MEDIA, RHETORIC, UTOPIAN THOUGHT[1] – SOME CRITICAL REMARKS ON ELECTRONIC UTOPIAS AND TECHNO-OPTIMISTIC RHETORIC

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> One helpful way is to think of the National Information Infrastructure as a network of highways – much like the Interstates begun in the '50s. [...] These are highways carrying information rather than people or goods. And I'm not talking about just one eight-lane turnpike. I mean a collection of Interstates and feeder roads made up of different materials in the same way that roads can be concrete or macadam – or gravel. [...] Some highways will be made up of fiber optics. Others will be built out of coaxial or wireless. (U.S. Vice President Albert Gore December 21, 1993)[2]

> [...] the "new economy" appears less like a new economy than like an old economy that has access to a new technology. Even the phrases "new economy" and "old economy" are rapidly losing their relevance, if they ever had any. The old economy of established companies and the new economy of dot-coms are merging, and it will soon be difficult to distinguish them. (Michael E. Porter 2001: 78)

> The first task is to demythologize the rhetoric of the electronic sublime. (James Carey & John Quirk 1970)[3]

1. Introduction: "Atoms and Bits"

In his book *Being Digital* (1996), Nicholas Negroponte, the former director of the MIT Media Lab, distinguishes between the world of atoms and the world of bits, i.e., the concrete world and the digital world of computers and information networks. Negroponte notes that the transfer from atoms to bits is irrevocable and unavoidable (ibid.: 1996: 11). He discusses the "bit industry" and predicts changes in the pricing models in the new "digital reality".

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[1] This text is partly based on the articles "The Internet, 'Data Highways' and the Information Society. A Comment on the Rhetoric of the Electronic Sublime" (Inkinen 1999) and "The 'New Economy': Reality or Hype? Aspects of Social Theory and Technology Rhetoric in the Information Age" (Myllynen & Inkinen 2001). Most of the text was written already in the late 1990s. Therefore, some of the Internet links might not function any more.

[2] Remarks by Vice President Albert Gore at the National Press Club 21.12.1993.

[3] Quoted in Carey 1989: 139. Carey and Quirk's article was originally published in *The American Scholar* 39, 2/Spring 1970.

Negroponte points out that the purchase of content and products should be based on real value rather than on the channel of transmission. The mass media, for example, are currently push-media: they screen and filter the information stream for the consumer. In the future, mass media will allow the consumer the possibility of "pulling" and choosing the interesting information him-/herself. (Ibid.: 93.) According to Negroponte, we are moving towards a post-information age that is characterized by the fact that the number of audience is *one*: information is personalized and made to order. (Ibid.: 171–172.)

An essential part of digital economy is business that utilizes information networks – for example, electronic stores or the so-called e-commerce. Thus, the new economy has been characterized not only as a digital economy, but also as a "web economy". An important effect of the digital economy is the change in the significance of money. For example, Evan I. Schwartz, the author of the business guidebook *Webonomics*, points to a new monetary system in which digital cash is used (Schwartz 1997: 4–5).

In the US Secretary of Trade report *The Emerging Digital Economy* the expression "Digital Revolution" was widely used. It is interesting to compare this with the 1999 slogan of the digital business consulting company Razorfish: "Everything that can be digital, will be." It should be pointed out that the term "digital" has been used in a much broader context in the US than in many other Western countries. Indeed, the word "digital" has become a general concept to describe not only an economic but also a social transition. The concept has even gained *hegemonic* characteristics. A world where everything would be digital – as predicted in the slogan by Razorfish – would be a very scary place.

2. Technological Determinism

According to Finnish sociologist Erik Allardt, technical innovations have given rise to the *technology rhetoric* that makes it difficult for people to perceive what has happened and is happening in society. Allardt notes that analyzing the rhetoric has similarities with social constructionism: both share the assumption that reality is a social construction. Research of technology rhetoric has shed light on how technology affects social ways of thinking.

Allardt has aptly focused on the ways in which the concept of information society has been used in the grand scheme of national development. As Allardt notes, such concepts as the

"web" and the "network" have become important means of social description. Established practices have deteriorated, while competition, effectiveness, and the market forces have gained importance. To describe this development it has been necessary to develop new concepts and a new rhetoric that is well suited to handle such concepts as the web and networking. Indeed, Allardt (1998: 85–93) wonders whether the concept of 'network' leaves something essential out of the analysis of our social life. The importance of webs and networks has been aptly discussed, among others, by Manuel Castells, the dominant commentator on the "information age".

As communication researcher Erkki Karvonen puts it, in current bureaucratic discourses on the information society technological and economic determinism go hand in hand. *Economic* determinism refers to a view according to which social and cultural processes can be restored to economic and material relations (Karvonen 1999: 82–83). According to Karvonen, *technological determinism* is often linked with the view of technical development as *evolution* (ibid.: 85).

When development is seen as evolutionary, it is also seen as irrevocable. The transfer from an agrarian society to an industrial society and to an information society is often presented as natural and teleological development. An often-quoted source is *Moore's law* that states that the capability of microprocessors doubles every 18 months. The word 'law' easily brings to mind connotations with natural laws and unavoidable evolution. Interestingly enough, even scientific research is often restricted to studying the *social adaptation* to technology rather than searching for ways to better answer people's needs. Similar criticism has been made before by, e.g., David Lyon (1988: 8).

Like many of today's "experts", Sirkka Hämäläinen sees that the process of the *new economy* is only getting started and refers to the recent problems as merely "difficulties in adapting" and "a price for learning" presenting them as "natural" and relevant aspects of the process. Claiming that the process is "natural" is a familiar strategy in technical and economic rhetoric: economy is often seen as a nature-like state in which even transitions deterministically "just happen" without any outside action from people or society. This deterministic ideology and discourse has been discussed by Heinonen et al. (1996) in an analysis of the common illusion that economy is a system with its own laws.

One reason for the fact that the Internet economy has been considered as a qualitatively new form of economy might be found in what Michelsen (2000: 63) has described as *historylessness of technology*. According to him, it is the rules within the field of the research of history that have denied technology a clear place in the collective memory of the past. Technology is easily seen as merely a temporary visitor that can cause a sudden rupture. The end result seems natural, because the cause of the change has come suddenly and seemingly from outside of society.

According to Michelsen, practically all major 20th century social analyses are deterministic about the development of technology (ibid.: 69). Technological determinism is easy to recognize from the "before and after" arguments. Michelsen takes as an example the industrial revolution that began in England in the late 1700s: the revolution is said to have been started by the spinning-Jenny and the steam machine. Similarly, the printing press invented by Gutenberg is credited with the breakdown of the Church of Rome and the advancement of the Reformation in Europe. (Ibid.: 70.)

The same analogy can be applied to the "invention" of the Internet and the following "revolution" – as well as to the "new economy. " In recent discourse, the new economy has been seen as a natural consequence of the spread of the use of the Internet: the laws of economy must change, since technology, too, has changed. For example, Finland's leading newspaper *Helsingin Sanomat* (November 6, 2000) suggested that one of the theses of the new economy could be: "The Internet is an invention comparable with the steam machine." In the article it is further suggested that we are experiencing the "third industrial revolution" which will be followed by "the age of globalized turbocapitalism".

