

dossier

# Women of Europe

## the information society

*...a challenge for women*

ISBN : 92-827-6386-2

CC-AG-96-002-EN-C

*The Women of Europe  
Dossier issue no. 44 "The  
Information Society: a chal-  
lenge for women" is available  
in the official languages of  
the European Union.*

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B-1210 Brussels*

© **Photographs:**

*CREW/  
Orla Barry/  
Rudi De Rechter*

 **Printed with vegetable-  
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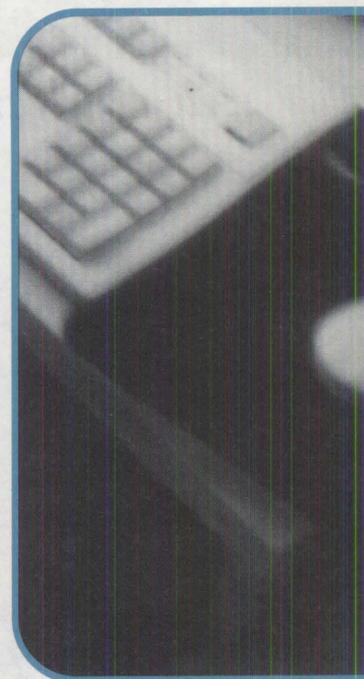
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# the information society

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## The Information Society ...a challenge for women



### Preface

**O**ur intention, with this *Women of Europe Dossier*, is not to pass judgement on the intrinsic value of the Information Society – which, moreover, is proving very difficult to define – nor to be dogmatic about the positive or negative effects that it might give rise to. Our purpose is to show, through an analysis of certain of what we think are the more important aspects, how this phenomenon, which affects society as a whole, presents itself in specific terms for women.

To do this, we have called upon a number of prominent figures who have studied this subject from a variety of angles and fields of activity, but with the same concern to emphasise the gender dimension of the issue.

One thing is certain, we cannot deny this social phenomenon, nor decide to skirt round it if it frightens us, or blithely expect everything from it, unaware of the more worrying consequences it may entail. Although the Information Society, in itself, does not seem to define a new system of moral, political, intellectual or other values, it does at least constitute a medium of irresistible power which considerably amplifies the resonances of present-day society, and runs the risk of making its dissonances more harsh.

For this reason, women must be vigilant and, at the risk of becoming marginalised, must not hold back from this extraordinary medium. Above all, they must realise that they have huge advantages for grasping, in their turn, the opportunities offered by the Information Society, and that they can humanise this cold technology ...

It remains to be said that the authorities have an enormous responsibility in this area, and that the European authorities, for their part, have made it into a political issue. At this level, the crucial need is to ensure real democratic access to the Information Society, failing which, we will see information becoming a major factor in magnifying and accelerating inequality and segregation of every kind. ●

Véronique Houdart-Blazy  
Director of publication / Editor-in-Chief

## Introduction

**T**he Information Society is a much used and often abused term with little clarity about its true meaning.

Is it little more than an update to the telephone system or is it as radical a change to the movement of information as the printing press proved to be, heralding a new society with even basic interactions like shopping being restructured.

There is no one definition of the Information Society and no one vision of it either. The European Commission has defined the Information Society as coming into being when Information Technology (Computers, Robotics etc.) is combined with Telecommunications (telephone networks, ISDN cable communication). It is the networking of information which forms the concept of the Society.

Nicholas Negroponte of Massachusetts Institute of Technology identifies it as the transformation from analogue to digital, from atoms to bits. "The information super-highway is about the global movement of weightless bits at the speed of light. As one industry after another looks at itself in the mirror and asks about its future in a digital world, that future is driven almost 100 percent by the ability of that company's product or services to be rendered in digital form." (1)

Current trends of the Information Society show an impact at different levels with every aspect offering advantages and disadvantages. At this stage, the concept is as yet so young that it can be used to offer a panacea to all ills bringing about a new democratic age or it can be viewed as the ultimate Pandora's box producing a new level of inequality and threats to society.

Communication networks, such as the Internet, for example, which are vital elements in the Information Society can be used by small companies to sell to an enormous potential market, for which previous marketing costs would have been exorbitant. Individuals can access information quickly and cheaply, interrogating large databases to get knowledge previously unavailable. In contrast, pornography can flourish and take

on new disturbing dimensions with sexually explicit material being broadcast into the home without censorship and "virtual" sex made possible.

In employment, the application of telecommunications in teleworking can offer a flexible solution allowing individuals more balance between home and work, more choice in location and time. But there are already examples of a return to unprotected piecemeal working in unregularised working conditions. The companies outsource not only the work but also the overhead costs, whilst the worker attempts to produce quick response work at low pay, from within the home. The gender segregation in traditional work is being reproduced into these new working patterns. With the male teleworking predominantly in the professional sector and on a salary whilst female employment is in low paid, low status and precarious employment, often self employed or short term contract work.

The technology offers new ways of doing the same things. Recording sales at the cash desk by using bar codes allows a more effective management of stocks both on the shop floor and in the warehouse enhancing the 'just in time' approach. But this technology also opens up other possibilities. The use of store cards enables the retailer to record every item bought by each of their customers building up a detailed profile of their purchasing habits. This can be used to undertake very targeted marketing. It also provides intimate information on individuals and households.

Like any new development the potential is limited by the extent to which individual people choose to realise and use it. Existing opportunities such as video conferencing



and teleworking have had much lower take up than was anticipated. The potential is also limited by available infrastructure. A universal Information Society is only realisable if there is a far greater spread of the necessary infrastructure and accompanying equipment. When large numbers of the world's popula-

tion have never used a telephone it is difficult to conceive of a true world wide access. A global Information Society does not necessarily mean a universal one.

Irrespective of these limitations, the impact will certainly be far reaching. A specialist surgeon in Sweden will be able to give guidance on an operation being conducted in a general hospital in a dif-

ferent country or continent. Women in rural Portugal can teach children in urban areas of their cultural heritage. Companies in one country can use skilled labour in another continent.

Countries or communities with few infrastructures can leapfrog technological developments and gain directly state of the art technology. Missing out the other stages which more technology orientated economies have followed. For example, Aborigines in Australia currently use video conferencing for communicating with each other and to sell their art work to Sotheby's even though they have never used a telephone. Even if they are not literate, they can use the keyboard following a colour coded

sequence which they have developed to ensure full access to the technology.

The European perspective on the Information Society is being guided by the European Commission. The Information Society as linked with the telecommunications definition was first discussed by the European Commission in December 1993. In June 1994 the European Council in Corfu stated there was a need for political action to launch the Information Society. The result was a Commission Action Plan. Later that year, ISPO, the Information Society Policy Office was created by DG III, (Industrial Affairs) and DG XIII (Telecommunications, Information Market and Exploitation of Research). The International nature of the Information Society was emphasised by the European Commission and in 1995 there was a G7 Conference held in Brussels on this topic.

The European Commission's direction and accompanying actions are developed in three key documents: the Delors' white paper on Growth Competitiveness and Employment which emphasised that Europe had to compete globally and needed to adapt to the Information Society, the report by Martin Bangemann on the Information Society which focused on economic and technological innovation, and the Action Plan which is based on the Bangemann Report and focuses on eleven main areas.

Under the Action Plan, for example, the Commission is working with public and private industry to develop the regulatory and legal framework, for the liberalisation of the telecommunications sector and the deregulation of national telecommunication companies. This has economic and political consequences. The Commission aims to ensure that this changeover does not put at risk the principle of offering universal service, irrespective of the profit margin.

Another strand of activity under the Action Plan is the development of new networks and standardization. Currently companies are testing the market uncertain of the potential for different technologies and products. But this has resulted in a lack of compatibility. For example, to receive broad-

casts in the home will require a conversion box. Each producer could potentially design a different conversion box obliging householders to purchase a range of boxes rather than one universal receiver.

Privacy is another major issue covered under the Action Plan. Increasingly the use of credit cards means that individuals are leaving an electronic trace, which can be tracked. When they go shopping, make a phone call and buy petrol, all movements are recorded with a precise time and location. Such electronic traces have been used in legal cases either as an alibi or as a witness to show where someone was at a certain time.

The Information Society represents a period of change. Any period of change is also one of opportunity. The potential is there for new ideas, new ways of being and doing. Currently it is difficult to see who are going to be the winners and losers, who is going to lead this change or if it will be unstructured with different players seizing opportunities to meet their needs.

Even within the Northern industrial countries women are significantly absent from the process and they remain reluctant users of technology. Yet, the potential is there for women to take their place on the global stage.

There are already some examples of this. The Information Society has facilitated the need of specialists to communicate across disciplines both at the design stage and in the development and realisation of projects. This multifaceted approach matches more closely the feminine holistic thinking than the masculine focused and compartmentalised approach.

The Information Society is not about technical skills. The computer is a vehicle for access into the Information Society, it is not the core element. The computer is there to facilitate communication, the hub of the Information Society. Communication will be much more than just good verbal presentation, it will encompass words, images and sound. Creativity will increasingly have a

place in the economy. Again this favours the feminine way.

All communications can become anonymous and take away any judgemental screening attached to gender, race etc. In this way a communication will be more likely to be received in an unbiased way judging on content rather than on the social profile of the individual.

A move from digital to fuzzy logic is expected. A way of thinking and programming computers which introduces a new creative and combining logic which is well suited to the feminine global way of problem solving.

Training is a crucial linchpin to the take up and insertion of the Information Society. Training not just in technical areas but also in highly developed communication skills and life competencies such as adaptability, entrepreneurial thinking and innovation.

Individuals will increasingly be self-employed and working on short term projects, new competencies will need to be acquired at short notice and fit specific situations. Lifelong learning and highly developed skills are forecast for the future labour force. What happens to those who cannot match these needs?

