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Egregio Signor
Prof. Luigi **Dadda**
Facoltà Scienze Comunicazione
Università **S**vizzera **I**taliana
Via Ospedale 13
CH - 6900 Lugano

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Caro Luigi,

Ti ringraziamo anzitutto per la disponibilità nell'organizzare quest'anno il colloquio sulle sfide di Internet con il Politecnico Federale di Losanna che è stato molto attivo in particolare nella prima parte del simposio nella primavera passata a Losanna.

Un grande merito oltre che all'amico Berger e al professor Lapique va quest''anno al dr. Brenner che ha coordinato le diverse proposte ON LINE che faranno del dibattito del 20-21 novembre, un importante evento nell'evoluzione del pensiero contemporaneo.

Da sottolineare inoltre l'apporto della rivista francese "Transversales Sciences/Cultures" che, oltre a pubblicare al suo interno un richiamo all'evento (vedi accluso), parteciperà con il suo direttore Jacques Robin al colloquio di novembre al quale non mancheranno eminenti responsabili di svariati settori della ricerca telematica internazionale.

Ti accludo il resoconto dell'UNESCO inviatomi a primavera dall'amico Philippe Quéau che sarà uno dei punti di riferimento del dibattito che cercherà di annalizzare anche i cambiamenti avvenuti quest'anno nel campo delle nuove tecnologie espressive.

Non appena avremo le adesioni definitive, sarà mia premura informare te e il dir. Baggiolini di tutti i dettagli dell'incontro, così da permettere una maggior partecipazione sia degli studenti dell'USI che dell'Accademia.

Ti ringrazio della tua collaborazione e porgo cari saluti.

RInaldo Bianda

Acclusi: menzionati

A.I.V.A.C.
P.O. BOX 146 - CH-6604 LOCARNO - TEL. (+41-91) 751'22'09 - FAX (+41-91) 751'22'07
SEDE ITALIA: P.ZA S. VITTORE 3 - I-28052 CANNOBIO VB

UNESCO and the Information Revolution:
In Search of the Common Good

The dramatic acceleration in the development of information and communication technologies during the last few years has set in motion a worldwide process of transition from the "Indusnew sectors of sustainable economic development like software production or data processing. The importance of the information revolution has been recognised at the highest political levels in many developing countries. The concerns of developing countries regarding their participation in the Information Society thus bear less on whether it should be accorded high priority, than on how to effectively apply information technologies to development so as to reduce, rather than widen and deepen the gap between "haves" and "have-nots" and worsen inequality across the technological divide. The major problems are posed not by the technologies as such, which can in general be acquired and adapted if appropriate resources are mobilized, but rather by political, social, organizational and ethical issues involved.

Whether humanity as a whole is to benefit from these opportunities will depend not only on the transfer of technology, but first and foremost on enhancing human capability to make the best possible use of information technology. Only on that condition can the Information Society hope to attain its ultimate goal - empowerment of all its citizens through access to and use of knowledge.

The economic and commercial opportunities of information highways are certainly significant, but the impact of information technologies on sectors of public concern is
perhaps of even greater significance. Of particular interest and relevance to UNESCO is the impact of information revolution on "intellectual" areas which are at the core of the development process.

In the field of education, information technologies are viewed as a means of complementing traditional educational techniques to enable education systems to adapt to the different learning and training needs of societies. Computer simulation, telematics, and teleconferencing, alongside educational TV or radio, have great potential to reach larger audiences than the traditional classroom process, and to make learning more effective, attractive and stimulating. The increasing variety of interactive media enlarges the scope and possibilities of self-directed learning. These tools provide an unparalleled opportunity for "reaching the unreached", particularly for learners for whom access is limited by time and space, age, socio-cultural environment, work schedules and physical or mental handicaps.
Modern distance education systems can not only give learners access to knowledge available in different parts of the world, but also ensure dialogue - the main factor in effective learning - both among learners and between learners and sources of learning.