Furthermore, Karl-Erik Michelsen has discussed the *internalism* in the field of the study of the history of technology. What this results in is presenting the history of technology as stories that are encouraged by a strong faith in progress. In these stories, inventions develop from primitive prototypes toward advanced models; machines and devices are detached from active interaction with the surrounding society. The present is seen as more developed than the past, while the future is seen as more developed than the present. (Michelsen 2000: 64)

Based on this logic, technological systems must be competing with each other. They conquer new market areas and work the environment to suit their needs. Importantly enough, the systems act in a flexible way. (ibid.: 76.) The idea of mutual competition between technological systems is interesting also when considering the tension between the new and old economy. However, how this competition between two systems is staged is hardly unambiguous. In the postmodern media society the main "war zone" is mass media. The new economy keeps developing its own system and tradition through media, while the old economy tries to push it out. The competition clearly works to establish an image of duality and tension between the "new" and the "old" economy.

3. The Rhetoric of the Electronic Sublime

The *technological sublime* (cf. Carey 1989: 113–141; Inkinen 1995, 1999) appears to be a standard part of our culture, and it seems to be a particularly strong part of our language usage concerning technology. According to Carey and Quirk, the problem is a way of thinking and language usage which mythologizes technology. They illuminate this rhetoric with the speeches of Ralph Waldo Emerson, in which steam, electromagnetism and tran-scendentalism are intertwined: according to Emerson,

> Machinery and transcendentalism agree well [...] Stage-Coach and Railroad are bursting the old legislation like green withes... Our civilization and these ideas are reducing the earth to a brain. See how by telegraph and steam the earth is anthropoligized. (Carey 1989: 120.)

The American government's plans, statements and agendas concerning information networks have represented clearly the *rhetoric of the electronic sublime* in a conspicuous and intentional way. They represent this rhetoric in its contemporary and politically driven forms. The "Information Superhighway", even in an American context, is a grandiose slogan that finds its rhetorical roots in not only the force of the name itself but also in the Gore family tradition. The discussion of an electronic "Superhighway" has been something of a tribute to the work of the former Vice-President's father, Senator Al Gore Senior, for his development of the U.S. Interstate highway network in the 1950s. In a country known for its automobile industry and highway culture, the reference to the highway network is a clever political analogy. The vice-president's project appeared to be a continuation of his

father's work. Peter Otte (1994: 6) has captured the thought perfectly: "It can be said that the Gores build highways."

The vision of an "information *highway*" as the communications channel of the future also includes a rhetorical comparison to the way in which information networks bring people closer together, just like roads of asphalt in the material world. It immediately becomes obvious that the highway metaphor might also be the subject of much critical commentary. Steven Jones (1995b: 11), for example, has quoted Phil Patton and made a comment on how the highway network created in the United States can be seen as causing "monstrous side effects". Instead of the promised closeness, highways

> have often rolled, like some gigantic version of the machines that build them, through cities, splitting communities off into ghettos, displacing people, and crushing the intimacies of old cities [...] While promising to bring us closer, highways in fact cater to our sense of separateness. (Patton 1986: 20.)[4]

When discussions of "data highways" began in the USA at the end of the 1980s, no one believed that it would be happening before the turn of the millennium. Due to several reasons, the situation has changed substantially. The speedy development has been the result of both the rapid technological progress and a series of strategic industrial alliances that have been and are being formed. (Cf. Steinbock 1995; Yoffie 1997.)

While politicians and technology enthusiasts see the NII vision clearly, there is also sharp criticism being voiced towards these plans. Mark Stahlman (1994), for instance, has considered the idea of a mega-industry rising up around the infobahn to be ridiculous. According to him, in the coming years,

> [t]here will be no 500-channel future. There will be no U.S.$ 3 trillion mother of all industries. There will be no virtual sex. There will be no infobahn. None of it – at least not the way you've been reading about it. (Stahlman 1994.)

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[4] Clifford Stoll (1996: 3), too, has commented on the building of American highways: "Who spoke out against the superhighway system? I don't remember anyone saying, 'Hey, these beltways will destroy our cities. They'll pave over pristine lands and give us hour-long commutes. They'll change our society from one of neighborhoods to that of suburbs.' / In advance, then, here are my strong reservations about the wave of computer networks. They isolate us from one another and cheapen the meaning of actual experience. They work against literacy and creativity. They will undercut our schools and libraries."

Stahlman's primary critique concerns the vision of a *convergence*[5] (cf. Yoffie 1997) between the telephone and cable businesses, which has been presented as self-evident in discussions of NII, digitality and contemporary media developments. Stahlman (1994) believes that neither the economic nor the technical prerequisites for such a convergence are fulfilled in their current form. Rather, telephone and cable companies are trying to use the "information highway" as a fuzzy excuse to smash current regulations and control mechanisms.

Both of these sectors of the communications industry have traditionally been carefully regulated monopolies in the United States, and their ownership arrangements and pricing policies have been directly affected by official regulations. National telecommunications policy has traditionally been a complicated blend of stiff competition in long-distance telephone services, monopolies in local telephone services and special privileges for cable operators. American telecommunications law was primarily established by the Communications Act of 1934, and has faced powerful demands for change in recent years. (Cf. Otte 1994: 8–12.)

4. "The Information Superhighway"

The "Information Superhighway" was originally President Bill Clinton's and Vice-President Albert Gore's political pet. The starting point for this nationally uniting information network is the *National Information Infrastructure (NII)* project proclaimed by the Clinton/Gore administration. At stake here has been a politically conspicuous mega-project, encompassing the development strategies for the US health-care system and university information networks. The political nature of the project has been emphasized by the fact that it was one of the major planks in the Clinton/Gore election campaign platform in the early 1990s. (Cf. Otte 1994; Bühl 1996: 13ff.)

The goal of the Information Superhighway is to bind households, schools, libraries, clubrooms, work places, research centers, etc., tightly together in a fast, high capacity

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[5] "[...] characteristic of this technological revolution is the growing convergence of specific technologies into a highly integrated system, within which old, separate technological trajectories become literally indistinguishable. Thus, microelectronics, telecommunications, optoelectronics, and computers are all now integrated into information systems." (Castells 1996: 62–63)

information network and information transfer service – a bit like the present telephone system. The major difference between I.S. and the existing tele-network, however, is that, in addition to voices and sounds, the Information Superhighway is able to relay all forms of multimedia information (still pictures, videos, animations, graphics, text files, databases). The NII is intended to make network applications of the next generation possible (e.g., distance learning, teleworking, interactive databanks, telematic entertainment, video-on-demand solutions), thus developing and strengthening the national economy of the USA as the technological and economic world leader.

In addition to the Internet style information networks, *interactive television* (ITV) has been a significant part of the NII project plans. All in all, NII has been constructed on nine great principles, which stress the significance of private sector investment, the universal service principle and the enforcement of copyright protection. Data security and ease of usage have also been stressed in the context of new technology. Another central idea of the Information Superhighway was some years ago what has been called "information at your fingertips". The phrase is intended to emphasize the network's user-friendliness and basically mobile nature (wireless communications, PDA technology, etc.). (Otte 1994.)

Those expressing the greatest interest in the network based multimedia markets of the future have been telephone and cable television companies and multinational entertainment concerns. Discussion of "data highways" has also stressed *technological integration* and the inevitability of *media convergence* between various technological fields of the "info industry"; the coming together of traditionally separate business sectors and industries (the computer industry, media and publishing business, film making, etc.) (cf. Brand 1987: 10; Lynch & Lundquist 1996: 149–157; Yoffie 1997).

The American government's plans for an "Information Superhighway" were written in 1993 in the approved position paper, *The National Information Infrastructure: Agenda for Action*.[6] This became the primary starting point for corresponding projects in other countries. The most general and popular name for the national information network within the NII project has been the "Information Superhighway", but it has also been known by

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[6] *The National Information Infrastructure: Agenda for Action*. On the political promises of Clinton and Gore, see also *Technology: The Engine Of Economic Growth*; and Clinton 1992.

countless synonyms and nicknames, such as "infopike", "infobahn", "infohighway", "digital highway", "I.S.", "digital information network", "data highway" and even "cyberspace". (Cf. Otte 1994: 6; Bühl 1996.)

