The EU or Universal Academic Digital Library:
Why Do We Have to Wait?

by

Henri A. Verhaaren
University of Gent, Belgium

Globalisation in education and research is enhanced by digital technology. Powerful electronic platforms from different providers are easily linked to integrate journals, e-books, databases, open archives, institutional depositories, educational materials, and search engines. Governments and international organisations have made electronic access easy for selected groups. However, these initiatives do not use the full potential of ICT because of legal, financial, political and relational reasons.

On ethical principles, we have to start new initiatives, with an EU or even universal digital "Library" as a final goal. The key question is not if, but how to build this large academic digital knowledge platform. The rules of conduct of the participants in the process should be clarified. Who should initiate the process? In my opinion, research and education are the core business of academic institutions. Their leaders have to start cooperating and sharing resources. Participation of both government and industry is necessary to obtain unobstructed sharing of knowledge the world needs for further development and welfare.

The article focuses on the ethical and management grounds needed to build informed humanity. Full access to scientific information is the main challenge and drive to development and progress. Possible roadmaps are discussed.

Introduction

In the last decades, two major problems dominated the scene of scientific information:

1. A seemingly limitless increase of prices of journal subscriptions, which led to a sterile polarization between libraries and publishers (McLellan, 2004). Financial analysts worried about the long term negative effects on the information industry growth of some publishers' monopolistic price settings (Gooden, 2002). Other players in the game, such as the agents, became involved and suffered maybe the most in this ongoing battle. The academic authorities and the consumers (whether author, reviewer or reader), did not fully understand what it was all about, and stood on the sidelines. The dispute over the rising costs has distracted us from the real issue: what is the best way of providing timely, instant and correct information in the desired format to all who need it, at a minimum of cost, and with honest living for all participants in the process. This price war was a very unproductive path.

2. The conviction of the academic libraries that they still are – and will stay - the only channel and the best professional solution for the changes in the way information is handled since electronic access and open internet caused a real revolution in knowledge management (Forsman, 2005). An unnecessary polarization with ICT people was the result.

These polarizations made us forget:

1. To use the full power of the digitization and ICT technology in scholarly communication, scientific publishing, education and professional practices.

2. To delineate the ethics to follow, *i.e.* the values and norms to respect in order to find, together, a practical policy and agreement on the strategic objectives.

3. The needs and expectancies of the academic and scientific community.

Legal and financial restraints are certainly partly responsible for the stop in further development of larger scientific knowledge providing networks. A lack of trust between academic institutions, publishers, agents, ICT developers, … is maybe a more deeply rooted obstacle. This article intends to discuss some underlying ethical concepts and the resulting strategic ethical objectives. In the end, possible concrete management issues and specific options and policies will be suggested. It is a plea to use the full power of digital techniques in the building of logistic structures and institutions in order to give everybody full and easy access to the knowledge he needs. We have to find a transparent and fair way to get out of a situation where the potentialities of technology are in conflict with the economical survival of several participants in information logistics, and access to knowledge is jeopardized.

The underlying concepts (rights) and their foundation

Human rights

The Universal Declaration of Human Rights was written following the atrocities of two world wars and the violation of the integrity of whole populations, with what happened to the Jews, Armenians and Kurds being classic examples of genocide. The Universal Declaration, the writing of which was supervised by Eleanor Roosevelt, tried to give structure and content to fundamental humane and cultural values. This Universal Declaration has been mentioned here because rights go hand in hand with responsibilities (Maxwell, 1998). Over the 58 years following their publication, the rights have broadened from a narrow concept to concrete points of action guaranteeing people over the globe a good living and autonomous development.

Specific rights were derived from the Universal Declaration, such as the right to housing, clothing, water, energy, education. These fundaments now cover all areas of both societies and individuals in health, economics, finances, education and knowledge management, research, etc.

The Concept of Humanity

Law researchers tried to clarify the notion of “humanity” and proclaimed it a “normative concept”. (Teitel, 2004):

> Humanity has become a term resonant with the notion of … mankind in the collective.

It has become the gold standard by which to measure all ethics and values within a universal ethical framework. Non-religious philosophers attributed to “humanity” a religious value in a secular perspective (Ferry and Gauchet, 2004).