For scientists, the major advantage of Internet is the possibility to access, disseminate scientific information and share research facilities more quickly, on a larger scale and in a more interactive way. Research groups in the natural and social sciences will increasingly become "virtual" - composed of

interconnected specialists working on the same problem in different parts of the world. Electronic publishing will provide faster and cheaper access to the scientific literature, and facilitate the maintenance of an international archive of scientific accomplishments. These trends will be particularly beneficial to scientists in developing nations who would otherwise not have easy access to laboratories, documentation and databases; they will provide new opportunities to collaborate with colleagues elsewhere in the world, and mitigate, if not solve, the problem of South-to-North brain-drain.

In the field of environment, information technology will help to expand humanity's capacities to understand and manage physical and ecological processes, and to forecast and respond to disasters and catastrophes. Information technologies will also enable the establishment of better disaster warning systems and systems to help plan and coordinate response and relief efforts.

In the field of culture, multimedia technologies already offer tremendous possibilities for the promotion and sharing of physical and non-physical cultural heritage. The availability of multimedia cultural products and services on information highways will provide possibilities for everyone to enjoy the world's culture in all its diversity. Three-dimensional imaging and interactive interfaces open up vast new horizons for experimental art. On the whole, these technologies have an immense potential for promoting intercultural dialogue and stimulating artistic creativity.

The mass media have already adopted major technological innovations such as electronic editing and generation of images in TV programme production, as well as computerized and communication-assisted publishing of the printed press. Interactive television and multimedia open up yet unexplored perspectives not only for entertainment, but also for educational and cultural programmes and for the popularization of science. News agencies are obvious beneficiaries of computer-based technologies which allow more efficient news production and distribution.

Libraries - whether school, university, public or specialized - are certainly destined to play an ever greater role in the dissemination of knowledge and experience. Computerized and interconnected, they will be able to pool their resources and provide to their clients access to immense stores of information. Moreover, they are ideally placed to serve as public gateways to information highways, providing as they do both access and guidance and training to users. Archives will adapt their storage and preservation function to the impermanence of digital information which in many cases will replace paper documents. They will also become increasingly involved in electronic information provision as their clientele in government, research and the general public develops ever more sophisticated needs.

Professional and institutional distinctions in the dissemination of information and education will blur as new services develop and gain ground, driven by a market of aware and active citizens. While the focus for these services in industrialized countries will be the home and the workplace, in many developing countries, especially in rural areas, community-level access will be particularly important. Community tele-centres offering library, information and media access, social services like education and telemedicine and fora for

participatory democracy, as well as personal communication facilities, will become possible, based on the cooperative organization of services and on enabling "last-mile" communication technologies.

At the centre of the challenge posed by the emerging Information Society is the concept of universal service and how a "right to communicate" will evolve in a digital world where the basic services required by all citizens are becoming more extensive and complex. Access in this context involves not only physical availability and cost, but also ensuring that the user can benefit from the services concerned, through a minimum level of "digital literacy" and through appropriately adapted interfaces. In the increasingly competitive and commercial world of information and communication, the risks of exclusion of disadvantaged populations are substantial - both within and among societies. These risks are of particular concern to the developing countries which need clear and resourceful policies if they are to benefit from the emerging information revolution.

An important facet of the "right to communicate" concerns access to telematics facilities at affordable cost by the "intellectual" sectors - education, science, culture, media, libraries and archives - which have a crucial role to play in the development of national information infrastructures. A study jointly carried out by the International Telecommunication Union (ITU) and UNESCO, offered a promising three-fold strategy to be pursued collaboratively in this context: (i) cooperation among the users in order to consolidate their demand for telematics services, (ii) partnership between telecommunication operators and users to develop and expand services based on market principles, and (iii) enlightened public policies to promote the building and use of telematics infrastructure in development≠related sectors.

Another important issue is the maintenance of linguistic and cultural diversity in the Information Society. Technology-induced globalization is seen by many as a threat to local customs, values and beliefs, as exemplified by that fact that, today, more than 90% of the databases on the Internet are in English. Technology also offers possibilities for the development of specialized services to cater for diverse cultural needs. These advantages are, however, counterbalanced by a danger that these groups of media users may prefer cultural specificity to diversity and dialogue, and thus run the risk of shutting themselves into a cultural ghetto. At the same time, it must be kept in mind that many small or even medium-sized countries do not have the critical mass, in either economic or demographic terms, to guarantee adequate national content and may thus largely depend on imported programmes and services. The rapid development of broadcasting technology and its convergence with computing and telecommunication give this issue a new complexity.

