As mass media, radio and television have always held a place between technology and culture. From the beginning, they have always utilized the very latest applications of technology in their routine operations: first radio technology, then electronics and now information technology. They have never been reluctant to take on new technology. This is as evident on the Asian continent and in parts of the Arab world, where there are mazes of satellite transponders and cable services, as it is in most of North and South America. While the new technologies have not yet been as fully developed on the African continent, many projects have already been initiated (see Chapter 13) and certain countries like South Africa are very much part of the emerging knowledge society, as are a number of African capitals.

Radio and television rely on time-honoured forms of expression: music, acting, live expression, storytelling and debate. They reflect the continuation of age-old cultural traditions. These two media are today the most important conveyors of myths in modern society. Radio and television combine technology-based change with a long history of cultural tradition and it is precisely this encounter between the very newest and very oldest that makes the audio-visual mass media a unique meeting point in the emerging information society.

Much has been written about the convergence arising from technological development. This is a complex phenomenon and it is not always entirely clear what is meant by it at any one time. Convergence refers most frequently to the integration of the technological bases of a variety of media. In other words, it means that various mass media are based on identical information technologies, replete with microchips, processors, bit flows and software applications.

Many believe that the integration facilitated by information technology will open up new development opportunities for both the communication
industry and for private individuals in their capacity as communicators. Convergence is also altering the marketing of programmes and information production. The rapidly expanding economic potential of convergence is leading major international companies to invest unbelievable sums of money in the fields of data-processing and communication, now thought to be the driving forces of the information society.

**DIGITAL BROADCASTING: COMMUNICATION FOR ALL?**

By definition, the mass media communicate to large groups. In European societies, the basic services of radio and television are available to everyone, and, in practice, all members of society fall within the sphere of influence of these media. The broadcasting media are the principal media of our age, and it is difficult to imagine the societies of the next millennium without them. One of the key questions posed by the emerging information society age is whether a digitized broadcasting media will continue to cover all members of society.

So far, only the terrestrial broadcasting media have been accessible to all households. It is true that there are a number of Western countries where cable television reaches virtually all (as in the Benelux countries) or most households (as in large countries such as the United States and Germany). Yet in 1996, even in affluent Western Europe, an average of 60% of households, and in Europe as a whole 67%, had access to terrestrial broadcasting only (see Figure 5.1). Moreover, even in the wealthy countries, apart from the terrestrial broadcasting media, there is no sign of a broadband distribution path which would reach every household. Although a satellite service can cover whole regions, not everyone has access to the technologies required to benefit from it. For example, in Finland, where there is otherwise a considerable will to invest in new technology, only one household in eight has a satellite connection. If the spread of digital broadcasting to households is to play a major role in building the information society, the key issue is whether society as a whole or only in part is to be included in the information society.

**WHAT'S NEW IN NEW TECHNOLOGY?**

Information technology is revolutionizing the world of broadcasting, and it is important to look more closely at the new features created by the converging technologies. Digitization is perhaps the greatest transformation ever encountered in radio and television. It is introducing elements and characteristics to the broadcasting media not previously associated with them, because digital radio and television are at one and the same time individual and mass medium.

The range of choices available to the individual listener and viewer is growing. Several sources of information are becoming available to the media consumer, and viewers are being offered new kinds of multimedia products in which interactivity plays a key role. It has been claimed that consumers of digital broadcasting escape the power of the programming planner and broadcaster since the viewer now chooses programme content.

Information technology has nevertheless been making its way into radio and television production for several years now. In the western world, journalistic data have for some time been processed by computer. At the Finnish Broadcasting Company (YLE), the entire chain of production in daily radio journalism, from information storage to editing and transmission, has recently been digitized. A comparable electronic news processing system is currently being built for Finnish television. Most European public service television companies make use of digitized studios. Broadcasting companies are also acquiring mobile, digital outside-production units. All these developments are in fact fast becoming routine production techniques. Investment and development work are starting to focus increasingly on the digitization of the distribution networks and receiver devices.
How is this development affecting the programmes themselves? What new features have the technologies brought along in their train? What does the digital future have in store for us? Briefly, it may be said that the three new key aspects are: listener and viewer choice, new multimedia content and interactivity.

