

The Internet in Norway

Dissemination and Use

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Media-Technological Dramas: The Internet Meets the Public¹

In our day and age the general public usually meets new communication media through the old and well known mass media. There the new media are interpreted, dramatised and given content. It is therefore instructive to follow a new medium in its embryonic stage, because in this stage of its development there arise many understandings or also misunderstandings, as McLuhan chose to say. Of the new media the Internet is perhaps the one that most clearly illustrates this situation. Thus the presentation given by the mass media will perhaps over time be experienced as a dramatisation of possibilities and problems. Selected aspects of the new media are problematised. Others are under-communicated or are not registered at all. The success of the Internet might therefore just as well stem from the fact that the actors around the Internet have been good at communicating certain attractive or challenging visions of the possibilities of the Internet rather than from the “superior” technological properties of the Internet. At the same time news of the Internet might just as well be representations of what the “media society” believes people like to read, rather than an adequate description of the Internet. Exotic events may be emphasised. More trivial and perhaps more important properties may remain unknown to the public. The established mass media in this way include the public in the processes of interpreting, inscribing and transcribing when it comes to understanding the new communication media.

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It has been claimed that the Norwegian press does not have much space for more professional science and technology communication (Eide and Ottosen 1994). Traditionally science and technology communication has been understood within an enlightenment tradition. It has been those with expertise who were to communicate knowledge to the general public via the different mass media. However, much of the communication of research and technology that takes place via the mass media has other frames of reference than the conventional enlightenment tradition. The attempts of the world of advertising to communicate research and technology are an example of this. In this connection it is important to draw a distinction between the communication of research and the communication of technology. The communication of research has as a rule a weaker connection to commercial interests than is the case for the communication of technology. In addition the communication of technology has strong allies among the public in the form of different groups of technology users. One may thus experience a greater diversity of “publicising actors” within the communication of technology than within the communication of research. Often these publicising actors appear in roles that make it difficult for the public to identify on whose behalf they are “speaking”. Technology enthusiasts or “zappers” can for instance be used more or less systematically by technology producers and marketers to get user feedback on the products and to promote the same products. When new media technology is being introduced, the established “media society” forms an important collection of stakeholders. The same actors therefore wish to participate when new media maps are to be drawn. The story of the Internet years 1995-97 is thus also a story of how old media actors accommodate to new media.

In 1973 Norway was linked to one of the Internet's predecessors, ARPANET. However, between 1973 and 1990 the networks that were going to be the future Internet were mostly used for communication between different research institutions. In the middle of 1990s several companies started to market Internet-access for the general public and in 1995 the Internet was put on the public agenda in Norway. Three years later, in 1998, Norway was number 3 in the world when it came to Internet access. The popularising by the mass media of the new media technology had been central in the work of setting this agenda. At the same time the agenda of the mass media was closely connected with the public agenda. If we look more closely at agenda-setting research, we can see that the first level of agenda-setting research was concerned with how the media give prominence to some issues rather than others, so that they affect the public's understanding of what are the important matters on society's agenda. The second level of agenda-setting research is more concerned with how the media give salience to certain attributes, so that the media affect the public's understanding of what are important aspects of the questions that are put on the agenda (McCombs, Shaw, Weaver 1997). In studying how the Internet has been put on the agenda, I shall exploit both the perspectives mentioned, that is to say how the Internet has been emphasised as an important new medium of communication and which aspects of the new communication medium have been emphasised. The stories of the Internet as they have been told in the Norwegian press are therefore central to this study. Spigel has previously done a parallel study of how the introduction of television was represented in magazines of different kinds (Spigel 1992). A premise for her study was that new media are introduced to the general public through old media, and an analysis of the magazine representation would therefore say something about which agenda television was put on.

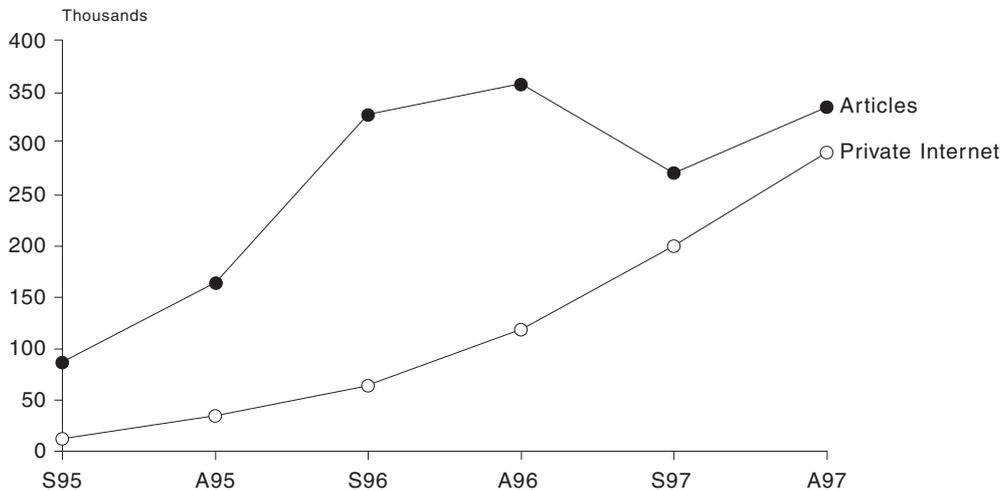
In agenda-setting research the agenda of the media is seen as the independent variable, that is to say the cause variable, while the public's agenda is seen as the dependent variable, the variable that is affected. This applies both to the first and to the second levels of agenda-setting research. However, the question is not what the mass media, through their stories about the Internet, have done to the public or what the public has done to the stories about the Internet, but rather how the mass media, the public and the new medium of communication have provided the foundation for a co-construct of new understandings, new forms of expression and new