Increased access to interconnected networks and databases raises major ethical and legal issues. These include for example privacy of information and the right of individuals to check data pertaining to themselves, which is widely recognized as a fundamental human right. The effects of computer technology on individuals and their social behaviour are also controversial. Already today, one can do almost anything on a computer: study, work, shop, watch a film or chat with a friend, visit a library or a museum, read a newspaper or play

games. This provides immense opportunities for access, but it can also unduly privilege the "man-machine" relationship to the detriment of reflection, self-reliance and personal capacity-building. At a wider level, the emerging information highways constitute an important factor in major social transformations, such as the internationalization of trade and the development of a world economic market, the globalization of news and personal communication, and changes in the labour force due to the increased use of telematics.

2. THE ROLE OF UNESCO: A SEARCH FOR THE COMMON GOOD

Is globalization really global?

Buzz phrases like "global village" or "global information society" are misleading. The concept of "global" is not in itself global, nor does globalization affect everybody in the same way. Many people do not benefit from globalization, even though they are either directly or indirectly affected by it.
The concept of the "Information society" mainly reflects the situation of "info-haves". "Info-have-nots" cannot afford the new information technologies, which they view as a luxury. However, they need these technologies if they are to train people to use them, and they also need to understand the relationships between the "emerging new world order" and the different types of globalization (economic, technological, informational) at work.

New information and communication technologies (NICTs) are not just technologies. They are symptoms of a deeper revolution, indicators of a cultural and mental landslide, that will ultimately lead to a collective reshaping of basic assumptions and values. The notion of "work" in an automatized production environment, the concept of "intellectual property" in an economy of ideas, the relevance of "nation state" in a globalized world or the meaning of "general interest" in a global market will all require new thinking. Above all, NICTs are themselves powerful tools of globalization: they allow real time speculation, world wide decentralization and the adoption of global standards of information processing.

A context of "laissez-faire" and "deregulation" favours economic globalization. Cultural, social, political and ethical "globalization" are not proceeding at the same pace. It is very likely, that in the absence of an effective global political power, capable of redistributing global wealth and guaranteeing justice and a sense of the global "common good", the global Information Society will not be equally beneficial to all. In nearly all societies, the needs and preferences of the wealthy and powerful are generally more respected and reflected in official goals and priorities. The Information Society per se will not change this state of affairs. It may even make the situation worse. While there is a certain widening of access to NICTs they are, nevertheless, on the whole, the preserve of the better off.

The World Telecommunication Development Report published in March 1998 by the International Telecommunication Union said: "There remain vast pockets of humankind without access to basic telecommunications services. It

is difficult to believe that this is due to a shortage of funds: the telecommunication industry had its most profitable year ever in 1996. A shortage of supply is also increasingly less of a reason for a lack of access. The greatest danger to improving access today appears to be complacency. There is a tendency to believe that a profitable industry with expanding sources of supply will solve the problem by itself." It will not.

In other words, there will still be winners and losers in the emerging Information Society order and the gap between them will probably widen. The problem will not be solved miraculously by the virtues of industry. The question is then: how can we use NICTs for the best advantage of 4 billion people living on less than 2$ a day?

Is There a Pilot in the Global Plane?

Cyberspace is not a no-man's-land, any more than fiscal paradises are. If the governments of the world decided to unite in order to clamp down tax evasion or money laundering, they could impose their political will on offshore fiscal paradises. Similarly, if sometime in the future, the governments of the world decided to impose a strict reinforcement of future cyber-laws or cyber-taxes, this could very well be done. But the political will is lacking.