The future of the Information Society is currently unknown and marked by many questions. The reality is going to be guided by individuals and by multinational bodies, it will be used to provide benefits and will give rise to abuses. Individuals can elect to use it but they will also find that it is imposed on them. The potential is there for a new world order which focuses on inclusion and cooperation. The players, not technology, will decide. ●

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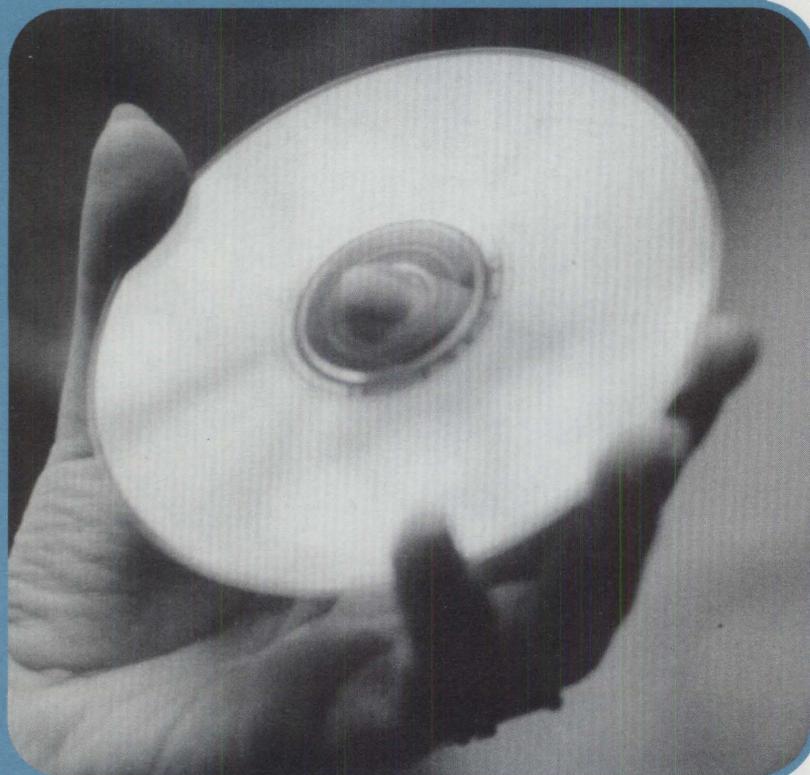
## chapter 1

# Education and training towards the learning society

The emerging Information Society is changing the way we live, work and learn. With it come enhanced opportunities for life-long learning. Will the use of information technology in training and education assure the learning society in the next millenium? How can training provision ensure women participate fully in this process?

**Daxa Patel** of De Montfort University (GB), a lecturer and broadcaster, examines how technology can transform training delivery and argues that it can result in the provision of more flexible distance learning programmes which better meet women's learning needs.

**Clem Herman**, project coordinator and trainer at Manchester's Women's Electronic Village Hall (GB), explains how technical training can be made more accessible for women.



## Technology as a learning tool

In the mid 1990s we are in the midst of great social and technological change. The revolution in information and telecommunications technologies and the evolving synergy between them, termed telematics, are fast taking us into the Information Society. A society where we will be able to communicate and work with people all over the world in all kinds of ways without leaving our homes or place of work. Multimedia telematic services and applications will make all kinds of information available from anywhere, at any time. It will change, in ways we can barely imagine, how we spend and organise our lives, our work and leisure time; how we manufacture and trade; how we provide services and how we learn.

In an internationally competitive market place people will need new skills and literacies, which will need updating continuously. There is a belief at a political and policy level that education as a lifelong learning activity will be a key characteristic of the "global Information Society" and that the distance learning technologies will provide the tools to meet the increased demand for education. Consequently the way education is provided and organised and the way people learn will have to change to meet the new challenges and realities of the Information Society.

*"The knowledge-based economy demands greater openness and creativity in schools and universities, and the acquisition of new skills and adaptability through life-long learning. An open approach to education that combines local and national cultures and promotes mutual understanding between our citizens is required. Access must therefore be tackled at its roots by providing citizens with the tools to learn in an Information Society. Advanced multimedia information services can meet such requirements whilst complementing and enriching the traditional education and training systems."*

If education and training are going to be a key to success in the future, and the new technologies are going to influence the paradigms used for delivering education, it is important to assess how this will impact on women's access to and participation in education and training in the future. In order to do this it is necessary to review what

women's learning needs are and how current educational provision meets these needs and whether the new technologies will help or hinder the development of "women friendly" education and training.

### Women's Learning Needs

Experience on special face-to-face training initiatives designed to provide access for women and several studies conducted into the experiences of women learners on distance learning courses, suggests that women and men have different learning needs.

Women value face-to-face tutorials and are more likely to attend study centres despite obstacles of access and time. They gain from, depend upon and value regular interaction with fellow learners. They view interaction with peers as essential, especially when dealing with any abstract or complex issue. Most women prefer a way of learning that is personal, interactive and acknowledges their life experiences. (Gabriel and Davey 1995). They have a desire to be "connected" with other people and are more likely, than men, to see isolation as a problem. (Von Prummer and Kirkup 1994).

### Women and Technology

Studies have shown that women have unequal access to information and communications technologies (ICTs), this especially applies to women at the lower end of the social strata. Women who have experience of using ICTs are less likely to judge the technology as highly effective (Von Prummer and Kirkup 1994).

There is also some evidence emerging of a gender bias in preconceptions associated with the use of the Internet. While men seem to enjoy browsing around the Internet, women by comparison seem relatively disenchanted with it. Women tend to use it for work purposes as opposed to personal interest. This may just be a reflection of the busy lives women lead, or the current male bias of the Internet (Ford and Miller 1996).

### Daxa Patel

De Montfort University (GB)

Daxa Patel is responsible for developments in the use of information technologies for teaching and learning at the De Montfort University. She was actively involved as a course tutor and broadcaster in the European Open University Network (EOUN) project which included the use of interactive satellite broadcast, computer conferencing and distance learning in a Europe-wide "virtual classroom".

Extract from the concluding remarks of the Chair, G7 Ministerial Conference on the Information Society, Brussels, February 1995.

### Education in the 1990s

Tertiary education in the 1990s is going through a transition. Over the past few years there has been an increase in student numbers, while at the same time the recession affecting many countries has meant that the unit of resource per student is falling. There is a greater diversity in the age and experience profile of students, with greater numbers of mature students, especially women, taking part-time courses (*Social Trends 1996*).

Educational institutions are forming partnerships across the post-school sector and with industry to provide customised courses including part-time or short courses. The separation between education and training is blurring. Education is increasingly becoming an internationally competitive market with additional competition from commercial providers. Educational institutions are under increasing pressure to change to meet these challenges and to use the new technologies to do it.

The traditional campus based education model is place and time dependent and is organised to prepare people for the industrial society, by emulating factories and offices. (*Tiffin and Rajasingham 1995*). People use various forms of transport to travel to college just as in later lives they will travel to work in an office or a factory. Classes take place between set times, often in hourly blocks, for organisational rather than pedagogical reasons.

This model, though inflexible, has survived a long time and it has some educational advantages. The students can work in groups offering mutual support. A high level of interaction is possible between tutors and students which is an important factor for women. The learning resources, such as books in a library, are concentrated on the campus.

Distance education offers flexibility through being relatively time and place independent. It is often argued that this form of education is particularly suited to women. However, the traditional model of distance education, where students receive learning materials, watch television or listen to the radio, with a face-to-face element provided by study centres or short residential courses, limits interaction. This leads to a feeling of

isolation which women particularly find problematic (*Von Prummer and Kirkup 1994*).

Learning is essentially a social process which needs to take place in an environment where learners can communicate with each other and the teachers, share resources and provide mutual support. Telematics offer opportunities to deliver more flexible distance learning programmes where all the participants can work interactively as if they were located on campus, without the same constraints of time and place.

### Learning at a distance

Literally translated telelearning means learning at a distance. There are two modes of telelearning: synchronous and asynchronous.

Synchronous communication provides the students with real time interactivity and brings them "face-to-face", in telepresence, with their peers and tutors. There are three forms of synchronous teleconferencing used in education currently: audioconferencing, videoconferencing and audiographics.

**Audioconferencing** uses existing analogue telephone technology to enable teachers and learners at two or more sites to talk to and hear each other. It is possible via a "bridge" to link several audioconferencing sites together. Audioconferencing is often used in conjunction with materials that have been mailed out to participants before the conference, or to provide an interactive component in instructional television.

**Videoconferencing** uses video cameras and monitors at each site so that participants can see as well as hear each other. It is expensive, however. As digital compression techniques improve, costs are decreasing and it is now possible to videoconference using the public digital telephone networks. In educational institutions videoconferencing systems are primarily used as a means of bringing groups of people who are located at different sites together to participate in a lecture, tutorial or a demonstration.

Desktop videoconferencing which incorporates videoconferencing into a computer is now becoming more widely available. This makes it possible to share or send files containing multimedia, and hence allows for real

shared teleworking.

**Audiographics** uses two telephone lines, one for audio and one for the graphics, or rather data transmission between computers. Audiographics is audioconferencing with the addition of a computer link which provides a shared "virtual" white board. Every site can therefore talk to, and listen to each other, and through a computer screen share the same information.

In asynchronous communication, the participants do not interact with each other in real time but can work and contribute at their own pace. The fax is the simplest form of asynchronous telecommunication. However, it is not easy to transmit large quantities of information over long-distances and it is primarily limited to text.

The bulk of asynchronous telelearning happens over the Internet. Electronic mail (e-mail), where a computer is linked via a modem and telephone line to another computer, enables the user to electronically send and receive mail with attached files containing additional information.

**Email** facilitates both one-to-one and group interaction. Bulletin boards can be set up where messages can be posted over a period of time for anyone interested in a particular topic to read, and post their own message if they wish.

**Computer conferencing** is a special form of e-mail which includes all the facilities of e-mail, including bulletin boards but is restricted to a defined group of people. It provides the opportunity for the class to interact on a subject. A discussion can take place over a period of time and everybody has the opportunity to develop their thoughts on the topic and contribute.

**The Internet** also enables students to access other on-line services such as, on-line databases, hypermedia systems such as the World Wide Web (WWW) and increasingly electronic libraries.

### The "Virtual" Campus

Bringing all these various aspects of telelearning together, can "virtually" provide all the elements of an educational system based on the traditional campus model but using

telecommunications to deliver education to the learner as opposed to transport to deliver the learner to the institution.