The Clinton administration took the Information Superhighway as a matter of national concern and developmental funding was approaching the level of Ronald Reagan's "Star Wars" project (SDI) of the 1980s. The goal of this project, requiring billions of dollars a year, was to turn the United States into one giant information network over the next few decades. Every household, school, library, hospital and business should be able to receive and send information in digital form. The "info highway" was expected to be as great a techno-economic stride forward as the railroads and airlines were before. Economists and business consultants claimed it to be a new, revolutionary business tool and "dominant design" (cf. Steinbock 1995; Lynch & Lundquist 1996; Hagel & Armstrong 1997) in the "digital economy" (Tapscott 1995) and the new "informational economy" (Castells 1996: 66ff.).

Still some years ago the most important defender and evangelist of "data highways" in the United States was the former vice president Albert Gore, which is also natural in that Gore has been influential in information network development since the time of the Internet's predecessor, the *Arpanet*. Gore adopted the term "Information Superhighway" as a rhetorical metaphor in the late 1980s when he was a senator and chairman of a committee considering future technology. The concept spread through the international media as the result of Gore's speech to the National Press Club in December 1993.[7] The vice-president's enthusiastic vision marched the Information Superhighway, the Internet, and the whole digital vocabulary out into the sphere of public debate.[8]

5. Political and Technological Buzzwords

The "Information Superhighway" became a standard feature of the political and techno-logical jargon of the 1990s. The governments of other Western countries enthusiastically

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[7] Gore's speech to the National Press Club in December 1993.

[8] The media artist Nam June Paik has raised attention by claiming that the Information Superhighway was originally his idea. According to Paik, it was "stolen" from a memo he had made for Rockefeller Foundation in 1970s. (Paik & Mallander 1995: 59)

followed the example of the USA and published their own variations on the NII and the "data highways". Investing in information and media technological systems was considered to be a matter of national and global importance. For instance, when the leaders of the G-7 countries (the world's leading industrial powers) met in Brussels in February 1995, the theme of the gathering was developing a high technology "information society". A quote from the theme paper characterizes the meeting's basic premise well:

> Throughout the world, information and communication technologies are generating *a new revolution that is carrying mankind forward into the Information Age*. It is a revolution centered on the electronic processing, storage, retrieval and communication of information.
>
> As we enter the information age, the movement of information is joining the movement of people and goods as an activity of enormous social and economic importance. For those able to exploit it, *the information society is already a liberating experience* which widens individual choice, releases new creative and commercial energies, offers cultural enrichment and brings greater flexibility to the management of working and leisure time.
>
> The information society is not only affecting the ways humans interact but is also having a fundamental impact on our traditional organisational structures. Usually rigid and hierarchical, we can expect those to give way to more flexible, decentralised and participatory models which will transform the workings of society, the economy, and public and private institutions.
>
> A consensus has been emerging between G-7 governments in recent months that the development of the global information infrastructure and of its applications is *one of the most important initiatives that must be taken in this last decade of the 20th century*.
>
> The potential rewards are enticing: better social integration; the recovery of our sense of community; enhancing the progress of democratic values and sharing as well as preserving cultural creativity, traditions and identities; improving the quality of life; a stimulus to economic growth, job creation and higher economic efficiency; a better balance in economic and social progress between nations; a smoother integration of developing countries into the global economy; the capacity to solve common societal problems.
>
> These gains could be denied us unless we pursue them together. (*G-7 Ministerial Conference on the Information Society. Theme paper* 1995. Italics S.I.)

In my opinion, this sounds unrealistic, overly optimistic and very utopian (cf. Forester 1992). It has been, however, easy for different national plans and strategies to latch onto "universally" approved frameworks. For example, the Canadian government's version of NII was unsurprisingly called *The Canadian Information Highway*. Canada's plans emphasized the same goals as the United States' NII document. According to the future visions,

> Canada's information and communications infrastructure will be a 'network of networks,' creating vital communications links among Canadian businesses and their clients; among

industry, government and universities; among artists, cultural organizations and their audiences; among hospitals, clinics and patients; among schools; and among communities, large and small, from one end of the country to the other. It will accelerate the pace at which we exchange ideas, and will revolutionize our way of doing business. It will act as the catalyst for Canada as a vital and competitive knowledge-based society.

Australia's visionary plans for a "networked nation" have been similar. According to the Australian strategy paper (The Networked Nation 1994), "knowledge and information are the fundamental strategic resources of our age: access to them through electronic networks is vital for [...] Australia". Through these networks the nation "becomes not only a user but also a provider and exporter of global information and associated services. [...] Australia has an opportunity to enter the twenty-first century with unprecedented capacity to use and benefit from networked information resources." In April 1995, Prime Minister P. J. Keating summarized his nation's goals as follows:

> The Government has agreed to implement a national strategy aimed for the adoption of new information and communications services and technologies – the so-called "information superhighway".
>
> These new services and technologies *will change the way we live, work and play*. Their effect on our businesses, our schools and universities, our hospitals, our governments, and many other aspects of our daily lives, will be profound.
>
> *We have the opportunity to plan for a fairer, healthier, better educated and more productive "information society",* through a managed and consultative approach to the use of information and communications services and technologies. (Keating 1995; italics S.I.)

In the mid-1990s, Japan's intended mega-project was called the *Program for Advanced Information Infrastructure* (1994). To this was closely tied the strategic memo *Reforms toward the Intellectually Creative Society of the 21st Century* (1994). Japan's goal has been to develop into a networked "multimedia society" by the year 2010. In order to achieve this goal, the country has begun a national "multimedia network" development project. The key roles in this project have appeared to be held by MITI (the Ministry of International Trade and Industry), MPT (the Ministry of Posts and Telecommunications), NTT (Nippon Telegram & Telephone), and such electronics giants as Sony, Matsushita and Nintendo. The Japanese plans have favored familiar slogans such as ISDN, HDTV, video-on-demand, video-conference, teleshopping and telemedicine. Building a nation-wide FTTH (Fiber to the Home) fiber-optic cable network is considered to be especially important. (Harada 1995.)

As in America, the basis of Japan's Information Infrastructure was primarily commercial. According to the calculations of their national planning council, by the year 2010 the multimedia market should be a significantly larger industry than the current automobile, computer and consumer electronics industries combined (with an estimated market volume of 1.23 trillion U.S. Dollars). There have also been major employment hopes being projected towards the Information Superhighway. Nationwide, the multimedia network was predicted to create as many as 2.43 million new jobs. (Ibid.)

The city-state of Singapore also believes in the significance of the "infobahn", and has presented the future plan *IT2000 National Information Infrastructure* (1996), which has been connected to "a vision of an intelligent island". A high capacity information network has been expected to significantly alter Singaporean daily routines and offer concrete information technology applications for different areas of life:

> By using technology to reduce or simplify time-consuming chores, Singaporeans will have more discretionary time on their hands. Almost all transactions with government departments are to be made through computer and communication networks – school admissions, tax submissions, permit or license applications, bill payments, and so on will be processed electronically. Shoppers can compare products by selectively viewing images and video-clips on computer screens, and make purchases through cashless transactions. The choice and quality of recreational activities will be enhanced.

