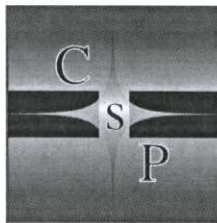


Cyberfeminism in Northern Lights:
Digital Media and Gender in a Nordic Context

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CHAPTER EIGHT

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CULTURAL APPROPRIATION OF COMPUTERS IN NORWAY 1980-2000

This is not “computer history” in a traditional sense. It is not the history about what “really” happened or how the computer in practice was domesticated¹ in Norway. It is the history of how the development was *perceived* in the public sphere between 1980 and 2000 in Norway. The aim of this chapter is to explore how the computer was *culturally appropriated* and how this appropriation involved discursive constructions that also affected gender in this period. Thus it is the history of the construction of what became a hegemonic discourse about the computer.

The “myth” about gender equality

Norway is a country with a strong sense and impression of gender equality. Despite this “myth” about gender equality, the labour market is still strongly gender divided. Even though more women than men attend higher education², computer education is heavily male dominated, just like the computer business. The term “state feminism” has been applied to explain governmental efforts in Norway to include gender equality as a goal in laws and regulations (Hernes 1987). State feminism can be seen as contributing to the “myth”, as gender equality is a widely accepted goal, and it is often claimed that we have (nearly) reached gender equality, as men and women *are* granted equal rights (Skjeie and Teigen 2003: 13). However, as I will argue here, gender equality is not only

¹ The term domestication has been used to emphasise that the process of bringing new technology into households is a mutual process where both the artefact and the household adjust to each other (Silverstone, Hirsch, and Morley 1997; 1992, cf. Berker et al. 2006).

² SSB, <http://www.ssb.no/utniv/>, accessed 08.03.2006.

about equal rights, but also about how discursive constructions make different possibilities available for men and women.

In a former study I explored the discourse of computing around the turn of the century in Norway, and found a dominant discourse of computer technology in which boys and men were expected to have more interest in, experience with and knowledge about computers than girls and women. On the other hand, women were more or less expected *not* to be particularly interested in computer technology (Corneliussen 2003, 2003, 2004). This masculine discourse of computer technology can also be traced back to the beginning of the 1980s, which means that this article hardly brings any surprising news in that respect. However, unless we believe that boys and men really do have certain masculine qualities that make them more suitable in relation to computers, and vice versa, that women have certain qualities that make them unsuitable, we need to ask how this discourse has developed. How was the image of boys and men's close relationship to computers, along with ideas about women's disinterest, constructed and maintained in Norwegian culture in this period? How was the computer perceived, and to whom and what was it considered helpful, necessary or perhaps the opposite? I will argue that the discourse was constructed in particular ways, through a "discursive logic" that resulted in a homogenous and hegemonic discourse, with different expectations towards men and women's relations to the computer.

Searching for discursive negotiations in the public sphere

Gender and technology are both socially constructed, and in the analysis I will explore how they are being co-constructed (cf. Gansmo 2004). Technology is not only a physical artefact, but involves knowledge and skills, practice, symbols and cultural meaning, all of which also include ideas about gender. Gender is a discursive construction providing formal and informal rules, social guidelines, expectations and assumptions about men and women (Scott 1988: 42-43; Wajcman 2000). Gender is not only limited to people, but yields meaning to other things – like technology. Technology, however, has an interpretative flexibility (cf. Pinch and Bijker 1997; 1987) which makes various discursive co-constructions with gender possible, as we will see.

The analysis of this discursive co-construction has its theoretical basis in Ernesto Laclau and Chantal Mouffe's *discourse theory*.³ They have elaborated this as a political theory about social and political change and stability, that is, about how cultural meaning is produced. The keyword, discourse, is referring to a structure of meaning of a limited area, like the computer, which is a cultural

³ See Corneliussen 2003a or 2003b for a more nuanced description of discourse theory.