The advances in satellite and cellular telecommunications and the availability of ever more portable computers make it possible for students to work from anywhere, at any time. The student can download the learning materials and assignments, access on-line services such as database or information on the WWW, interact with the tutors and fellow students and complete her assignments and send them to be marked. It is irrelevant whether the student is at work or at home, on campus or off campus.

World wide education with students in many different countries is now possible. Examples of these are already appearing. The UK Open University has introduced computer conferencing into several of its courses, to link students and tutors in different locations. Birbeck College, University of London, offers a course in Principles of Protein Structure on the WWW which is truly international with students, tutors and consultants from thirteen different countries.

Another model that is emerging for telelearning is that small groups of learners physically get together and meet in local teleconferencing centres. The human interaction provides additional support and they can use the teleconferencing facilities in the centre to interact with a wider "virtual" learning community.

One project that has successfully used this model is the European Open University Network (EOUN). Euro Study Centres (ESCs) based in traditional campus based universities or in study centres of distance teaching universities formed part of a human and telematic network across Europe.

At De Montfort University, women returners to education following a Women's Access to IT course participated in the Elementary Statistics course. They had never used video or computer conferencing before and had no experience of any form of distance learning, however, they enjoyed the experience. They valued the local support of their peers and the flexibility of learning at their own pace.

This network model of distance education

has also been used to break down cultural barriers and widen access to university education for non-traditional learners by providing videoconferencing and audiographics facilities in local community centres. (Milner, 1995).

Large multinationals such as Ford and Philips already use internal television, videoconferencing, E-mail and voicemail as part of their business communications strategies. In the future, study through ESCs type tele-learning study centres established in local community centres or companies may become standard practice.

In conclusion, the advances in information and telecommunications technologies offer the opportunity to develop more flexible distance learning programmes for women. The challenge for education is not the technology but how to devise the pedagogical and organisational models which will both give greater access to women and will meet their learning needs. Paradigms are emerging which offer the flexibility of distance education with the interactivity of traditional campus based education. The emerging models offer the opportunity for global education and communication, in a local decentralised and supportive environment based in the home, community college or place of work. ●

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## Technical training opened up to women

**A**lthough there are now more women in paid work across Europe than ever before, most women continue to work in a narrowly defined sector of the economy and face exclusion from higher levels across occupational sectors. The introduction of computers in all areas of work did not have a significant impact on women's occupational segregation. The challenge is to use computer technology to open up new opportunities for women, in the context of a growing gender segregation in this sector.

The traditional training routes - apprenticeships and technician training - are extremely difficult to enter for most women, leaving whole areas of knowledge, skills and employment in computer technology to remain dominated by men. In recent years there have been attempts to tackle this issue. Across Europe there are numerous training schemes that have recognised the specific needs of women, many of them focusing in particular on technical training for women. With support from the European Social Fund and the Community Initiatives such as NOW, many women have benefited from training in a range of technical skills aimed at overcoming their exclusion from certain areas of the labour market.

These new style training schemes have recognised the specific needs of women and designed courses with a more accessible approach for women to the teaching of computer technology.

The Women's Electronic Village Hall in Manchester has trained over 500 women in computer applications and skills over the past four years. Courses have covered a wide variety of skills ranging from basic computer awareness to high level network maintenance, including both hardware and software for users and potential technicians alike.

Many women arrive with low level or no formal qualifications and the phenomenon of "technophobia", the fear of using computers or related technology, is widespread. One of the key objectives of any training course has been to develop in the trainee a positive attitude to technology and towards working with computers.

Basic introductory courses have aimed to familiarise trainees with the extent of possible applications they may wish to use. Rather than specific technical skills it has given them a more generic and transferable tool - the confidence to use and experiment with other technological applications (whether computer based or not) building on their successful experience of learning.

Gender stereotypes associated with technology and work, mean that many women are either unaware of the possibilities open to them in terms of technical training or have limited expectations of the skills they could learn. Office work is often the only point of entry for many women into computing. Therefore, part of any technical training for women should include a raising of awareness about other openings and aim to encourage women to undertake further training in a wider range of skills than word processing.

This includes telematics technologies and women's potential in the huge new sector. Every trainee is taught the rudiments of using on-line communications and information sources, even if this was not their original request! The Internet and the Information super highway can still be shaped and influenced by women.

The Internet provides an interesting example of different gender attitudes to technology, which may affect the training environment. Research on Internet usage suggests it is still largely used by men. While many men who have on-line access appear to find the time to "surf" or browse the Internet, women often see this "self-training" and practice as wasteful and unproductive time. It is more than just a lack of time - it is an attitude about recreation and "useful" occupation that links to other gender defined roles. Women simply do not allow themselves as much recreational time.

The growing computer recreation culture with many of the games targeted at boys also contributes to women's exclusion from technology. It is recognised that computer recre-

### Clem Herman

Women's Electronic Village Hall (GB)

Clem Herman is the Project Co-ordinator of the Women's Electronic Village Hall, a computer resource and training centre in Manchester. Ms Herman has been responsible for the development and delivery of a wide range of technology training courses for women with a particular focus on telematics and teleworking and has worked on a number of transnational projects with other women's training centres in Europe.

ation games can prepare young people for a technical career. Yet studies have shown that girls in schools are likely to use computers as a learning tool only and not for recreational purposes.

Providing technical training for women has to take into account women's general reluctance to fully enter the technology world and experiment with it.

One way of encouraging young women to enter the sector is to provide taster days and summer schools. There they can play with all kinds of technology. The emphasis is on demystifying the jargon and sharing the variety of possible applications.

One key consideration for those providing technical training for women is to recognise women's other commitments. For many women, in particular women returners who are starting work after a period of absence from the labour market, responsibility for the care of dependants continues after they begin training or paid work and complex arrangements will have to be made to combine both of these roles. Courses should be designed to cater for this so that they can be realistically attended by women with these continuing commitments, and can provide a period of transition to full time work or study.

Actions to support women with childcare commitments can include the provision of childcare on site, (for example a creche for under 5's), but may also include a wide range of measures such as re-imburement of childcare costs for pre-school children (nursery, childminders etc); provision of courses within school hours and school terms; paying for after school care if the course continues outside school hours. Other women may have responsibilities of the care for older or dependent relatives and similar measures can be taken to support these trainees, such as payment for carers, provision of flexible learning hours.

Another crucial factor in technical training provision is to recognise women's previous experiences and acknowledge their fears. Both negative and positive experiences may affect the learning process. Unsuccessful learning, all too frequent for women in technical areas, can have a strong inhibiting effect which will need to be overcome. Moreover, many women come to training with a variety of skills and experiences which may not at first seem relevant but which can inform and enhance their learning. Thus the accreditation of prior learning can form an important tool within technical training.

It is also vital to acknowledge the male dominance of technology and to work towards building women's confidence so that they can successfully overcome the barriers

they will encounter after the training. This includes giving them a theoretical knowledge of the sociological dimensions of gender and technology so providing a framework in which to place their own experiences.

Providing women tutors for technical subject areas can act as role models or mentors for the trainees. To see a woman technician says much more to a trainee about her own prospects than any theoretical lecture or vocational guidance session. There are no shortages of women who can teach word processing but the more "technical" the subject matter the harder it is to find women tutors. Where it is not possible to employ a woman tutor, male tutors should be made aware of gender issues, for example, by equality training.

As with all training, technical training should acknowledge the learning that has taken place and the skills gained, by provision where possible of recognised qualifications. This becomes increasingly important for women in technical areas, in order to boost their own confidence but also to convince others that they have the skills.

To be successful, the technical training course or programme must be specifically designed with women in mind. Training materials should include relevant examples. Assignments or other simulated tasks should include women characters. Learning programmes should be as flexible as possible to accommodate women with other commitments. There should be additional modules covering personal development and assertiveness skills. Vocational guidance and counselling should be made available. Additional basic skills tuition such as maths and language modules should be made available for women who need them, as well as work related skills such as team working and project management.

In technical training, the issue of jargon raises an interesting dilemma. Do we continue to perpetuate the exclusive computer terminology with its sexist imagery and unwelcoming syntax, or do we say this is unnecessary? On the one hand it is important to use ordinary language and everyday examples as far as possible to allow the trainees a level of familiarity and adjustment to the language of computing. And yet it is also crucial that women leave the training with the technical vocabulary and confidence to be able to converse with male colleagues in the real world. This requires a careful introduction of key terminology together with practice at articulating concepts to others in group sessions. This is even more of an issue for women without knowledge of English, the language from which much of the jargon originates. Although software may be avail-

able in different languages, many functions and concepts remain in English and will be perceived as "jargon". More technical training will require the acquisition of a whole new vocabulary.

Finally, training organisations should provide on-going tutor or mentor support after the training has finished, and arrange regular get-togethers of ex-trainees for mutual support. Equally important is to give women an understanding of the importance of networking with other women in these areas of work. The Internet provides an excellent opportunity to overcome the isolation women may experience and an ideal medium for those women who are working in technology related jobs. There are a number of networks on-line which can provide precisely this sort of support and mentoring service that many women lack in their own location.