Technological standards and privacy issues, for example, are too important to be entrusted to the marketplace alone. Competing software firms have little interest in preserving the open standards that are essential to a fully functioning interactive network. Markets encourage innovation, but they do not necessarily take account of public interest or the public good. Governments could decide to encourage and support the development of public domain software and freewares (such as LINUX, Apache). This goal may well appear absolutely vital in a few years, when the importance of equipping schools with basic computer facilities will become apparent. If we don't want to pay a global tax to Microsoft, all public sector computers should be using public domain software.
Privacy issues are also of strategic importance. Commercial interests are willing to keep a low profile while they exploit powerful data-mining resources for marketing research or for reselling information to data brokers and the "individual reference service" industry. They are not interested by questions such as: should personal information copyright belong to the individual concerned or to the data miners who process electronic transactions? What level of anonymity and privacy protection is desirable? This is essentially a philosophical and political issue.

The Market and the General interest. Need for Regulation

The market is based on competition: hence the strongest emerge, with a non-linear effect: the fall of weaker competitors, provoked by the free market, creates monopolies or oligopolies as consequence. Microsoft is sued by US Federal Government for this reason. Then, regulators still have a role to play. They guarantee the "higher common good". They should redefine the "universal access" paradigm, the minimum level of service for users, at national levels but also at the global level, and the fair allocation of public resources (availability of radio-frequency spectrum, pricing the spectrum, frequency auctioning).

We need global governance, i.e. a global policy and a global fiscality (such as the famous Tobin Tax on all financial transactions proposed by the Nobel Prize Laureate James Tobin). Why not imagine also a global "telecommunications tax", a global "computer tax", a global "energy tax" to help redress imbalances in access to information and to fight global ecological concerns?

The question of a "telecommunications tax" is in fact similar to a telecommunications tariff policy but it must be emphasised that there is no universally "correct" set of tariff setting principles. Pricing policy is a means of achieving desired objectives. Who should decide these objectives: the market, or the regulator who is supposed to guarantee the "general interest"? UNESCO should voice its concerns regarding users' interests, particularly for educational applications.

Public and Private. The crucial importance of public domain

Open-ended goals such as "public interest" or "cultural development" are very difficult to measure. Public interest is a much more difficult issue to grasp than private interest. It is more abstract, and any definition of it tends to be conflictual. Public interest is scattered among us all, and thus nobody in particular seems directly concerned. This problem is another aspect of the "tragedy of the commons". The "Haves" take generally much more advantage of the "commons", and nobody in particular feels the need to correct this. The more problems are global and abstract, the less public good seems to receive attention and the more private interests become efficient and active at taking their own share of the profit out of the public cake.
The Information revolution will not put a stop to this. On the contrary, it will accelerate the process.
We need a deep understanding of what the "common good" is in the Information age.
One starting point for reflecting on the "public good" is the "public domain".
The concept of "commons" has existed for many centuries, and was originally conceptualized in the political category of "res publica". International waters, outerspace or the human genome belong to the "public domain".
In our globalized era, it is of vital and strategic importance to recognize, promote and strengthen the global public domain, be it physical (such as radio spectrum) or cultural and informational (such as masterpieces of the past or information produced with public funds).
The hertzian spectrum belongs to the public domain. The global citizen should benefit and profit from the use of public frequencies, and should retain a portion of the spectrum for educational, cultural, and public access purposes. Public interest should request more money for the private use of public property.
There is the same problem with public domain data. If every nation decided to give its own people free digital access to its own memory, then everyone would not only have access to national cultural treasures, but also to the cultural heritage of the world.

Global regulation is indeed needed. But above all, we need to find a new meaning to our collective action. We need to formulate a higher and wiser

vision of what we are heading at, as citizens of our global society. We need new mental tools.

New cognitive tools for a global citizenship

Too much data is simply noise. The proliferation of information will not add one minute to a day in our lives. In the information overflow, we may simply lose touch with reality, and lose the human touch. The information flood is a serious intellectual challenge, requiring discipline, distance and scepticism. We will need cognitive skills of awareness, perception, simulation, reasoning, but also collaborative ability and plain common sense.
Wiring the schools will not be enough. We need to know what kind of citizens we want our children to become. We do not want our children to be instruments in an economico-techno-sphere devoid of any real human vision. In brief, we need a humanistic approach. NICTs should serve human beings as human beings not as maintenance workers in the technosphere.
Hence the fundamental questions: what kind of global civilization are we in fact building? What kind oftrial" to the "Information Society". The depth and non-linearity of this process seem to have much greater social, economic and cultural implications for humanity than the industrial revolution of the past. The present document gives an overview of the opportunities and challenges related to these technologies and outlines a framework for UNESCO action.