> Singaporeans and tourists alike will use multilingual and multimedia systems to preview cultural events and obtain admission tickets. At home, computers will be used to interactively browse the collections of art galleries, libraries and museums. Congestion on the roads will be tamed by computerised traffic control and electronic road pricing systems. Some Singaporeans can avoid commuting altogether by working at home via high-speed connections that bring them files and messages from the office and elsewhere.

> Those who work in office buildings find themselves inside intelligent structures that dispense advanced communication and control services. Everyone carries a smart card that stores essential information about her or his health and medical needs. The cumulative effect of these changes is that individuals will have the time and energy to engage in leisure activities that refresh their mental faculties or renew their social ties. (Choo 1995.)

On April 1, 1992, Singapore's National Computer Board (NCB) released *A Vision of an Intelligent Island: The IT2000 Report*. The report noted that since 1986 Singapore has been preparing itself to take advantage of the advances in information technology (IT) in terms of national competitiveness. It further described what the planned National Information Infrastructure (NII) would mean to Singapore, both domestically and globally. In an attempt to illustrate the practical daily benefits of the NII, the report also included a press release entitled, "A Day in the Life of the 'Intelligent Island'". Set in the near future, it tells

the story of a day in the life of the fictitious Tay family. Sandy Sandfort (1993) described this press release in a critical tone in the *Wired* magazine as follows:

> The story paints a beautiful picture of a future dominated by giant, voice-controlled, wide-screen, high-definition wall TVs that serve as picture phones, interactive tutors, and electronic places of business. Instead of money, everyone carries "smart-cards" that also serve as identification and medical history databases. Portable cellular data screens are used to access street maps and up-to-the-minute transit information.
>
> While technically interesting, the most striking aspect of "A Day in the Life" is its *peppy naïvete. It evokes all the innocent optimism of Walt Disney's Tomorrowland.* We see Mr. Tay in his tailor shop, where he is using his wall screen to display different styles of shirts to his customer, Mr. Ho. Tay uses an electronic stylus to alter the on-screen designs.
>
> Mrs. Tay is an insurance agent who works from home via her wall screen. She also uses it to teleshop at her local supermarket. Later, she uses the screen to access health care information and then to play *mah jong* electronically with her friends.
>
> Their son, Tay Leng Meng, accesses a Public Information Terminal (PIT) to get bus route information. When he gets home, he uses the screen to tap into numerous multimedia databases for a school assignment on wartime conditions in Singapore. (Sandfort 1993: 54; italics S.I.)

This summary of the Singaporean plans provides a good example of how bold and uncritical future pictures of information networks can be. Possible problems or negative horror pictures have no place in these visions. Information networks and technology are seen as offering easy and natural solutions to nearly all of the social, cultural and societal problems of our age. As the new "fashion technology", and as an important expression of the *Zeitgeist* (spirit of the age), it is easy to uncritically believe in the role of computer networks and telecommunications technologies. It is thus not surprising that many new democracies recently freed from communist control (e.g., Estonia, Slovenia, Poland) and (from Western perspective) under-developed Asian countries (e.g., Indonesia, Vietnam, China) have also put together their own plans for national "information highway" development.

6. The European Union and its Future as an "Information Society"

In December 1993, the European Commission presented a memo about "growth, competitiveness and employment" to the European Council. This so-called *White Paper*[9] is the

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[9] Growth, competitiveness, employment. The challenges and ways forward into the 21st Century – White Paper 1994.

program developed by the European Commission for economic recovery, in which information technology is given a controlling share. The term "information society" and expectations concerning multimedia technology are rather conspicuous in this memo. The paper's rhetoric tends towards lofty expressions such as "The dawn of the 'multimedia' world" and "This is not a technological dream for the next century". (P. 22.) *The White Paper* was important for European technological debate in that it initiated the European Union's infobahn projects. The task was given to the German EU commissar, Martin Bangemann, who was commissioned to report on the developmental actions necessary at the EU level.

The "High-Level Group on the Information Society", an expert organ composed of continental industrial leaders under Bangemann's directorship, produced its finished report in May, 1994. It received a positive response in political circles and was approved at the EU summit meeting held in Korfu in June 1994. The Bangemann group's paper carried the bombastic title: *Europe and the global information society: Recommendations to the European Council* (1994). This "guideline", which rose to a central position in Euro-political and public discussion, is also known as the *Bangemann report*. On the basis of this report the EU commission also produced a more concrete plan of action: *Europe's way to the information society: an action plan* (1994).

Bangemann's document attempts to characterize both the technological infrastructure and the political principles necessary to set up a European "information society" (cf. Bühl 1996: 24ff.). The report's concrete proposals include the speeding up of construction on the "information highway" and draws particular attention to the uneven level of development among European nations. In order to enable infobahn development work to proceed as quickly as possible the committee proposal includes typical *modernization principles*: common markets, technical standardization and critical masses of users. It can immediately be seen that the report considers Europe's multinational and multicultural nature to be more a hindrance to techno-economic efficiency than a cultural richness! (Cf. Inkinen 1995: 12.)

As in the American NII project, Bangemann's document also stresses the significance of the private sector, market forces, information economy (cf. Bühl 1996: 25–28), informational capitalism (cf. Castells 1996: 18) and open competition as the powers

constituting the European information society. In addition to profit growth, the Bangemann report promises that information technology will bring "more effective management and organization", "new ways to exercise [...] creativity" and "a more caring European society with a significantly higher quality of life and a wider choice of services and entertainment" to the continent. In order to achieve these goals there is an emphasis on the central role of the education sector. As concrete examples of "the information society" of the near future, the report stresses, for instance, the significance of teleworking, distance learning and telematic services. (pp. 5–6, 25–29.)

7. The Techno-Mission of Europe

The Bangemann report relies on the *electronic sublime* and a related discourse form, *the rhetoric of the electronic revolution* (cf. Inkinen 1995, 1999). It would be appropriate to provide a few examples here. In the introduction, the document states that European culture is currently going through a significant process of change and that this brings "a revolutionary challenge to decision makers". Bangemann's working group believes that "throughout the world, information and communication technologies are generating a new industrial revolution already as significant and far-reaching as those of the past". (p. 4.)[10]

According to the group, we are looking at "a revolution based on information", in the field of media technology. "Technological progress now enables us to process, store, retrieve and communicate information in whatever form it may take – oral, written or visual – unconstrained by distance, time and volume." According to the report, "this revolution adds huge new capacities to human intelligence and constitutes a resource which changes the way we work together and the way we live together". Likewise, "an information society is a means to achieve so many of the Union's objectives". The close of the introductory chapter has the tone of a missionary commission: "We have to get it right, and get it right now." (p. 4.)

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[10] Manuel Castells has presented many central insights on industrialism, industrial revolutions and "informationalism", for example: "[...] industrialism is oriented toward economic growth, that is toward maximizing output; informationalism is oriented towards technological development, that is toward the accumulation of knowledge and towards higher levels of complexity in information processing." (Castells 1996: 17)

And the negative aspects of this development? They are left unaddressed, since according to the pragmatic logic of the EU rhetoric and Bangemann's working group, "all revolutions generate uncertainty, discontinuity – and opportunity. Today's is no exception. How we respond, how we turn current opportunities into real benefits, will depend on how rapidly we can enter the European information society." The accusing finger is pointed at political decision makers. Bangemann's working group believes that "Europe is already participating in this revolution, but with an approach which is still too fragmentary and which could reduce expected benefits." (p. 4.) The high-level working group complains that "public awareness of the technologies has hitherto been too limited [sic]. This must change." (p. 7.) Again, this panel of major industrial leaders also states that "by sharing our vision, and appreciating its urgency, Europe's decision-makers can make the prospects for our renewed economic and social development infinitely brighter". (p. 8.)

