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CONVERGENCE BETWEEN MEDIA AND TELECOMMUNICATIONS

Report for Impact (EC, DG XIII/E).

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I. Convergence in Europe: state of the art (of the problems).

1. Introductory remarks.

1.1 Convergence or chaos?

Convergence is a highly fascinating but extremely complex field. However, at this moment in time it is totally impossible to give a clear-cut answer to where convergence will lead to and to determine the related problems.

A synthesis of the reports which were referred to - and the off line discussions with experts and actors - could be as follows:

Technically everything is possible.

All communication media will become digitised which will lead to the blurring of the physical/material distinctions since all carriers (fibre, copper, coaxial, spectrum..) become possible candidates for transport. "The mother of all changes is digital", stated the American press some time ago which implies abundance rather than scarcity.

The new communication order that will stem from this is totally unclear.

At best, one can read that everyone hopes that the new communication order will lead to a better society and enhanced economic prosperity. Many reports use in this respect sentences such as "we have all reasons to accept that the consumer wants this or that" or "strong feelings about the communicational needs of the people..." etc.

The behaviour of the main actors involved (carriers, software industries, media producers and users) is difficult to categorise and quite unpredictable.

The only pattern that seems to emerge is that everyone acts out of a feeling not "to miss the boat", although it is unclear to everyone what this boat will look like. Coherent policy patterns are therefore difficult to detect (not at least because many actors in the field do a lot of strategic "window dressing"; see Unisource).

The European publishers for example (press conference EPC, November 1993), long time defenders of specific national rules with regard to merging and so on because of their role in guaranteeing diversity and pluralism, are now demanding a European policy (enabling cross ownership, multi-nationalisation and so on) that will almost certainly lead to a situation where these principles will become problematic.

The regulatory problems are enormous and require a new approach.

These problems range from data protection (who owns what in multi media for example?), the respect for general laws (what if the PTT's offer porn movies via video on demand?), concentration and merger problems, up to the problem how to define a mass media (what is broadcast in a pay per view environment)?

Even the FCC has no answer to this (interview with FCC commissioner Barrett, Public Network, 1993, 12)

It is therefore tempting to put the chaos theory forward as final "recommendation" and as a possible "explanation" for what is going on (and hoping that some order comes out of it..).

However, it is not impossible to understand convergence and it is not only possible to look at it as a black hole (and leave it to the market to find a way out). On the contrary, looking at past experience with regard to infrastructure development on the one hand, and the dynamics of communication media/technologies on the other, convergence may be put in a clearer perspective and may help to formulate some principles necessary for a good policy in this field (see final section).

Finally, it is significant to note that at the last IDATE conference (on "investing in communications") the most critical voices on multi-media and convergence came from the banking world..

1. 2 Limits of this report.

It goes without saying that it is impossible given the short time limit, to present in a few pages a totally balanced, well documented and academically sound report on such a complex area as convergence (if this is at all possible). I can therefore not go into details, nor give all the elements of the debate.

These constraints also explain the more or less "telegram" style (however, I remain entirely at the disposal of DGXIII/E to expand, if desired, on the points raised). One specific problem must be mentioned here. The amount of literature (academic and other) is not only abundant but it is also difficult to assess the accuracy and reliability of the analysis presented. Many reports mention, when talking about the bright future of the cable industry and its importance, almost always in terms of homes passed (which is a lot) but only very seldom in terms of actual connections (which is much less).

It should therefore be noted that strong cross national and cross sectional data providing a reliable overview of all the actors concerned is very difficult to find. To give another example: the real (instead of potential) European audience reach of pan-European satellite televisions is impossible to give. For Belgium, the cumulative viewing audience of these channels is estimated less than 5% (although their reach is more than 50%). Given the fact that up to now these specialised pan-European channels are the only successful applications of narrowcasting and that they are considered vital for the concept of the communication highways (since the

assumption is that the demand for narrow broadcasting will rise dramatically) it is important to be in possession of the correct figures. The same goes for the multi media market: reliable figures are, to our knowledge, not available. The most recent report speaks of 311 CDi titles available (I&I, p. 93) and 200 more in production. A significant amount as such, but, questionably not enough to build a communications network on.

In fact, it must be noted here that on most of the subjects (TV entertainment, telework, multimedia) although the EC (White Paper, Brussels Summit 12/93) puts its hope in building the necessary highways in Europe, there is lack of transparency of the market structure and most importantly a lack of coherent data (in this area there are as many definitions of telework as there are teleworkers...)

At this point, at least one urgent need for action in this field can be put forward: **the need for reliable and comparative data for the communication sector at large** (production, distribution, consumption). This could very well go together with the proposals to create European Multi media Association (DG XIII, Inter service group on multi media, report 1993).

1. 3 Some lessons from history?

1. To a very large degree, the recent American policy goals (and its discourse) concerning the National Information Infrastructure (NII) and its future and possible developments are comparable to the discourse the EC had at the beginning of the '80, when launching programs like RACE and ESPRIT (see Joosten in Slaa & Burgelman, 1994). Many reports predict the same happening with regard to convergence as was done 15 years ago for broadband. Except that at that time it was forecasted that in the middle of the nineties all these wonderful technologies would enter the home, whereas the present forecast speaks of 2010.

The goals put forward by the NII are strikingly similar to what the RACE program had announced and tried to achieve for years: creating a broadband (whatever the scenario followed: Fibre to the home (FTTH) or upgrading and interconnection of existing networks) because the assumed (urgent) need for all kind of new communication services.

Many observers agree that RACE did not fulfil its expectations (due to many reasons, not the least because RACE was built on the assumption that one technology would achieve it, whereas precisely the evolution of technology itself (like ATM etc.) made the broadband idea less attractive).

In implementing the present policy goals of the EC on the subject of the trans European networks (TEN) or highways (as referred to in the White Paper, the fourth R&D framework and following), the EC could benefit from looking back at the past: the broad band "failure" of RACE (in terms of its original purpose).

2. Looking at the history of communications technology one can detect that every time a new technology comes to surface it goes hand in hand with a lot of hype ("this will revolutionise the

way we live"), ideology ("the wired society where all will have equal opportunities, will be created") and mystifications ("mankind was born for..."). When radio surfaced in the industrial world in the 1920's, the same projections could be read about the impact it would have on our society as the NII now.

Often, as I explained elsewhere (Burgelman, 1989), forecasts and expectations of a then new communication technology are, inspired by desired evolutions and not by the real ones.

3. According to the historical literature more and more people seem to agree that, on a geo-political point of view, post world war history is more a resistance against internationalisation than vice versa. This is reinforced by the observation (see the Toffler's new book "War and anti-war") that the present conflicts in the world are local versus supranational and are rooted in the desire of "peoples" to preserve their cultural identity (whatever this might imply for the economies of scale necessary to build big media groups in Europe).

Since communications are also a human process, this could be worthwhile taking into account when thinking about new services.

2. Elements of convergence

Basically convergence deals with two communication worlds coming together.

	telecommunications	broadcasting
service:	telephone data	radio/TV
pattern:	point to point/individual	point to multi-point/mass
time lag:	free	fixed by sender.
financing:	subscription	advertising/license
	individual use	collective
regulation:	freedom of communication	content regulated
perceived as:	economics	culture
industry:	TO	broadcasting organisations.

Convergence brings these two worlds together. In order to understand convergence the three levels on which it takes place (or can take place) must be scrutinized: technically (at the level of the networks), actors/stakeholders and services.

2.1 Technically/at the level of the networks.

Convergence is made possible by digitisation (of content) and compression (for transport). As a result almost any content may be transported, or will be in the near future, from point A to whatever point B, in any physical way thinkable (telephone, cable, fibre, wireless). Any existing communication infrastructure will be able to integrate voice, data and pictures in an interactive way.

And when everything is a bit, up till now and to my knowledge at least, unresolvable questions with regard to copyright, intellectual rights and so on will emerge.