One of the most significant features of digital distribution technology is the way in which it multiplies the available distribution capacity. This means that it will be possible in future to offer viewers and listeners a number of simultaneous services such as variously profiled general channels, thematic channels and niche channels, etc. The core goal of public service broadcasting has always been to promote diversity and nurture genuine freedom of choice and this increase in choice for the audience is therefore by its very nature a welcome development.

Converging media technology is also opening up a new landscape for creativity and aesthetics. One of the most significant aspects in broadcasting concerns the convergence of television and the Internet. This means not only the integration of distribution (distribution of Internet services on television and vice versa) but also new developments in the field of expression. Those involved in creating audio-visual culture must establish completely new screen aesthetics, dramatic storytelling and a language of expression in which the structures of the electronic network media and visual television merge together to generate a new media language. Whenever a new, common language has been created for large communication groups, new interpretations and new meanings have also been generated. New languages also introduce new definers of meaning into the world media community. These may be communicators who had previously been only marginally involved in the definition of meaning. Public service broadcasting should provide new perspectives on the world and furnish innovative interpretations of society, culture, politics and the surrounding world. This is why public service broadcasting must take up the challenge of promoting the new multimedia, new languages and new interpretations.

Another new element introduced into the broadcasting media by the new digital technology is interactivity. Apart from cable media - and even that to a quite limited extent - the traditional mass media did not allow for two-way communication. Today, ever larger sub-audiences are expecting interactivity from mass media services. Interactivity in journalistic products which interpret and analyse the world must include the use, inter alia, of growing information retrieval services to complement television journalism. For some other types of programmes, interactivity should increase the viewers' potential for greater participation. The success of Internet chat services indicates that they are meeting a genuine need for participation and exchange in modern society. Similar, new forms of interaction will also form part of the broadcasting environment in coming years.
CONTINUITY AND PERMANENCE

However, enthusiasm for the new opportunities afforded by technology often leads to an over-estimation of the significance and the pace of change in the mass media. As stated earlier, mass media behaviour is to a considerable extent anchored in everyday events, in routine habits and customs. The relationship of the broadcasting media to viewers and listeners has become deeply rooted in their personality and behaviour. These are factors opposed to change, and they favor constancy and permanence. For this reason, the mass media of the future should be examined from the standpoint of constancy as much as from that of change and revolution. The radio and television media incorporate a large number of key elements which hardly alter or which change very slowly. On this basis, the forecasts which seek to see beyond the new media revolution can be founded upon assumptions that emphasize continuity. A number of elements and success factors in the future of public service broadcasting are precisely of this kind and they are just as significant as are the opportunities for change.

Many researchers regard television as a manifestation and symbol of so-called modernized Western society. They claim that television has replaced the traditional ‘user interfaces’ which included a variety of socio-societal structures such as place of residence, social class, religion and profession. For audiences in Western societies, radio and television have become a value- and culture-specific arena which reinforces personal identity. Radio and television channels broadcast programmes with elements of familiarity, belonging and continuity. They provide their audiences with identifiable points to which they can relate personal memories, common experiences of delight and pleasure or of anguish and sorrow. The broadcasting media have thus become the single most important ‘user interface’ for personal identities and for experiencing what is perceived as being ‘personal’ in modern culture. In a recently published report, the Future Committee of the Finnish Parliament has stressed that experiencing something as one’s own is one of the most important value bases of the information society. Unless people find intellectual, community, environmental or material values with which they can identify in the networking and diversifying media, change is likely to lead to confusion and chaos rather than to the moral strengthening of the community.

