Technology as Cause of Change

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Developments in information technology challenge the very intellectual foundations, theoretical and empirical, of media research. The convergence of technologies breaks down traditional distinctions between media and modes of communication (van Cuilenburg & Slaa 1993, Skogerbø 1997). These processes also give rise to the need for new orientations in research and a preparedness to cross over borders between previously separate research areas; a convergence between different areas of research, if you like.

My comments differ somewhat from others' approach to new technology and the consequences of technological advances. Whereas others primarily focus on actual changes in the technology, I am more interested in social and political change that parallel changes in technology. My interest in new information technology is due to the fact that technological advances, combined with economic and political forces, are among the principal forces of change in society and the polity today. No one interested in politics or society can ignore technological developments.

These prefatory remarks having been made, I should like to start out by questioning the premisses for this session, as reflected in the theme, *The New Media Landscape: Research on New Information technology*. This heading may be taken to imply that technological advances are the driving force behind changes in the media landscape. This is not necessarily wrong, but it is not a particularly sophisticated notion, and it smacks of a kind of technological determinism which I cannot subscribe to. The "new media landscape" is the result of much more than 'new' media and modes of communication like Internet and other digital and network-based communication.

Convergence and New Media as a Topic of Research

Dutch researchers Jan van Cuilenburg and Paul Slaa (1993) offer a definition of convergence which specifies the relationships between technological, political and economic change. They distinguish between network convergence, the convergence of services, and market convergence – only the first of which, strictly speaking, is a technological change. *Network convergence* refers to the changes in technology which make it possible for previously separate transmission networks to carry digitized messages of any kind, e.g., the ability of telecommunications networks to carry pictures and text. *The convergence of services* refers to the melding of different media and the emergence of entirely new media as a result of network convergence and digitization. Examples of this kind of convergence include various forms of electronic publishing, e.g., newspapers via Internet. *Market convergence*, finally, refers to an economic process: economic sectors and branches which, up to now, have been fairly independent of one another, come to overlap (e.g., telecommunications and broadcasting). This type of convergence is due in part to new technology, but it is also a consequence of the liberalization of previously closed markets and the internationalization of the economy and policy.

The three convergences have different consequences for cultural and media policy. Network convergence dissolves regulatory distinctions be-

tween different modes of distribution and will probably do away with the scarcity of distribution channels which was the prime raison dêtre not only of broadcasting monopolies but also of the concessionary systems which all the Nordic countries have maintained.

The convergence of services takes away yet other arguments for regulating the respective audiovisual services differently; it is also one of the main reasons copyright regulation has come under heavy pressure. Market convergence has also caused considerable concern on the national level: concentration, cross-ownership and the formation of alliances create multinational conglomerates which control the production of content, consumer hardware and distribution technology.

Research on 'the new media landscape' cannot focus primarily, let alone exclusively, on information technology. Changes in ownership, markets, media structures, media institutions, programme content, audience response and other phenomena which can be observed on national and international levels have to be explained in terms of more factors than information technology alone.

Technology, State and Market

My research project on changes in media policy and media structure in the small states of Europe takes its point of departure in the proposition that technology is one of several driving forces.[1] The project focuses on changes in three countries: Norway, Denmark and The Netherlands. All are under the same kind of pressure from external factors, which affect the premisses for policy: *the convergence of telecommunications, computer networks, broadcasting and publishing technologies; internationalization/globalization of the economy and markets, and Europeanization of political authority.* These processes contribute, individually and together, to limit the autonomy and freedom of manoeuvre of the nation-states vis-à-vis the environment.

The main focus of the project is on how and in which direction media policy is changing in different states, with special attention to how services to the public are maintained or changed with respect to such factors as accessibility of infrastructure and uniformity and standard of quality of output. What happens when the playing field of media policy is altered and new players come into the game? To what extent do national systems become more similar? What power do various interests command, and how are changes motivated and accorded legitimacy? These questions are explored empirically by means of material gathered from documents held by private and public organizations and institutions, and through interviews with representatives of the interests concerned.

Thus, the processes of technological change are not the prime focus in my research. To the extent that one factor can be isolated it is the role technology plays in relation to other driving forces that is studied. So far, the project has yielded two insights that are particularly relevant in relation to the issues discussed here: The first concerns *the expansion of the empirical field*, and the other has to do with the *theoretical challenge* that follows from the transcendence of established boundaries between disciplines, each with its own dominant normative and theoretical perspectives.