The ultimate technological convergence dream is fibre to the home because of its so called unlimited capacity. This was the initial of RACE (one integrated ISDN network in Europe, offering all communication services). However, this failed to happen.

Different scenarios for broadband are available at the moment:

- FTTH/ISDN
- upgrading of existing networks (telephone and cable).
- using new carriers like spectrum (Hughes communications recently asked FCC permission to operate a nation wide, on demand, data and video telephony service).

Many analysts believe that given the level of sunk investment (in cable and telephone) and the extremely high cost for ISDN (Nippon TT abandoned its \$360 billion plan to get FTTH by 2015), the second scenario will dominate the coming years.

It is important to note that the "capacity" of a network is becoming more and more irrelevant (the highest cost are in the building of the network), and that cost based pricing (with regard to) the traffic on the network is considered extremely difficult to determine and even impossible (Mediaraad, 1993, Mulgan, 1991, Joosten, 1993). This is an essential problem which will be of specific relevance for the user. If he pays 5 ECU to rent a movie (video on demand) his network will be used for two hours. Does this imply that he can also phone for two hours for 5 ECU on the same network?.

Concerning media: production costs for mass media are expected to drop dramatically due to the digitisation mentioned (see how pictures can be manipulated) above.

Finally, geographic boundaries are irrelevant. It is technically speaking perfectly possible to phone a video on demand service in the US and view the video here (the pornographic audiotex services available in Belgium are located in ... Aruba).

2.2 Actors/stakeholders

The actors (or potential interested parties, assuming the EC will open up for full competition on infrastructure) in convergence are:

- all possible carriers (TO's, cable, satellite, and potentially carriers such as gas and water distributors, railways etc.)
- software companies (to provide intelligence in the network, at the screen and in between: cruising or navigator services; see recent initiatives of Oracle, Microsoft (Communications Week, 17/1/94 & Idate).
- media content industries (broadcasting, film, publishers etc.)
- consumer electronics (linked to TV or to video games)
- computer manufacturers (PC industry)

Although it is difficult to determine the most important actors, it is possible to say that the carriers (largely dominated by telecommunication companies) and the content providers (media industry) are at the core of the convergence business.

One of the main drives behind convergence is the fact that the largest and most pervasive network in the world (after the sewage - which explains why some analysts believe that these companies would be potentially interested in FTTH), the telephone, is very poorly used. According to the Financial Times (October 1993): the average use of the telephone does not exceed 30 minutes a day. This means the network is unused for about 98% of the time.

One of the main reasons why there is such an interest in the broadcasting market is that TV viewing is the most time consuming human activity after sleeping and, if applicable, working. In other words and in terms of user demand: it is certain that in this area no new user habit has to be established. This "certainty of the demand" is important, given the financial effort required and the deregulated environment within which the networks have to operate (see also next section).

The financial stakes are indeed extremely high: in order to offer movies, home shopping, games and VOD via the phone in 5 cities (to 500000 homes) US West says it will invest \$ 750 million within the next two years (AP, 4/1/94).

On the other hand: convergence is linked in Europe to the ambition of the commission to establish pan European networks on a competitive basis (White paper, 1993). The same goes for the US market where the Clinton administration would like the NII to be financed by the private sector.

This means that actors wanting to invest in future networks must do so in competition with other potential actors, including the services, and in such a way that the entrance of other actors is kept as low as possible (in order not to abuse any dominant position) and in a transparent as possible manner (hence ONP and the like).

2.3 The services

In short, convergence enables any type of existing service (telephone, TV) or new telecommunication (caller ID) or TV service (video on demand), or a combination of both (video conferencing, home shopping) on any carrier.

However, because many of the markets already exist, it is likely that telecommunication companies start offering in the beginning broadcasting services and vice versa (as it is the case in the UK).

More specifically, the broadcasting market is considered as having immediate growth potential for developing new services (video on demand, narrow casting, closed user TV etc.). Many analysts stress that the outcome of competition between the different networks (cable, telephone and so on) will be determined by VOD.

Multi-media in its form (integrating text, data, voice, pictures at the same time and in an interactive way) can be considered as the nec plus ultra of convergence (it integrates production and distribution of hard and software(including services)).

At this point it is useful to recall (or point out?) that many reports give multi-media and convergence the same meaning. In our view, multi-media, like CDi, is only one way of offering a convergence service.

Convergence also enables a one way mass medium (one sender to many receivers on a non manipulative time) to become a distributed two way medium. Or to put it differently: convergence enables all forms of media to be conversational (interactive) or consultative (to be consumed at any time).

3. Consequences of convergence

3.1 Consequences of convergence on the actors involved

In order to improve competition in this field, asymmetric regulation is required thereby: favouring new entrants and disfavouring dominant actors (see Oftel's policy towards BT concerning cable). In the UK, this has resulted in US cable and telecommunications operators, through participation in cable first, entering the UK telecommunications business (since cable may offer telephony in the UK: 143000 subscribers (march 1993); only 10% of which are business users). The same problem has been perceived by the Dutch: in a completely open market, there is reason to believe that ATT would buy the Dutch cable for example (Mediaraad, 1993).

However, in order to achieve pan European networks it is crucial that the key actors, such as telecommunications operators, are also able to exploit new services (like cable). This in turn will reinforce their dominant position.

Since cost based pricing is up until now impossible to determine, no actor will take the risk of being degraded as a carrier alone and therefore all the actors will move into horizontal as well as vertical differentiation: telecommunications, cable, software, consumer electronics and content producers will inevitably become interlinked.

This will lead to the creation of large communication conglomerates.

The scenario of full competition will because of the levels of investment at stake probably be very difficult to maintain. Investing in pan European highways is a long term effort requiring collaboration. The EC's commercial policy is on the other hand competition and short term. Therefore, the likeliness of conglomerates with telecommunications companies at the top (because they are the oldest companies from the actors pointed out above and consequently much less indebted or simply the richest).

In order to be competitive in an environment of convergence and multi media, a corporate actor must have as much as possible control over the 4 areas of the communication process (production, distribution of hard and software (including content)). This will stimulate the creation of pan-European and multi-media groups and will give rise to specific questions concerning legitimating a specific policy on pluralism and diversity.

Cross subsidisation - an essential element in the EC's competition policy - must be carefully examined. Telecommunication companies can drop their prices very easily when competing with television e.g. with cable companies by using their telephone revenue. Or vice versa: the local UK cable companies decided last month (January 1994) to join forces (the beginning of a duopoly?), to drop their prices on telephony and to cross subsidise them with their TV revenues (TechEurope, January 1994).

Moreover, if new entrants like electricity companies or water companies become carriers - which they will be entitled to do or already do (see *Général des Eaux*) - new problems of cross subsidisation (from electricity revenues to communication) may arise. How will this be solved given the problems mentioned with cost based pricing?

Most consider the VOD market is crucial (because it is assumed that the demand is there and because it is in the short run the most profitable looking market) on the outcome of competition at the infrastructure level. It has been said that the one who controls the market will win the competition. However since no one really knows this market, (see Johnson, 1992) as many actors as possible are moving into strategic alliances with the film and broadcasting sector. In other words following the US experience, it is expected that in the very short term, mergers in this field will take place (telecommunications-cable-broadcasting). In Belgium for example a merger is taking place between cable (Coditel), GSM operators (Tractebel, potential) and broadcasters (VTM).

One last remark must be made concerning the made merger of cable-telecommunications. This is not an unproblematic issue. After an initial heavy investment in cable, encouraged by OFTEL, BT withdrew from the cable business and decided to concentrate on its core activities (data and voice communications). The reason was that BT found the competition of satellite (6 million dishes already and 100000 dishes sold every month!) and plain cable (2 million connections) too fierce in order to justify the heavy investment which was necessary (Garnham and Joosten in Slaa & Burgelman, 1994). In other words, the entrance of telecommunications in the cable industry may only be interesting if the cable penetration is high enough (and this seems only to be the case in most of the small European countries and Germany (Warburg, 1993, p. 36).