Technical training is clearly crucial for the integration of women into certain areas of the labour market, and as computer usage grows it becomes more vital for women to have equality of opportunity in the technical areas of computing. The failure of traditional vocational education routes to provide this facility for women means that specialist women's training must be developed which takes into account the specific needs that women arrive with, and equips them with skills and knowledge to tackle the challenges ahead. ●

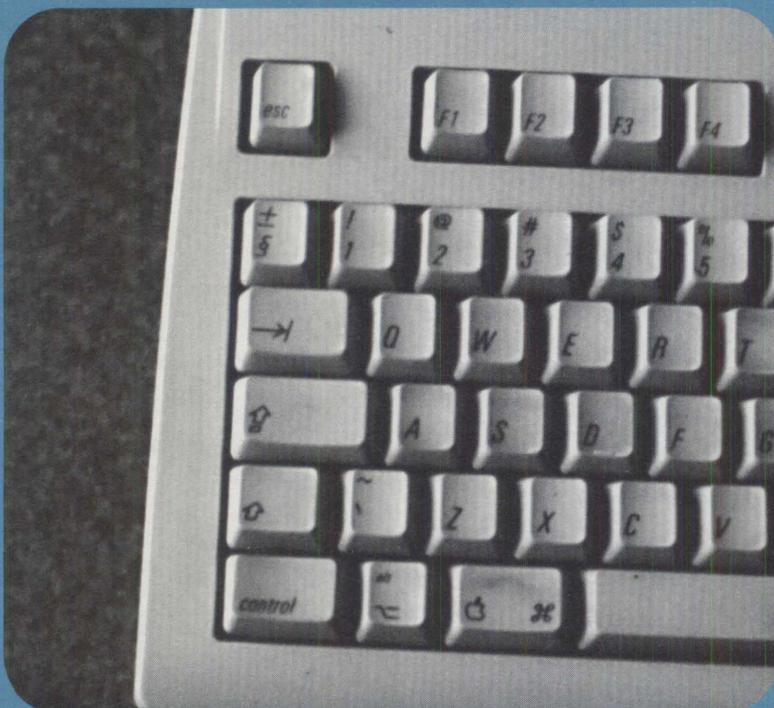
## chapter 2

# Socio-economics and employment shaping the way we work and live

The Information Society is bringing changes to work patterns, content of jobs and organisational structures. These offer individual's more choice in how, when and where they work, achieving a better balance between their needs and companies needs. But these changes can also aggravate existing segregation in the labour market, with employment conditions deteriorating and contractual arrangements working mainly to the advantage of the company.

**Amanda Griffith**, a European employment analyst and trainer from the IRIS asbl (B), considers the impact of the Information Society on employment and argues that women must be full partners in the economic and political decision-making that shape it, to ensure all can participate and potentially benefit.

**Wendy Harcourt**, a writer and researcher from the Society for International Development (I) looks at some of the global economic implications of the Information Society and suggests ways to avoid the creation of a world divided between the information rich and information poor.



## Employment in the Information Society

The Information Society will both define and be defined by the economic, political and societal forces in Europe and the rest of the world. An examination of the Information Society cannot rest with an exploration of the new and emerging technologies, forecasting future scenarios on the basis of technological potential. The Information Society will reflect the visions and accompanying decisions of individuals.

There is no consensus view of the future Information Society even amongst those who believe it will cause a significant shift in the way we work, rest and play. There are two models of post industrial society which could form the basis for predictions. A society focused on economic growth, individual achievement, competition and the free market or, one which works to realise the concepts of equality, cooperative working and welfare state systems. The technology can be used as a tool to support either model or, for visionary thinkers, it can be used to achieve a new social and economic structure, one based on sustainable development, for example.

When examining the future of employment against these models it is essential to include social aspects. Work is not just an economic phenomena. Changes at a macro level in the economy have repercussions on employment and working structures with inevitable societal implications.

### Shaping the Information Society

If the economic growth and competitive advantage model is the only orientation for the emerging Information Society then unemployment and societal disfunctioning will be viewed as a necessary cost of reaching this goal. This is an economy of opposites and therefore of conflict. It will result in a world of information rich and information poor; of employment for the highly skilled and unemployment for the low skilled; opportunities for the mobile and flexible, exclusion for those who lack flexibility.

To achieve a system where all can participate and potentially benefit, societal considerations and respect for the environment

need to be added into the equation.

The technological revolution offers the chance for society to be reformulated on the basis of equal opportunities, full participation of all members of society and the valuing and inclusion of difference.

If the ground rules include societal considerations, then there is a potential for democratic access to information and with that knowledge would come the flattening of inequalities; greater flexibility and autonomy for individuals; improved education, health and welfare services; more efficient use of resources.

### The impact on jobs

The Information Society is to some extent already with us. There are already examples of economic growth and job creation but there are also job losses. There are significant changes being made in work and organisational structures with the social implications of these changes in employment becoming apparent.

Examination of these in more depth can indicate the current trends.

*"The first countries to enter the Information Society will reap the greatest rewards. They will set the agenda for all who must follow. By contrast, countries which temporise, or favour half-hearted solutions, could, in less than a decade, face disastrous declines in investment and a squeeze on jobs."*

Sectors linked to the telecommunication and IT industries are clearly going to boom. The manufacture of telecommunication networks, data processing and communications systems and terminals (telephones, televisions and computers, etc.) and the development of programmes (new consumer information and communication services) are growth sectors.

The multimedia industry is a potential sector of growth for high value and high skilled

### Amanda Griffith

IRIS asbl, European network on women's training (B)

Ms Griffith is an expert in designing and delivering training on organisational change and the application of new technologies. As an employment analyst for IRIS asbl, she has concentrated on future employment and training trends from a gender perspective and with a European focus.

Extract from "Europe and the global Information Society"; recommendations drawn up at request of the European Council by a group presided by Martin Bangemann '94.

employment. Mobile communications are already creating substantial numbers of new jobs. In Germany about 30,000 new jobs have been created due to the success of GSM.

The increasing importance given to environmental issues is being linked with the potential for the Information Society, jobs related to the environment may be one of the few areas where jobs can be clearly forecast.

### Reaching global markets

The impact is not just sector specific, the technology allows companies to realise a global if not a universal market. This globality applies just as equally to the labour market as it does to the trade market. There are already examples of companies employing not only at a distance within the country but across continents. In a drive to find cheaper or more reliable workers multinationals are using the telecommunication networks to liberate the constraints of distance on who they employ. For example, ticket processing for European airlines is being undertaken in India, processing for insurance companies in the United States is undertaken in Ireland.

Access to the Internet and the creation of World Wide Web (WWW) homepages is creating the biggest yellow pages in the world. Companies as small as sole traders have access to a potential market of world wide proportions and with the same marketing edge as large companies.

The growth is quite clearly in the private sector domain. The public sector is not currently gaining from the changes.

The service sector which is primarily in the public sector currently accounts for 60% of EU employment. It has previously been protected from competition and is relatively unautomated. However, the provision of distance administration and telematic based services is expected to lead to significant rationalisation in public administration with front line and local services becoming redundant.

Previous technological applications have concentrated on replacing low skill repetitive tasks and have traditionally hit hardest at the blue collar workers. Some forecast that the Information Society will impact just as significantly on the white collar workers. If the potential is realised it is forecast that there will be a significant reduction in employment particularly in the industrialised North.

### Changing organisations and work patterns

This impact on white collar workers is linked to the predicted changes in work

organisation and organisational structures. Decentralised decision-making reduces the number of middle managers and increases the level of responsibility undertaken by front line staff. The requirement of these staff is to take on more decision-making and acquire new skills.

Here it is difficult to discriminate between what developments are due to the Information Society and which are attributable to the realisation of a free market economy. Currently, examples of applications of information technology and telecommunications often demonstrate that companies are using it to further and speed up a process which had already begun.

The outsourcing, downsizing and move to short term contracts were all solutions put in place by companies seeking to survive an extensive period of inflation and declining economic activity. Economic survival rather than technological innovation stimulated many of the new working practices. The technology has supported that process and helped to speed it up.

The impact on individuals and society of these employment practices is a cause for concern. Job insecurity, the requirement for high flexibility and mobility all carry psychological pressures and destabilisation for both the family structure and social cohesion.

Teleworking either from the home or from telecentres is forecast as the solution to greater flexibility for both companies and employees.

Flexibility can be seen as highly advantageous if the worker chooses to work from home to reduce travel time or to enable those in rural areas to continue living in their region. It is questionable when it is the only option for a woman to combine family responsibilities and paid work.

Current statistics demonstrate that the previous gender segregation in the labour market is being transferred to teleworking. Professional staff who remain as employees of the company are predominantly male. Female teleworkers are overwhelmingly in the low skilled routine work, usually on short term contracts or self-employed. For these teleworkers, the gains are solely for the employer and women's employment is returning to piecemeal work reminiscent of the early industrial revolution.

Global working leads to global time slots requiring workers to be available outside of the traditional daily working time. Teleworking also leads to a merging of the distinction between home and work. Faxes and modems make it increasingly difficult for



## Global participation or an information divide

Since the birth of the micro chip, information technology has been critical to economic growth and world development. The information age, based on informatics, micro-electronics and telecommunications, has spawned entirely new infrastructures, communication systems working environments and life-styles.

The interesting question with regard to the Information Society, gender and economics is whether the Information Society, with all its apparent promises of democratically available information, can change the male bias inherent in dominant economics. Will the Information Society increase or decrease current gender bias in economic activity? Will it provide opportunities for women to be more economically active, more involved in economic decision making, in short will it improve the quality of women's lives?

The answer to these questions cannot be a simple yes or no. The Information Society no doubt, offers opportunities for women, but the new technologies are part and parcel of an inequitable economic system. In order to explore the gender and economic dimension of the Information Society more thoroughly, we need to look at how different women's lives are affected (or not) by the Information Society - in their roles both as producers and consumers - and in the diverse geographic and economic opportunities women have to participate in the information age.

### The information divide

There is no doubt that the information age exists, but for whom?

There are 40 million people across 168 countries that are now wired to the Internet but more than half the connected computers are in the United States. In contrast, less than 10 countries are directly connected to Internet in Africa (Panos, 1995). In theory, the tools to handle information are increasingly more democratically available, but in

practice access to information is determined by competitive economic rules. With over 6.8 million documents available on the World Wide Web (WWW), the North-South information gap seems set to increase with many countries likely to remain on the fringes of cyberspace.

The information rich countries of the West, Japan and the NICs have spear headed the information revolution and are the major beneficiaries of the radical new patterns of communication. The new information tools such as Internet are creating for these countries what some have called the post-industrial age. For example, there are 80,000 companies on the Internet with more than 1.4 million Internet hosts (Panos, 1995). Particularly in the US, new forms of economic activity are emerging on the Internet, ranging from 'home shopping' where consumers browse through products on their computers and order directly from companies to the development of new commercial opportunities for information services such as companies selling news or financial analysis.