In addition to the rosy scenario it paints, the report stresses the *urgency* of the developmental work. Because the "revolution" is already progressing so quickly in other parts of the world, the Union must act with exceptional speed before its competitors (North America and the Far East) are able to advance the "revolution" any further. Classical European virtues such as prudence, consideration and historical perspective are not open for consideration. The message written between the stacks of official documents appears to be that the Europe which has promoted itself as the cradle of civilization is now facing a radical shift in values towards American pragmatism. The *Bangemann report* (p. 7) stresses that there is *no time* for delay:

> Why the urgency? Because competitive suppliers of networks and services from outside Europe are increasingly active in our markets. They are convinced, as we must be, that if Europe arrives late our suppliers of technologies and services will lack the commercial muscle to win a share of the enormous global opportunities which lie ahead. Our companies will migrate to more attractive locations to do business. Our export markets will evaporate. We have to prove them wrong.

In addition to the great expectations directed towards the Internet and the "data highways" mentioned in the report, most European Union member countries have those same expectations in their own national plans. Let's take, for example, the EU's two newest and northernmost member states: Sweden and Finland. Both countries joined the Union at the beginning of 1995, after fierce public debates and national referendums on the subject. Swedish plans concerning the information society and information technology (IT) have

been developed by many high-level working groups and their results have been published in a series of reports. Politically, one of the most significant of these working groups, the Government Commission on Information Technology, led by former Prime Minister Carl Bildt, published its political guidelines, *Informationsteknologin – Vingar åt människans förmåga* (Information Technology – Wings to Human Ability) in August 1994. The vision of Bildt's working group for the positive effects of information technology on the national economy and cultural life picks up the distinctive, even limitless optimism of Gore and Bangemann.

In January 1995, the Finnish Ministry of Finance published *Suomi tietoyhteiskunnaksi – kansalliset linjaukset* (Finland's way to the information society – The National Strategy and its Implementation) (1995).[11] This strategy paper has been prepared to support Finland's renewal as a society capable of thriving and surviving. The significance of the strategy is based on the statement that

> [w]ithin an open world economy, both firms and national economies must continuously look for ways to improve productivity and competitiveness. In order to secure the well-being of citizens, and the resources required to develop the society, there are no alternatives. Renewal requires readiness for change, as well as knowhow and the use of information and technologies of the highest quality. (p. 3)

According to this report, improving productivity and competitiveness in "the networked economy and the information society" requires "information network connections to work sites and households", as well as emphasizing Finland's need "to assume an active role in the development of a European information society". Once again the message is clear. It is stated that "the opportunities offered by information technology are significant to the point that nearly all OECD countries and many international communities have drafted or are preparing information society strategies". In these strategies

> the sheer necessity to implement information technology emerges as the central theme [...], the primary means being to get started with the building of *the Information Highway*. Another aspect evident is that information technology is seen to penetrate all sectors of the society, public as well as private. Most strategies characterise this phase of development as *the Information Society*. (pp. 3–5; italics S.I.).

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[11] See also *Education, training and research in the information society. A national strategy by Finland's Ministry of Education* 1995.

8. Some Critique of "The Bangemann Report"

Real world problems have never kept people from envisioning and rhetorical exaggeration. *The Bangemann report* is a classic example of this. It disturbingly bases its hollow sounding arguments on the rhetoric of the electronic sublime (Carey 1989: 113ff.; cf. Inkinen 1995, 1999). It presents a sort of techno-optimism, if not an enraptured "digital sermon"; the sort of revolutionary rhetoric that we are accustomed to seeing in high-tech marketing leaflets, for instance, but not necessarily in official governmental papers to be approved by heads of state. From this perspective, Bangemann's document is an intellectually weak and unsatisfactory performance.

With all of its optimism, instrumentality and commercialism, *the Bangemann report* raises a number of critical questions. In the middle of all the rhetoric of the electronic sublime and expected "revolutions" it seems appropriate to ask: What's the point in all of this – with different committees being formed in Brussels, piles of reports by Eurocrats and billions of euros in future investments? What, if I were to ask, would be the First Cause for "revolutionary leaders" like Bangemann? It is certainly not the principle of emancipation; freeing the citizens from the control of technology and inhuman mechanisms. Rather, there is a foundational emphasis on market shares and economic profit opportunities – in fact it's a question of a *trade war*.

In the light of Bangemannian rhetoric, the idea of a "European information society" appears to be essentially attacking, defending and attempting to win this trade war, towards which goal various forms of strategic alliances and diplomatic agreements are formed. From this viewpoint the Internet, "data highways" and new media appear to be the latest weapons technology for conquering still greater market shares and profit margins. The primary thought is to form a common European front against the United States and the Far East. The world appears to be broadly and frighteningly similar to the picture in George Orwell's dystopian horror novel, *Nineteen Eighty-Four* (1949) – an on-going bitter conflict between three major power blocks. (Inkinen 1995: 16, 1999: 262.)

We already know from history that the capitalist law of motion requires certain textual charm and manifestos providing various motives for support. On the other hand it remains an open question what the rhetoric foretelling society's future has to offer in terms of

helping to solve current social crises and problems. Following the recent discussions on technology causes one to imagine that political technocrats would prefer locking themselves in their meeting rooms and chambers, behind poetic sounding strategies, rather than to face the world's central political, social, ecological and cultural problems.

9. Language Games and Brave New Utopias

Besides its powerful mythologization, the discourse concerning media and information technology is plagued by an abundance of different and contradictory – but simultaneously appearing – "language games". (Inkinen 1995: 16–17, 1999: 262–263.) First of all, we have the side-by-side, often intertwined, commercially oriented language games of *marketing personnel* and *business strategists*, in which such catchphrases as multimedia and information highways present a dominant design, competitive advantage, market shares and new commodities conducive to consumption.

In the wake of these comes the ever excited language game of the *technology enthusiasts*, continuously sprouting new dreams and brave visions of the future, in which technological "breakthroughs", "strides" and "revolutions" follow each other as part of the invigorating sermon.

As a third group, we have the separate category of *politicians* and *government officials*, with their credulous and uncritical language game featuring such concepts as employment, resources, national competitiveness and European integration. Fourth, we have what could be called *"closet humanists",* with their strongly anti-technological and often nihilistic language game based on classical values and virtues, in which a university education or other such sign of sophistication is seen as a sufficient basis for evaluating the new media.

Fifth, we can mention the puritanical language game of the *technological pessimists*, in which any sign of (digital) technology is an indication of a curse. And finally we have the most daring language game of all – both in terms of style and content – comprised of different forms of future visions and fantasies: the imaginary language game of *science fiction* (especially cyberpunk) in which information technology and computer networks (especially virtual reality and "cyberspace"; cf. Bühl 1996: 19–21; Heim 1993; Inkinen &

Salmi 1993; Lévy 1995; Markley 1996b) are presented as a techno-romantic and Neo-Expressionist landscape.

The belief of politicians and technology enthusiasts in an "electronic revolution" would appear to justify rhetorical exaggerations and utopian hopes for new forms of socialization – even for *new societal structures*. For example, in the Internet discussions of recent years network societies (cf. Castells 1996) and "virtual communities"[12] have been seen as – to use Ferdinand Tönnies's classic *Gemeinschaft/Gesellschaft* comparison – the Gemeinschaft-type, anti-hierarchical formations, favoring traditional and spontaneous social relationships. (cf. Rheingold 1993; Jones 1995b: 24ff.; Walther & Anderson & Park 1994; Bühl 1996: 23–24; Hagel & Armstrong 1997.)