Other authors (Johnson & Reed) suggest that if the VOD demand is not overwhelming telecommunications companies should remain out of this business (because of the high costs).

However, this does not exclude the creation of conglomerates (cross ownership).

3.2 Consequences of convergence on the joining of two distinct regulatory worlds.

For a long time, the broadcasting and telecommunications sectors were two completely separate worlds. Convergence brings these two worlds together in one or more (depended on interconnection etc.) physical infrastructure.

More precisely it is now possible to provide broadcast services through telecommunications enabling various types of segmented broadcasting (closed user, pay per view, video on demand etc.). This means that the old views concerning broadcasting - being considered a rarity and in the public interest and hence subject to control - are no longer valid.

Or more generally: how will broadcasting regulations which are founded on the concept of a general public reception and the protection of cultural and political values be reconciled with telecommunication regulations which are founded on the regulation of message carriage but not message content?

This also raises questions such as: what is the nature of telecommunications delivered media. Are porno databases delivered by a TO subject to normal rules on media control or on TO (where there has never been content control)?. If a racist party starts up a closed user broadcast channel via a PCN, could it be held accountable for it or not (like in press law)?

This clearly demonstrates that regulatory principles which are based on the mechanisms and patterns of transport are no longer adequate and must be re-conceptualised. If regulation is wanted, the concept of mass medias needs to be redefined (for example when it potentially hits more than 1, 2 or 20% of the audience? or when it is offered for free?).

New techniques will also blur the distinction between closed user TV (increasingly considered as belonging to telecommunications) and subscription TV. What is the implication here? It will also be necessary to re-define the principles which should guide telecommunications. It must be kept in mind that a universal service was the only guideline for telecommunications and that it resulted from a compromise between telecommunication operators (national or private) and political authorities: in return for a monopoly (national or private) the latter imposed universal service obligations. What does universal mean in an environment where pay per service will be the driving principle?

3.3 Consequences of convergence on the question: which new services will be available and what will be the demand?

As already pointed out: the crucial point of the whole issue is the question of demand, in Europe and in the US and whatever broadband scenario followed (Elton, 1992).

Because European networks will have to be established with private capital, the level of demand for new services will, to a very large degree, determine the available capital for investing in

networks, their upgrading etc. This is reinforced by the fact that no potential carrier can be certain of what his revenues will be (as the old monopolistic - state or not - carriers used to be) in a competitive environment.

The question thus is, if there is a significant demand for new services and if it will be large enough to justify the necessary investment.

Will we, as recently forecasted by the French minister of culture A. Carignon (Idate, 1993), have by the end of the century 300 TV channels available, use video on demand, consult the libraries of the world from our screen and in between do some telework and tele-shopping?

As pointed out in the introduction, it is very difficult, because of the lack of accurate data, to provide clear answers to these challenging questions. It is, in this respect, surprising that on a such a crucial point, so little research in terms of investigating the wish of the users (and not what the marketing manager wants him to want), is available.

Many authors stress that no one really knows what the actual demand will be and that hardly no methods exist in order to assess it (see Leyten, 1991).

Nevertheless, by looking a past successes and failures in the communication technology area, it is possible to outline some general remarks.

First of all, there is no reason to believe that in the immediate future an explosion of demand will take place. Almost all the initiatives of an interactive TV have failed (in the US as well as in Europe), the video phone was a failure, segmented pan European TV has - after more than 15 years of trial and error - only attracted only a very small fraction of the market (less than 5%); there is worldwide at most room for 2 or 3 CNNchannels, the VCR (the most successful residential new technology since the TV) only challenged the film industry and not the broadcasters, etc.

Secondly, there is a clear distinction between the adoption process of information media or new telecommunications services strictu sensu and more traditional media (like broadcasting, whatever the delivery system is). There is no reason to believe that because some cruise on Internet, he/she will do the same in broadcasting.

The concept of acquisition substitution is essential in order to understand the demand and adoption process: Does a new service offer the same function at a cheaper rate or, more efficiently. Cable provided more channels and enhanced quality. Faxes offer better interpersonal communication and at a higher speed (thus cheaper). This acquisition substitution is different according to whether the new service will be adopted in the professional or residential sphere. In the professional sphere: any new technology which improves efficiency, profit making and so on is likely to be a success (given the substitution factor). However, it must be pointed out that rational elements are not (going to a conference is clearly more fun than videoconferencing).

In the residential sphere, the acquisition substitution is also determined by social and entertainment values. In other words: What will VOD be a substitute for? Will the consumer be willing to pay for it? (since he has a VCR, and hiring films is relatively cheap and so on). Finally, what would it

add to the multitude of channels which are already available? (According to some sources, the trials with VOD in the US revealed no more than a demand for 2.3 films a year).

Thirdly, radical new communication technologies, that is to say those which do not directly substitute an existing communication method, require much more time, social experimentation, careful organisational planning and so on, than others. If not, they intend to fail. The Minitel is the best example. France is still by far the largest user (see Impact, 1993). The French strategy was also the most specific: free Minitels, free access, long term investment by France Telecommunications, cross subsidisation, the pink Minitel and so on.

The VCR is a good example in the residential sphere. It took several years to take off and it against the video disc which was launched at the same time, because the VCR offered something the video disc was incapable of providing: viewing autonomy towards the channels and thus possibilities for time management (although it was first seen as an alternative for super 8).

Taken together these few principles can be summarized as follows:

- concerning services that have an immediate substitution value to the business or residential consumer creating demand makes most sense in the short run.
- the development of radical new services makes sense in the long run and if accompanied with a lot of "social engineering".
- this process differs substantially according to whether it concerns the residential or the business user.
- there is very little knowledge of user behaviour.

3.4 Some specific remarks concerning the assumption of a highly segmented broadcasting market

The idea of having 300 channels available with highly specialised and specifically targeted productions, combined with VOD and so on, might be challenging, but is certainly is not unproblematic.

The following critics on the expected explosion of channels (see also the remarks above concerning substitution) can be made.

- Research shows that in the past years, the total amount of TV consumption has stabilised in Europe (3 hours a day). This means that new services will have to substitute existing ones (Silverstone, 1992)
- Who will finance a segmented offer in Europe (it took CNN more than 10 years to break even and it is highly questionable whether the market is large enough for more than three worldwide news channels)?
- How will advertising respond to a segmented market? Is there enough advertising revenue for supporting it (given the fact that the largest TV advertisers are the Procter and Gamble type of consumer goods)?

- Are the economics of TV comparable to those of the press (the analogy is often made): it requires the same investment to make a TV program for one viewer than for a million?
- Is the European market large enough to allow specialised TV on a subscriber basis (500.000 subscribers required in the US according to B. Diller, the president of the home shopping channel QVC)? More precisely is it homogenous enough? There are certainly enough hunters in Europe wanting to see their hunting channel, but are the hunters of Spain willing to see what is of interest to them in Denmark and broadcasted in English?

- In this respect, it must be kept in mind that cross border viewing is very low in Europe. In Flanders, where the audience has had more than 20 channels at its disposal for the last 15 years, more than 70% still watch Flemish channels, 10 % watch the Dutch channels, 10% watch VCR and 10% watch the rest (BBC, French channels etc.).

After several years of promotion, Filmnet, the pay TV channel, has in this environment of abundance of choice, only managed to get 135000 subscribers. This has sharply increased the last months because of the programming of soft porn videos...

- Will consumers pay for something (VOD) they already have? The VCR, as already pointed out, was no challenge to broadcasters - who in turn will compete in a segmented market by programming even more what people want - but to the cinemas.

- What will be the user friendliness of VOD? Will the viewer be able to look at a (screen) based catalogue (see the problem of electronic browsing with regard to electronic information stalls etc.)?