frame of reference that we use to understand the world. A discourse is an unstable and constantly changing construction, always threatened by new meaning⁴ that might alter it, but simultaneously it gives an impression of being a fixed and stable structure. The stabilisation and homogenisation of the discourse is produced through the inclusion of meaningful elements that support the discourse, and exclusion of alternative meanings, as I will demonstrate in the analysis. Hegemonic discourses are those discourses that have acquired a dominant position or widespread accept, thus suppressing alternative discourses. Discourse theory is a (researcher's) theoretical perspective of reality, and it provides a useful tool to understand and analyse how meaning is constructed, preserved and changed in constant negotiation. As mentioned before, this is not an analysis of the practical domestication of computers, but of how relations between gender and computers were *perceived*. In the analysis I have searched for how men and women were described in relation to computers, what kind of computer use they were associated with, and how the flexible meaning of computer technology was combined with gender in various ways.

Many books have been written about the development of personal computers in the 1970s and 1980s. Some focus on computer history in general, which most often means on technical development and market development (Ceruzzi 1998). Others focus on how the underground movement developed the personal computer intended for private persons, thus developing a market that the bigger producers, like IBM, had not yet become aware of (Levy 1984; Ceruzzi 1999). These approaches do not tell how the computer was perceived and appropriated as a cultural artefact, or how it spread, among "people in general". Neither does gender seem to be an important analytical category in these narratives. This chapter is, however, more in line with the tradition of studying how particular groups, in terms of education, work, age or gender, relate to computers,⁵ not by focusing on a particular group, but on discursive negotiations in the *public sphere* in Norway – that is, on debates that were available to and concerned "people in general". The empirical material for this chapter is gathered from the largest and nationally distributed Norwegian newspaper, *Aftenposten*,⁶ and limited to news entries that in some way either discuss or visualise computer

⁴ An articulation is, according to Laclau and Mouffe, any social praxis that creates meaning.

⁵ My doctoral thesis belongs in this tradition, studying male and female computer students' identity construction in relation to a discourse of computers. For an overview of Norwegian research within this tradition, see: (Lagesen Berg et al. 2002).

⁶ Cf. <http://www.medienorge.uib.no/main.cfm?ID=190&Medium=Avis> (accessed 10.04.2006). The other reason for choosing *Aftenposten* is that it is digitally searchable in the digital archive *Atekst* from an earlier point than the other large newspapers, with the next nationwide distributed papers following nearly 10 years later.

technology *and* gender.⁷ This work is part of a larger research project, and a previous analysis of the computer magazine *Datatid* (Corneliusson 2006) also informs the analysis below.

In the study mentioned above, I explored how men and women employed the hegemonic discourse in different ways – supporting it, negotiating it or rejecting it – thus exploring the discursive variety playing with and around the hegemonic discourse of computers. However, in this article I will focus on how the *hegemonic discourse* in particular, through a pattern of inclusion and exclusion of meaning, has been supported in the public sphere since the beginning of the 80s. We will also see examples of how non-hegemonic meanings entered the debate, and in the end, how claiming a counter discursive standpoint required a “loud voice” to be heard. When working with the material, I analysed it both in a chronological order, in a thematical order and in terms of different gendered labels (“gender”, “man” and/or “woman”). The presentation of this analysis is guided by none of these, but rather by the discursive constructions found in the material.

The advent of the Personal Computer

The advent of the personal computer in the early 80s drastically increased the *potential* availability of computer technology for private persons. Some claim that the first personal computer was Altair, a computer building kit, made available in 1975 (Ceruzzi 1999:72). “Personal” in this case meant that it was cheap enough for “anyone” to buy, and it could be operated by one person alone⁸. However, calling Altair the first personal computer also emphasises the importance of technical interest and curiosity, rather than practical need or usefulness, as those who managed to put the pieces of Altair together in the correct order would get a box that “could do little more than [...] blink a pattern of lights on the front panel” (Ceruzzi 1999:75). However, more important than

⁷ About 260 news entries from *Aftenposten* between 1981 and 2000 were retrieved. Not all of them appeared to be relevant and about 165 of these news entries are included in the empirical material analysed in this article. It can, however, be argued that only searching for news entries that explicitly mention gender has the possible source of error that indirect discussions of gender (for instance about secretaries who were assumed to be women) will not be found. However, the main intention of this analysis is to explore how gender was discursively constructed, which requires gender to be visible. cursory examinations of other material from the newspaper indicates that the news entries included do give a general account of the period, and that other search methods probably would have given more of the same rather than completely new perspectives.