Information networks have in these cases also been propagated as a technology enabling communication to be liberated from hierarchies and domination (*Herrschaft*). This sort of utopianism has at least a tenuous connection with the social philosophical speculations of Jürgen Habermas. Habermas, in his *Theory of Communicative Action* (*Theorie des kommunikativen Handelns*), wants to liberate public discourse in society and form a communicative society with equality for all, in which emancipated individuals consider issues collectively. Habermas' utopia is an ideal, domination-free space for communication. For him "ideal speech" is solidary communication, without the kind of authority which could distort this speech. (Habermas 1981a, 1981b; cf. Outhwaite 1996.)

It is immediately noticeable that Habermas' "communicative action" is not necessarily successful in electronic e-mails, discussion forums or the furiously scrolling digital postings. All in all, it seems to me that the contemporary hysterical huffing and puffing promoted by various Internet lists, "flames" and "news groups" is only getting worse. Information networks in their current form do offer an imposing amount of Barthesian "pleasure of the text" (see Barthes 1988), but considerably less of that which could, in the more exact and serious sense of the word, be referred to as communicative action. At least from the viewpoint of my own experimental horizon, discussions conducted "on the net"

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[12] "New information technologies are integrating the world in global networks of instrumentality. Computer-mediated communication begets a vast array of *virtual communities*. Yet the distinctive social and political trend of the 1990s is the construction of social action and politics around *primary identities*, either ascribed, rooted in history and geography, or newly built in an anxious search for meaning and spirituality." (Castells 1996: 22; italics S.I.)

are more distinctively fragmentary, nihilistic and self-centered communications strategies than attempts to domination-free or "solidary" communication.[13]

Thoughts about *teledemocracy* are also regularly presented in discussions about information networks (Arterton 1987, 1991). One of the spokesmen for this sort of thought is Howard Rheingold, according to whom computer networks represent a more democratic form of media technology than television. Rheingold (1992: 106; translation S.I.) states, "computer networks [...] are not centralized. Everyone is a program producer. Through the net it's possible for a regular person to use the same methods as a political party. [...] You can publish manifestos and organize groups." Rheingold (1992, 1993) has also stressed the relevance of computer networks as discussion forums for sub-cultures, counter-cultures and alternative perspectives. There is nothing significantly new in this sort of utopian emphasis. Steven Jones (1995a: 2) has summarized his references to Carey and Quirk as follows:

> Carey [...] has eloquently argued that prophecy has accompanied the arrival of most every new communication (not to mention other) technology. What Carey and collaborator John Quirk argue is that "electrical techniques [are hailed] as the motive force of desired social change, the key to the re-creation of a humane society, the means for returning to a cherished naturalistic bliss.

Robert Markley, on the other hand, has written as follows:

> Technology never escapes politics. *The fiction of cyberspace* is useful precisely to the extent that it allows its proponents to imagine *an androcentric reality* in which a threatening, messy, or recalcitrant (and invariably feminized) nature never intrudes. In this respect, cyberspace is consensual primarily in its insistence that technologically mediated experience can *transcend* the ecological and economic constraints that have shaped and continue to shape human culture. It offers *the fantasy* that the more technologically sophisticated our society becomes the less it has to worry about the distribution of wealth and resources. (Markley 1996a: 4; italics S.I.)

The debate of information networks seems to make a lot of noise without a corresponding level of substance. Recent technological discussion with ambitious visions and missions of digital culture can be seen as the *utopias* of the turn of the millennium (on utopias and utopian thought, see, for example, Bloch 1959; Biesterfeld 1985; Derivaux & Ruhstrat 1987; Rahkonen 1996) – and therefore as both relevant and interesting objects of investigation.

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[13] "Online debates of tough issues are often polarized by messages taking extreme positions. It's a great medium for trivia and hobbies, but not the place for reasoned, reflective judgment. Surprisingly often, discussions degenerate into acrimony, insults, and flames." (Stoll 1996: 32)

10. *Gemeinschaft* vs. *Gesellschaft:* **Teams, Tribes, and the New Work Culture**

The discussion and research on the information society have been widely concerned with the revolution of work. A central vision has been *distance work*: new technology is expected to free workers from the restrictions of time and space. Another vision has been voiced by Alvin Toffler, among others, who has pointed out that increased productivity of work would benefit workers with more free time and, thus, more time for personal interests outside of work. Neither vision seems to have been realized. (Kasvio 1999)

One prediction about 'the end of work' was made in 1995 by Jeremy Rifkin in a book of the same name. He argued that the progress of information technology is leading towards mass unemployment. As work becomes increasingly automated, different technical devices and applications will replace the human workforce. The productivity grows faster than the total output, thus resulting in fewer rather than more jobs. As a result, big corporations present one reorganization program after another. These will give a quick boost to the stock market, but the workers' uncertainty will increase.

The opposite view has been voiced by Manuel Castells. He shows (1996: 474) that there are more jobs and more people of the working age that are employed than ever before in history. In Castellsian terms, the development of information technology can *create* new possibilities and jobs rather than simply destroy them. Politicians and bureaucrats in particular have seen the new economy as a requirement for maintaining competitiveness as well as for creating new jobs. In the political jargon the new economy and the information society are often conceptually linked together; the new economy comes off as a necessity to which we must adapt and in which "we must succeed". Recently, the discussion on the information society has focused on *life-long learning* and flexibility. In a report by the Ministry of Finance it was stated that in an information society everyone must keep updating his/her skills and knowledge, as we face the era of life-long learning (Valtio-varainministeriö 1995: 39).

When discussing new attitudes to work it is once again useful to refer to the older works of Marshall McLuhan. A creative, enthusiastic, and devoted attitude to work in the field of information technology has lately been called 'hacker ethics' (Himanen 2001). According to McLuhan (1968: 161), in the "electric age" work is seen not only as a profession, but a

voluntary devotion and committal that resembles tribal bonding. In addition to McLuhan, tribalism and neo-communality have been emphasized by, among others, Michel Maffesoli (cf. 1995), a sociologist who is often referred to in the discussion on digital culture.

There has been a crucial change in the nature of work: work is increasingly done in projects and in teams. Advancement does not necessarily come through rising in the hierarchy; rather, advancement takes place horizontally by branching out into several fields or specializing in one field. In *Global Paradox*, John Naisbitt (1995: 23) argues that digital technology is giving rise to new, virtual tribes. According to Naisbitt, computer-mediated communication (CMC) produces tribes, thus making us tribalized while also making us increasingly global.

The Danish futurologist Rolf Jensen (1999) claims that we are moving towards a "Dream Society". The Dream Society is a phase of development that follows the information society. According to Jensen, in this future Dream Society businesses resemble tribes; work becomes *hard fun*; and workers hunt together and divide the catch according to pre-set rules. 'Tribe' is a good metaphor because – as in a hunting band – the tribe's success depends on its members and their strategic abilities rather than on mechanical devices as in an industrial society. (Jensen 1999: 133–136.)

The 'tribe' metaphor has characterized the discourse of globalization and the new economy (granted that Marshall McLuhan introduced the metaphor as early as the 1960s). The metaphor creates an image of returning to something original in a time before civilization as we know it today. The word 'tribe' evokes a small community based on specialized roles. It is important to bear in mind that archaic tribal culture is characterized by, e.g., the pressure of conformity, hierarchy, and strict roles. This gives rise to the question of whether *it is possible to switch tribes*?

11. The Age of Speed and the Rhetoric of "New"

The exhilarating, fast-paced spirit of the times has been the focus of many theories on globalization and analyses on contemporary society. Paul Virilio has suggested his field of study to be called 'dromology,' or the science of speed. The faster the pace of information,

the more aware we become of its fragmentation. *Telepresence* creates a paradox of presence, and essentially changes our relationship with time and space (Virilio 1994: 46).