- Do consumers really want all these screen based applications integrated in their TV? If so, how comes the breakthrough of computer games (Sega and Nintendo have a market penetration of 30% in the US residential market (I&I, p. 9)) came only after they developed it as a stand alone application?

- How will viewers choose between 200 channels? The answer is that someone will offer to make a choice for (navigator systems). For example: I wish to see so much of so and so much of this and navigator will do this for me and offer me half an hour of soap, 15 minutes of news, a movie and so on.

Although possible is this not the re-invention of the generalist broadcaster?

3.5 Consequences of convergence on the specific character of the EC

Different regulatory worlds and policies of the EC will have to join.

Because of the importance of convergence for the setting up of trans European networks, the problems that could arise are the same as those why RACE "failed" (Fuchs, 1992). Namely the conflict between the EC desire to ensure fair competition, an open market, the abolition of monopolies and so on and the need for at least a stable environment with guaranteed income to build the TEN. In addition the concept of TEN relies very much on the broadcasting and media

sector. This means that another different regulatory world (that of the media, but also of DG X) comes into play. the need to promote diversity (see Maastricht treaty).

In short: three areas of EC regulation need to be tuned into each other: competition policy, telecommunications policy and media policy.

If a TO invests in broadcasting does this amount to an exception on the competition rules (allowed by art. 90 of Maastricht)? What if Alcatel decides to close its news papers? How will these multi-media conglomerates be dealt with by the GATT (where the broadcasting sector was the only one left out and not the telecommunications one)?

Could a European FCC be an answer? (see Simon, 1993)

The Greenbook (on pluralism and the media) does not address many of these issues.

To our knowledge it only examines cross ownership between broadcasting and the press. The following issues are not analyzed: vertical integration, cross ownership with other than broadcasting or press industries (TO's, software companies etc.).

The need for a "pact on TEN" between the EC and the member states.

TEN is an infrastructure concept. Whereas the services to be provided on that network are software (programmes). The strength of Europe, internationally speaking, is certainly also in the software/content area.

If a trans European policy is to take of the ground it is paramount that Europe develops this strength, without having to refer back to the member states all the time (given the fact that content is under subsidiarity).

The need for a specific and global EC policy on to convergence

On the basis of what we know on the history of communication and networks innovation and assuming that the concept of TEN is realistic, the following main policy principles needed to make the TEN a success can be put forward.

First of all, there is a need for a stable economic environment to develop the networks and create demand.

Secondly, this requires an active and "superimposed" public policy.

Third, a user driven (content oriented) and user specific (not all users are the same) policy must be recommended

	Current EC policy orientation
stable market	agitated market
("new deal" type of policy)	(competition)
long term objectives	short term
user led	technology push
content oriented	(the medium has never been the

message)

By studying two of the most successful initiatives in the information society (Internet and Minitel) of the past 15 years it appears that they are the product of a strong central commitment, a coordinated and long term dedicated financial effort (enabling cross subsidisation), and a stable regulatory environment to encourage a chosen direction of technological evolution. and almost unlimited room for users to experiment with it (free access) and kick the service off.

4. Conclusion

The question of whether convergence will happen at all the levels discussed remains open (actors, networks, services). Recent reviews (Bustamente et al, Slaa & Burgelman) from a number of European countries have revealed that one cannot speak of a breakthrough on all the levels discussed here.

Convergence will not happen immediately on the level of the networks because of the key question of who will finance FTTH and/or if upgrading is not a better alternative, nor at the level of the services, because of the key question, to quote (Le Monde, 2/2/94) a recent conference of captains of the TV/Telcom industry in the US, on this subject:

"Will Mrs Jones (the American Mrs. Dupont) push the TV button and explore the multi-media world behind it or not?" .

We therefore agree, on basis of what was said in 3.6, with the Technibank study (1993) according to which a strong stimulation for both infrastructure implementation and usage innovation is needed if the EC wants the TEN's to be a success.

However, on the one hand, convergence on the level of the actors is undoubtedly already going on; thereby creating integrated communication industries (hard and soft, production and distribution) and generating all kind of problems concerning cross ownership, pluralism, diversity, support mechanisms, media policy and so on.

On the other hand, the digitisation of communication has also become an unquestionable fact; generating all kind of problems concerning ownership, intellectual property rights, copyright (in CDi development 25% of all costs go to royalties, I&I, 1993)), control, privacy and so on. The privacy problem - as clearly shown by the consumer resistance in Germany to the FTTH plans of DBT (see Garbe, 1992) - should also not be underestimated: the digitised registration of TV watching, buying products through tele-shopping and paying through home banking opens up extremely interesting marketing perspectives that may be not desired by every one (consumers habits are, so to speak, recorded on the spot and as real as can possibly be).

In other words, convergence also requires a new legal approach.

II. Towards a new regulatory framework

Introduction

Until recently, there was a sharp barrier between telecommunications as point-to-point voice and data applications, and broadcasting as point-to-multipoint video/audio applications. Progressively, over the past decade, this distinction has been blurred and convergence between media and telecommunications industries has become inevitable, both in terms of technology and markets. Garnham and Mulgan already pointed out several signs of convergence in 1991, among which 1). "the growing use of broadcasting networks, and of the spectrum allocated for broadcasting, to carry telecommunications-type data services", 2). "the development of joint-use broadcasting and telecommunication satellites", and 3). "the introduction into the basic switched telecommunications network of increasingly broadband transmission and switching capacity, which ultimately offers a potential development path via ISDN and broadband ISDN to integrated asynchronous transfer mode (ATM) broadband networks capable of delivering the full range of telecommunications and broadcasting services to the home" (Telecommunications Policy, June 1991, pp. 182-194, p. 183).

The problem is that the two industries involved, the telecommunications industry and the mass media industry, have highly different regulatory structures. In other words, "regulatory convergence" is extremely complex.

A. The present "dichotomic" approach

Present regulations have been conceived in a rather "dichotomic" manner: each regulation *either* concerns telecommunications, *or* the audiovisual industries.

This dichotomic approach (or sectorial approach) may be observed in different manners:

1. Traditional distinction between "private" and "public" communications

The regulation of "public" communications may be summarized as follows : with regard to actors, merger rules aim to ensure pluralism, as a guaranty of freedom of expression. Regarding broadcasting technologies (TV, cable, satellites), the aim is to control access in order to defend local cultural identities and promote local productions (quota rules).

The regulation of "private" communications concerns technology, and not content, (because of confidentiality considerations). It may be summarized as follows : the first aim is to guaranty

access to a universal service with regard to certain telecommunication services (in particular, voice transmission), and, in some instances, network access. As a result the monopoly of actors over communication technologies is maintained, in any event, to define rules governing operators with the aim of ensuring a stabilisation of economic and social objectives, such as universal service, high investment and penetration rates at low costs.

2. Compartmentalization of technical regulations and licenses

Regulation has thus led to the compartmentalization of two worlds, that of the media on the one hand, and that of private communications on the other. Accordingly, we have noted strict limitations imposed through licenses on interactive cable operators (see the "Television without frontiers" Directive), and, in the opposite direction, the ban imposed on telecommunication operators to provide (themselves, and not necessarily via their affiliates) video distribution.

On top of these prohibitions, the control authorities, and even the standardisation authorities (In Europe, the ESTI for some and the CEN-CENELEC for the cable distributors) vary according to whether they concern medias or telecommunications.

Furthermore, regulation grants certain designated operators the authorisation to carry out a pre determined task with a given technology method (In the UK there are licences for fixed networks, cellular radiotelephone service, PCN licences, POINTEL licences , RSVA licences, ...). There are no less than four different types of satellite.

3. Separation between actors and their activities

It must be mentioned at the outset that there is an important difference between the broadcasting and telecommunications sectors. The latter has been liberalised in the vast majority of Member States and is composed of state and privately owned companies. On the other hand, the telecommunication sector is still, in most cases, a monopolistic market , at least in so far as the basic services are concerned and the operators are often publicly owned.