The convergence of information technology, telecommunications, broadcasting and publishing technologies is the starting point of the study; as a consequence, its empirical scope is broader than generally is the case in traditional media research. The differentiation of the media landscape is not the only reason for this. Of at least equal importance is the fact that entirely new interests and actors – each a source of data, norms and assumptions – have come on the scene. Among these new players are individuals, organizations and political forces which have something to gain by influencing the formulation of policy in the areas of information technology, telecommunications and traditional mass media.

This broadening of the empirical field is not without its difficulties, however. Analyses clearly demonstrate that network convergence may be described and operationalized in terms of the development of new kinds of media. Social, economic and political structures, on the other hand, are not so easily grasped in these terms inasmuch as markets and branches continue to be separate entities, despite the fact that networks and services converge. One important distinction between the telecommunications and broadcasting sectors is, for example, that they are regulated according to radically different regimes. In the Nordic countries, telecommunications is a regulatory sector unto its own, and it is currently undergoing comprehensive liberalization. Radio and television, on the other hand, are regulated via concessions and other instruments of control over the right to transmit as well as through regulation of content (language codes, advertising, types of programmes, etc.) Throughout western Europe only a limited amount of competition among relatively few broadcasters is permit-

ted. In other words: whereas the market is successively supplanting regulatory mechanisms in the telecommunications sector, the process is not occurring to anywhere near the same degree in broadcasting.

In the three countries in my study, for example, traditional media policy is the responsibility of the ministries of culture, whereas the 'new media' sort under the heading of 'telecommunications services'. This means that the data have to be collected from many different sources, not only from a wide range of organizations and institutions, but also from spheres of policy having quite different logics: cultural policy, communication (infrastructure) and transport, industrial policy, the labour market, etc. The same goes for non-governmental actors: Even if we have many examples of technological convergence leading to transcendence of traditional sectoral boundaries, representatives of the interests involved do not always view the processes from the same perspective.

The Problematics of a Multidisciplinary Approach

The greatest challenge in the study of the significance and ramifications of convergence lies on the theoretical plane, however, inasmuch as it involves a meeting of widely differing theoretical traditions. Media research, with its roots in humanistic and social science theory, has been dominated by more or less critical perspectives on the role of the media in society. The media have been perceived primarily as cultural institutions which play central roles in democracy and society at large, and only to a lesser extent as economic entities and members of an industrial sector or branch. To the extent the branch perspective has been applied it has often had a negative valence: e.g., criticism of commercialization, concentration of ownership and other undesirable and non-intentional consequences of technical or political developments.

Much of the literature which treats structure, policy and politics in the areas of telecommunication and information technology has quite different points of departure. With some exceptions, the non-technical literature on telecommunications is dominated by neo-liberal economic perspectives. This relatively new field of research has its origins in the fields of Business and the Law. Analyses of companies, market structures and competition are focal and the basic assumption is that this is a new industry, not particularly different from other branches. Thus, the former telecommunications monopoly is described as the result of 'natural monopoly' or of government intervention in the market rather than as institutions which have been, and are, producers of public services, i.e., utilities.

This literature generally regards themes like democracy and equality and, not least, cultural political issues as irrelevant, or as problems which have to be solved by other means than sector-specific regulation. A cardinal example of this kind of thinking is the following quote from a report on convergence commissioned by the European Commission to provide background for new legislation on the joint media and telecommunications sector:

> It could be argued that nationally based broadcasting legislation as a whole is concerned with "cultural aspects" or identity and accordingly should not be affected by other provisions of the Treaty at a European level. It is our view that this argument is not valid. The proviso for cultural identity may be applicable to certain regulation concerning the programme content of broadcasting services as they relate directly to culture. Such arguments should not be used, however, to prevent the harmonisation of relevant legislation at a European level relating to other aspects of traditional broadcasting regulation including the procedures for licensing, restricting business activities or the right to operate differing methods of distribution. ...(KPMG Consulting 1996:156).