"The ecstasy of communication" and television culture have been widely criticized by Jean Baudrillard. He argues that time has not started running faster, but its meaning is disappearing: the illusion of time, duration, and its complexity is unnecessary, because all projects are evaluated in real time, based on immediate operations (Baudrillard 1994b: 27). Manuel Castells (1996: 429–468) has introduced the term *timeless time* to describe the new social perception of time in which the perception of sequence and linearity is changing. This resembles McLuhan's (1968) idea of the briefness of electric time and the implosion caused by electricity.

According to Martin Albrow (1996), modernity has monopolized the concept of the "new": it either integrates the new into itself or denies its existence. In the Christian tradition the "new age" referred to the future epoch after the Judgment Day. Modern times have labeled our current phase as the "new age". Jürgen Habermas notes that modernity considers itself as a transfer to the new; conscious of the acceleration of the pace of historical events, it waits for a different future. Constant renewal establishes a break with the past. (Habermas 1987: 190)

Habermas links the change in the concept of time to the project of the modernity. He argues that *Zeitgeist* is powered by the encounter of historical and utopian thinking – despite the fact that conceptually these two might seem to exclude each other. In a modern society, each generation claims to be experiencing a special time unlike any other (ibid.).

In recent years, the information society, the new economy, and digital technology have been discussed in terms of revolution and epoch rhetoric. Such theories that announce some revolutionary change are quite frequent in Western history. Particularly inspirational for messianic interpretations have been the turns of the century as well as millennium. The feeling of the end of something often contains the feeling of expectation for the beginning of something new (a new age, peace, freedom, happiness). *Fin de siècle* has always intrigued the Western mind. (cf. Rahkonen 1996: 13)

The turn of the millennium and the millennial consciousness provide a probable explanation for the use of the concept *the new economy* instead of such possibilities as "the

digital economy", "the Internet economy", or "the electronic economy". Thus, the new economy can be interpreted as a central contemporary concept in which is distilled the expectation for the new age, i.e., the new millennium.

In 1995 Jean Baudrillard suggested that we would cross out the 1990s and forget about the decade. This would save us from the necrocultural pathos and endless commemorations at the end of the millennium. The turn of the millennium came and went without much damage even from the feared *millennium bug*. It is noteworthy, though, that the concept of *the new economy* was created at the turn of the millennium.

When analyzing techno-utopian discourse, it is important to bear in mind that religious and metaphysical links are the rule rather than the exception. For technology enthusiasts the new technology is liberating and revolutionary, the initiator of a new era.

12. The Utopian Hype of the "Electronic Revolution"

The rhetoric of the electronic sublime is no longer the exclusive right of politicians, marketing personnel or technocrats. There are also many scholars and researchers who have joined the camp of contemporary techno-optimists. This way of thinking is illustrated by Stevan Harnad's idea of the way in which information networks are leading to a qualitative breakthrough in communications technologies; *the fourth cognitive revolution in human thought and culture* (Harnad 1991). According to Harnad, the three previous cognitive revolutions, prior to the development of information networks, were the paradigm shifts brought about by speaking ability, writing ability and printing technology:

> There have been three revolutions in the history of human thought, and we are on the threshold of a fourth. The first took place hundreds of thousands of years ago when language first emerged in hominid evolution and the members of our species became inclined [...] to trade amongst themselves in propositions that had truth value. [...] The second cognitive revolution was the advent of writing, tens of thousands of years ago. [...] The third revolution took place in our own millennium. With the invention of moveable type and the printing press, the laborious hand-copying of texts became obsolete, and both the tempo and the scope of the written word increased enormously. (ibid.: 39–40.)

A considerable faith in the electronic revolution is poetically and directly condensed in an interview with the founder of *Wired* magazine, Louis Rossetto. It is Rossetto's view that we are going through a genuine revolution. The current revolution differs from its predecessors

only in that "there is no shooting in the streets". (Koenig 1994: 96.) A good example of the rhetoric of the electronic sublime and this so-called "electronic revolution" is Rossetto's manifesto-like declaration published in the German *Focus* magazine (45/94):

> Gegenwärtig findet eine Revolution statt, die so tiefgreifend, so rasant und so weitreichend ist, daß alle anderen Revolutionen, von der industriellen bis zur russischen, dagegen wie Sandkastenspiele wirken. [...] Für viele Menschen ist diese digitale Revolution spannend und voller neuer Möglichkeiten. Für andere ist sie eine abschreckende Welt einschüchternder Technologien, durchsetzt von unverständlichen Fachwörtern wie Meg und Modem, RAM und ROM. Doch die digitale Revolution ist keine technische Revolution – sie ist eine menschliche Revolution, die unsere Nation, unsere Gemeinden und unsere Familien verändern wird.

Rossetto himself is a middle-aged ex-hippie who for ten years prior to beginning *Wired* lived in Amsterdam and there edited a computer magazine entitled *Electric Word*. I refer to this particular fact because Rossetto's alternative background has interesting links with the personal histories of seminal virtual reality representative Timothy Leary (died in 1996) and the conspicuous information network and techno music propagandist, "zippie leader" Fraser Clarke. An interesting question to be considered in itself is why so many key statements in defence of new innovations in media technology have come from the hippie/zippie cultures and psychedelic/cyberdelic circles. Such "gurus" of new information technology as Howard Rheingold,[14] John Perry Barlow, Bruce Sterling, Ted Nelson and Stewart Brand have all based their actions and rhetoric on the continuation of the distinctive alternative ideologies of the sixties (cf. Roszak 1969) – only now in computerized form (cf. Dery 1994, 1996). They all believe in the "electronic revolution" (though often referring to it in veiled terminology and with softer names) and in the emancipatory power of new media technology.[15]

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[14] Rheingold has characterized himself as a sixties-style counter-cultural activist ("Aktivist der Gegenkultur im Stil der Sechziger Jahre"). See, for example, *Neue Medien. Beilage der Süddeutschen Zeitung* 23.2.1995, p. III.

[15] The connection between hi-tech, Silicon Valley and Californian (hippie) ideology has been discussed by Manuel Castells. Concerning the history of computing, "[...] while large, established companies in the East were too rigid (and too arrogant) to constantly retool themselves towards new technological frontiers, Silicon Valley kept churning out new firms, and practicing cross-fertilization and knowledge diffusion by job-hopping and spin-offs. Late-evening conversations at the Walker's Wagon Wheel Bar and Grill in Mountain View did more for the diffusion of technological innovation than most seminars in Stanford." (Castells 1996: 55.)

Laurence A. Canter and Martha S. Siegel (1994: 192–196), among others, have intensively critiqued the alternative backgrounds of these technological gurus in recent Internet debates. This pair of Arizona lawyers in turn caused an unprecedented Internet scandal and violation of "netiquette" (cf. Rose 1994; MacKinnon 1995; McLaughlin, Osborne & Smith 1995) in April 1994 by sending commercial mass postings to Usenet's thousands of different news groups.

These two extremes – lawyers demanding law and order on the one hand, and defenders of alternative ideologies, deviance and freedom of speech on the other – have interestingly represented the opposing poles in the Internet's "wild frontier" battle. The differences in viewpoint are apparently irreconcilable. Canter and Siegel are examples of the "promoters" and "defenders" of the commercial Internet; such organizations as the Electronic Frontier Foundation (EFF)[16] and the Internet Society[17] have been the speakers in defence of an "open prairie". Metaphorically, this refers back to the 19th century situation in the American Wild West, where Native Americans and settlers tried to fight off sheriffs and the cavalry.