In Europe, there are many regulatory obstacles preventing a company of the media sector from having a stake in another company belonging to the same sector (whether it is a stake in a monomedia company or multi media company), and preventing a broadcasting and telecommunication company from providing transectorial services . Furthermore, the present regulations vary tremendously between Member States.

The following list is by no mean exhaustive and seeks to illustrate the various types of limitations which exist regarding ownership and the transectional providing of services.

I. Transsectional ownership

- restrictions on a shareholder having a stake in the capital of a radio or television broadcasting corporation (for instance: Germany, Spain, Portugal);
- restrictions to monomedia concentrations in the press sector (for instance: Germany, France);
- restrictions imposed on cable operators from having stakes in private television companies (For instance: the Flemish Community in Belgium);
- limitations concerning multi media concentration in the press sector and radio and television broadcasting corporations, through cross ownership limitations (for instance: France, Italy, UK, the Netherlands);
- prohibition imposed on public companies from having a stake in a private television company (for instance : the French Community in Belgium);
- Authorisation imposed on a telecommunication company to own a cable operator (for instance : the Netherlands).

It can therefore be said that the regulations which restrict transsectional ownership primarily concern the press and television and radio broadcasting corporations. These rules generally prohibit telecommunication operators from having stakes in the press business and radio and television broadcasting corporations (even though their cumulative effects sometimes lead to this). However, the latter companies can not easily do the same when the telecommunication operators remain state owned..

II. Transsectional providing of audiovisuals and telecommunication services

- Prohibition imposed on telecom operators from obtaining a radio broadcasting licence (see for instance in Denmark, in the UK);
- Restrictions to provide public telecom services on the a cable television network line (for instance in Denmark);
- Restrictions to obtain a radio licence imposed on every day users (for instance: Germany);
- Restriction of the number of radio or television broadcasting licences for a same operator (for ex. : Germany, Greece, Spain, Flemish Community in Belgium);
- Prohibition for cable television companies to obtain point to point connections on their networks (for instance: The Netherlands);

-Prohibition for public enterprises to obtain a private television broadcast licence (for example: Germany, Italy);

-Lack of regulatory obstacles on the providing of telecom services by cable operators (for instance: United Kingdom);

-Lack of regulatory obstacles to the providing of radio broadcasting services by telecom operators (for instance: The Netherlands)

Concerning the transsectional providing of services, it can be noted that there are already many regulatory restrictions concerning companies belonging to the press or radio broadcasting sector and telecom operators. It can however be notes that the aim of these restrictions is chiefly to limit the providing of telecom services by radio broadcasting companies which can partially be explained by the fact that often, these telecom operators are in a monopoly situation concerning the providing of the basic services.

From this very short summary, it can be observed that there are certain types of transsectorial activities or controls which are not regulated or forbidden, and where no regulatory obstacle to convergence may be found, while others are strictly regulated. It appears that the most regulated and controlled sectors are the following:

- control and ownership of the media (in order to safeguard plurality of media);
- and possibilities for telecommunication operators to venture into the cable industry (in order to control dominant positions).

At the same time, it can be observed that the regulations have, as already indicated, been based on technical criteria to distinguish between the different actors and activities.

B. The American and Japanese approaches

1. The Regulatory Framework in the USA

Already a long debated issue in the USA, technology and market convergence is now well under way (as for market convergence in the USA, see for example the takeover of Tele-Communications Inc., the largest U.S. cable television company, by Bell Atlantic, one of the Baby Bells). This evolution has naturally put pressure on existing regulatory structures, and, presently, several bills are pending before the US Congress to adapt the current regulatory structure to a new "converged" framework. Noteworthy pieces of legislation related to convergence in the United States include the Markey-Fields bill and the Brooks-Dingell bill in the House of Representatives : the latter bill (HR 3626) proposes a framework for allowing long-distance and local telephone companies to compete against each other. The Markey-Fields bill (HR 3636), entitled the *National Communications Competition and Information Infrastructure Act*

aims to promote local telephone and cable television competition, as well as preserve and enhance universal service : these goals are advocated in the Markey-Fields bill via the following measures:

- repeal the cable-telephone cross-ownership rules;
- prohibit telephone companies from buying cable systems within their service areas;
- create of a Federal-State Joint Board to ensure universal service by requiring all providers to contribute to universal service;
- require the Federal Communications Commission (FCC) to review how the concept of universal service should be expanded to include provisions of "digital service";
- preempt state laws that prohibit entry onto local telephone networks so that local telephone competition would be national policy;
- require local telephone companies to establish separate subsidiaries for video programming services;
- require local telephone companies to provide equal access to and interconnection with their network.

Both the Brooks-Dingell and the Markey-Fields bills are to be the subject of hearings before the House of Representatives in the upcoming weeks (February-March 1994). In the U.S. Senate, mention is to be made of pieces of legislation introduced by Senators Danforth, Inouye, and Hollings (information on the Senate bills is not yet available at the CRID). The American Administration has voiced its support of these bills on several occasions (see Vice-President Gore's speech of January 11, 1994, p. 9). Basically, two approaches may be distinguished to overcome the convergence issue :

- simply allow no change (maintain the status quo, currently backed up by the 1984 Cable Act, related FCC rules, and the information services restriction);
- allow "full entry" by telcos into the cable business, i.e. give more room for competition.

In the United States, it appears that the second approach has been adopted, subject to the imposition of several safeguards. The reason underlying this approach is specific American reliance on market forces, and the conviction that, "In general, government restrictions that have the effect of limiting the uses to which new technology can be put tend to be inefficient and anticompetitive, and retard investment in that new technology" (National Telecommunications and Information Agency (NTIA), report on *Telecommunications in the Age of Information*, NTIA Special Publications, 91-26, US Department of Commerce, October 1991). Put otherwise, the convergence of the telecommunications and cable TV industries would be *enhanced* by industrial logic rather than regulation. The reasons for convergence will be discussed below.

The Modification of Final Judgment (MFJ) prohibited the Regional Bell operating companies from providing "information services", interpreted to include

everything from electronic publishing (eg. news, business and sports) to cable television.

This information services restriction was lifted in 1991 (see *Information Services Ruling, United States v. Western Electric Co., Inc.*, Civ Action No. 82-01092, D.D.C., July 25, 1991). Understandably, the RBOCs were pleased by this decision. Others, however, were seemingly discontented : the American Newspaper Publishers Association, for example, voiced its fears concerning competition from on-line news and classified advertising. Furthermore, some consumer advocates expressed their worries as to the amount of information RBOCs might be able to control. Both of these concerns should be taken into consideration when analyzing the implications of convergence within the European Union.

Since 1970, US telephone companies have been prohibited from providing cable television services, either directly or via affiliates owned, operated or controlled by them. As of 1988, the Federal Communications Commission (FCC) expressed its views in favor of eliminating the telco-cable cross-ownership prohibition. This was to be followed in 1991 by a report, issued by the National Telecommunications and Information Agency (NTIA), entitled *Telecommunications in the Age of Information..* Specifically, this report supported the idea that local exchange carriers (LECs) should be allowed to own, control, and provide video programming over their own facilities. Indeed, LECs have long argued that the telco-cable cross ownership restriction violates the First Amendment of the US Constitution, which provides that government shall make no law which abridges freedom of speech or of the press (for further information on this topic, see NTIA report, aforementioned, p. 243, note 884). In other words, telephone companies would have First Amendment rights, and accordingly, freedom of expression would apply to everyone. It should be reminded here that the repeal of the telco-cable cross-ownership rule is one of the measures advocated by the Markey-Fields bill (see above).