In contrast to this post-industrial cyberspace world, the information poor countries: the agricultural based economies in the South (and the former Soviet Bloc and East Europe) lack the information, telecommunication system, infrastructure, libraries, trained personnel and technology required to enter the information age. The South does not have the ability to process and use information on an international scale, nor does it have the capacity to mobilise investment capital or conduct the research and development necessary to allow it to compete with the powerful players in the information revolution. As John Mukela of the Centre for Development Information in Lusaka, Zambia, warns, 'Information based production processes will increasingly elude developing countries and consequently exclude them from advanced manufacturing and world trade - thus further exacerbating their poverty' (Panos, 1995).

### Wendy Harcourt

Society for International Development (SID) (I)

Wendy Harcourt is Director of Research, Information and Communication at SID in Rome. She currently edits *Development: Journal of SID* and coordinates the SID Women in Development Network. Ms Harcourt is a member of the Women in Development Europe (WIDE) Steering Group. She has also edited *Feminist Perspectives on Sustainable Development; Shifting Knowledge and Boundaries* published by ZED Books in 1994.

### Using the Internet

The Information Society appears to offer much to women in the information rich countries of the North as consumers of the Information Society: new paths to communicate interactively in cyberspace from their homes and offices and new jobs and roles for women where traditional feminine skills are valued.

Women working together during the recent spate of United Nations Conferences held from 1992 to 1995, for example, have been able to use information technologies to build strategic knowledge to change the direction of the international debate on sustainable development. The success of the women's caucus in the United Nations Conferences or Summits on environment, population and development, social development and on women was largely due to the long term preparation and networking by women NGOs through skillful use of information technologies. Declarations, documents and strategy plans were sent by fax or e-mail well in advance of preparatory meetings and the conferences to hundreds of women's groups. The WWW site was daily updated with the latest versions of the official document and in the NGO lobbying process copies of the documents were distributed on floppy disc and corrected on personal computers. Cyberspace networking allowed for continuity between events and increased the possibility for women to share information and ideas in the follow-up at the local level. Such activity around these conferences illustrates the creative use of information technology by thousands of women.

As this example illustrates, if a woman can afford a computer and has access to a modem and good telephone lines, potentially she can enter into the information rich world of Internet from the confines of her own home. The question is how many women take up this opportunity? From surveys of users of Internet it appears that women constitute a minority in cyberspace - it has been estimated that between 15% - 30% of the total net surfers are women in North America, Europe and Australia (*Schmeiser, 1995; GVI's Surveying Team, 1996*). However, this percentage is increasing, particularly among the

younger age group (12-25). Such a gender imbalance indicates an inherent male bias in the way the Internet has been designed so that women's interests are not clearly reflected.

### The Information Society at work

The education received by women and the jobs they occupy does not facilitate their access to the better paid and higher status jobs of the Information Society. In addition, the demands of women's social reproductive work with their families and communities continues to limit their possibilities to participate actively in the information age at the same level as men.

Yet some argue that the new management style of the information age relies on traditionally female skills, that is team work, service orientation and communication skills which could advantage women in paid employment over men (*Mitter 1995, p.14*).

Another apparent advantage for women created by the information age is the growth in out-sourcing production, particularly in information-intensive activities such as data entry, analysis of income statement or development of computer software.

Out-sourcing has produced some interesting possibilities for women seeking to balance social reproductive work with productive work. But the sexual division of labour remains, with men working at home found mainly in the professional occupations while women are in the clerical occupations paid at piece rates. Teleworking has not had 'the impact on daily life that its potential flexibility promised, and seems merely to capture and relocate workplace division of labour into the home' (*Webster 1995, p.321*).

In addition, telework does not seem to have facilitated childcare with women finding it difficult to combine the two. In fact, according to a study in the UK, women are increasingly being discouraged from using telework to combine work with childcare (*Webster 1995, p.321*).

In the information poor South countries, the outlaying costs of a computer and



modem combined with the poor telecommunication infrastructure means that 'surfing the Net' can be prohibitively expensive. Even sending faxes can be financially restrictive and logistically difficult. So that though opportunities for women to participate in the information age exist, they often lack the access to resources. At the same time, the information and communication technologies have facilitated a massive restructuring of work as industry searches for cheaper labour regions to relocate.

Transnational corporations and their coordination by means of computer and satellite technology now dominate urban industrial employment in the South with 150 million people working directly and indirectly for them (*Mitter 1995, pp.11-12*). Telecommunications technologies have led to the relocation of data entry, clerical jobs and garment production into low wage, low overhead regions in the Caribbean, Latin America, South-East Asia and China. These regions offer cheaper skilled labour with adequate infrastructures. Many are women. In Brazil, for example, women account for nearly 48 percent of all information processing jobs (*Mitter 1995, p.14*) and in India women occupy nearly 20 percent of software or related jobs.

### The paradox of the information age

The Information Society has made the dissemination of information, for those with access, far easier and far more pervasive than ever before. But it has not created a multi-skilled, multi-task, undifferentiated workforce, rather it has replicated the established gender division of labour and patterns of work. This is reinforced by a gender bias in the process of technological change which defines men as more technologically capable than women.

Yet the information age offers radical organisational and technological innovation.

Women who have access to the benefits of the Information Society have shown how communication technologies can be used creatively to help reshape political and economic agendas. There is still a need for a deeper understanding of the inherent gender biases of technology and economics which underlie the information age if cyberworld tools are to fashion a more equitable and just society. ●

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## chapter 3

# Consumer services the good with the bad

The way new information technology delivers services brings challenges as well as choices for society. Through your home computer you can shop, get information, speak to friends, monitor your health, access pornography and eventually, even vote.

**Jane Paul** (BECTU, GB), an equality expert, looks at the implications of these new interactive services and asserts that they could also affect people's perceptions of relationships and social roles. Telehealth is explored in greater detail by medical sociologist **Marjorie Gott** (Gott Associates, GB) and armchair shopping by **Jane Paul**.

The controversy surrounding sex and pornography as an interactive service, for example on the Internet, is discussed by **Georges Rémission**, a researcher and the director of the Health Observatory of the Region of Brussels (B).



## Tailored services in a virtual world

**W**hat do people really want from the new interactive media services and what impact will they have on society? Is the armchair really the shopping mall of the future, bringing banks and supermarkets, dress shops and travel agents, jewellers, bookstores and even your lottery tickets to the living room? Will it open up a world of convenience, communication, choice and opportunity at the touch of a button? Or will new multimedia technology produce a virtual world which further separates individuals from each other and from the real world of shared experience outside, shaping a world of virtual stereotypes?

### Jane Paul

Broadcasting, Entertainment,  
Cinematograph and Theatre  
Union (BECTU) (GB)

Jane Paul is the national Equality and Health and Safety Officer for BECTU in the UK audiovisual sector. She is a Director of Women in Film and Television (GB) and has been actively involved in the work of the European Commission's Steering Committee for Broadcasting and Equal Opportunities, and in the ETUC (European Trade Union Confederation) Women's Committee.

Opinions are divided but one thing is clear - we are seeing massive changes in the ways information technology can deliver services, allowing interaction with electronic or automated services. Individuals can select from an extensive "menu" of alternatives (including alternative storylines to soap operas, self-selected news or camera angles) or manage accounts and purchases without direct personal contact. These changes bring challenges as well as choices for society, particularly for women.

The changes brought about by the new interactive teleservices are likely to impact most on transactional businesses - not only on retailing but also banking and finance, insurance, travel and leisure services. But they are also likely to transform other activities, including domestic energy control and postal services, educational and public information services, as well as radically altering television programme content, scheduling and viewing patterns.

Changes in peoples' jobs in these areas will follow, as well as in users' and viewers' behaviour. In sectors where women predominate, such as health and education, or in data processing, banking, finance, and retailing, women's jobs are likely to be the most affected, with changes in job content, location, supervision and career prospects. Job losses in the high street are likely to be accompanied by increased teleworking and casualisation. In bringing services closer to customers and users in the home, new interactive services increase distance between customer or client and the service worker, and between workers themselves. Distance learning and remote

communication become possible but opportunities for social interaction in person (rather than on screen or on line) are greatly reduced.

### Meeting needs

Interactive technology has developed rapidly to meet business and consumer demand, using both internal and external communications systems, often providing access to specialist networks or services. But home services are still in their infancy and still largely in their trial stages. The technology for home-based interactive system varies, as does picture quality. Telephone-based systems are competing with the Internet and with cable and satellite companies which aim to develop digital service delivery systems direct to homes.

Subscription charges, pricing and access arrangements are all important considerations for prospective users, with trials seeking to establish not only levels of consumer demand and viewing patterns but also what people will be prepared to pay for different types of services.

Accessing services will inevitably depend on a number of factors: where users live and how much they can pay - directly, for the service itself, and indirectly, for the necessary equipment. Ability to purchase goods and services on offer may also depend on personal credit ratings and electronic "cash" transactions. The danger is that people will be further divided into the "information rich" and the "information poor" - another version of the "haves" and "have nots".

Trends away from collective social activity in services towards depersonalised but individually accessed interactive services could also restrict access to traditional service delivery or opportunities for social contact. Ironically, these developments are happening alongside supermarket chains promotion of singles nights - shopping evenings marketed as opportunities for new social contacts between shoppers. Just as local shops and those without transport suffered from the siting of hypermarkets outside towns and communities, teleservices can mean more opportunities for those with access to facilities and credit, but less choice or opportunities for economically, geographically or socially disadvantaged sections of the community, further impoverishing them and increasing risks of discriminatory social and economic divisions.

## Universal access

Concerns about conditional versus universal access are not just centred on the financial status of individuals or whole communities, although this affects development, direction and targetting of services and investment. Other important factors include geographic, linguistic and cultural barriers which need to be overcome to provide universally accessible services offering everyone information and choice. This raises serious questions about whether investment in infrastructural developments will extend to cover remote or outlying rural areas. Financial returns here would be poor compared to densely populated conurbations.

Cultural and linguistic diversity and plurality are also crucial to social, economic and political inclusion in the new interactive Information Society. Decisions on the control, direction and content of interactive services will affect the quality, quantity, diversity and suitability of subsequent choices available to users and consumers. This in turn will affect democratic and political processes, participation and public opinion, and economic and social relationships.

