent I embody my individual history in my "Leib", but also the history of the culture in which this "Leib" is developed, insofar as the local is always disposed by the non-local. But this non-local is not the global, but something which stands out from my culture in the local, which is embodied by myself. That means it is something specific, which need not have a global claim.

The local is characterised by my physical presence and its cultural loading. The local is respected to my ability to recognize and to effect. Insofar as the local is a common constituent it is respected as a special cultural type. Thus the local is a diffuse and not clearly limited horizon, in which I can act according to a familiar pattern. My capacity of perception and of effect can extend across the local via apparatus or media. My capacity of perception transcends the limits of the immediate sensual perception to a horizon which indicates a mood or an atmosphere. In this diffuse line of horizon is a divergence of the sensual perception and the intellectual destination. For our discourse it is important to see that the local is not only a situated destination, but is articulated in this reference to non-local as a diffuse line of horizon.

Sensor data from the material local environment is gathered by quantitative physical methods and attached to a culture with specific schemes. But naturally the order of things need not correspond to the order of modern physical classifications. The ancient Chinese divided animals into those which could be hunted by the emperor and those which could be hunted by common people. Other cultures divide animals into sacred ones and ones which can be eaten by people. The ancient Greeks divided people into Greeks and barbarians, whereby the

latter were not considered human in the same way as the Greeks.

Let us answer the fourth question:

What is the global?

The opposite term to the local is the global. It means anything which is not bound to a place and which is independent of physical and cultural contingences. It also means anything which has a global claim. First we noticed that physical entities, physical laws and data are generally accepted and have a claim to objectivity. But this general acceptance and claim to objectivity results from a reduction and quantification of the observed phenomena. But physical data stands not in the context of acting outside the scientific sphere. Only with a special cultural stamp, in other words, with a user's cultural training do they achieve relevance in behaviour. The physical view to the world is, in spite of an over-arching cultural claim, an articulation of a specific occidental disposition. That means that the primary subjective experiences receive an historical unloading, in other words, an unloading of content. The subject exists only in a position of representation. I am an observer of an experiment only as a representative of entire humanity. I obtain the right result only by following a specific method, which I cannot vary.

But the global today is firstly an economic claim, which means that products can be produced and consumed under the same conditions worldwide. Indeed, it is a culturally disposed claim, which can be realised only by removing cultural differences under the premises of the leading market of North America. The concept which describes this removal is "homogenising markets". This economic undertaking is enforced by monolinguality including the systems of categorisation and premises of value which are connected with it.

The global is disposed to a view of the world, which can be characterised by the following:

- quantification and economisation of all spheres of life;
- monolingualism;
- removal of cultural differences through the homogenisation of markets;
- removal of local identities if they hinder economic activity.

But, on the other hand, local identities can inspire the global market. And these local identities are welcome. Naturally it is good for the market to commercialise local musical traditions under the label of world music. But it is important that this music is consumable. One of the greatest problems for globalisation is religious disposition. Thus religious holy days are questioned by the economy because they hinder production, distribution and consumption. The economy does not know the Lord's Day, but it does know 'Wellness Day' because this is a day of consumption. Thus the homogenisation of market generally implicates folklore and local identities, if they inspire the market. The removal of cultural differences first means submission to the global principles of the market, which entail unhindered consumption. It is the condition sine qua non not to question the dominance of the ruling Anglo-American culture.

As an antithesis to the local the global has a global claim. The global is more than the local. Under aspects of behaviour you can see that global information as well as local information demands from users a special cultural disposition. Indeed the global demands a claim independent of the context, but this claim is valid only under the dispositions which are mentioned above. That means there is really no freedom of context but there is a claim which transcends the local dimension and yet is still of local relevance.

using the net by ubiquitous computing means it is possible not only to use local services and local information but also global services and information every time too.

How much global moments are in the local, how much local moments are in the global?

Let us look more precisely to the global, which is articulated in the local. In general there is a rule that the more a society becomes complex and differentiated in a technological sense, the more information with a global claim plays a central role. A society which is disposed to complex information technologies is more abstract and needs more abstract information. The degree of abstraction in a society is articulated in increasing assimilation in ways of living. On the one hand this is determined by the fact that professional activity is becoming increasingly diverse and on the other hand, it is determined by consumption patterns. Where a

society is disposed to special economic, technological and scientific conditions, its ways of living are assimilated into the categories and values of the dominant market. At the same time the role of local identities is increasingly small. Naturally, the loss of identity depends on social factors. European nobility has always been international in its way of living, the jet set too. Today the loss of identity depends more on professional circumstances. Those who remain nearly exclusively in international spheres like scientists or economic leaders, loses his local identity. An important German manager Thomas Middelhoff articulates this precisely, when he says: "I am an American, who happens to have a German passport." Thus the global is a phenomenon of being oblivious to one's origins and of being economically assimilated into the dominant market. But naturally what is called the global is nearer to some ways of living and cultures than to others.

Let us enquire about the relevance of information for behaviour. Naturally, information can have any relevance for behaviour but only when it has a local connection. Information relevant to behaviour must be motivating under local conditions. That means that information with a global claim has relevance for behaviour when the local sphere is already disposed to global dispositions.

Are the claims of Ubiquitous Computing really justified?