Up until now, the dichotomy in US regulation of communications has been between means of distribution and actual content. To quote Ithiel de Sola Pool, "The traditional law of a free press rests on the assumption that paper, ink, and presses are in sufficient abundance that, if government keeps hand off, people will be able to express themselves freely. The law of common carriage rests on the assumption that, in the absence of regulation, the carrier will have enough monopoly power to deny citizens the right to communicate. The rules against discrimination are designed to ensure access to the means of communication in situations where these means, unlike the printing press, consist of a single monopolistic network. Though First Amendment precedents are largely disregarded in common carrier law, still this one element of central liberty is central to that law" (Pool, cited in Gershon, p. 118).

The dichotomy is now crumbling. The reason underlying the NTIA's aforementioned position is that cross-ownership would serve to promote investment in broadband public network technology. This, in turn, would deliver "many types of telecommunications services that would be valuable in enhancing the economic and social lives of all U.S. citizens" (NTIA report, p. 242). According to Henry Geller, "fibre-optic technology, under sound governmental policies, can contribute dramatically to promoting the underlying goal of the First Amendment, improving productivity, and enhancing the quality of life in the information age".

In economic terms, cost benefits would result from the combination of mass media and telephone services over a single infrastructure. For the time being, "The average telephone line in the US is used for only 20 minutes a day. For the remaining 23 hours and 40 minutes, it is dead". The effects of infrastructure investments on economic development are discussed in detail in the aforementioned NTIA report. The report also reviews social benefits.

It appears that the USA will indeed lift its current ban on telephone / cable TV cross-ownership in the upcoming year. The Markey-Fields bill aims at this goal. At the same time, all telephone service providers would be required to open their networks to rivals with the guaranty of universal local telephone access. As a safeguard against anticompetitive practices, telecommunications operators would be prevented from linking up with cable companies operating in the areas where they run telephone services.

As it is, one must stress the argument that entry of large telephone companies into the cable television business could have an effect on competition. It is not, however, always clear that that effect would be negative : indeed, it could lead to more diversity by increasing the choices available.

Overall, a "national information infrastructure" (NII), is supported by the Clinton administration and a broad range of US industries. Vice-President Gore, a long-time proponent of information superhighways, presented his plans for a new regulatory framework at a speech in Los Angeles on January 11, 1994, following an address at the National Press Club, in Washington D.C. on 21 December 1993. Details of the National Telecommunications Reform in the United States may be found in a White Paper (obtainable via Internet). The outline of the reform, as presented by Vice-President Gore on January 11, 1994 aims at the following :

- encourage private investment;
- provide and protect competition;
- provide open access to the network;
- avoid creating "information haves and have nots" (universal service);
- ensure flexibility.

i. Encourage private investment and provide and protect competition.

The two goals are linked : for Gore, "competition is the single most critical means of encouraging (...) private investment". The American administration is currently set on removing barriers to participation by private firms in all communications markets. Accordingly, it acknowledges the positive role done by the courts in connection with the MFJ. It underlines however the need to go beyond the consent decree of 1982. In so doing, the Administration specifically advocates the removal of the current cross-ownership restriction, i.e. telephone companies should be allowed to provide video services in their local exchange areas. As a safeguard against potentially anticompetitive mergers between telephone companies and cable companies, it is proposed that telephone companies be prohibited from acquiring cable systems located in the companies' local exchange areas (with an exception for rural areas). In any event antitrust laws would apply to telco-cable acquisitions.

Furthermore, the Vice-President acknowledges the need to interconnect the networks of competing providers with the facilities of all telephone companies on reasonable and non-discriminatory terms. The need to preempt state entry barriers is also stressed, and finally, the Administration supports the Brooks-Dingell bill in that it : a) would require prior FCC and Department of Justice approval before the RBOCs may provide interexchange services (notably long distance services), and b) that it would require a separate affiliate for electronic publishing.

ii. Provide open access to the network.

The free flow of information requires open access. Accordingly, the Administration aims at lifting technical obstacles (affirmative action is to be taken "to interconnect and to afford nondiscriminatory access to network facilities, services, functions, and information"). It is envisaged to grant the FCC the future authority to impose non-discriminatory access requirements on cable companies.

iii. Avoid creating "information haves and have nots" (universal service).

A basic feature of the "Information Superhighway" is to avoid a society split between information "haves" and information "have nots". Vice-President Gore's speech is somewhat short on the concept of universal service, if but to underline "that is is critically important (...) that all carriers must be obliged to contribute, on an equitable and competitively neutral basis, to the preservation and advancement of universal service". He goes on further : "Our basic goal is simple : there will be universal service; that definition will evolve as technology and the infrastructure advance; *and the FCC will get the job done*" (our italics).

A Federal/State joint board is to be set up to make recommendations concerning FCC and state action on the fundamental elements of universal service (with the input of non-governmental organizations). Furthermore, "the FCC, in consultation with the states, would be authorized to

permit "sliding-scale" contributions (e.g. to avoid burdening small providers and new entrants), or 'in-kind' contributions in lieu of cash payments (e.g. to reduce the monetary payments owed by providers that offer to connect with schools, hospitals, etc.)".

iv. Ensure flexibility.

Briefly, the speech of January 11 stresses the need for the development of a new regulatory framework that is flexible. Firstly, the FCC would be allowed to "reduce" regulation for telecommunications carriers that lack market power. Secondly, a new Title VII would be added to the Communications Act, outlining a regulatory regime, in order to encourage firms to provide broadband, switched digital transmission services.

2. The Regulatory Framework in Japan

Japanese cable television companies do not encounter any regulatory restrictions in relation to the providing of telecommunications services. However there is only one such company which offers this type of service: Lakecity Cabletelevision. Access to the network is however subject to the authorisation of the Ministry of Post and Telecommunications (MPT).

Telecommunications operators can provide television broadcasting services, except for the main operators: NTT. In practice no operator offers these services.

NTT and other operators may provide networks for cable television (for more details, see Virat Patel, in Telecommunications Policy, March 1992, pp. 98-104).

C. Some major issues and key principles

The following issues have been identified as requiring special attention. They are key principles of the functioning of the European information market, and at the same time they may be affected by the growing convergence between telecommunications and media.

These issues are "horizontal" in the sense that they concern the three areas distinguished in this report, i. e. technical aspects of convergence, importance of the actors, and variety of the services.

a). Safeguard of competition as such

It may be argued that safeguard of competition is not an objective as such. Indeed, it may be seen as the best method found up until now to improve quality of the services, dynamism of the markets and competitiveness of the prices. For the purposes it thus serves, safeguarding competition is obviously an essential objective.

The fact that information is by essence an intangible good does not prevent it from also being a tradable commodity. In the same manner as one talks of an "information society", one speaks of an "information market". As such, in its economic aspects, this market must be regulated by the same competition rules as other markets in the Community areas: it is a market in which economic actors will offer products and provide services, enter agreements and commercial relations.

There has been little case-law so far on the application of competition rules (either EC or national) to the information market; but its growing economic importance will inevitably increase litigation and will make it necessary to define the mechanisms of application of competition law.

Convergence will render such definition all the more difficult:

— Agreements between undertakings will have to be examined in order to decide when exemptions can be granted, to e.g. promote "technical progress" (article 85.2. of the Treaty); due to growing convergence, agreements could more often than before be entered into between companies originating from very different sectors, so that the impact of such agreements on competition may be difficult to assess.

— Concerning Article 86 of the Treaty, a difficulty will be to determine the relevant markets in regard of which the dominant positions must be considered, since actors of different sectors will be able to intervene on new "transsectorial markets". Recent case-law tends to indicate that in the information sector (be it e.g. about TV guides or meteorological information), markets are defined narrowly (due to a low degree of substitutability), and dominant positions are easily considered as abusive within the meaning of Article 86.

— Convergence may bring about new possibilities of competition, but between actors of different strengths: telecommunication industries have greater economic power than those in the audiovisual sector. Special consideration should therefore be given to possible restructuring of existing markets, in order to avoid convergence leading to too much of one-way dominance by some industries to the detriment of others. For the same reason, the possibility of applying stricter rules to some actors, or to provide "positive discriminations" (e.g. regarding public financial aid) should be considered. The principle should be that transsectorial industries and activities should be allowed, and that legal obstacles to such converging factors should be lifted. Some rules may nevertheless have to be established, by way of exceptions, to avoid the possible negative impacts of convergence on competition.