1. A KEY OPPORTUNITY FOR ALL AND A CHALLENGE FOR UNESCO

Education, training, research, entertainment, but also economy and society are increasingly affected by electronic networks and multimedia technologies. It is of the utmost importance to understand the fundamental changes brought about by the "information revolution". The complexity of today's world problems defy traditional explanations and solutions and require a completely new approach in order to adapt to the emerging "new" civilization based on information and knowledge.

At the heart of this transformation are technological advances which include the digitalization of various types of information, artificial intelligence, interactive interfaces, digital compression, switching techniques, an exponential increase in computing power coupled with dramatic reductions in cost, communication satellites with vastly increased power and accessibility, inexpensive optic fibre cable and new wireless technologies, and, perhaps most impressively, the explosive growth of Internet, which links millions of individual computers and users all over the world.

These new technologies are stimulating the convergence of industries. In industrialized countries, the last few years have seen strategic moves towards partnerships and alliances among cable companies, telecommunication operators, broadcasting networks and computer publishing and entertainment enterprises. Markets for new information services are being aggressively explored and developed, as information providers seek to expand their activities beyond their traditional borders.

Most important of all, there is now a political will in many countries to support and encourage these processes. New legal frameworks and standards are

being set up to promote the development and interconnection of national information infrastructures. Well-conceived information highways would further stimulate the already burgeoning national and international markets for information services and products.

Today the industrialized countries have an overwhelming lead in all these advances, while for a great number of developing nations even "old" technologies, like television, telephone or even electricity, are still only a dream. However, a closer look reveals that the new information and communication technologies offer immense opportunities to all societies and individuals for alternative, truly universal and often cheaper ways of accessing and disseminating information.

Examples already abound of developing countries' using information technology in education or health to help break the vicious circle of poverty and isolation, or leapfrogging heavy industrialization by the creation of civilization should we try to build? What NICTs and tools are needed? What is UNESCO's role in helping define this emerging civilization?

The role of UNESCO in the Information Society

For UNESCO, the Information Society represents a serious challenge and a unique opportunity. The challenge is that the Organization must find an original and indisputable role in a domain that is now covering the whole of society, and that is of interest to many other organizations. The opportunity is that Information Society values and methods will give UNESCO a unique role in the "free exchange of ideas and knowledge".

UNESCO's strategy is based on two main ideas:

Given its intellectual and moral mandate, UNESCO concentrates on the "content" aspects of the Information Society, including information access, training and ethical issues.
As for the infrastructure of the Information Society, UNESCO concentrates on "Infostructure" (policies, networking and applications) rather than on basic telecommunication and informatics facilities.

The "content" aspects of this strategy include :
- info-ethics issues (access to information, privacy, confidentiality, security of information).
- observation of national information policies and legal frameworks or codes of practices.
- fostering the access to diversified contents for the "info have-nots", by developing a strong "public domain" of information accessible on-line and off-line: the "Global Cyber Commons", including the key issues of "freewares".
- promotion of cultural and linguistic pluralism in the Information Society, including access to the virtual "Memory of the World"
- promotion of standards (in particular "open standards") and cooperation in information categorization, labeling and filtering
- training in the information age and in the context of globalization, with particular attention given to the needs of information professionals and trainers (journalists, librarians, archivists, documentalists, computer

specialists), user communities (educators, scientists, members of social and cultural organizations) and governments.
- participation to the global cyber-culture, with special attention to youth needs, and
- last but not least, a very active presence of UNESCO on the Web, through the Headquarters', field units' and all associated organizations' Web sites.

The "infostructure" aspects of the strategy include:
- supporting consistent national information policies (in particular appropriate telecommunications tariff policies, and so-called "universal access" policies, in a context of "technological convergence", deregulation and privatization)
- networking of people and institutions (with a view to sharing experience and knowledge and avoiding duplication of efforts)
- designing innovative, application-oriented, pilot projects: virtual learning communities, virtual laboratories, virtual libraries, on-line governance, multi-purpose community telecentres in rural or disadvantaged areas, information access for illiterate people, user-friendly interfaces for all.
- improving infrastructures: public libraries, archives and documentation centres serving as gateways to the Information Society, information services and networks.