Informed humanity

The idea that this extended notion of humanity underlies the ethics and values of publishing and information exchange is a rather recent development. For more than three centuries, freedom of thought, speech and writing has been the leading paradigm in the publication world, and it persists in the values we try to implement in the open Internet environment. The author has the full ownership of his ideas and the way he wrote them down. The copyright system in its actual form is the result of a long struggle between the rights of the – mostly poor – author with the demand for financial return from the financial sponsors, mainly printers, some of whom became publishers. This very complex legislation is not always in agreement with today's open information society and alternatives are becoming available, such as the creative commons and open access initiatives.

The term "informed humanity" was coined by Tuula Haatainen, the Finnish Minister of Education, in a speech on the 2004 Annual Conference of the Finnish Association for the Club of Rome and Finland Futures Research Centre (October 11, 2004):

> The concept "informed humanity" leads us to think about information society. The progress in information and communication technologies offers great new opportunities. Information and communication technologies are among the most important factors contributing to sustainable development and growth. The stress is sometimes on the importance of technology. However, whereas technology can certainly be a powerful tool, it's just that – a tool. What is important is information itself and content.

Finland has been exemplary in the field of e-learning and the building of a knowledge society. Many structural solutions on a national Finnish level are going in the direction advocated in the present article. They were made possible through the full support and funding of many members of Finnish society, industry, educational institutes, general public and government. Finland and its (digital) library system can serve as the example on the road ahead.

Strategic ethical objectives on which the ethical grounds of the future of informed humanity should be built

1. Ethics of the infosphere

The World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) was founded by UNESCO in 1988. Its goal was to be a forum mainly for governments to discuss the worldwide problems related to information management. The total amount of all information available was labeled the "infosphere", a word that never became very popular. Despite all endeavours, no global ethics of information came out of this Commission. Although the right to education was clearly formulated, it did not go as far as to proclaim access to information as a basic human right.

However, subgroups active within the publication cycle formulated interesting codes of conduct. These were based on an ethical reflection on the changes in our perception and handling of information. This process was accelerated by the digital revolution. Editors and reviewers agreed to follow the so-called COPE guidelines, nicely summarized by Hunter (2000). The workgroup on ethical, legal and social issues of the American Medical Informatics Society (AMIA) is another source of information on the ethics of the information sciences and knowledge society, particularly in the field of health and medicine. The strong links between information sources, clinical practice and patient education reflect a humanistic view on medicine. The stand to make information a fundamental global right is taken by the Public Library of Science (PLoS, 2005).

The digital environment demands regulation and self regulation. Indeed, without rules of conduct, information can easily be abused. Goldstein and Meyers (1996) were among the first to publish a code of ethics for performance indicators. They proposed two basic ethical principles: 1. the avoidance of unwarranted harm and 2. the right to information. From these basic principles they derived secondary ones: the principle of contextualisation, the principle of uncertainty presentation, the principle of multiple indicators, the principle of institutional rights (confidentiality), and the responsibilities for public education.

The most recent developments in scientific communication are Open Access Publishing and the Open Archive Initiative (OAI). They make us reflect on their implications on society as a whole. Joseph E. Stiglitz (1998), former Vice President and Chief Economist at The World Bank, quoted knowledge as a global public good. This implies the right of access by all. Of course, this access has to be paid for and prepayment of publication had become the preferred way of funding of the open access publishers.

As a member of the educational committee of the Faculty of Medicine of the University of Gent, I would stress here that, especially in the field of education of students and residents, the impact of journals has been overemphasized. Journals are mainly used for scholarly (research) communication. The main aim is reporting new and creative developments, preferentially based on solid observation and research. The right of access to educational materials is important for a much larger audience, especially in a rapidly evolving knowledge society, where continuous learning is an important factor for the overall development of industry and services.

Information professionals and University departments also play a role in research governance (Sen, 2003). The NHS recently updated its recommendations on "Research Governance Framework for Health and Social Care" (Dept. of Health U.K., 2005). It focuses on responsibilities and good practice rules in all stages of the health research process.