— Convergence will give greater importance to issues of access: access to information as such (substantive contents of information), access to networks (and to technical information). In this

respect, intellectual property rights, even though necessary in order to promote and reward innovation, must not be abused to unduly restrict access to e.g. copyright information (such as contents of information services) or patented information (such as technical information on interfaces), or to prevent standardization and interoperability of networks.

b) Safeguard of pluralism

On top of safeguarding competition, it is important to ensure that pluralism is maintained. Its existence could indeed be threatened if the market structure is changed by convergence of telecommunications and media. Maintaining pluralism as a method of ensuring the diversity of the information available to the public and thus democracy and as reflecting cultural diversity in Europe can be viewed from an external point of view, by examining the number of channels and above all by the number of “ supervisors ” of these channels, and from an internal point of view, by examining the contents of the programmes which are offered.

A preliminary observation must be made. The safeguard of competition which will have to be ensured in the multi media market (see above) cannot on its own guaranty that pluralism will be maintained. Indeed, some situations which are likely to occur and which could endanger pluralism cannot be resolved by applying competition rules ¹. The two objectives do not necessarily coincide and achieving one does not necessarily imply the other one is achieved. Beside the high thresholds provided for by Regulation n° 4060/89 on concentrations², the present tendency to define quite segmented markets will lead to a situation where the impact of a concentration on pluralism will become difficult to assess.

The risk is that this problem will not disappear so long as alongside services combining more than one medias, there will still be single medias.

Furthermore, a strict interpretation of the Regulation does not enable, in the absence of significant barriers to competition, to take into consideration the criteria of affectation of pluralism as such when assessing the concentrative operation. However, the Regulation does enable Member States to take appropriate measures in order to ensure the plurality of medias when the Commission does not initiate a procedure against a concentrative operation with a Community dimension provided these measures are compatible with the general principles and other provisions of Community law³. Any restriction must therefore conform with the rule of the freedom to provide services embodied in article 59 of the Treaty and the free flow of television programmes which is embodied in the Directive “ Television without frontiers ” and also with the limitations of these principles

¹On this point, see the analysis carried out by the Commission in the Green Book on pluralism and media concentration in the internal market, the limits of the coincidence of interest between the safeguard of competition and pluralism, COM (92) 480 final , p. 86 and following.

²O.J. n°L 395/1 of 30.12.1989

³Article 21§3 of Regulation n° 4064/89

which are allowed pursuant to article 56 of the Treaty and article 10 of the European Convention on Human Rights.

The external aspect of pluralism: the diversity of channels and the control of shareholders

It therefore appears clearly that national regulations remain necessary in order to guaranty the external aspect of pluralism regardless of whether the concentrative operations have a Community dimension. Such national regulations exist at the moment, with great differences between Member States (both in so far as the type and scope of restrictions is concerned) which limit cross ownership between companies belonging to the press sector and the television or radio broadcasting sectors or which limit the maximum stake of one single shareholder in these companies. However, these regulations rarely take into consideration the threat to pluralism which could result from the entry on the multi media market of new actors such as telecommunication operators and companies belonging to the consumer electronics sector.

It is therefore necessary to be cautious in order to avoid deregulation, which is as such desirable to ensure the development of a new mufti media market and competition within this market, destroying pluralism. In order to avoid such a damaging situation, deregulation must not take place by removing existing regulations on transsectorial ownership (except when they contain prohibitions and not limitations concerning plurality of ownership in various medias) which will however need to be re-thought in order to take into consideration the arrival of new actors on the market but not by dismantling the obstacles to the transsectorial providing of services. Obstacles to such a providing currently exist and are often one way obstacles in the sense that they only concern companies of the press sector or the television sector, which are already in a weak position compared to the other interested actors (telecommunications and computer).

Another prerequisite for maintaining external pluralism is the possibility for media companies to have sufficient advertising income in order to survive and in order to remain profitable.

This income is likely to fall in the future because convergence will probably lead to the creation increasingly specialised channels. The audience will therefore become more fragmented and advertising (except when it concerns a product which interests a wide public) will become more and more specific and its income will become more and more scattered between the numerous channels. These in turn will have to find alternative means of income and it is expected that the medias will become “ toll ”medias or that they will start adopting the pay per view system, with the dangers this could lead to for the providing of a universal service (see below). Furthermore, advertising rules will have to be re-thought. A difficulty will be for instance to control in the future the time which is devoted to advertising. (see articles 18 and 19 of the directive “ televisions without frontiers ”).

The internal aspect of pluralism: control over the contents of the programmes and safeguard of European productions.

Different questions must be raised. First of all, convergence between telecommunications and the media will lead to a confrontation of regulations. Regulations concerning the medias is characterised by an action over the contents of what is broadcasted while this is not the current situation concerning telecommunications regulations. A new approach must therefore be adopted, regulations over contents must concern all multimedia programming, whatever the technology used if we are to avoid counteracting the current rules on the contents of television programmes. Furthermore, such a regulation must respect national cultural diversity and the principle of subsidiarity.

Furthermore, the current rules on quotas which are contained in the Directive “ Televisions without frontiers ” will have to be put into question because they will no longer be able to be controlled. Indeed, the user of new multimedia services having complete programme choice, could always bypass these rules by for instance choosing to only watch American productions.

In order to guaranty the survival of European productions, it will therefore be necessary to take upstream action by granting larger aid to production. In this respect, the Treaty on European Union is a step forward since the new article 92 of the Treaty provides in paragraph 3,d) that “ may be considered compatible with the common market aids which are destined to promote culture and the conservation of heritage when they do not alter the conditions of exchanges and competition in the Community in a way which would be contrary to the common interest ”(our translation). Furthermore, the new article 128 of the Treaty provides that Community action could complete the action by Member States in the area of artistic and literary creation including the media sector.

In this context, the function of media programme production public companies, as classic guarantors of a certain pluralism and of a certain forms of local production could be put into question. The American solution which considers the public service concerning media as a state aid available to all the local interest groupings , aid (including training) to the production of media programmes and as an obligation for the operators to broadcast such productions (must carry rule) should be examined. This solution is another way of ensuring at the same time the respect of pluralism and local production.

c). Convergence and Universal Service

The universal service concept, which recently appeared in Europe, is already a major goal in Community-wide telecommunications policy. The aim is to achieve this goal in a competitive environment. As such, universal service refers to a "defined minimum service of specified quality", made available "to all users at an affordable price" (Commission Communication of 28 April 1993, COM(93)159).

Of utmost importance is the definition of the "basic service package" for universal service purposes : what, indeed, is included in this package ? What service elements make up a Community-wide public service policy ? The answers to these questions are all the more important in the context of convergence between telecommunication and media industries. Since the capacities offered will be ever greater, how are we to adapt the universal service concept to future evolution ? Should we specify its contents (with the risk of seeing them fast become obsolete ?) or should we simply lay out guidelines ? The determination of what makes up the basic service package will not only depend on capacity offered by the future "superhighway", but also on economic needs. In any event, it is accepted by everyone today that voice transmission ("Plain Old Telephone Service" or "POTS") is a universal service goal. In the context of convergence, certain "advanced" features will have to be included in this "basic service package".

Thus, "information" could become part of this concept of universal service because of what is considered "essential" or "vital". This would serve to limit the dichotomy between the "information haves and have nots". Many examples are possible: assistance in order to fill-in administrative documents, access to administrative departments, encyclopedial consultations, public health information, etc. D'un "service de téléphonie universel" découlerait un "service universel de télécommunications".