structures in society. In this process of co-construction the power relations between the actors are of central significance. In this context there is a great difference between having influence on a text or on a media technology as a recipient or user, and having influence on the agenda on which the text or media technology has originally been produced (Morley and Silverstone 1990). The coverage of the Internet in the three newspapers² *Aftenposten Morgen*, *Dagbladet* and *Dagsavisen Arbeiderbladet*, together with the growth in the number of households with private access to the Internet, shows how the Internet met the public in the years 1995-1997. See figure 1.

In the same period the Internet to an increasing extent made its mark on parts of the policy agenda. In his annual speech to the nation in 1997 the President of the United States, Bill Clinton, placed most weight on education: "The aim is that all eight-year-olds shall be able to read and that all twelve-year-olds shall have access to the Internet". The aim that "all twelve-year-olds shall have access to the Internet" has been copied in a number of those nations that want to be in "the First Division of the information societies". Goals of this type are often based on notions of the intrinsic properties of technology. These are notions that have clear technology-deterministic features. Through different forms of investment in technology the wish has therefore been to achieve other important societal goals. At the same time there is great uncertainty in political life and in a number of connections the public has therefore been invited to participate in dialogue. The emphasis on the principle of communication for public information work supports this desire for dialogue (NOU 1992:21). For the Internet this has manifested itself in among other things the IT fora⁴ which the former minister Bendik Rugås established, "The IT forum for the elderly" and the "Young people's IT forum".

Within agenda-setting research the focus has been on the three agendas mentioned: the agendas of the media, the public and policy (Dearing and Rogers 1996). It is however not very fruitful to limit the information society's stories to these three agendas. The fourth agenda must be included. The fourth agenda is formed by technology developers, technology producers and their marketing of new products. By way of illustration mention may be made of an advertising campaign in which it was stated that "He is 23, has his own Internet address and eats anxious thirty-year-olds for breakfast". Through marketing they try to enrol the users in their understanding of the possibilities of technology. In this

Figure 1. *Number of Articles about the Internet in the Three Newspapers and the Number of Households (in thousands) with Access to the Internet (half-yearly figures³)*



connection the media play several roles. Two of the more central roles are that (a) they include the public in a process of interpretation, inscription and transcription when it comes to understanding the new communication media, and (b) they promote more or less uncritically the agenda of their sources. This latter role has been described by a number of writers, both with reference to technology in particular (Nelkin 1995), and with respect to PR/marketing more generally (Allern 1997). Michael Callon describes how engineers become “sociologists” through their hypotheses about what other people want and need (Callon 1987, this perspective in the project has been treated in greater depth in Hetland 1997). According to this reasoning a large part of the technology developers’ work lies in stamping new technology with their own interpretations of user possibilities and then working to ensure that the users support these interpretations by making use of the technology. This work means that one has hypotheses about what the users need and what they do not need. After the engineers have done their job, the technology producers transform the engineers’ prototypes into commercial products. In this connection new communication media have been the arena for both an unusual technological “idealism” and the establishment of some of the world’s greatest concentrations of private capital. Bill Gates with his company Microsoft has become an actor with whom even the government of the United States has problems in dealing. At the same time Bill Gates and central technology developers

like Nicholas Negroponte have actively contributed to the information society’s stories, both through their own written presentations and through innumerable appearances, not least for prominent politicians (Gates 1996, Negroponte 1995).

The information society’s stories have been told for the last 25 years with varying actors and degrees of commitment. Since 1995 the Internet stories have renewed the information society’s stories. These stories have been given a wealth of new actors and not least metaphors. What is it that makes the information society’s stories interesting? To this question many different answers can be given, not least because the question touches on so many aspects of societal development. By way of introduction I shall therefore content myself with the general answer that these stories are in an active interplay with the development of society, and that it is therefore not possible to understand the developments in which we now find ourselves without also understanding the significance of the information society’s stories. In order to be able to describe the process of co-construction in a broad perspective, in this presentation I shall first take a closer look at how the public accommodates to the new media⁵ and thus contributes to establishing frames of reference for the interpretation of the information society’s stories, in this case the mass media’s Internet stories, before I describe the inscribed public of the Internet stories. In a forthcoming article I want to take a closer look at how the media and the public inter-act on the development of interpretation repertoires and thus the in-

terpretation of the Internet (Hetland 1999). The popularisation process is in other words a process in which the media and sections of the public inter-act on the content and progress of these stories.