⁸ In contrast to mainframe computers needing a whole crew of operators (Ceruzzi 1998:77).

Altair – which most people probably had not even heard of – is the fact that a number of cheap computers became available on the Norwegian market in the late 1970s and early 1980s, some targeting the business market and others targeting the home and hobby market. IBM's PC was launched in the US in 1981, but it did not reach the Norwegian market until 1983 (Nerheim and Nordvik 1986). However, the IBM PC was important to the development of personal computers in several ways. It created a norm for the technical development, and a number of "IBM clones" followed in its wake (Ceruzzi 1998:277-278). "PC" became one of the most widely used names for a whole generation of computers.⁹ The Norwegian translation "Personlig Datamaskin", commonly used in the period, should make the abbreviation "PD", which was also recommended by the Norwegian Language Council,¹⁰ but that did not catch on, and PC is still a common name for the computer in Norway.

The newness of "Personal Computers" in the early 80s was not primarily the technology, but the potential opportunity for "anyone" to acquire a computer. But the computer did not enter Norwegian culture overnight. In 1980 it was so rare that it was not even included in the Norwegian Statistical Bureau's (SSB) official statistics, and it was not until 1997 that SSB found that 50% of the population between the age of 9 and 79 had access to a computer at home (cf. table 8-1). The Internet¹¹ entered the scene in the 90s, for most people probably not until the late 90s. The Internet was included in SSB's media statistics from 1997, when 13% of the population between 9 and 79 had access to the Internet at home, increasing rapidly to 52% by 2000.

Table 8-1 Persons 9-79 years with access to a home computer and the Internet

	1985	1987	1994	1997	2000	2003
Home Computer	9	13	33	50	71	77
Internet	-	-	-	13	52	64

Source: Norwegian Statistical Bureau

⁹ Counting the occurrences of "PC" in *Aftenposten* (in the digital database *Atekst*) in the period shows 7 hits in 1983, 94 in 1990 and 858 occurrences in 2000.

¹⁰ The Norwegian Language Council even encouraged the press to withhold parts of the salary for writers using English computer terms (*NTB* 07.07.1988).

¹¹ The Internet was not so much a "new technology" as it was a new option for the PC – just add a modem and a phone line. In most cases it was treated as a part of the computer, and in this article I will also include discussions about the Internet as it more or less seems to have been perceived as an appendage to the personal computer.

The computer revolution

Although Internet access spread much faster than computers, the *idea* of the diffusion, both for computers and the Internet, grew even more rapidly. Claims about the computer entering the homes at “full speed” were numerous in the 80s, and 1995 was described as “the year we connected to the Internet”.¹² Thus the cultural importance of the new computer technology seems to have had a lead on its actual diffusion.

Although the revolutionary perspective is less pronounced in the empirical material from *Aftenposten* than it was in *Datatid*,¹³ the early 1980s was clearly envisioned as a time of change, and this change affected – or would, eventually, affect – everything and everyone, from the nation to individuals, regardless of gender.¹⁴ Labels like “computer”, “information” and “technology” were used as prefixes to “society”, describing the entire society in light of the new computer technology. This calls attention to the revolutionary perspective by describing a society where computers not only made *a* difference, but *the* difference:¹⁵ “Our society is about to change – and the ‘driving force’ is the computer.”¹⁶ The computer was holding “the language of the future”: “Those who do not learn the language of the computer today will be the illiterates of tomorrow”.¹⁷ Women were explicitly included in these visions in a number of entries, as housewives using the computer for finding recipes,¹⁸ or using a digital pen for ordering groceries from the home.¹⁹ However, as we soon will see, women in particular were faced with the risk of becoming “the illiterates of tomorrow”.

The revolutionary perspective continued throughout the period and was still vital in 1998: “A new technology does not add something, and it does not remove something. It changes everything. [...] information technology represents a revolution in line with the industrial revolution 100 years ago. It will change everything”.²⁰ The revolutionary perspective envisioned a total

¹² 09.07.1995. Unless another source is named, all dates given in this format refer to *Aftenposten*. All quotes from Norwegian newspapers are translated by the author.