KPMG rejects the notion that there can be cultural policy considerations pertaining to anything but programme content, an interpretation which is very restrictive, viewed in the light of Nordic regulatory tradition. Once again, we find a tendency toward technological determinism and in a form with a strong political charge: KPMG argues that convergence has *inevitable* political consequences, viz., the dissolution of existing regulatory regimes and total liberalization. That this line of argumentation is persuasive in political circles is clear in the following statement a Norwegian politician made in conjunction with a change in Norwegian telecommunications policy in 1996:

> Technological development has shattered the framework for telecom policy. Reality itself has broken the monopoly.[2]

The notion of *inevitability*, which has also influenced many in the media research community, glosses over power relationships and conflicts,

when in fact it is quite uncertain how technological convergence will affect markets, consumption patterns and society at large. Technology is an ingredient in power struggles, both domestic and international – a fact which is ignored when the focus remains trained on technological developments. Consider, for example, the differences in the views expressed by representatives of different actors in the media market.

It is a well-known fact that major shares of the information and communications industry are determined that the regulation of new services that emerge in the interface between telecommunication, broadcasting, and computer networks should be kept to a minimum. In a recent comparative study of Norway and Denmark, which included spokespersons in government, different categories of users, trade unions and industry, not a single person among those interviewed in Denmark (in 1995/96) opposed liberalization of the telecom sector (Storsul 1997). In Norway the picture was almost as clear. Nonetheless, there is quite an array of views among actors occupying different positions in the market place regarding the need for regulation. Among the representatives for large actors with a dominant position in the market, the prevailing view is that media and telecommunications are converging and that the emerging multimedia market neither should nor can be regulated by political authorities.

Similar views are heard among the representatives major software producers, and among other companies which occupy dominant positions in their respective markets. The picture changes, however, if we move from the majors to representatives for smaller, non-dominant actors with limited influence on the market. Here we find a solid opinion in favour of market regulation to ensure that the major players do not become too powerful so that they can dictate terms. This latter view is shared by representatives of various user and consumer groups, as well.

Thus, none of the actors considers political regulation irrelevant, but they differ widely as to the kind of regulation they would like to see. It is remarkable that those who have the most to lose, should the media sector continue to be tightly regulated, are working to make the regulatory regime as little restrictive as possible. These are the same actors from whom one most often hears claims regarding the inevitability of the consequences of technology.

What Media Research Can Contribute

It is here that we should return to the question of the challenges research on new information technology pose to the media research community. Several writers have argued that the confrontation with a new media landscape has thrust the field into crisis, that we stand empty-handed, with neither methods nor theories to meet the challenge.[3]

I, taking the same starting point, would like to advance a different view: Media research is always in a state of crisis – as any number of articles and debates bear witness to. Crisis is a standard feature of the field, and the interdisciplinary character of the field is the cause. The interdisciplinary character obviously gives rise to frustration over the lack of 'grand theories' and holistic approaches, but also to renewal and debate, not least with respect to the question of the importance of technology for social and political change. This is one of the classic themes in social science and mass media research which periodically comes to the fore with renewed force, whenever a new communication technology achieves a certain breadth of penetration.

There is an abundance of historical literature on the subject of the role of media and communication in contexts of social change. Particularly the question of whether technology has a liberating potential or, on the contrary, gives rise to alienation, impotence and social inequality has generated many a printed page (Marx 1970/1856-46, Brecht 1983/1927, Habermas 1989/1962, Enzensberger 1972, Williams 1975, among others). Many of these writers are still relatively little known outside the media research community. As members of that community we are quite well equipped to analyze developments in the media in that we have theories and tools with which to distinguish between, say, technological determinism and pluralism of interpretation.

Many of the works cited above are still in currency, and it is no coincidence that Marx, Innis (1951) and McLuhan (1987/1964) are all experiencing a revival of sorts. Over the last few years a number of writers have discussed the relevance of classic, more general social theory to an understanding of the 'information society', interactivity and how people relate to machines, the 'man-machine interface' (Bakke & Julsrud 1996; Rasmussen 1995, 1996; Webster 1995, i.a.). This is not to say that we can expect to develop a unified, cohesive body of theory, but that media studies have perhaps come to the point that we can make independ-

ent contributions to an understanding of social change. This was an explicitly stated goal when my department in Oslo, the Department of Media and Communication, was created in 1987. Perhaps the time has come, when to realize that ambition?

Greater collaboration between disciplines, which is so often urged, will not in itself solve the problem of understanding the information society. Even if I, myself, follow an interdisciplinary approach and urge others to do likewise, my own research shows that interdisciplinary studies can sometimes widen the gaps between different approaches, not close them. When critically oriented media research meets neo-liberal telecommunications research, it is perhaps only natural that not only pluralism of perspectives, but the level of conflict, too, increases. When media researchers apply their theories and perspectives to converging sectors, we contribute to the development of a field on our own terms. In a field of inquiry dominated by market analysis to date, perhaps it is by maintaining our critical perspectives that we make our most important contribution.