2. Ethics of corporate governance

Publishing has, for a long time, been linked to business. Voltaire was in continuous dispute with his publishers and fighting the too rigid Royal legislation. He finally decided to publish in his own name in Switzerland and not in France. The business and financial aspects of publishing have taken increasing importance over recent years with the introduction of e-publishing. A large part of the tension in the information business is due to rising prices. This paper intends to stress the final goal of informed humanity: good global access to knowledge. A discussion of the ethical business rules is unavoidable.

Equity has always been a guiding ethical principle in economics. The OECD propagated essential rules of corporate governance. Corporate governance can be defined as the system by which enterprises are conducted. This has to follow some rules, governed by the rights and responsibilities of the enterprise (in all its layers), the collaborating enterprises, and the consumers. This implicates that pricing mechanisms should be fair and transparent, and that profits should remain within generally acceptable limits (Gompers, 2003). Stakeholders are bound by the principles of corporate citizenship, and should take into account the social and political results of their decisions. Money conveys responsibilities to its owner. The international association of accountants published a very strict code of ethics (IFAC, 2005), and the OECD published the "OECD principles" (1998).

A "responsible" enterprise cares for sustainability, social responsibility, honesty, transparency, and the other relational values we also expect from individuals in society. Two Belgian authors (Langenberg, 2005) recently edited a book (not available in English) with the unexpected title: "How free is a market without spiritual borders?". Their hypothesis is that the (global) market can only be humanistic ("aiming to free people") if it is governed by solid ethical and social values.

3. Ethics of knowledge development institutions (research and education)

The ethics to be discussed here overlap with the section on the infosphere. This previous section discussed ethics of information and knowledge in general. In the present section I want to focus on the specific ethical principles governing academic and scientific institutions and their rules of conduct in education and research.

The codes of ethics and rules of conduct of academic and scientific institutions concentrate on internal relations: teacher to teacher, teacher to student, student to student, conduct at moment of evaluation and tests, conduct during scholarships and training, and so on. No external rules of conduct are formulated to be used in the relations with other academic institutes. This means that the rules of ethical collaboration are missing. It might be that the academic institutions till now lived in a closed universe, with almost no common projects. So, in the past, it was felt there was no reason to think about the rules governing relations with each other. The digital revolution will oblige everyone to come out of his/her shelter. Information logistics is maybe the easiest project to start working on together, as there can only be winners in this cooperation. Only by negotiating with the publishers, will prices become fair. Only by making common archives, will we empty unnecessary storage rooms; only by sharing educational materials between institutions will the quality of the educational process improve. And a common digital platform will solve all our problems regarding access to knowledge. That is why I am convinced that the biggest handicap in the use of ICT technology is in the absence of collaboration between academic institutions. We should see the others as possible partners instead of competitors.

In the absence of external rules of conduct and ethical principles, I suggest borrowing a principle used in mathematics and economics: the principle of *optimization* of functions. In the policy of academic institutions the aim is often maximization: highest number of students, full coverage of all possible courses, highest number of postdoctoral fellows, etc. Optimization means doing only those things that respond to quality criteria; for example, to apply a *numerus selectus* of students (just enough to educate well), to outsource some functions to super-academic offices. The latter is the case for logistics in documentary information. These days, every academic institution wants to acquire more access to information than the others and every institution ends up with having a collection almost identical to that of their peers. Globally they certainly pay more in this situation. However, money is not the first concern. The real challenge is to do better with the same information. This plea for a global academic information platform is a plea for optimization of functions, not maximization, and not primarily because it is more cost effective, but – above all – because the actual situation is unproductive from the point of view of human resources and knowledge development.

Concrete management and policy- possible roadmaps

Once we are convinced about proceeding towards a common academic digital platform, we should become practical and propose roadmaps to follow. Of course, at this stage of the discussion, we can only discuss which direction to take first. Once we are on our way, the way will guide us further.

There exist very powerful examples: The Library of Congress and, in the field of Medicine, the National Library of Medicine (NLM). Other inspiring examples are given by countries, such as Finland, which developed large knowledge networks. In certain fields, such as medicine, Canada and the United Kingdom (NHS) have made health-related information platforms. We should learn from their history and the way they function.

A possible roadmap is a kind of interface, a portal to all good, current initiatives, in the hope that many will develop also small scaled initiatives that can be linked at the end. However, the Internet is already partly functioning as a portal. Such a system would have little added value. Moreover, portals are

very frustrating for their users: they need a lot of passwords, put barriers in the way at every click of the mouse, do not solve financial problems (rather, it often creates them) and, above all, it is not in line with the ethical values and rules of conduct we summarized in the beginning of this article.