¹³ *Datatid* was a monthly publication and I searched it manually, which gave a more thoroughly view of the articles in the magazine, including articles not discussing gender, thus I can not rule out that other search methods in *Aftenposten* would have made the revolutionary perspective even more visible also there.

¹⁴ 14.01.1983, 11.11.1983.

¹⁵ Cf. (Lie 1996).

¹⁶ 31.01.1984.

¹⁷ 13.12.1982.

¹⁸ 07.11.1981.

¹⁹ 12.02.1994.

²⁰ 02.04.1998.

social change, and the most extreme descriptions of the situation gave an image of the future where everything was assumed to “converge” in the home. Work, school and private activities would all be conducted from the home through the use of technology, causing an impression of a future isolation caused by technology.²¹

Thus the computer entered Norwegian culture as a heterogeneous technology, at an intersection between work, the private sphere, school and society at large, promising severe changes in all these fields. Before we go deeper into analysing the discursive constructions, I will give a brief summary²² of the most pronounced topics within the main arenas work, school, the private sphere and society, all of which were given nearly an equal amount of attention in the period.

The computer in four arenas

Focus on work was relatively stable in the period, but with a higher importance in the 80s than in the 90s. Topics we *could* have expected to find in relation to work, like the “feminist fears of the 70s”, of women facing redundancy, health risks or employers exercising power through the computer (cf. Barker and Downing 1985; Rasmussen 1988) were, however, not present. The computer as a new possibility for women with care-giver responsibilities to work at home, and the computer creating jobs for women in sparsely populated areas were both recurring topics in *Datatid* in this period (Corneliussen 2006). However, this was not the case in *Aftenposten*.²³ Consequently, neither the big threats envisioned in the 70s, nor the big advantages for women, were visible in *Aftenposten*. Rather, it was claimed, it was men’s jobs that were exposed to automation. Female secretaries were on the other hand re-evaluated as a result of new working patterns introduced by the computer, and women were also described as the largest user group of computer technology in the office and in public administrative jobs. A general theme throughout the period was the lack of women in computer related expert jobs and top positions. In the 90s there was an increased focus on young computer skilled men in computer related jobs, and the end of the 90s saw an increased focus on technophobia and *male* non-users in working life.

²¹ 14.01.1983.

²² References to news entries are omitted in the summary below, but will be provided in the discussion of discursive constructions where the most important topics mentioned in this section will be further explored.

²³ Home work is mentioned a few times, but always with men illustrating the home workers.

Focus on school and education dominated the first half of the 80s before it almost disappeared in the beginning of the 90s, followed by an increase in the last part of the 90s. The first period was dominated by focus on gender as insignificant for computer training, a topic that more or less disappeared in the 90s. Norway has a strong ideology of a unitary school system, which made the school an important arena for bridging possible gaps (cf. KUF 1984). A recurring topic throughout the 80s and 90s was the problem of girls and women as less interested and engaged in computers than boys and men, which was seen as a problem to be addressed by the educational institutions in particular (cf. (Gansmo 2003). There were also a number of entries emphasising that girls and women *were* in fact using computers, although most of these also included discussions of the low proportion of women. The entries focusing on school and education first of all reveal that the perception of gender as insignificant did not survive the 80s. Second, it seems that the impression of girls and women's disinterest towards computers is what caused most of these entries to bring up gender as a topic. There is only one entry focusing solely on boys, and that is about boys being hired to install the school's new computer system. Boys and men were basically discussed only as references for describing and explaining women's behaviour.