The Tension Between the Continuity and Change

My last reflection on the study of new media has to do with the tension between continuity and change, which I perceive to be a constitutive feature of developments in the media sector. Forn"s has, for example, pointed out that all media are in a sense interactive and virtual (Fornäs 1997:14), and my own research on changes in national media structures and media policies show that historical institutional organizations to some extent govern the course of change (Skogerbø 1996, Skogerbø & Storsul 1998). It is therefore an equally important challenge to media researchers to adapt 'old' theories and models for application to new fields of research as it is to develop entirely new theories on the transition into the information society.

Let me illustrate the point with a literary example: In her biography of Nora Barnacle, James Joyce's life-long companion and wife, Brenda Maddox (1988) describes the relationship between the two as very communicative, particularly in the early days of their relationship in Dublin in the summer of 1904.[4] Since both Joyce and Barnacle had to be at their respective workplaces during the day, they communicated by letter. But their correspondence was not like the letters we write today; it consisted of hastily written notes – often no more than a few lines – which criss-crossed Dublin in both directions several times a day. This was possible as the postal service in 1904 delivered mail in the city five times a day. In terms of stylistics (sentence structure, grammar and diction), too, the letters were oral and direct, with faulty grammar and orthography. Although unlike the letters we write and receive today, they call to mind another, 'new' mode of communication, namely, electronic mail. Nora and James used paper and a postman whereas we use keyboards and an electronic network; otherwise, the points of resemblance are clear: form, frequency, content, and function.

This famous correspondence from the turn of the century is a good reminder that technology does not necessarily explain cultural phenomena. If we are to try to understand what lies behind the special verbal stylistics that these letters and e-mail some ninety years later have in common, should we ascribe it to the computer, to the number of rounds Irish postmen walk, or to entirely different factors?[5] I leave the answer to this question to text analysts, but I would simply emphasize that the continuity and tensions between the old and the new are central features of mass media, whether we are concerned with content or structure. It will be impossible to understand and interpret these phenomena without the help of existing methods and theories.

We should not forget that there are obvious differences between the Barnacle-Joyce correspondence from 1904 and electronic mail of 1998. Whereas e-mail, as is often pointed out, breaks the bounds of time and space, allowing us to send and receive messages over vast distances in seconds, irrespective of time zones and 'banking hours', Nora and James were limited to the confines of their city, Dublin, and could only communicate when the postman walked his rounds. Nonetheless, the example, with all its limitations, invites reflection as to the nature of technological change and what scientific approaches may be fruitful.

It also raises the question of accessibility, of the distribution of communicative resources. Nora Barnacle and James Joyce were both poor, members of Dublin's working class, in a time when the whole of Ireland was poor – a time of mass emigration and razor-sharp class and gender distinctions. Still, both had access to the postal system, a disribution system which afforded them nearly continuous contact. Of course, it cost a bit to send a letter, but on the whole the postal service must have been inexpensive, efficient and widely accessible. Viewed in relation to the costs associated with owning a computer and subscribing to Internet – or, possibly, having free access through one's

workplace or school – the Irish postal service must have been more egalitarian in the sense of levelling social differences than the new electronic means of distribution have been to date. Whether the postal service may for that reason represent a greater force for social change than Internet is an open question.

The argumentation and illustrative examples offered here do not lead to any unequivocal conclusion, but point to ambiguous and diffuse aspects of meaning and content in today's evolutionary phase of the information society. This is where media research has its forte; our access to History and Media History provides us with a variety of sources which can help us interpret and explain how society is changing.

Notes

1. The project is part of a Norwegian research programme on the Europeanization of the nation state, 'ARENA'.
2. Inge Myrvoll (The Socialist Left Party) interviewed in *Klassekampen*, 20.6.1996.
3. Cf. Jostein Gripsrud's and Ullamaija Kivikuru's contributions to this volume.
4. Joyce later immortalized the date of their first rendezvous, 16th June (Bloom's Day), in Ulysses.
5. Both the letters from 1904 and e-mail of the 1990s have influenced language and literature. James Joyce probably drew on his correspondencewith Nora when he experimented stylistically in Ulysses and Finnegans Wake (Maddox 1994), whereas contemporary writers experiment with computer and networking styles. An entertaining example of the latter is Douglas Coupland's Microserfs from 1995.

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