The strong influence of the broadcasting media on the everyday life of cosmopolitan societies is most probably based upon such feelings of personal recognition. In modern communities, people are increasingly experiencing in their lives solidarity and events which are familiar to them through the mass media. This goes a long way to explaining why people from very different backgrounds, spheres and professions follow the same programmes and events at the same time. Viewing television and listening to radio, people manifest their solidarity and feel that they belong to a group. Today, this belonging often concerns national or regional cultures, but it can also relate to global togetherness.

The principal broadcasting channels with a sense of responsibility must endeavour to meet the feeling and meaning of the audiences’ common experience. Critical tensions between various groups in societies are heightened when the programmes put out by the mass media channels do not provide a real response to the need of individuals to experience something as their own. Under these circumstances, feelings of alienation and of cultural and social discrimination are reinforced. Broadcasting programmes can thus be socially ‘dysfunctional’, as witnessed in some countries where people’s power took over the public media (the Philippines in 1986), set up alternative media (several independent newspapers in Nepal in 1990), or rejected the information put out by the official media. In 1990, when Gorbachev was seeking to keep Lithuania as part
of the Soviet Union, the public proclaimed loudly that the country had been independent since 1921. There are many more examples of the people exposing the inconsistency of official information expressed on public service channels in Africa, in Eastern and Central Europe and elsewhere.

**PUBLIC SERVICE BROADCASTING AND THE VALUES OF THE INFORMATION SOCIETY**

Pluralistic media are fundamental to the value systems of democratic societies. In order to exercise the basic values of freedom of speech and expression individuals must be able to obtain and acquire knowledge and information that is significant to them personally, created by the community itself and independent of those in power. Public service broadcasting, as it originated in Europe, was created to serve these goals. Its ideal was to provide citizens with media that would be independent of both government and economic control. Public service broadcasting has thus always emphasised the significance of public control, reflected in the fact that it is accountable to the audience in a way in which the commercial media are not, even when they are popular. The principle of accountability implies that audiences can demand that the media provide programming that is important and significant to them on a personal level. The corollary is that public service broadcasting is also based upon the concept of an active, developing and self-fulfilling human being. Public service broadcasting has traditionally been given the mandate to produce programming with informative, educative and also entertaining content. It has been expected to meet the needs of the various facets of the personality in a balanced way so as to provide a whole image of the individual.

Broadcasting technology spread to Africa and Asia, often as a part of colonization. For this reason, public service radio, and later television, tended to serve the interests of the colonizing powers and later those of the newly independent national regimes, rather than those of the general public for whom they were originally established. Thus historically, in many of these countries, the public service mandate was often subservient to the whims and caprices of those in power, and was viewed as a primary tool for ensuring continuance in power. During an International Seminar on Public Service Broadcasting and Editorial Independence held in Tampere (Finland), an African researcher put it this way:

Unlike the situation in developed countries, many governments in Africa since the late 1950s have been either one-party authoritarian regimes or party-less military dictatorships. The single most important tool these regimes have used to the full is broadcasting under the control of the state. Given the new currents of multi-party politics in Africa based on democratic principles and ideals, the role of broadcasting as a public service utility has indeed become crucial (Polycarp Omollo Ochilo, 1997).

At the same Seminar, in summing up the situation in South Asia, the Rapporteur stated:

In South Asia, one generally sees an entrenched government control over radio and television despite a colonial legacy of a BBC-type of public broadcasting code such as in India and Sri Lanka, along with a free press. But in other countries of the sub-continent, like Pakistan, Bangladesh and Nepal, one sees a situation similar to that in Eastern Europe, where some state broadcasters continue to work only as propaganda agents of governments despite the maturing of these democracies (ibid., p. 89).

In Nepal, in contrast, the government produced a communication policy paper in 1990, followed by a revised broadcasting act in 1992. Since then, several new FM stations have been granted a licence to broadcast, including Radio Sagarmatha, an independent station run by a consortium of NGOs. Their programmes do indeed reflect the community's concerns: environment, education, culture.