Bringing the marketplace - and maybe one day the doctor and even the polling booth - into the home has enormous implications. With the development of teleguidance and advice services ("doctor-on-demand"), questions of security, confidentiality, objectivity and reliability of information exchanged become critical to service standards. Opening up access to both general and specialist information and advice services brings enormous potential benefits but also carries huge risks. Safeguarding people against inaccurate, biased or misleading information, and securing confidentiality and privacy of information against sophisticated computer crime or unauthorised access, will be essential.

Interactive services can also affect peoples' perceptions of personal relationships and social roles. Interactive telex, for example, allows viewers to "command" screen images to behave in particular ways or perform specific tasks at the touch of a button, selected from a range of pre-recorded options. This can reinforce the subjugation of women (and sometimes children) rather than promoting more equal relationships between the sexes. Educational materials and advertising methods which perpetuate traditional or discriminatory gender and race stereotypes will

hamper progress in combatting racism and xenophobia or promoting gender equality.

Public service broadcasters, and the public sector generally, have a vital role in protecting and promoting wider public interests. Affordable, comprehensive, high quality services are needed, providing reliable and understandable information readily available to people through a variety of different means. As information becomes more individualised with developments in interactive teleservices, so the risks of social fragmentation, isolation and discrimination may grow. Control and access are not just questions of affordability - they are also about equality, democratic participation and democratic deficit.

As a recent report from the European Commission's Equal Opportunities Unit emphasises, equal access and equal opportunities to shape new products and services are vital in a democratic Europe because these in turn shape the new social awareness, knowledge and practices brought about by their use.

*"...the issue of control is critical in the Information Society. No change is therefore likely to be meaningful unless it involves a shift towards equality of representation at all levels in the decision-making processes in the Information Society"*

"The Information Society and  
Gender - Building The European  
Information Society For Us All"  
DG V.A.3 - January 1996

## Telehealth: monitoring your own well-being

**T**elehealth is the promotion and facilitation of health and wellbeing with individuals and communities, by use of telematic services (1). It stands in marked contrast to telemedicine which is principally concerned with electronically diagnosing and monitoring individual (dys)functions. Telemedicine has been the major growth area in "health" telematics in the last two decades. Unlike telehealth however it is principally concerned with "after the event" illness care, rather than (preventing the event) health and its promotion.

Telehealth offers a new direction for health and social welfare in the coming millennium. The high tech, high cost "curative" approach to health care that has dominated the 20th century has not paid off. A more responsive, and responsible approach is required; the hallmarks of which will be an orientation towards people and communities, as opposed to professionals and institutions, developing and using flexible skills, resources and opportunities.

### Marjorie Gott

Gott Associates (GB)

Dr Marjorie Gott is a medical sociologist, specialising in the fields of health promotion and health telematics. Prior to setting up Gott Associates, Dr Gott worked at the British Open University developing open learning teaching materials for health professionals. She has also worked on international collaborative research projects in the fields of health promotion and nursing.

### Women and telehealth

Health and welfare services, account for one of the major sources of employment in Europe. The majority of care workers are nurses and the majority of nurses are women. Women, as care workers, are tending to develop and build their expertise in the area of health, rather than illness care. In doing so they are recognising the primacy of a social as opposed to an exclusively medical model of health to explain all individual and collective ills. Increasingly, it is acknowledged that physiology is only part of what makes a person. There is now a resurgence of interest in holism and a focusing on health promotion, as opposed to unlimited resourcing of illness care. An example of this shift (from illness to health) using telematics that concerns women exclusively is that of pregnancy.

It is only in this century, and in "developed" society, that pregnancy has come to be regarded as an illness. It is not. Very few women need intensive monitoring during pregnancy and those that do can do it for

themselves. A project, carried out in a deprived area of Wales, has shown how even "at risk" (high blood pressure, previous still-birth etc.) pregnant women can, with remote and limited face to face midwife support, manage their own pregnancies. Extracts of a case study taken from *Telematics for Health* (1) illustrate how domiciliary fetal monitoring, (often combined with remote blood pressure monitoring) is promoting the health of pregnant women.

The Domiciliary Fetal monitoring scheme is part of the Cardiff Integrated Antenatal Care scheme. Fetal traces are recorded by women themselves, at home, and are transmitted over the telephone, using a modem. Traces are received at the Obstetric Unit and any necessary care initiated:

"It keeps women at home. That's where they want to be and it's the best place for them. All they need is reassurance and they can get that by monitoring themselves... and they're actually very good at it. They get very good tracings and keep their records well... in fact they put the hospital to shame; their records are better than ours many times!"

(Research Midwife)

Two other important health telematic innovations that can promote the health of young women are telephone health lines and telephone linked personal computer bulletin boards, where health and social issues can be discussed. Young girls make particularly heavy use of the "Relationships" areas of bulletin boards. These allow an interactive exploration of behaviours instead of the move traditional "expert" devised forms of health education which concentrate on limiting behaviours (just say "no"). The result is appropriate and sustainable health choices being made.

Making good health choices relies on having good health information; women of all ages need access to cheap, relevant and accurate information on health. This can be offered through telephone health lines which are automated telephone services which play, on user selection, recorded messages on a variety of health issues. They can provide comprehensive, up-to-date information together with sources of further help.

Services are low cost and easily accessible, requiring only access to a touch-tone telephone. Health Lines are well liked and heavily used by women. They are seen as effective because information, often on sensitive topics, is readily available in a confidential and non judgmental form. Their growth is proliferating rapidly. The danger is that some Health Lines are provided by commercial organisations to sell their products. Information given is therefore biased and can be expensive. Far more useful is a local community based Health Line which draws its information from various sectors of the community and is offered and monitored by experienced local women.

#### Telecommunity support services

As people age, some will become frail and in need of social and/or medical support. All the evidence is that people want to stay in their own homes and not be cared for in institutions. In parallel with this, throughout Europe, state funded institutional care is rapidly declining. The Europe-wide social policy move towards care in the community is currently failing because of a lack of adequate support services and structures. Support of the frail elderly and those with special needs is a major social policy issue. Lower cost more individually attractive solutions can be found using social and medical technologies as part of a locally managed and coordinated care package. This involves building a telecommunity service designed to promote and support health care. For this to work, there must be a clear recognition that women can no longer be assumed to be the principle care givers in the home. Domestic and social responsibilities must be shared by all women and men in a Community. In an equitable and healthy society it is axiomatic that all workers have domestic and social responsibilities. Sharing and meeting these responsibilities will promote overall societal, as well as individual health.

A telecommunity support service involves a neighbourhood centre which is run by a combination of paid and unpaid staff which can network support services (such as electronic alarm surveillance for the frail) out into homes, and which networks with statu-

tory (government) agencies and other providers to produce an electronic highway to the range of information and other support services that a community requires. An exciting and potentially major innovation that can be offered as part of the telecommunity is physical and mental health promotion by using videotelephones to integrate isolated citizens (frail elderly, disabled) into their local community. Videotelephones in the home, linked to a local social support agency, provides housebound citizens with a means to communicate with helpers in the centre, be remotely visited if necessary, but also, perhaps more importantly, take part in the social activities offered, such as exercise and homecraft work. According to a Centre Manager the goal is "to integrate the town into the house."

Another exciting telecommunication possibility for housebound people is participation in local social organisation and government (teledemocracy). Participation can be done through videophone, or, less expensively, through telephone to a designated number. Participation in local democracy is also growing through Neighbourhood Forums. These local Bodies are concerned to develop the infrastructure of the local community. They are predominantly managed by women. Participation in meetings increasingly will be electronic as Neighbourhood Forums become one of a range of electronic services offered by a Telecommunity Centre.

As women throughout Europe tend to outlive men, health promotion and care giving is a major issue for women. The most successful health telematic services are those in which professionals and non professionals work together recognising each others expertise and skills. Women however are in urgent need of development of their information technology and management skills. Generally, when women have been involved in health telematics, it has been in repetitive tasks (for example collecting routine data for medical screening) rather than in systems design. If technology is to realise its full potential for health, and it has enormous potential, women need to become enthused by it, and become familiar and comfortable in its use. ●

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## Armchair shopping

**E**lectronic and direct-to-home services of course are nothing new. Armchair shopping in the form of mail-order catalogues has been around for decades, and television advertising has also been available through teletext and similar services for years. Television shopping channels have also been available for some time, particularly in the United States. But on-screen retailing ("electronic shopping") still only accounts for a tiny proportion of total retail sales, even in the US which led the way in television shopping in the 1980s. Teleshopping channel QVC ("Quality, Value, Convenience") was launched in the US in 1986 along with 18 other channels launched that year. Only QVC survived. In 1995, QVC had four million customers out of 50 million cabled households in the US. The disappointing results of this experience has turned attention to the Internet in the USA as a means for future development.

There are currently about seventy home shopping projects around the world, a figure likely to reach over five hundred by the year 2000. The first interactive television service in Europe was started in 1993 by Videotron, a subsidiary of Le Groupe Videotron (Canada). In Montreal, their interactive division, Videoway, has developed an interactive cable television system known as UBI (Universal Bi-directional Interactive) which gives full two-way communication including a printer, keyboard, credit card and smart card slots. Secured by a PIN, the system operates independent of the cable TV subscription, while using the home TV screen for display.

Cable penetration in Europe varies considerably, as do national interpretations of European regulations on broadcasting, advertising and telecommunications. Germany has not allowed home shopping channels, whereas in the UK, which has the most liberal interpretation, the television channel has been allowed to operate home shopping because it is not considered to be advertising if the channel itself actually owns the goods

and services it promotes on air. However, European regulations may change if the current revision of the Television Without Frontiers Directive leads to relaxation in television advertising rules. Similarly, the prospect of future Internet regulation may also mean changes affecting information, services and products accessed via computer networks, most obviously in relation to copyright but also advertising of sexual services and sexually explicit, illegal or abusive material.