Some good things can be learnt from the existing initiatives. The Library of Congress depends on the representative and legislative power, not from the executive. This is something to pay attention to when, in a European context, we want a financially stable institution whose money is granted before the budget is allocated. A good patron for a European "Library of Congress" would be the EU Parliament. The NLM, on its side, is a good example of the power of integration of information, research, practice, consumer related issues, care issues within a single "pool of interest". Its great independency of action adds to the attraction to the knowledge pool for all participants in the health process.

But we cannot just copy the excellent US examples. We can learn from their experiences, and I am convinced that they will be our privileged partners and guides on the way to success. However, Europe with its multiple tongues and cultures, and literature coverage in different languages, needs quite a different model of organization and functioning. A multilingual digital platform is the only way to escape the actual Anglo-Saxon cultural imperialism in science.

Concrete Management and Policy to build the most effective digital knowledge network could go according to the following lines:

Organization of knowledge management, according to large "knowledge pools"

For both management and access it is worth considering creating separate portals for the major science axes. They are related to a well defined pattern of professionals, hobbyists and consumers.

The following five pools are generally accepted:

- Basic Sciences (Mathematics, Physics, Chemistry, Biological sciences)
- Applied sciences (Engineering)
- Health related
- Society related sciences (Economy, law, sociology)
- Culturally related (Languages, Arts and Humanities)

Levelling and optimization: education and information resources more and more bound together

It is important that information is presented in such way that it logically fits into previous education and knowledge. Health informatics for professionals will be based on a different set of sources than health education for the general public. Information too difficult or too easy is frustrating for the user. Life-long learning needs indications for the learner to distinguish the exact level of information s/he needs at every moment of his/her educational process. The constant introduction of new technologies and applications will result in a constant need for education by open source systems.

Centralized financial and administrative structures

It is important to fill in functions at the level best suited for it (the lowest possible where it really works). As industry nowadays is a global enterprise, universities and other scientific institutes should create supra-institutional structures for acquisition and control of their knowledge resources.

A logical repartition of functions is needed in information logistics at institutional level. The central office of each University's library will be responsible for the Campus network, the institutional depositories and the participation in open archives. Faculty libraries will function as local teachers in information literacy, as the interface between knowledge resources and the educational tasks of the faculty, as a student learning place (study landscape) where all e-technology will be concentrated to help the student to self-educate and to acquire of a life-long-learning attitude.

Business relations between all parties according to the principles of fairness, equity and corporate citizenship and governance

Good living for everyone could be a principle to agree upon in whatever trade. Of course, without added value a competitor will be eliminated by the market mechanisms, but it should be possible to correct it to avoid social drama, especially on the level of the employers of the information business.

Full transparency and honesty, together with financial responsibility, should be the paradigm in the writing of tenders, contracts, licenses. Monopolistic behaviour should be prohibited by the authorities and courts. At the government level, value-added taxes (VAT) on print and electronic formats should be equalized, and, as knowledge is such potent motor to development, perhaps abolished on scientific information exchange.

Balance between local needs and global technology

Public services of access, training, education, logistics of hardware and software can only be well organized on a local level. In the academic environment, the level of the faculties is best suited for these functions. Here the trainers can be trained, the link to the specific research and education needs can be made, loan systems can be organized. In the world of information overload, local guides, translating the complex system to individual needs, are very much needed. Educational materials in the local language, contact with technical professionals (technicians, laboratory workers, nurse, administrative staff, …) can be archived and made retrievable.

Responsibility toward development and globalization

The countries with higher incomes have a great responsibility towards the "have nots". Information and knowledge logistics are the keys to development and the fight against poverty. The World Health Organization (WHO), together with a major publisher's help, created the HINARI (medicine) and AGORA (agriculture) digital platforms. They provide free access to journal information. However, in the eligible countries energy supply, hardware and buildings are often lacking, so the material offered is of no use to the students and certainly not to the general public. Moreover, journals relate to research, which is non-existent in poor countries. Basic educational materials are needed much more than full journal access. Furthermore, education without human assistance and personal guidance is damned to fail. Without making it resemble old-fashioned colonialism, the idea is growing for a kind of adoption of local institutions of higher education by their peers in the richer parts of the world (Simunovic, 2004). Sharing our digital platforms, together with human and educational "assistance", would speed up the fight for development and peace.