In view of the prospects opened up by developments in technology, it may be asked whether the
ideals set up by public service broadcasting are still sustainable. This question arises because audiences today can use advanced communication technology to access those media contents which they think will best meet their various communication needs. Communicating via network media and the Internet, audiences now have unrestricted access to those sources of information that were previously beyond their reach, behind, *inter alia*, a variety of media gatekeepers. It may be argued that communication built upwards does away with the need for public service broadcasting which, despite everything, is always constructed by programming planners and gatekeepers.

It is true that in the network society the individual has an unprecedented opportunity to obtain access to virtually any source of information – though this opportunity is not available equally to everyone. The Internet era has multiplied the individual's opportunity for accessing new, geographically distant sources of information which are not dependent on fixed-time programming schedules. The limits of time and space are disintegrating. In particular, the Internet has opened up the borders of the world to its users and promoted the unrestricted movement of information (or trade) in a manner that is without parallel in world history. It has also facilitated genuine debate among people united by a common topic or interest. Indeed, many information networks are complementing the diverse sources of news used by broadcasting. One of these is the International Freedom of Expression and Exchange Network (IFEX), and particularly noteworthy is the work of the Pacific Islands News Association, which issues news alerts concerning the media in this region. Examples include drawing public attention to members of parliament who accepted official per diem when attending the Olympic Games in Atlanta last year, the buying out of opposition newspapers by governments, and various reports on the harassment of journalists. While some of these reports are not always welcomed by editors in the region, they do get wide circulation in the rest of the world. Small island states in the Pacific are no longer an isolated, marginalized segment of society.

According to the statistics available (see Chapter 12 and the Statistical annex) the number of computers connected to the Internet is still growing rapidly. In July 1998, there were 36.7 million computers connected to the Internet worldwide. In Finland, there were 100.53 computers per 1,000 inhabitants connected to the Internet.

However, the world-wide communication network and information gateways are, by their very existence, creating the need for the pendulum to swing the other way. As both the sources of information and the number of connections multiply, the need for meanings that unite also grows. One of the most important challenges of the information society, beyond making information available, is to enable analytical interpretation of it and to facilitate understanding.

**IDENTITY AND SELF**

In the networked information society, public service broadcasting should emphasize the contribution to its prestige made by the high level of interpretation and analysis which is part of its mission. Those working and communicating in the various networks need both knowledge and certainty about their own points of departure. Only a communicator who is certain about his or her own self can engage in a fully reciprocal communication process with others. The elements of public service broadcasting that are emphasized in the information society are pluralism, independence, and, finally, communication, which strengthens identity and instills understanding about the meaning of citizenship.

The sense of self and identity are reinforced when the members of a society and a culture are given the opportunity to obtain information that is relevant and important to them. The growth and vitality of
this sense is often simulated by fictional material and storytelling: films, serials and series, music, entertainment and humour. Public service broadcasting best carries out its mission in the information society when it provides all segments of the audience with cultural material to reinforce a positive sense of identity and self. Public service broadcasting must become more aware of this key characteristic and must emphasize it as a core element of its mission.

**CITIZENSHIP**

Citizenship in the information society also presents a challenge. Boundaries are being broken down, the roles of states are changing, many operations are being globalized and contexts are becoming more complex. Decision-making in matters affecting citizens is becoming more distant and is, in many cases, no longer recognizable. Political citizenship generally means that people are capable of understanding matters affecting them and their relationship to such matters. An integrating and globalizing world, where decision-making is often faceless, offers a particular challenge to the media. In order to enjoy full citizenship in the information society individuals must be able to obtain information on matters affecting them personally and to feel that they can influence such matters. This is quite a different matter from the consumers’ opportunity to obtain the communication services which they require.