The expanding range of interactive services on offer to consumers has resulted from technological advances, but future prospects remain uncertain. Hardware and infrastructural investment costs are high, while consumer demand and patterns of use are difficult to predict. From a commercial perspective, despite media hype, this is a risky business.

UK interactive television trials (dubbed "service nurseries") are being conducted in several cities to assess demand for a wider range of interactive services. These commercial trials involve banks, financial and insurance services, public utilities, retailers and other businesses as well as local authorities, public services and the voluntary sector. 24-hour services on offer include home shopping, telebanking, interactive advertising, video games, interactive education services, video-on-demand, interactive television programming, music and children's television, plus local information and advice services. ●

### Jane Paul

Broadcasting, Entertainment,  
Cinematograph and Theatre  
Union (BECTU), (GB)

Jane Paul is the national Equality and Health and Safety Officer for BECTU in the UK audiovisual sector. She is a Director of Women in Film and Television (GB) and has been actively involved in the work of the European Commission's Steering Committee for Broadcasting and Equal Opportunities, and in the ETUC (European Trade Union Confederation) Women's Committee.

## Sex and pornography, an interactive service

**W**hen we talk about the "sex trade", we suppose that when a "demand" exists that the "supply" will follow, even though the latter may spark or influence the demand.

First the demand. It has many faces and covers the entire range of what is known as the sex trade. It ranges from a market for films and pictures to the purchasing of young girls or children.

Then comes the supply. The men and women who produce, propose, research, organise and sell the product.

Finally, there is a third aspect, that of the "mediums", the means, instruments, methods and techniques for supplying. If we take trafficking as an example, a surprising variety of means - for the most part legal - are used to match supply and demand for marriage or adoption agencies, organised tourism, etc... to mention just a few of the better known.

A certain number of measures exist which allow us to either modify the demand or to halt the supply through legislative provisions which would make participation in certain activities punishable by law.

It cannot be stressed enough just how difficult this task is within the framework of the police and justice systems - limiting it to the "penal" and "police" aspects of the topic - and this, at several distinct levels:

- the definition of acts which are or are not illegal, when, on what grounds and based on what criteria or indicators;

- the search for those who collaborate or are responsible and;

- the material proof of the illegal act.

To this, two more factors can be added:

- First, sex trade networks operate internationally in contrast with the diverse national policies, with little coordination between countries, trying to combat them.

- Second, the complex entanglement of financial interests and collusion at all levels!

Some countries, such as Belgium (1) have taken important steps regarding preventive and coercive measures. Europe only recently woke up with the *Report on the Traffic in Human Beings* by Maria Poala Colombo Svevo for the European Parliament's Committee on Civil Liberties and Internal Affairs (1)...even though for many years now both the Council of Europe and the European Parliament as well as other public bodies have multiplied initiatives and analyses. In a more general manner, it should be said that if we wish to achieve efficient and integrated solutions, there must be coordinated global participation and a good strategy at the highest level.

### The information revolution

What is happening in the information and communication field constitutes a true revolution, characterised by its high technology, its speed, its complexity (offering an incredible web of contacts, networks, wires and routes) and its nature (no need to spell it out).

We had just begun, at international level, to reach a certain level of knowledge, understanding and awareness of the sex trade issue (traffic in human beings, sexual exploitation, prostitution, etc...) when the "cybersex" storm hit and made things all the more difficult.

With regard to our topic, we will list the major applications:

- Information, reviews, pictures. Taking the Internet alone as an example, from key word to key word, one can access a vast array of pornographic and erotic literature.

- Announcements, addresses and "mailing" lists to which we can subscribe.

- The traffic in young or under-age men or women, for sexual exploitation. There is no doubt that modern information and communication tools will further facilitate the exchanges and transactions (in terms of supply and demand) and complicate the work of investigators, the police and the courts.

### Georges Rémon

Observatoire de la santé de la région de Bruxelles-Capital (B)

Georges Rémon is the director of the "Health Observatory" of the Brussels-Capital region. He was responsible at the King Baudouin Foundation for a report on prostitution and sexual exploitation. His numerous articles address social marginalisation and poverty, social work and the traffic in humans.

- Interactive exchanges allowing not only for discussion forums, but also access to erotic pictures which the user can manipulate.

- The sophistication is complete with the virtual site, which is an interactive and multisensorial site. People decide to leave real life behind and to live in a world of situations and realities which are entirely numeric. What sex merchants offer are possibilities for the most realistic situations where we entirely forget that we are in a virtual world.

### A purely commercial logic

"A team of researchers was able to identify consumers of on-line pornography in over 2000 cities in the United States, Europe and even China, where the mere possession of an X-rated video is punishable by death. They indicate that 98% of those consumers are men and that 1% are women paid to contribute a sense of humanity to the hot discussion forums. The most important discovery, however, lies in the very nature of the pornography itself. The overwhelming percentage of consumer demands seem to concern deviant pictures which go far beyond the limits of the acceptable." "Internet pornocrats are true professionals with a keen sense for marketing and, for some, with incomes surpassing one million dollars per year." (2)

Let there be no doubt: the new information and communication networks are only a means, one more, for supply and demand to connect. The terms of the debate remain fundamentally the same.

There is currently a raging debate going on in the United States. Here in Europe, as elsewhere in the world, pornographic photos, films or pictures involving children or matching certain characteristics (which vary from country to country) are prohibited. Then the Internet comes along and, with it, the free circulation of these same pictures and related data banks. Big debate in the United States on the principle of establishing a censure.

- At what point, and according to what principles and norms, should we sanction the manufacture, production, distribution, circulation, reception and use of certain information (of a racist nature, for example) or publications? Must we? And if so, how?

- What then of the right to privacy and civil liberties? Where do we set the limits?

- Technically speaking, how do we go about controlling - and is that possible and realistic - in one country, the contents of publications arriving via Internet from other countries and continents with different, sometimes contradictory legislation and practices?

We know how difficult it is already to trace the channels of the sexual exploitation and human slave trade networks, for example, to find a missing girl. All the more so in cyberspace. And when, as is the case currently, we find ourselves in a "trans, supra and extraterritorial" world, all political, legal and administrative bearings are lost.

- Regulate access? To what and when? On what grounds?

Much has been said about what happened in Germany with the company CompuServe. CompuServe is an enormous "server" with paid access to dozens of networks. Among the thousands of networks and sites found are those of the sex trade. Accused of diffusing pornography involving children, CompuServe decided (and technically its very easily done) to block its customers' access to the networks in question. This sparked a flood of protests and debate. The result: access is blocked from Germany, but only for networks and sites found in Germany. Therefore, it is very easy for those in Germany who wish and can get around the obstacle and access sites located outside of the country. On the Internet, which is not run by anyone (just yet), everyone has access to everything, even if the road is sometimes long and winding.

As we said earlier, freedom is total on the new global information networks. And total freedom means freedom of broadcasting, freedom of reception and freedom of exchange...and this includes the sex trade. But when it is a question of a forum for pedophiles when its users protect themselves and protect the information exchanged (encrypted code)...what can be done? What position should public authorities take? To be able to prosecute and regulate, there would have to be a common policy among all countries (which is far from being the case) and surveillance. To do this, there would need to be access and for there to be access, knowledge of certain codes and keys.... Therefore, encrypted messages would be restricted...which would most certainly expose quite a few private individuals. If encrypted code is an essential means of preserving privacy, it won't do for Europol, Interpol, the FBI and the national police forces.

### The educational challenge

The area in which we feel, in the short term, the greatest number of things to do and initiatives to take lies in the only area which we can entirely control if we wish to: the education of children as well as adults.

The first step begins with society, to bring about a revolution in morals. Our society suffers from an individualism

entirely focused on satisfying personal needs.

The second step, without a doubt just as important and fundamental as the first, is changing attitudes and the relationship between women and men. Never before has there been so much progress towards advancing the promotion of and respect for women and equality between women and men, while at the same time we notice a marked increase in the sale of sex.

Maybe it is collective psychotherapy which men most need. This would be a long and difficult process. And, in the long run, we will have understood that it is in the field of education, training and the permanent education of children and adolescents where we must concentrate our efforts.

The issue of the sex trade also poses complex questions related to the fundamental rights and liberties of the individual, the protection of the physical and moral integrity of persons, the battle against discrimination, and the protection of minorities, children, etc.

Thus, the third step is educating the population as to the rights, duties and liberties of the individual. This type of education has proven to be essential already from childhood, throughout a person's studies and in their continuing education.

### Global issues, global treatment

The sex trade constitutes - from certain perspectives (the traffic in human beings, contemporary forms of slavery, etc.) a topic of permanent reflection and discussion at the United Nation's Committee on Human Rights. Similarly, we can hope that Europe too will launch an all-encompassing debate taking into account not only all aspects and questions, but also the sensitive issues involved, in order to have every chance of having an impact in Geneva and at the U.N. Jacques Delors often underlined the advantages of an economically and politically strong Europe in the light of the global financial and economic stakes. This is no less true of themes such as those we have just touched upon! ●

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# Looking ahead...

## ... the dream of universal learning?

The Information Society seems to provide the framework and the technological instruments to realise the dream of universal learning and to achieve a global collaboration in such an effort. Super BBSs (Bulletin Board Systems), i.e. the intermediary networks and their connections together under the name Internet (hence the term "network of networks"), are responsible for a communications explosion, until recently limited essentially to the research world (first military, then scientific).

### Silvana Panciera

CASI-UO (B)

Silvana Panciera is director of the centre for orientation and training in new technologies at CASI-UO, an organisation for the re-integration of unemployed youth using information technologies. In 1995 she was awarded the Belgian "Women of Europe" prize for her work on European citizenship and a social Europe.

Technically, a computer, a modem, a subscription to a "server" computer and a telephone line are all that is necessary for anyone to tap into the nerve centres of knowledge (universities, research centres, libraries...) and to participate personally in exchange and diffusion of ideas.

"Internaut, collective intelligence, virtual global university, technocreators, ..." are terms which describe a still very unstable reality with imprecise boundaries. Some are overjoyed by this power "that offers the manipulation of a weightless universe, but not without intellectual difficulties nor without risks" (1). Others are horrified to see inequalities growing or new ones on the horizon. How can we not be concerned when "more than one half of human kind has never dialed a telephone number, and when there are more telephone lines in Manhattan alone than in all of Sub-Saharan Africa" (2).