Philippe Quéau

la Casamance, au Sénégal, a été d'abord mise en place pour ouvrir un espace de négociation, au sein de la nation, à des affirmations de soi, culturelles et économiques, pouvant, dans leurs manifestations les plus extrêmes aller jusqu'à revendiquer la séparation.

Intégration régionale et décentralisation. Citoyenneté de terroir sans dissidence, en même temps que citoyenneté d'intégration régionale. Voilà, sur fond de démocratisation, la double réponse que l'État-nation en Afrique cherche à apporter à sa propre crise, et conjurer celle-ci en essayant de choisir son propre dépassement et en essayant de passer d'une logique de l'impuissance à une logique de la volonté face à la mondialisation. Avec cet enjeu, que l'on retrouve partout, qui est tout simplement l'avenir de la citoyenneté.

1. Qui, d'ailleurs, s'est justifiée aussi comme visant la même finalité de l'intégration nationale. Ainsi dans le texte qu'il a donné à *Libération*, le Président de la République de Côte d'Ivoire voit dans une politique d'appui de l'Etat sur les chefferies traditionnelles un *«gage d'harmonie pour intégrer les particularismes de nombreuses minorités (du) pays à la vie nationale»*. Ces chefs constituent, ajoute-t-il, *«une interface entre les intérêts particuliers de populations des villages et l'autorité de l'État au service de l'intérêt général»*. Une *«démocratie des villes»*, estime-t-il, ne suffit pas : sont donc nécessaires ces *«praticiens d'une démocratie des champs»*.
2. In *Qu'est-ce que la démocratie ?*, Fayard, 1994, p. 18.
3. Je reprends ici les termes employés par le Président du Sénégal dans la préface qu'il a donnée au livre de Mohamed Tiessa-Farma Maïga intitulé *Le Mali : de la sécheresse à la rébellion nomade*, L'Harmattan, 1997, p. 10 : *«Que l'État-nation, en Afrique, doive être dépassé, par le bas, pour ainsi dire, dans une décentralisation véritable, qui sache épouser les contours des identités socio-économiques et culturelles, et par le haut, par l'intégration régionale, c'est ma conviction»*, déclare-t-il.
4. *op. cit.* p. 238.
5. *id.* p. 230.

L'Association internationale pour la Vidéo dans les Arts et la Culture, qui avait organisé en 1997 à Ascona avec le CIRET (Centre International de Recherches et Études sur la Transdisciplinarité) et l'Unesco un colloque sur «l'Université du futur», a proposé à *Transversales Sciences/Cultures* de s'associer cette année au 19ème «Forum des nouvelles images et de la culture émergente».

S'étendant en deux étapes (Lausanne 5-6 juin et Lugano 20 et 21 novembre), un colloque sur les «défis d'Internet» s'emploiera à répondre aux questions suivantes :

- Comment échapper à une mondialisation commerciale totale ?
- Comment développer une nouvelle éducation ?
- Comment développer une nouvelle éthique ?
- Comment développer une nouvelle création artistique ?
- Comment développer de nouveaux rapports entre les hommes, les techniques, les sociétés, les économies, les politiques et les cultures en vue de la cyber-civilisation qui nous attend ? Le rôle nouveau des institutions (Universités, Écoles Polytechniques, Instituts de recherche).
- Au-delà des dimensions ouvertes par les nouvelles technologies, un cyber-sacré n'est-il pas en train de se profiler pour dessiner le visage du siècle à venir ?
- Les artistes ne sont-ils pas en train d'ébaucher ce visage au moyen des technologies nouvelles à partir de l'élan symbolico-technique originel ?

Un rapport final rédigé par Philippe Quéau, de l'Unesco, sera publié par *Transversales*.

Nos lecteurs intéressés peuvent s'informer à :

AVArt, Associazione per la videoarte
P.O. BOX 146, CH-6604 Locarno.
Tél : 41 91 751 22 08
Fax : 41 91 751 22 07
e-mail : avart@tinet.ch
http://www.tinet.ch/videoart