Citizenship in the information society also signifies that individuals can increasingly and naturally participate and do business electronically. Finland has sought to promote the conditions and opportunities for electronic public dealings and participation by citizens. The fulfilment of civil obligations, dealings with welfare services, study, library visits, relations with the authorities and other such matters will soon be managed remotely. Such forms of interactivity should also be promoted by public service broadcasting (see also box 8.1, Tele-democracy). In a democratic information society populated by active citizens, encouraging the ideals of citizenship and of civil duties and rights is particularly important and should therefore be a core element of the future mission of public service broadcasting.

**RELEVANCE AND RELIABILITY**

Citizenship in the information society implies that individuals have the right to relevant and reliable information. Under these circumstances, the number of sources of information is less important than the reliability and relevance of the information to which citizens have access. Citizenship is closely tied to equality, and all members of the community must have an equal opportunity to obtain basic information service. On the eve of the information society, we should re-assess what is meant by basic information services.

For example, is equal access to communication networks one of the basic rights of the citizen of the information society? If so, how is it to be implemented? Can it be achieved only through relatively expensive hardware investments, or can equal connection and basic services be implemented by means already available to the overwhelming majority of the public? As far as public service broadcasting is concerned, all these questions are significant.

This raises the original question of whether the information society is for everyone, or for only a few. In operational terms, the question is whether there are realistic and practical governmental and entrepreneurial policies and strategies to ensure that networks and services are expanded to reach all countries, or whether these polices and strategies are market driven and profit based. If profit is the sole or principal motivation, are decision-makers deliberately excluding large segments of the world’s population by consciously employing a policy of social exclusion? This would undoubtedly run counter to the ideals and
objectives of public service broadcasting and related media. Furthermore, such policies would be self-defeating since they negate the objective of universal access to information and communication media and are not even favourable to the new concept of global marketing!

The ethics of communication are an important aspect of the relevance of information. Because digital broadcasting technology allows for new ways of registering and monitoring communication, it is all the more important that the privacy of individual citizens as communicators be respected. Individuals can be equal players in the public political arena only if they can be certain of respect for their privacy and integrity. Political systems must be able to guarantee this protection if they are to earn the trust of their citizens. In a multiple-source and increasingly complex situation, the ethics of communication should also require journalism to be firmly based on reliable and objective argumentation. In a multi-channel world, the prestige associated with reliability for all channels will increase and will also be subject to more critical exposure.

THE NEW TECHNOLOGY AND PUBLIC SERVICE BROADCASTING

In recent years, public service broadcasting the world over has seen economic resources diminish. Nevertheless, over the next few years, digital technology will require appreciable financial investments in both technology and programme content. Even for many large companies, such expenditures present a difficult financial problem. In this context, it has been suggested that the public service broadcasting companies ought not to invest too much in digital technology, but rather focus for the time being on dealing with the basic analogue broadcasting media. This choice would nevertheless be fatal for both public service broadcasting and for society as a whole. Without the slightest doubt, the basic point of departure must be that public service broadcasting should not only enter the digital era, but should take the lead in exploring the new possibilities which the information society offers to all media.

Digital technology allows public service broadcasting to carry out its mission more effectively and in a more focused way. Digital broadcasting technology can provide public service programming to several different audience groups simultaneously. Some countries are developing digital services in the belief that new digital channels targeting niche audiences will complement and enrich the programmes already offered by the basic channels, but will neither displace nor replace the full service programmes. For the cultural and value reasons discussed earlier, viewers and listeners will continue to feel the need for general channels in the future. At the same time, their demand for in-depth and even highly detailed information which can be supplied via special channels or via digital television user-oriented network services will increase.