From Technological Repertoires to Interpretation Repertoires

“To be or not to be? That is the question!” exclaims Hamlet in Shakespeare’s famous drama. Clear parallels to this fundamental question (and answer) are to be found when we study how the Internet has been communicated and popularised in the mass media. However, here the question of to be or not to be has become a question of whether you are “on the net” or not. “Net surfers are Norway’s aristocracy of bread-winners. Those who do not use the Internet will fall behind, both socially and in the hunt for the best job”, is what it said in *Dagbladet*. This type of perspective reflects the “magic” properties of the Internet in our hunt for the good things society can offer and it illustrates how the new medium has been communicated and popularised. Inscribed in the Internet stories there are notions of the public as readers. These stories are in other words written for a presumed public. On the other hand large sections of the public have related to the Internet both with respect to the presentations given by the mass media and through practical actions: they have started using the Internet. There are several ways in which to consider the introduction of a new communication medium. A traditional representation has been to link development over time with different theories of innovation (Rogers 1995). Even though it is not a necessary condition traditional innovation theory has a tendency to consider users or the public on the basis of intrinsic characteristics. An example of this is an American investigation⁶ which was reported in detail in the Norwegian media. The title in *Dagbladet* was, as already mentioned, “Net surfers are Norway’s aristocracy of bread-winners. Those who do not use the Internet will fall behind, both socially and in the hunt for the best job”. In the investigation the population was divided into four groups depending on their use of five different media technologies. With this starting point the groups “super-connected” (2%), “connected” (7%), “semi-connected” (62%) and lastly “de-connected” (29%) are introduced. This categorisation is based on different types of communication practice and is as such relatively unproblematic. However, if one looks more closely at what properties one ascribes to the different groups, and what consequences one extracts from this categorisation, the problematic as-

pect becomes clearer. The categorisation is used to describe the information society’s “losers” and “winners” in simple technology-deterministic terms.

The advantage of traditional innovation theory is that it is suitable for a thorough description of personal differences when it comes to the adoption of innovations. The disadvantage is that the theory has only to a slight extent taken account of the fact that communication media represent technology for facilitating communication in and between groups of actors. In other words one has little use for new communication media if those with whom one wishes to inter-act do not have the same access to the medium. If one wishes to understand the distribution of communication media, intrinsic characteristics of users and non-users are of limited interest, as such characteristics tend towards regarding innovation on the basis of the actors’ individual points of view. This approach to new communication media provides little insight into the societal role of the media. What is more interesting is to understand what societal communication relations the media enter into. In purely historical terms the Internet has sprung up from research and teaching institutions. The pioneer users were therefore research and teaching institutions, public administration and the business world – in that order. Seen in this way the distribution of the Internet will also be precisely connected with decisions made in research and teaching institutions, in public administration and in the world of business. Experiences of the medium through organisation-based decisions may again promote a diffusion based on individual decisions.

As an illustration of this 51% of the active Internet group in November 1998 had access to the Internet only through organisation-based decisions, i.e. through job or school, while 21% had access to the Internet through individual decisions, i.e. private access in the home. 28% had access to the Internet in more than one social arena, i.e. both through job or school and in the home. In this connection it is important to be aware that the individual’s connection with the labour market also plays a practical role for the distribution of the medium in the home; 21% of those who had private Internet access had this paid for by their employer. The term “access” is a broad concept that conceals important differences. Membership of society’s forms of organisation through production and reproduction gives different access to arenas for communication as do other economic, temporal and social factors. In addition differences in technological and communicative competence influence the manner in which the individual exploits the Internet. The fact that I

Figure 2. Access to Internet after Access Point⁷



nevertheless use the concept of access here is because available statistics are based on criteria of this type.

In earlier studies we have shown how groups of actors on the basis of an extensive *inventory* of communication media pick out a limited *repertoire* in order to satisfy present communication needs (Olsen and Hetland 1989:157). I shall therefore take as a starting point the concept of *technological repertoire* in order purely empirically to describe the choices of communication media that different groups make. The concept of technological repertoire, however, has implications beyond the fact of functioning as a description of the technologies that are adopted. A technological repertoire also functions as a central element in the constituting of “interpretive repertoires” (Potter and Wetherell 1987). My claim is that interpretive repertoires used in order to understand new communication media are intimately connected with the way in which groups among the users are included in society’s forms of organisation. In an earlier study Mowlana tried to develop a broad approach to an understanding of different groups’ participation in society’s arenas for communication. In that connection he draws up two central dimensions: (a) the individual–system dimension and (b) the dimension of face-to-face communication – technology-mediated communication (Mowlana 1984). Along these two dimensions one can imagine different degrees of inclusion in forms of organisation from the most local to the