On top of the wish to avoid living in a society operating on different levels, the universal service "with a content" (a service "with an informative" or "functional" content in contrast with a mere "technical" content) would be justified by social gains which could stem therefrom: "par exemple, nous dépensons actuellement 670 milliards de dollars en soins de santé. Si l'information préventive et la possibilité de communiquer aisément avec le prestataire de soins de santé serait à même d'épargner aussi peu qu'un pourcent de ce chiffre, ce montant sera en bonne voie de financement de cette information" (Hadden, p. 82).

Since 1986, a Universal Service Fund (USF) exists in the US which aims at maintaining affordable telephone tariffs. In order to achieve this, the USF assists high cost local exchange carriers (LECs). At present, this fund operates by using "access charges" which are paid by interexchange carriers (IXCs) to the LECs (for plus d'information, voir the rapport précité NTIA, p. 310-311). A similar initiative could be envisaged in Europe in the more general context of convergence.

D. Principles for a new legal framework

The European legal framework appears in many ways to be the major obstacle to convergence between technologies on the one hand and the actors on the other.

The reason is essentially because of the sketchy quasi dichotomic approach of the actors and technologies. This approach is based on the traditional consequences which come from the fundamental dissociation between public and private communications which is inherited from the past.

The digitalisation of data (written, voice, or relating to pictures) and their compression radically transforms the foundations of the regulatory approach described.

This mutation is analysed from various points of view:

-concerning the transport carriers

The evolution of the use of communication technologies does not appear to lead to the idea of a single universal network entirely carrying a network message like RNIS but on the contrary to the existence of so called " hybrid " networks which privilege the use of different transport carriers whichever is the most efficient according to the situation. Studies carried out by the OECD (" Computer services, computerised information services and value added network services ", reply to the OCDE questionnaire (joint working group CMIT/PIIC), September 1989, 62 pages) have shown that " hertzian " transmission technologies could in the local loop be more efficient and much cheaper than cable or fibre technology.

Regulation can therefore no longer follow the technology criteria (see above our remarks) but on the contrary it must favour the user's choice of one ore more transport carriers. This implies that the emphasis must be put on the rules concerning network access and interconnection whatever these are. The rules on ONP must be broadened in this direction.

Any regulatory distinction between broadcasting and communication technologies must be swept aside, in particular, the standardisation authorities must be common and their action must be coordinated on the European level following the ETSI model.

The development of a plurality of transport carriers which can offer competing or complementary service implies that a plurality of companies is maintained that manage various infrastructures which will grows in competition. This does not prohibit one operator from seeking to master various carriers but it must be seen that his position does not become dominant on the market.

In any event, the concept of “ public communications ” or media must be redefined.

It can no longer be defined in relation to a carrier (paper or television), it will have to be defined in relation to the aim of the message which will be either directed towards an open or closed group of users. The remarks which have already been made concerning videotext or audiotex illustrate the need to redefine a global status for the “ press ” which would be founded on a few principles: independence of journalists, identification and liability of the editor, right to reply.

The Commission should seek to create “ Press ” working groups bringing together all the actors of this sector thereby sweeping aside the present regulatory splits.

- concerning the offer of services

According to the Warburg report, the emergence of the so-called multimedia market will profit the software industry i.e. film, video games, data base producers etc...which are want to benefit from the new qualities and capacities of the infrastructure in order to offer their services at home etc...

This is the reason why the telecommunication operators and software industries have a mutual desire to multiply strategic alliances and take takeovers (ex. take over of Paramount by TCI and decisions announced by Microsoft). At present, there are no specific rules prohibiting such operations.

For this industry, the crucial legal question concerns intellectual property which ensures the profitability the investment. The work which is put on the multimedia market can be reproduced, modified, mixed without any control over the use . The intellectual property issues which the development of multimedia raise are numerous. Here are some of these issues:

-the ownership of rights: next to the question of determining who owns the rights when the work derives from a multitude of original works, a further question is to identify automatically (or at least easily) the owner of each work.

-the exercise of rights: technology enables the automatic exercise of the rights to use and reproduce. This automatic exercise which is implemented as soon as the work is put on to the electronic market must be standardised and requires a common definition at the European level of each of the intellectual property rights as well as control of the owner over the exercise of these rights. Recent developments tend more and more to enable through intellectual property rights the control of the use of the products (for software), or control over the access to information (for data bases). The legal monopoly of the holder of the rights is therefore reinforced by a de facto monopoly. The question of “ compulsory licences ” must therefore be looked at in depth.

-at last, **distinctions founded on the carriers** concerning the applicable regulations must be abandoned: when a paper data base is scanned, must not be protected in another way just because it has changed carriers.

The traditional forms of media are also concerned by the development of new medias.

First, it is clear (see above) that the concentration cannot be prohibited as such because it cannot adapt its production and broadcasting to new technologies.

Second, it is certain that any regulation by quotas or restriction of access will rapidly prove to be inefficient. What could be the significance of such regulations when the advance of technology enables at all times infinite choices through different transmission channels and without any control possible (public communications becoming confused with private communications in the transport of digitised information)? If promotion and defence of local cultures is considered important, it appears that the only approach possible is to subsidise production creation and broadcasting.

A last, there is the problem of advertising income. Traditionally, a large percentage of the advertising income went to the traditional forms of media in order to touch a wide audience. A precise location of the users of the services which are offered according to the transport carriers will enable the advertisers to better target their advertisements and to divert the advertising income from the traditional medias towards other service providers. The regulations on the offer of advertising is decisive in order to ensure the survival of the traditional medias.

Advertising is of course essential in order to ensure the financing of certain services. Its definition through new medias therefore raises the following questions:

- distinction advertising-information;
- identification of advertising slogans;
- user's right not to "suffer" the advertisement;
- prohibition of advertising within certain services in order to guaranty the existence of certain services which are incapable of surviving without advertising (e.g. the press) or the creation of a fund sharing advertising income.

-concerning the user of services

The multimedia market is first of all a wide public market. The reduction of the installation costs of the transport carriers and the quality of the services which are likely to be offered to the public at home justify this assertion.

In this context, a regulatory reflection must go along, at least, the following three lines:

-the question which has already been raised concerning the universal service defined no longer simply in terms of access to a technical service (voice transmission) but as a right of access to certain informative contents (the right of access to certain programmes, certain data bases, etc..). Indeed, technology enables to go from one public communication logic to a subscription and password logic.

-the questions of privacy: these arise differently in a context where national frontiers no longer exist, where information comes from the actual use of the service and where the place of for stocking the data which are thereby created are numerous and not obvious to the data subject.

In addition, the development of nominative data bases (with pictures) raises the question of the adaptation of our legislation which was based on written data bases.

Last, is the method of regulating intervention adapted and would it not be better to adopt the more flexible method of codes of conduct to which the servers wishing to have access to a network would adhere to ?

The same idea can be expressed in so far as the questions of lawfulness and morality of these messages are concerned.

-the last question of consumer protection: this requires a reflection as to the ability of the persons who offer services through electronic means which could comprise the obligation for them to use technical systems enabling the consumer to identify them, to authenticate the data, the transaction, the reliability of their preservation, etc...

Recommendations

1. The Commission should envisage the creation of an "Information market" observatory, gathering technicians, economists and lawyers and having an advisory competence on the future measures to be taken in order to promote the development of the information market, including the maximal use of the different infrastructures.

This observatory should

- discuss the impact of the technological development on new services;
- analyse the strategies of the different actors;
- examine the present legal barriers for this development and promote a new legal framework taking into account the legitimate interests of the different actors and users in a democratic and pluralistic society.

2. In the context of the work done by this commission, the following measures should be examined more specifically:

- the impact of certain regulations (mostly in U.K. and the Netherlands) allowing the transsectorial ownership and the transsectorial providing of services;
- the development of the U.S. policy concerning the relation of NII.

3. Following its new competence regarding the cultural activities the commission has to organize a better convergence of the national and regional policies about the audiovisual and press sectors (including regulations on "publicity").

4. Certain large public multimedia services have to be supported.

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