Entries discussing the computer in the private sphere dominated the late 80s and first part of the 90s, and it was the second most important topic in the last part of the 90s. The late 80s were dominated by a focus on the computer "revolution" in the home. Within technology research, focus on the household, family and the private sphere has been one way to make women visible, in particular women's relations to technology (Berg 1996). Thus, we could perhaps expect a broad focus on women in news entries discussing computer technology in relation to the private sphere, but this was not the case. Rather it was boys and young men who were made visible in relation to the private sphere – in nearly five times as many entries as women. The 90s were dominated by entries about boys and girls' different uses of computer technology, with a clear emphasis on young self-educated boys with a computer in "the boy's room". New in the 90s was also a trend of computer games for girls, and in particular new online games that were expected to attract more women due to their "social" character. In the late 90s, elderly women surfing the Internet were introduced. Thus, entries focusing on computers in the private sphere first of all made young boys' computer fascination visible, while girls and women primarily were presented as "coming after", assuming that the gender gap would eventually disappear.

News entries discussing computers in a broader perspective of society appeared throughout the period, increasing from the beginning of the 90s and dominating the latter part of the 90s. The computer "revolution" in the home

was made visible in the 80s, while the late 90s were dominated by surveys about computer and Internet use. This was also followed by entries expressing concern about women's low participation in the "computer/information/technology" society, culminating in 1997 with an "expert warning" that women would be forced back to the home because of their disinterest towards computers. Men were discussed in relation to illegal copying of computer programs in "the boy's room", and in relation to violence, crime and porn in games and on the Internet, along with questions about social costs of these activities and the government's options for regulation of the new media.

One conclusion we can draw from this material is that the computer entered the culture at an intersection between work, school, the private sphere and society in general, and it appeared to be important to different contexts and groups. It did however *not* enter in a hurry, neither at work, in school nor in the private sphere. But as already mentioned, the *perception* of the diffusion grew faster than the "real" spread of computers, consequently creating an impression of computers being "widespread" quite early. I will argue that this cultural diffusion played an important role in constructing certain gendered patterns in the discourse of computers. For the actual diffusion to happen, however, a new cultural *need* and *desire* for the computer had to be created, a process also made visible in the press in this period, as we will see later.

Discursive constructions

The main goal of this chapter is to explore how the discourse of computers has been constructed as a masculine discourse, and we need to ask how the meaning of gender and computers is constructed. How was the image of boys and men as interested, skilled and experienced, and women as the opposite produced and maintained? In the following sections I will point to five pronounced discursive "logics" that seem to have been important in shaping and supporting the discourse of computers in ways favourable to boys and men. The first four are 1) *a pattern of visibility and invisibility*, 2) *an "intersection rhetoric"*, 3) *the creation of a need through a flop*, and 4) *non-hegemonic women and men's failure to affect the discourse*. I will argue that these discursive logics create a rather stable hegemonic discourse. But obviously, one of the recurring questions following the worries about women's low interest was "how can we include them", and the last point I will discuss is 5) *how the hegemonic discourse was rewritten* in order to include women.

Visibility and invisibility

The dominant focus on girls and women overall was their lack of interest, experience and skills (39 entries), while the dominant focus on boys and men was their fascination and extraordinary computer skills (36 entries). I will argue that this trend contributes to a discursive pattern of making gender and computer skills visible and invisible in a certain pattern, starting with the entries focusing on women.

Women's lack of interest

Women's lack of interest in computers and their low level of participation in computer related contexts were dominant topics throughout the period, in relation to society, work, education and the private sphere. Entries presenting statistics showing a gender gap in access and use,²⁴ choice of education,²⁵ as well as references to situations where girls and women were less engaged than boys and men (in the classroom,²⁶ at computer parties,²⁷ at home,²⁸ in school,²⁹ at work,³⁰ on the Internet³¹) or in general as a problem for society,³² all contributed to document women's low level of participation. Most often, boys and men were also mentioned in these entries. They were the "norm" against which girls and women were measured.³³ The quantity of entries focusing on women's disinterest increased the visibility and discursive importance of female non-users. Women's low interest in computers even became a self-evident "fact" or common knowledge³⁴ (cf. Corneliussen 2003). Not only the large number of entries, but also the descriptions, comments and evaluations in many of the entries focusing on women's disinterest increased the discursive importance of female non-users. An entry titled "Women do not give a toss about computer technology"³⁵ illustrates this. Norway was presented as unique because "nearly all Norwegian homes have a PC", which was an exaggeration of the real situation. It was also emphasised that a larger proportion of the

²⁴ 12.01.1996, 05.10.1997, 07.03.1999.