Concluding remarks: who will initiate the process?

The journal crisis caused an important delay in the desired evolution to employ the full power of digital techniques in knowledge management. It should be our common responsibility to make large networking in an ethical way.

We should not underestimate the complexity of tasks and of the environment. Therefore the co-operation of all partners is needed, and ideally the initiative should start from all three major partners: academic and scientific institutes, the industry and Government. But we have to realize that the borders between these three are disappearing. Knowledge concerns everybody and, in a continuously learning environment, industry, non-governmental organizations, and consumer organizations are involved. The digital revolution and the omnipresence of information needs and systems will induce important changes in the way education will be perceived and organised.

My answer to the question "Why do we have to wait?" is that we need all three major players together on the line.

References

American Medical Informatics Association, working group on ethical, legal and social issues, www.amia.org/mbrcenter/wg/elsi/documents.asp.

Dept. of Health U.K. (2005), *Research Governance Framework for Health and Social Care*, downloadable at www.dh.gov.uk.

Ferru, L. and M. Gauchet (2004), *Le religieux après la religion*, Editions Grasset & Fasquelle, Paris.

Forsman R. B. (2005), "Life and Death on the Coral Reef: An Ecological Perspective on Scholarly Publishing in Health Sciences?", *Journal of the Medical Library Association*, Vol. 93, No. 1, pp. 7-15

Goldstein H. and K. Myers (1996), "Freedom of Information: Towards a Code of Ethics for Performance Indicators", *Research Intelligence*, Vol. 57, pp. 12-16.

Gompers P., J. Ishii and A. Metrick (2003), "Corporate Governance and Equity Prices", *The Quarterly Journal of Economics*, Vol. 118, pp. 107-155.

Gooden P., M. Owen and S. Simon (2002), "Scientific Publishing: Knowledge is Power", *Media*, Sept 30, Morgan Stanley, Equity Research, Europe.

Hunter J.M. (2000), "Ethics in Publishing: Are We Practicing To The Highest Possible Standards?", *British Journal of Anaesthesia*, Vol. 85, No. 3, pp. 341-343.

IFAC (2005), *Code of Ethics for Professional Accountants*, IFAC ISBN 1-931949-45.

Langenberg S. and W. Vandekerckhove (ed.) (2005), *Hoe vrij is de markt zonder (spirituele) grenzen?*, Garant, ISBN, 90-441-1760-2.

Maxwell, Mary (1998), "Toward a Moral System for World Society: A Reflection on Human Responsibilities", *Ethics and International Affairs*, Vol. 12, pp. 179–193.

McLellan F. (2004), "Publishers Face Backlash Over Rising Subscription Costs: High Process Have Led US Institutions To Cancel Subscriptions To, Or Even Boycott, Scientific Journals", *Lancet*, Vol 363, No. 9428, pp. 44-45.

OECD (1998), *Principles for Managing Ethics in the Public Services*, downloadable from www.oecd.org/dataoecd/60/13/1899138.pdf.

PLoS Med. (2005), "Epub 2005 Apr 26: Integrating Equity into Health Information Systems: A Human Rights Approach to Health and Information", April, Vol. 2, No. 4, pp. e102, http://medicine.plosjournals.org.

Sen, B. (2003), "Research Governance: Implications for Health Library and Information Professionals", *Health Information and Libraries Journal*, Vol. 20, No. 1, pp. 3-14.

Simunovic, V.J., *et al.* (2004), "Temptation of Academic Medicine: Second Alma Mater and 'Shared Employment' Concepts As Possible Way Out?", *Croatian Medical Journal*, August, Vol. 45, No. 4, pp. 378-383.

Stiglitz J. (1998), *Knowledge as a Global Public Good*, World Bank online publication, www.worldbank.org/knowledge/chiefecon/articles/undpk2/.

Teitel, Ruti G. (2004), "For Humanity", *Journal of Human Rights*, Vol. 3, No. 2, pp. 225-237.