Will cyberspace be humanist or technocratic? Will it become a space for the democratisation of culture, a place of free speech and information for those most in need, or will it be another vast competitive market? In the current debate on the development of this new mass communi-

cation (nearly 50 million subscribers and growing), there can be no doubt that such interactivity of everyone with everyone opens the door to a different future.

"Communication is changing: we are moving from an active monopolist transmitter which broadcasts to multiple passive receptors, towards a scenario where innumerable and theoretically unlimited entities are both emitters and receptors, and what is more, are totally active" (3).

### The origins of a dream...

First appearing in the culture of ancient Greece, where less importance was given to the author of information than to the guarantee of its truthfulness, the dream seems, according to Augusto Illuminati (4), to have been cultivated by amongst others, Averroès (born in Cordoue in 1126, expert on and translator of Aristotle). He believed that potential intellect could be turned into something impersonal.

### ...and today's cultural issues

Today, the word information is more widely employed than knowledge or culture. The use of this word, when talking about practices involving millions of users, seems to me in keeping with reality. "Information" implies the notion of a message which accepts a certain bias (according to indicators available at that time and without necessarily being able to integrate them into a larger context) and subjectivity (not everyone communicating has the training of a university researcher for the production of knowledge). It will be a challenge for future education to integrate the learning of skills to produce information of all kinds. The value of the communication device, outside research environments in which it has been used since the sixties, depends on the trust we can place in such information and its authors.

Deviations will certainly occur, as is already the case: transmission of messages which go against our principles (e.g. racist messages) or our morals (prostitution or

pedophile networks already uncovered). This does not seem to be a problem arising from the Information Society itself except for the area these networks can now reach. A deliberate effort to maintain the non-confidential nature of messages accessible to every Internet navigator might discourage such actions. In any event, information provided by subscribers should be checked at server level by ethical committees and a collective vigilance should be encouraged in the same way as when we receive racist leaflets through our letter-box.

#### Unequal access

Although the central purpose of this article is not to talk about unequal access to the Information Society, I would nonetheless like to draw attention to the cultural consequences it has on the access to information and the democratisation of knowledge. Inequalities exist not only between North and South (access to electricity, telecommunications density and the distribution of computer equipment) but also between the countries of the European Union. While the average telecommunications density (number of telephone lines per 100 inhabitants) is 44 in the Union, it varies from between 32 in Portugal and 57 in Denmark.

What differences will appear in the near future between Finnish students, with their school libraries equipped for Internet access, and Greek or Italian students in classes where access to the computer is still limited? Inequalities between rural and urban areas will also remain as long as the concept of a "universal service" is still just a concept. Telephone costs for consulting the networks are not based on the local tariff wherever you are located. France Télécom, for example, recently compensated for this inequality: "France Télécom has decided to put an end to this unfair situation as part of its public service mission, but also in its own interests" (5). From now on, all Internet subscribers in France can go on-line for the price of a local phonecall. But that principle is not yet standard in the Union despite the fact that 1 January 1998 will mark the liberalisation of

the telecommunications market (except in Spain, Portugal, Ireland and Greece).

The principle that the European Commission defends is the following: All citizens of the Union, whatever their standard of living or place of residence, must have guaranteed access, at a reasonable cost, to a range of telecommunication services from the telephone to data transmission to the facsimile, which will allow them to participate in the development of the Information Society (6). Although not explicit in its definition of "reasonable cost" nor of how to make it reasonable, the principle at least places this "activity" in the same category as others which must be protected by the public service.

Are these differences between regions only due to technical infrastructures or a consequence of cultural difference? Personally, I believe it is a consequence of a cultural concept of the value of knowledge and the link between knowledge, culture, the meaning of our existence and our image of happiness.

Having addressed two questions, specifically the change in communication patterns and the cultural consequences of inequalities, I would like to take up two others: the issue of languages and that of culture and its diffusion and creation.

#### Global language

In an interview with Eur-op News, Colette Flesch, Director-General of Directorate General X (Information, Communication, Culture and Audiovisual Media) pointed out that "Internet does not impose a particular language on users" (7), but that the choice of the communication will determine how many people can understand the information. Hence, English dominates for the moment, not only because the majority of Internet subscribers are of Anglophone origin, but English is also slowly acquiring the status of international "lingua franca" as was the case with Latin during other periods in history.



But despite the fact that everyone agrees on the importance of developing cultural and linguistic diversity in order to enrich the European identity and common heritage, it is in my opinion utopic to believe in an equal status for all languages in international communication. Just as for every citizen, the language of the heart (the mother tongue) and the working language(s) (exchanges) co-exist, so will tomorrow's citizen have to juggle at least two or three languages - one of which will be English - whether we like it or not. The usage we make of these will depend on the type of exchanges and the area of influence we wish to reach. In any case, international English will never replace our mother tongue nor those we learn for reasons other than the universalisation of exchanges. It should also be said that in order to have a greater number of languages on the networks, what could be better than having a greater number of Internet navigators with their many different tongues.

#### A society of the imagination

The last issue to be addressed is that of culture in its two facets of diffusion and creation. With regard to its diffusion, the networks and multimedia offer fascinating possibilities to say the least. Visiting museums and discovering in greater depth the life of a little-known artist, hearing symphonies and re-playing them isolating the instrument of your choice, consulting entertainment guides, making reservations and paying by credit card, downloading an old, out-of-print book and printing it out at home: these are just some of the initiatives possible, and not even the most extraordinary. Some speak of a revolution which could solve the problem of transmitting knowledge and could advocate, through the expansion of multimedia, a shift from the present "Information Society to a society of the imagination in which information will be exploited in a more interactive, more constructive manner" (8).

In this euphoric evolution, will there also be room for cyberart? For those who believe that there is art in publicity, the answer is yes: there will be the art of WEB pages. The

answer is also affirmative for those who believe that it is just a question of time, linked to social acknowledgement, the same road already travelled by photographers, comic-strip artists, scriptwriters. The "technoartist", whether computer graphics artist, pyrotechnician or lighting specialist, will also have to cross over the line separating the technician from the artist.

Experiments such as the music of Jean-Michel Jarre produced by computer or cloning actors for the film *Twenty Thousand Leagues Under the Sea* carried out by Richard Bohringer, indicate the replacement of the human element in existing arts. And the still fragile and little-known initiatives, which under the label "interactive novel" are trying to develop a new literary genre, a product combining literature and new technologies, advocate a collective creation from the networks and multimedia tools. The desire of these artists is that "art will be a moment in time and no longer a piece of property. To prove it: its text generator will self-destruct after 300,000 pages. A way of giving an end to a story that has none and of rendering its full value to the moment". (9)

Even if this blossoming technological age is accompanied by mythology, euphoria and a desire for world-wide conviviality which provides us with the elements for a new kind of humanism, in my opinion it nonetheless raises some concerns:

- fictitious encounters which lack human qualities that cannot be digitalised;

- a global village, with no regulation of collective bonds stronger than its self-contented individualism will allow.

In short, we will certainly communicate more, but can we also say "better"? We will be in touch with more people, but will we like them more?

Today, the goal is already defined: to make this space and this challenge a place for more culture and humanity. ●

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- (9) "Le nouveau roman sera interactif", in **Le Monde**, 25-26 February 1996

## Contact points

If you would like information on Europe and the Information Society, four Web servers set up by the European Commission are available to the public. Access to each of these is free of charge.

For further information, the following document is available from the Office of Official Publications of the EC:

**European Union Database Directory**  
 Catalogue n° JX-57-95-361-EN-C

### EUROPA

Address: <http://www.europa.eu.int>

Created in 1995 and managed by DG X (Information, Communication, Culture and Audiovisual Media), EUROPA provides up-to-date information on all aspects of European integration and user friendly access in the following areas:

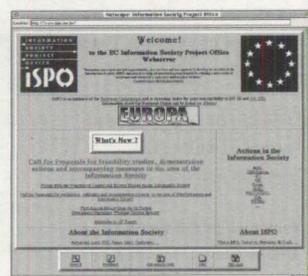
- an ABC to the European Union (including statistics and where to find more documentation)
- NEWS: official EU institutions press releases and current affairs, events, etc at EU level
- Policies: background information on all EU policies and how they work
- Institutions: a guide to the EU institutions



### ISPO

Address: <http://www.ispo.cec.be>

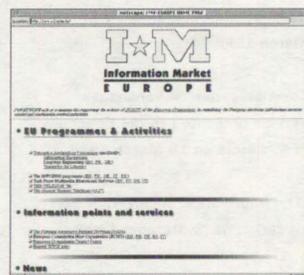
The Information Society Project Office (ISPO) is an information service and a forum for new ideas (through on-line discussion lists). It contains or has links to Commission or other EU documents relating to the Information Society, ranging from legislation to Green papers. It was set up by DG III (Industry) and DG XIII (Telecommunications, Information, Market and Exploitation of Research).



### I\*M EUROPE

Address: <http://www.echo.lu>

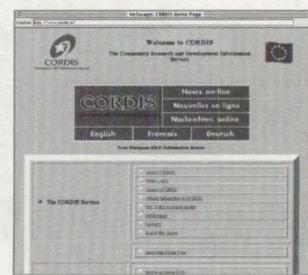
Set up in 1994 by DG XIII (Telecommunications, Information Market and Exploitation of Research) to provide information on the European Information Market. It offers full texts of key documents including the Martin Bangemann Report (Europe and the Global Information Society) plus services ranging from details on EU-funded Research and Development in telecommunications, access to thematic databases on the ECHO (European Commission Host Organisation) server, a mailbox for users to leave comments and European Parliament fact sheets.



### CORDIS

Address: <http://www.cordis.lu>

CORDIS (Community Research and Development Information Service), also managed by DG XIII, is a source of information for organisations wishing to participate in EU funded science and technology projects and partnerships. Apart from the WWW site, CORDIS offers on-line databases (also available on CD-ROM) and publications.



ISBN 92-827-6386-2



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