Public service broadcasting companies should be involved in creating a new audio-visual communication culture in which traditional broadcast products converge with new media and multimedia products. In the public service range, these products can be presented either in parallel or as specific elements of programmes. Audiences are expecting public service broadcasting to play a prominent and visible role in the new media. Several public service broadcasting companies have developed, inter alia, Internet services, and their success has been encouraging. For example, the BBC’s Internet services are the most popular network services at the moment. The appeal of the public service companies’ Internet pages is based on the fact that the audience has an image of these companies which stresses reliability, diversity and quality. In the chaos of the media world, consumers are on the lookout for organizations or ‘portals’ through which they can access reliable, interesting and significant sources of information.
PUBLIC SERVICE BROADCASTING AND
THE NETWORKING APPROACH

The changes in both the content and programming structures of public service broadcasting represent a major operational challenge which will affect not only the operating and production methods within companies, where digitalizing production technology is creating new opportunities, but also the relationship to the content production sector operating outside radio and television.

Public service broadcasting companies will survive the challenges of the digital era only if they are able to create collaborative networking with both the new media technology sector and the content production sector. Many sectors of society can contribute more than can be imagined to content production for the digital broadcasting media. It is natural that in the past, education, social services or the science sector, for example, did not perceive themselves as being close to the audio-visual production sector. Today, however, they are already producing a variety of ambitious new-media audio-visual products, which could well form one part of the new broadcasting content (see also Chapter 10).

The public service companies must now invite new organizations in society to co-operate in digital production. To a large extent this is a question of motivation and example, and public service broadcasting should take on a pioneering role particularly in the areas of culture, science, education and welfare.

This role should also to extend to making information society services available to citizens and households. One universal obstacle to the advancement of the information society is the reluctance of citizens to use the new electronic services and information technology in general, even though the benefits of such use are clear (simple, advantageous and timesaving). The fears of and negative attitudes towards electronic information ought not to be underestimated. Public service broadcasting should, as a part of its information society role, provide new services that emphasize the citizens' point of view, and this in turn will encourage an adaptation of public service broadcasting to the environment of the future. Moreover, the image of reliability, independence and public accountability associated with public service broadcasting offers a good basis to start moving in this direction.

PUBLIC SERVICE BROADCASTING: TAKING THE LEAD

For many members of the broadcast audience, the transition to an information society is still an abstract, or even unacceptable, vision. They are concerned about the undermining of human interaction and about the possible increasing alienation of large, less affluent segments of our societies. In many countries, those retiring from active life in 1999 will live, on the average, for about twenty years in the emerging information society, and it may be asked whether their needs will have been taken properly into account. Others are concerned about the overemphasis on the commercial and marketing aspects of the digital future (it should be noted that in expressing these concerns, such observers do not necessarily wish to deny the importance of market revenue in financing research and development). However, for many, the so-called information society represents new opportunities just for huge global businesses.

Public service broadcasters will undoubtedly understand the importance of market revenue in developing new services. However, the value base of the information society - just as for any society of whatever period - should not be business oriented, and public service broadcasters should take an intellectual lead in the public debate on these matters. Such a debate should not be an abstract discussion
of the objectives and structures of the information society, but should include concrete demonstrations of services which viewers and listeners can utilize every day in public service broadcasting programmes. In providing a well-balanced and structured range of old and new services to the audiences, public service broadcasting should present an understandable and approachable view of what the information society means in the audience’s everyday life.

As is the case with existing public service broadcasting, it would be difficult – and even undesirable – to try to define in detail which concrete operations and services these new products should provide in the future. The public service mission is not a list of quantifiable tasks. A society defines what public service broadcasting means in each particular context and this is often expressed as a broadcasting law. The statement ratified by the member states of the Council of Europe (Prague Resolution, 1994) defines public service broadcasting as an essential factor in pluralistic communication accessible to everyone and hence as a central factor of social cohesion in the information society. This guideline is also valid for the production of new digital and multimedia services.

New services based upon information technology proposed by the public broadcasting service should thus take the needs of households and individuals with a shared cultural identity as their point of departure. The challenge is to grasp the new, inevitable changes which technology offers without undermining the needs of audiences and societies everywhere for cultural continuity, an identity and intellectual framework.

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