most international and different degrees of mediated communication from the most personal to the most technology-based. It is nevertheless not the case that users who have the same technological repertoire at their disposal are necessarily included in the same interpretive repertoire. Empirically the foundation is therefore established for a wealth of combination possibilities. Like Klaus Bruhn Jensen one can thus argue that “particular interpretive repertoires may or may not be available to different demographic segments, and the specific combinations of interpretive repertoires with social background variables is, in any event, a matter for empirical inquiry” (Jensen 1995:93). When it comes to the use of new communication media, I shall argue that interpretive repertoires for the Internet are to a very great extent constituted against the background of three central factors: (a) the actors’ participation in society’s forms of organisation through production and reproduction, (b) the actors’ construction of identity through new communication media and finally (c) the socialising processes that are linked to communication to realise different forms of participation in society and to make possible different forms of identity formation.

The concept of interpretive repertoire is used here as a cover term for a number of elements. In developing the concepts of technological repertoire and interpretive repertoire the concept of “technological frames” has been useful (Bijker 1995:123). In contrast to Bijker I have however found it impor-

tant to operate with two concepts in order to distinguish more clearly between the adoption of given technologies and the interpretation and inscription in which one participates with respect to the same technologies. An interpretive repertoire can contain the goals one has for communication, the problems one wishes to solve, and which solution strategies one finds for these. Further interpretive repertoires may contain “local” theories as a basis for decisions; theories within the modernisation paradigm give, for instance, other expectations of new media than theories within the hybridisation paradigm (Hetland 1996:3-4). In the modernisation paradigm earlier forms of communication are replaced by new communication media. The main idea is that new communication media are to replace the need for travel, post etc. Thus the modern society is extended to the most outlying outpost. Closely linked to the modernisation paradigm we find various linear models of innovation. The competing paradigm I shall call the hybridisation paradigm. In this paradigm new communication media can replace earlier forms of communication, but the most important implication of the hybridisation paradigm is however that new communication media create both new forms of communication and more communication. In the hybridisation paradigm technological change is perceived as ecological. Technological change is ecological in the sense that if one removes or adds central factors, the whole system undergoes a change that influences many other factors. Stories within either the modernisation paradigm or the hybridisation paradigm naturally lay down different determinants for how one imagines the development, dissemination and use of new communication media. Other important factors are the importance of tacit knowledge. The latter is not least important in relation to testing procedures, models and criteria for the design of new communication solutions. The users’ communication practice may break with the suppositions that are built into the technology. In this way the users take an active part in shaping and adapting the technology for organisational and individual needs. In this connection technological models and metaphors can be a resource from which both designers and users get ideas (Coyne 1995). As specific user groups gradually emerge, these will be included in some main repertoires. Inclusion is not however a one-dimensional process. Since an interpretive repertoire can have a number of elements, different individuals and organisations will perhaps emphasise the elements differently. The concept of interpretive repertoire has many features in common with what Lindlof calls “interpretive communities”

(Lindlof 1988), but does not presuppose to the same extent that sections of the public are predisposed for the creation of meaning through the same interpretive actions (see also Jensen 1995:91).

Interpretive repertoires are thus constituted when inter-action around a technological object begins. It is therefore necessary to analyse new communication media as a process in which a number of choices are made rather than to consider the choice as having been completed when a given medium is made available. The study of interpretive repertoires requires a qualitative approach. Here I wish first to present an important element in the constituting of interpretive repertoires, i.e. the technological repertoires. Against the background of the users’ practice I have chosen to divide the public into three rough technological repertoires. Having access to a computer means that one has access to installed base. Let us start with a dichotomy based on access to installed base: (a) those who have access to computers at home, at work, at school or in other places, (b) those who have no such access. So far the installed base of personal computers is an expression of how many can relatively easily gain access to the Internet. This group may again be divided into two: those who use the Internet actively and those who are hesitant. Now it is not the case that new technological repertoires replace earlier technological repertoires; elements from earlier technological repertoires will as a rule be included in more recent technological repertoires (cf. the discussion of the modernisation paradigm versus the hybridisation paradigm). With this reservation I shall now outline three technological repertoires for the management of information and communication:

PT-repertoire. The relationship to the “information society” is linked to the mass media as an information channel and well known media such as post and telephone for interpersonal long-distance communication. They do not use personal computers.

IT-repertoire. The relationship to the “information society” is linked to the mass media as an information channel and well known media such as post and telephone for interpersonal long-distance communication. The central information technology is the computer as an advanced calculator and typewriter.

ICT-repertoire. The relationship to the “information society” is linked to integrated information and communication technologies in play and/or work.