13. Technophilia and the Cult of Information

According to Theodore Roszak, techno-optimistic expectations concerning computers and information technology systems are *technophilia*; an extreme manifestation of the effect that loving machines has on our lives. In his work, *The Cult of Information* (1986), referring primarily to the discussions of the 1980s, Roszak discusses the fact that this is not the first time people have believed that new magical machines would make their lives happy and complete. The steam engine, the electric generator, the airplane – each of these was a great symbol of progress in its time. As Roszak sees it, technological frenzies come and go together with new inventions and investments. A century and a half ago one could read stanzas of praise of the railroads in English newspapers. It is easy to laugh at the conclusions reached and the great expectations expressed in such poems, but still here and now we listen to the prophecies of salvation to be brought by new technologies.

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[16] See http://www.eff.org/.

[17] See http://www.isoc.org/.

Reading through the political documents of the recent years – to say nothing of the "sermons" of eager businessmen and techno-enthusiasts – Roszak's words seem undeniably justified. With the aid of dreams, imagination and hypnotic magic words (*buzzwords*), it is easy to mythologize everyday inventions and applications. In extreme cases new technology can even be spoken of in *religious terms* of salvation, deliverance and illumination. Again the historical parallels are clear. As Ralph Waldo Emerson compared the "mystical" and "supernatural" power of steam to transcendental philosophy in the 1800s, visionaries of our own time (such as Fraser Clarke and Terence McKenna) bring information networks, virtual reality and techno music (cf. Inkinen 1994b) together with shamanism, cyberdelic meditation technologies and experiences of spiritual *satori*. (Cf. Dery 1994, 1996.)

Along the same lines – though in considerably more sedate form – the literary works of the Finnish writer Leena Krohn might be mentioned as an example of enthusiasm for the connections of new technology with the transcendental. According to Krohn,

> [...] the world of computer networks and the artificial reality which they open call to mind [...] the so-called astral level, often spoken of by turn-of-the-century occultists. [...] The network user approaches the world as though he sent there an electronic astral projection, a projection of himself, though greatly reduced of course, which is controlled by his will through the computer and modem." (Krohn 1994; translation S.I.)

These sorts of transcendental spheres and visions are an extreme of course, but they illustrate what a perfect environment electronic media and information technology is for blatant mythologization – even for direct New Age references (cf. Taylor & Saarinen 1994: Televangelism). The discourse surrounding computers, the Internet and information networks is naive and mythological with poetic praises, hypnotic slogans and aphoristic promises (cf. Forester 1992; Bühl 1996). Technological myths are especially actively presented in advertising rhetoric that appears to be particularly rich in fantasy for the products of information and telecommunications technology. It is a distinctive feature of the rhetoric of the electronic sublime that borders between real and imaginary (i.e., substantial and potential) technology are blurred, leaving us with the eternal promise: "If not yet, then very soon!" (Inkinen 1995: 19–20.)

14. Misleading Technobabble

John A. Barry has made a number of key observations about the looseness and the lack of conceptual discipline in the current technological jargon in his work, *Technobabble* (1992). For me the title of Barry's book is an accurate term for the complicated, mythological and techno-optimistic language usage surrounding new media technology. Recent technological rhetoric has not only been sublime, but also confusing. Some of the most dramatic problems in clarity and mutual understanding come from confusing such terms as "data", "information" and "knowledge"; i.e., seeing no semantic difference between them.

I have already pointed out the utopian nature of technical terminology before (cf. Inkinen 1995, 1999). Ever braver and wilder neologisms have increasingly flowed into the discussion over the past few years. The English term *buzzword* aptly describes such technological terminology. These neologisms are created and promoted primarily by the mass media, the publication mechanism of which perpetually requires a flow of new and exciting verbiage. Fogginess, mythicalness, polysemy, overlap and even outright contradiction in terminology are distinctive features of popular "technobabble". (Inkinen 1994a, 1995: 20–22.)

It is noteworthy how simple and laconic things change into sublime slogans in techno-rhetoric. It is an entirely different thing, of course, to speak laconically about data transfers and information systems than to rattle on manically about the databahn, cyberspace and the messianic Information Superhighway. And it is entirely different for government organisations to produce some dull memo to be filed and forgotten than to publish sublime National Policy Reference Papers and Strategies that demand respect on the basis of their names alone. The inexactitude associated with this sort of language usage has been critiqued, for example, by Henry Bacon (1994: 2). For Bacon – in politics, marketing and generally in all planning and decision making processes – verbal images and other rhetorical devices are used to help ideas and issues give a stronger impression. Verbal images are used to provide a presentation with the desired tone.

Words are viruses from outer space, William Burroughs once claimed. At least in terms of technological vernacular the analogy seems apt. The current terminology of media and information technology offers a seemingly boundless cornucopia to the creative arranger of

words. Thus, we can read in contemporary writer Douglas Rushkoff's *Cyberia* (1994) how he sees *hyperspace* as a great, all-encompassing key concept and magical zone, in which hackerism, computer networks, fractal mathematics, rave culture and psychedelic experimentation can all easily fit together.

The loose mentality of discourse on media technology has also used language which carelessly confuses things. At its worst moments *hyper*text is associated with Jean Baudrillard's and Umberto Eco's *hyper*realism (cf. Baudrillard 1983, 1988, 1994a, 1994b; Eco 1986), and the *Inter*net with the *inter*textuality of, among others, Julia Kristeva and Jacques Derrida. Nor has technobabble always been able to bother distinguishing between the various concepts of "simulation". Thus, simulation in terms of "technical modeling" has been connected with the postmodern concept of cultural theoretical simulation (cf. Ylä-Kotola 1998). "Interactivity" should also be subject to more intense conceptual scrutiny. There are just so many different types of interaction; the contrast between Gene Young-blood's theories of interaction, Manuel Castells' (1996: 358–364) "interactive society", Henryk Skolimowski's "interactive mind", Don Tapscott's (1997: 55ff.) "culture of inter-action" and the flat "interactive entertainment" offered to television audiences (such as the "Hugo" television game some years ago) is rather dramatic.[18]

Some of the inexactitude and misunderstanding appearing in the discourse can be explained in terms of the multi-disciplinary and multifaceted nature of research concerning media and information technologies, but this cannot be used as an excuse for conceptual laziness and lack of discipline. What we need is *deeper, more critical and reflective discourse on media and information technologies* – and their social and cultural implications. In the heuristic words of Carey and Quirk:

> The first task is to demythologize the rhetoric of the electronic sublime. Electronics is neither the arrival of apocalypse nor the dispensation of grace. *Technology is technology; it is a means for communication and transportation over space, and nothing more*. As we demythologize, we might also begin to dismantle the fetishes of communication for the sake of communication, and decentralization and participation without reference to content or context. Citizens now suffer in many areas from overloads of communication and overdoses of participation. (Carey 1989: 139–140; italics S.I.)

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[18] Clifford Stoll (1996: 22) has critically commented on interactive computer entertainment by stating that it "gives you a choice of many different outcomes, all preprogrammed. The experience is about as interactive as a candy machine. / Even the term multimedia is wrong, since there's only one medium employed: the computer."

This is a very relevant and important observation with which I agree. An urbanized, stressed-out and mechanized citizen needs more peace and time for himself – less communication and (new) technology around (cf. McKibben 1993; Inkinen 1999). On the other hand, technology is *not* only technology: it is also a *discourse*, a cultural form (Williams 1975) and a forum for various social rituals and activities! We also know that technology and media are *Janus-faced*: they have a potential for both positive and negative implications.

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