The question now is, whether in using net information by mobile context-aware systems, the relationship between the local and the global articulates an antagonism, which is held back by the term glocalisation. This question implies another one: Can knowledge, not information, in general be made accessible to the first world by the systems of categorising and evaluating which characterises the dominant market. I believe it is possible to make clear an antagonism between the local and the global by the question of its relevance for behaviour. I will use an example to illustrate. If a European goes through the jungle of Brazil, he may want on his PDA some information on climatic and biological conditions, and naturally, also information on the dangers of this region. The dangers, which are indicated on the PDA would be ones, which have an objective importance for the European, but not for the Native Indian of the jungle. The probability that the Native Indian will be bitten by a big spider is as great as the probability that the European will be run over on a zebra crossing. The objectivity of information is only an objectivity from the point of view of special dispositions of perception and acting, which are absolute different for a European and a Native Indian. The European acquisition of knowlege is mostly a medial one, disposed to a methodically produced observations; the Native Indian obtains knowledge directly from life and survival. The precise observation of nature from certain behavioural points of views characterises the cultural technique of the Native Indian. And it is not easy to present his knowledge using our symbolic systems. His acquisition of "Lebenswelt" is absolutely different from the acquisition of the European. Would it be possible, by fixing sensors and nanocomputers on the trees and roots, from which I can get local information, filtered by special scientific methods and social conditions? Then I would obtain information on current events in this sphere or on weather changes in a day, but this does not mean that the European would have gained the capacity for context-awareness, which is necessary to survive in the jungle. This information especially cannot be substituted for the adapted sensitivity of the Native Indian. Furthermore it means that the information displayed on my PDA has nothing to do with the Native Indian's understanding of a situation?

Probably the Native Indian's behaviour and actions are not motivated by the information which is so important to me. The Indian is motivated to estimate danger, for example, by the perception of unusual and for us very complex situations. The Indian notices the absence of the chirping of a special bird at a special time in connection with a special smell and a special light and so on. The situations are experienced intuitively and in an instant, and not in an analytic way. At least that based on another disposition of bodily capacities. Thus in specific situations global information obtained by scientific methods can be completely worthless.

The antagonism between the local and the global depends on two factors: first the claim that global information is free from contextual factors, second the assumption that the world can be doubling in a digital way. The last assumption is not possible because only infinite data is available for the digital double and because the historical contingency of the world cannot be doubled. Furthermore, the antagonism based on the assumption that the world is accessible to everyone in the same way. But still the assumption that the internet can give access to the world's knowledge was wrong and is wrong. Information achieves importance only by my ability to attach and connect, which in turn results from my

specific perspective. What is access to a databank for marine biologists good for, if I cannot connect and categorise the information presented? The traditional and historically disposed dimension of access is simply suppressed with the claim that the world of information is accessible to everyone. Freedom of context is possible only by emptiness of contents and that freedom is an expression of special historical and cultural coincidence.

For the idea of glocalisation, the idea that there exist local ways of living disposed to information technology, which do not contradict the global, id est, that it is possible only on the base of an orientation on the principles of an economy and a technological and scientific view on the world. These ways of living will extensively assimilate. Manhatten, Frankfurt, Tokyo, maybe some urban islands inside Nairobi and Calcutta can reach this state but not the whole world. That means the world can reach this state only on condition that all cultures are engaged in the special economic and technologic conditions of the first world's dominant culture. A connection between the local and the global is possible only under these specific cultural conditions.

What localisation is doing, is embedding information in a hierarchy of knowledge for practical life, which is of local importance. First this localisation makes informations relevant for behaviour. Even scientific information which has a global claim becomes important in this localisation. Only information which is important can motivate me to act in my local sphere of realisation and effect. Naturally the dispositions of my "Leib" plays a main role in the relevance of acting.

Another basic problem of ubiquitous computing is the question of how the environment, how what is called the physical outer world can be comprehended in models, in other words, how this outer world can be represented in an appropriate way. Here it is necessary to reject the common idea that the media which are used by people, would reflect the outer world. Such conditions of reflection do not exist in a rigorous sense. Naturally only a finite quantity of data is given from a particular perspective from what we call reality; and only this data is absorbed into models. That means we evaluate what is really relevant in the outer world. In such evaluations cultural dispositions plays a main role. Thus social, psychological and historical episodes are absorbed into the model. The facts are never given pure! We do not all see the same when observing things, except if we agree on a restricted way of reading things. This is exactly what happens in science, because its objectivity is based on this restricted way of reading. The architect views the house in a different way to the sociologist; the meteorologist the sky in a different way to the artist and the theologian. The world, which is comprehended by science, is presented in an idealistic way, by rejecting the inclusion of aesthetic and psychological moments. But it is not the world of original experience. The representation or simulation is a selection. Some moments are taken to be important for an intention, some moments are taken to be neglectable. But that does not mean that the outer world is purely a construct. Indeed we can strike against the outer physical world. It resists our will to form it. Not only natural laws offer resistance to us, but so too do social, religious and psychological facts.

The idea of ubiquitous computing, to supply the outer world with a memory, with a capacity for communication and perception, does not see the antagonism between the local and the global, if it suppresses its cultural disposition. Here there is no cultural neutrality in technique and no cultural neutrality in using technique. Thus the value of ubiquitous computing systems is not questioned, but rather the claim that the whole world can be transformed into a usable system.

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