To illustrate the recent developments I will for the 1998-survey split the ICT-repertoire into two sub-groups:

WICT-group. The subgroup that mostly use the Internet when it is necessary for their work-performance.

PICT-group. The subgroup that use the Internet as much as possible in both play and work.

This categorisation is based on the users' practice. As long as the Internet years 1995-1998 represent a turbulent phase of introduction, the flow between the different repertoires will be large. If we consider developments in this period, we can describe inclusion in the three repertoires in the course of a three-year period. The tripartite division reflects the individuals' participation in society's forms of organisation through production and reproduction, the individuals' construction of identity, and their socialising processes in a given historical context. The group within the ICT repertoire increased from 11% to 36% in the course of the three-year period, while the group within the PT repertoire was reduced from 44% to 29%. See figure 3.

This means both that the Internet had considerable growth and that at the same time the installed base had a practically similar growth until 1997. It is tempting to assume that growth in the installed base of computers is in part connected with the desire to have access to the Internet. This supposition is supported by responses in the Gallup InterBuss. There is still a potential for further growth in Internet use. In 1998 64% in the IT-repertoire and 35% in the PT-repertoire would have liked to have

access to the Internet. A closer look at the different groups in 1998 illustrates that age is an important factor for the dissemination of the Internet. In the PT-repertoire the average age is 61 years, in the IT-repertoire 42 years, in the WICT-subgroup 34 years and the PICT-subgroup 30 years. The first thing we can therefore assert is that the distribution of IT and the Internet is for the moment very much a question of generation. In fact the generation aspect became more marked in the two-year period. When account is taken of the short period of time, the growth in both installed base and access to the Internet is remarkable. We can therefore see that the attention paid by the mass media to the Internet corresponds to the attention the public paid to this medium by starting to use it. However, the "public" does not only consist of individuals acting on their own behalf; far more important for the diffusion of the medium are the decisions taken by "collectives" such as organisations, firms, schools and public administration. This will be made clear by the next background variable I wish to deal with, namely gender.

Women's "reluctance" when it comes to using the Internet has been problematised in the mass media, in policy documents and in public debate. In purely historical terms one will probably find a corresponding "reluctance" when it came to using information technology in general. In 1997 and 1998 however women and men as a whole had roughly the same percentage access to information technology. As far as more active use of the Internet is con-

Figure 3. The Internet Years 1995-1998⁸

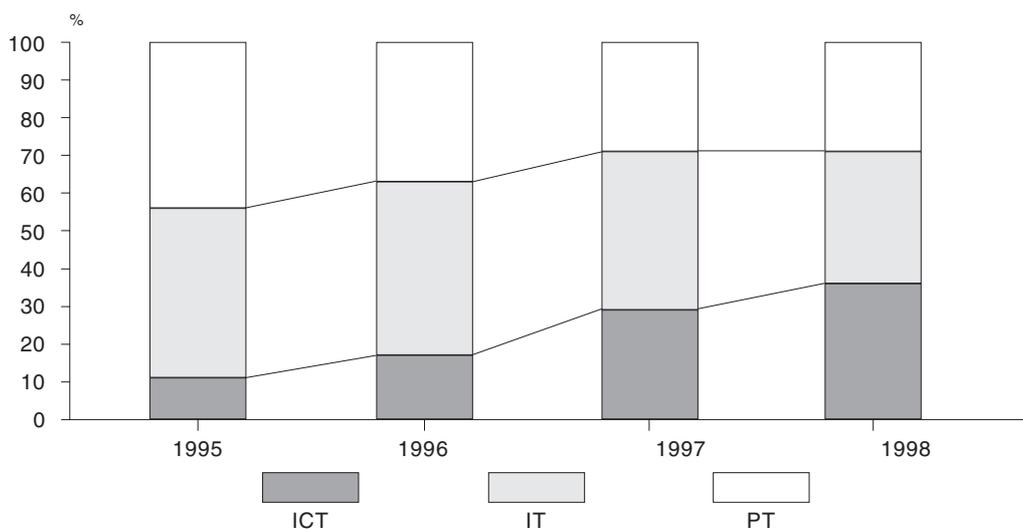


Figure 4. Age and Gender in each Repertoire

Age	PT	IT	WICT	PICT
13-29	10	24	41	57
30-44	10	34	36	29
45-59	16	27	18	7
60 +	64	15	5	7
Total	100	100	100	100
N	299	354	258	110
Average age	61	42	34	30
% women	56	60	42	30

cerned, there are nevertheless far fewer women than men who started using the net. This may in part be linked to the fact that for various reasons women are more “reluctant” and more “bound by tradition” than men. However, there is much to suggest that large parts of this difference can be traced back to systematic differences between women and men when it comes to their participation on the labour market. To take just one example: women are over-represented in care work in which face-to-face communication is more important than communication by means of different media. The proportion of women has however increased in the ICT repertoire: it was 28% in 1995, 30% in 1996, 33% in 1997 and 38% in 1998.

The time-space relationship is considered especially important in Norway. An example of this is the fact that 70% of the members of the Norwegian parliament believed in 1996 that investing in IT and the Internet would strengthen rural areas of Norway in relation to urban regions⁹. However, to illustrate the situation I will simply present the distribution of the ICT-repertoire along the rural-urban continuum. Centrality is a measure of a municipality’s geographical position seen in relation to a centre where a higher order of functions is found. Three levels are used in this small analysis based on Standard Classification of Municipalities 1994. The highest level, here called “urban”, includes the six main national cities and/or regional centre and the surrounding municipalities within a defined commuting time. The middle level, “rurban”, includes the 25 towns with a population between 15,000 and 50,000 and the surrounding municipalities within a defined commuting time. The lowest level, “rural”, includes the 50 small towns with a population between 5,000 and 15,000 and the surrounding municipalities within a defined commuting time. The lowest level also includes all municipalities with none of the

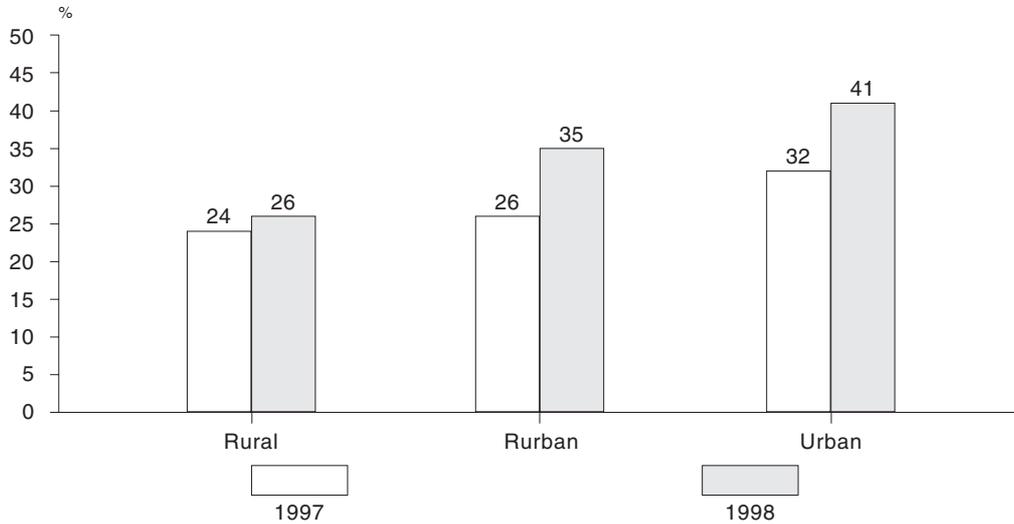
mentioned settlements within reasonable commuting time. If the municipality fulfils the requirements for centrality on more than one level, the highest of these levels applies. So defined, 53 % of the Norwegians are found in the “urban”-category, 25 % are found in the “rurban”-category, while 22 % are found in the “rural”-category (1.1.1998). Figure 5 illustrates the percentage of the ICT-repertoire along the rural-urban continuum.

We see that there is a marked difference between the different categories and that the difference increased from 1997 to 1998. If this is a permanent trait we do not know yet. If one looks only at young people or people with higher education the differences along the continuum are smaller, which indicates that an important part of the difference may be ascribed to differences in general age compositions, and differences in “rural”, “rurban” and “urban” employment systems. As has been mentioned, the interpretive repertoire is constructed when inter-action around a technological object begins. This inter-action presupposes the exchange of information and thus communication. In what follows I shall therefore take a closer look at information and communication systems concerning the Internet.

Information and Communication Systems Concerning the Internet

Certain technologies and certain technological objects are looked upon as being bearers of significant meaning, i.e. they are associated with specific social groupings or developmental features of society. These may be social groupings or developmental features of society that one wishes to identify with, or to distance oneself from, as the case may be. The Internet can be said to have such a meaning-bearing function, for many people made explicit by such terms as the “post-modern society” and “cyber-

Figure 5. The ICT-Repertoire along the Rural-Urban Continuum¹⁰



space”. Thus when people express attitudes to a specific medium like the Internet, it is not only the medium as such that they are making statements about, but just as much the social context into which the medium fits. Those who have already included the medium in their technological repertoire will have a predominantly positive view of the medium, while those who are included in other technological repertoires will have a more critical view of the same medium. Attitudes to the Internet therefore tell us something about the extent to which we can expect increasing inclusion in the ICT repertoire¹¹. The investigation shows that the negative group amounts to 4% within the ICT repertoire, 19% within the IT repertoire and 50% within the PT repertoire. The attitudes that have been established will in turn influence what type of information one obtains. Often this information will be used to confirm already established attitudes.

Within a technological repertoire, specific information and communication systems of special relevance to social groupings within the repertoire will

therefore be established. At the same time those outside the repertoire will to a lesser degree participate in the specific information and communication systems. In this way different social groups participate in interpretive, inscriptive and transcriptive processes of a medium based on very different access to information. We find common arenas for information and communication about the Internet first and foremost within the mass media and the social networks. See figure 6.

Those who are included in the ICT repertoire stress job and school as well as special media as their most important source of knowledge about the Internet. Special media in this context include special journals, magazines, periodicals, the Internet, suppliers of equipment and access, and other things. On the other hand large groups within the PT repertoire have the mass media as their most important source of knowledge of the Internet. The fact that job and school and special media are stressed as the most important sources of knowledge for groups within the ICT repertoire does not mean that the

Figure 6. Most Important Source of Knowledge about the Internet (per cent)¹²

Repertoire	Job & School	Special media	Family & Friends	Mass media	Not with it	Response in %
ICT	42	53	38	15	0	97
IT	29	22	42	40	4	94
PT	3	12	27	61	19	86

Figure 7. Read Material about the Internet in the Daily Press when there is such Material (per cent)

Repertoire	Always	Usually	Seldom	Never	Total	Response in %
ICT	12	44	36	8	100	100
IT	3	21	47	29	100	99
PT	4	8	40	48	100	97

same groups have a passive attitude to the mass media. It is rather the case that inclusion in a specific technological repertoire leads to greater interest in acquiring knowledge about a subject with the aid of several sources. The population were therefore asked whether they read material about the Internet in the daily press when there was such material, as well as what sort of material they preferred to read. See figure 7.

We can see from the figure that people within the ICT repertoire are the most active readers of material about the Internet. The same group is also most “instrumental” when reading the daily press. It is first and foremost material about new possibilities as well as Internet policy that this group is concerned with. New possibilities here represent a group of news which for example takes up new applications, new commercial possibilities and technological innovations. Further, the same group is interested in Internet policy, such as new frameworks for competition, price policy and distribution policy in relation to teaching and business activity in particular. People within the PT repertoire are not very interested in Internet policy, and otherwise divide their interest between “new possibilities”, the overall category “other” and “negative material”. What I have called “negative material” is for instance newspaper articles about criminal offences committed with the aid of the Internet or on the Internet, but also dramatic descriptions of different negative consequences, both individual and societal, of the Internet. People within the ICT repertoire are in other words the most active readers of Internet news in the daily papers, so it is therefore of interest to analyse more closely whether this also marks the news. Is it the case that the popularising articles about the Internet in the mass media have an “inscribed” public?

The Inscribed Public

Both implicitly and explicitly different actors appear in the Internet stories in the mass media. The group of actors who have gained the greatest attention in earlier research on technology and the communica-

tion of science and technology are the experts – often in the form of researchers and scientists. Here I have chosen to have a completely open mind about who are experts – I have therefore studied in closer detail how this diversity, from Internet experts in the form of researchers and technologists to Internet opponents, appears in the stories. In this connection I have therefore chosen to consider them all as actors in the Internet drama. This is a first presentation of the actors in which the narrators behind the stories – the journalists – will only partly be visible. The journalist who narrates, however, will be dealt with more thoroughly in a forthcoming article (Hetland 1999). I have further chosen to concentrate on the explicit actors – those who speak with their own voices in the stories. In many stories it is more anonymous actors who appear as the “ordinary” man, woman, youngster, senior citizen etc. Before I say more about how the actors get into the act with their own voices, I shall briefly introduce the way in which the stories are geographically localised. 61% of the stories are localised to Norway alone, 22% of the stories have elements from both Norway and what we may call other pioneer countries, 16% of the stories have exclusively elements from other pioneer countries, while 1% of the stories have elements from other countries, either developing countries or former “East-Bloc” countries. There are clear differences between the three newspapers when it comes to letting the actors speak with their own voices, to the extent to which the actor is in fact quoted. Most frequently we find such actors in *Aftenposten* (61% of the articles), more seldom in *Dagbladet* (41% of the articles), while it is somewhat more often in *Dagsavisen Arbeiderbladet* than in *Dagbladet* (45% of the articles). *Aftenposten* distinguishes itself also by either letting the same interviewee have a say on several occasions or letting several voices speak in the same article. In 28% of the articles there are two or more quotations. What then characterises those articles in which actors speak with their own voices? In the analysis of the text of the articles each article has been coded according to how the article is angled¹³. That is to say to what extent the article concentrates on what ap-

pear to be positive possibilities of the Internet, or alternatively negative possibilities of the Internet. We have also had a separate category for articles which take up both the positive and the negative possibilities. It turns out that the more critical the points that are made in the article, the more probable it is that the people speaking are directly quoted; or put the other way round, if the journalist in fact lets different kinds of expert put their views, then there is a greater probability of a more nuanced picture of the Internet.

Another matter that has interested not least the politicians is the ratio between men and women in the information society. In 63% of the articles there are either identifiable or anonymous actors in which it is possible to identify whether they are men or women. In these 966 articles 77% of the articles are dominated by male actors, 13% of the articles are dominated by female actors, while 10% of the articles have approximately just as great weight on female as on male actors. Since we know that in the same period of time the proportion of women has increased within the ICT repertoire, one might suppose that this development would also be reflected in news about the Internet. However there is no clear tendency in that direction. The proportion of articles that either had just as many female as male actors or were dominated by female actors, was 23% in 1995, 26% in 1996 and 20% in 1997. One may therefore claim that the newspapers do not follow up the general trend in Internet use.

Concluding Summary

The mass media and the social networks are the most central common arenas for processes of interpretation, inscription and transcription when it comes to understanding the new communication media. How the mass media put new communication media on the agenda is therefore important for the dissemination of the same medium. At the same time the mass media are a meeting place for the agendas of the public, of the world of policy and of the technology producers. Here the other agendas are both promoted and problematised. Thus a co-construction of new understandings, new forms of expression and new structures in society takes place with the mass media as the common arena. This process of co-construction includes first and foremost those who are already included in the relevant technological repertoires, i.e. the co-construction includes first and foremost those we perceive as innovators when it comes to adopting the new communication medium. In other words in the articles different actors, whether it be the "ordinary" man or woman or various forms of expert, are allowed to have a say about their experiences of the Internet. However, some actors are given a stronger voice than others. In this way not only a particular technological repertoire is promoted, but also particular interpretive repertoires.

Notes

1. The project "Media-technological dramas: The Internet meets the public" is being financed partly by the priority area "Communication: Technology and culture" (<http://www.hf.uio.no/ktk>) at the University of Oslo, and partly by the Norwegian Research Council under the programme "Societal and cultural presuppositions for information and communication technology" (<http://www.jus.uio.no/iri/afin/skikt/>). This project started in the spring of 1997 and will be concluded in the autumn of the year 2000.
2. These three papers were read by a total of 40.2% of the population over the age of 13 years in 1995/96 and by a total of 42.2% over the age of 13 years in 1996/97 according to Gallup, Forbruker&Media (statistics specially provided). According to the same source the figures for each individual paper for 1996/97 were such that *Aftenposten Morgen* is read by 22.3%, *Dagbladet* by 26.3% and *Dagsavisen Arbeiderbladet* by 4.8%. These papers were chosen to provide as broad a description as possible of how the general public meets the information society's stories. There are newspapers with more comprehensive coverage of news of the Internet, such as *Dagens Næringsliv*. However these are directed at special target groups in the community and not at the general public. The article data base consists of altogether 1538 articles, *Aftenposten Morgen* (659), *Dagsavisen Arbeiderbladet* (508) and *Dagbladet* (371).
3. For household access I have calculated average figures for each half-year (1996 and 1997) on the basis of Gallup's polls. The figures for 1995 are more uncertain and are the result of calculations based on the number of households with a PC and a modem.
4. <http://www.ungit.dep.no/and> <http://www.eldreit.dep.no/>
5. In order to obtain a survey I used special runs on the Gallup InterBuss for 1995, 1996, 1997 and 1998

- (the November count for each year). In 1997 and 1998 I in addition put six questions of my own to the whole population. Gallup InterBuss is a quarterly investigation in which use of the Internet is the central theme. The investigation is conducted by telephone every quarter using a nation-wide representative sample of 1000 people over the age of 13. Gallup InterBuss was carried out for the first time in November 1995 and thus shows developments in respect of central use and access questions. Viewed from the angle of media studies one of the weaknesses of the investigation is that relatively few questions are put to those who do not use the Internet. The strength of the investigation is its thorough coverage of use and access questions, plus the fact that the investigation over time will describe a historical development.
6. The Digital Citizen Survey was fielded by the Luntz Research Companies during the second and third weeks of September 1997. Luntz conducted telephone interviews with 1000 randomly selected U.S. adults aged 18 or older, along with an additional 444 interviews with likely technology users. The margin of error for the entire survey was + 2.6 per cent. <http://www.hotwired.com/special/citizen/survey/survey.html>, downloaded 22/1-98
 7. The figure is based on Gallup InterBuss. Estimates for 1995 and 1996. Exact figures for 1997 and 1998.
 8. The table was produced on the basis of special runs on Gallup InterBuss for 1995, 1996, 1997 and 1998, the November counts for each year.
 9. Scan Fact/Aftenposten 10/9-96
 10. Calculated on the basis of InterBuss 1997 and 1998
 11. The following figures are from InterBuss 1997.
 12. The question allowed the opportunity of crossing off several alternative responses. The total sums therefore exceed 100%.
 13. In order to check the intercoder reliability parts of the material were coded by two different coders. The intercoder reliability is measured for every variable and it varies from 88% to 97%.
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