²⁵ 22.02.1985, 24.12.1985, 11.07.1986, 17.03.1987.

²⁶ 17.10.1996, 11.03.1999.

²⁷ 30.03.1994.

²⁸ 29.08.1997.

²⁹ 05.08.1982, 11.03.1983, 05.02.1986, 24.09.1999, 03.10.1999.

³⁰ 10.02.1987.

³¹ 07.01.1996, 29.05.1998.

³² 23.10.1985, 05.03.1987, 22.05.1989, 05.02.1997, 05.10.1997.

³³ 16.12.1987, 16.10.1994, 05.09.1997, 07.03.1999.

³⁴ 29.08.1997, 11.03.1999.

³⁵ 05.10.1997.

people than in other countries had access to the Internet. However, a survey had documented that only 1% of women who had access to the Internet actually did use it, against 12% of the men, and similarly, only 1 out of 5 women against 1 out of 3 men used the PC at home.³⁶ The survey obviously documented a lower level of use among women. Through this focus on the difference *between* men and women the impression of women as non-users was strengthened, not only by ignoring the female *users*, who – although not representing a large proportion at that time – still existed, but also by ignoring that a *dominant majority* of men also were non-users, with two thirds of men not using the PC and 88% not using the Internet at home. The male non-users were not discussed at all – not in this entry and not in any other entry presenting statistics. This entry was, however, especially fierce towards women (as will be further discussed below), describing them as the future losers, while a similar threat towards male non-users was not included. But why would it be more interesting that women were lagging behind by 11% compared to the minority of male Internet users rather than the fact that the majority of men were not users? And why would only *female* non-users face the threat of becoming “the losers of the future”?

Although this entry is fiercer than most entries, it illustrates how relations between gender and technology were made visible and invisible in a certain pattern. Women’s non-use and men’s use of technology – even though it did not include a majority of men – were made visible, simultaneously as male non-users and female users were ignored or made discursively invisible, contributing to an overall homogenisation of a masculine discourse of computers.

Not only disinterest, but also technophobia was associated with women, as illustrated by an entry where a researcher talked about technophobia as something that always had existed, and the journalist wondered: “Isn’t this [fear of technology] something that in particular applies to women?”³⁷ The researcher answered the question without responding to the gender part. Consequently, the question about women does not seem to have a meaningful part in the interview, and we could ask why the journalist decided to let the question, or more precisely, the assumption about women, remain in the text. Even though the question was not reflected in the following dialogue, it did *create* meaning in the text by introducing the connection between women and fear of technology, illustrating how readily available the connection between women and technophobia was. And, it was allowed to stay there unchallenged (imagine the journalist asking the same question about men and the interviewee *not* answering). Thus the discursive effect of the entries focusing on women’s lack of interest in the computer greatly enhances the impression of women as non-

³⁶ Ibid.

³⁷ 08.06.1997.

users, making them the discursive visible ones, at the cost of female users, who remained discursively invisible.

Computer fascinated boys and young men

While the dominant focus on girls and women was their lack of interest in computers, the dominant focus on boys and men was rather their exceptional interest, extraordinary skills³⁸ and even love for the computer.³⁹ Two recurring themes operated side by side in these entries. First, boys and young men's skills were admired. They were described as self-educated "wizards" on the computer.⁴⁰ Young men in computer companies were "dragged out of the boy's room",⁴¹ to work in a business "where the geniuses are so young they barely escape the penal code against child labour".⁴² They belonged to the "hacker generation"⁴³ and the only education they had was what they had taught themselves in "the boy's room".⁴⁴ They "lived for their work"⁴⁵ and were "thinking about computing day and night".⁴⁶ They had "the fiddling in their fingers and the computer technology in their heads", talking in a technical language far beyond what even the friendliest mother could understand.⁴⁷ These young boys were the masters of the language of the future,⁴⁸ as well as the future leaders of society.⁴⁹

The second recurring theme was, however, the negative aspects of these young boys and men's activities: illegal copying of computer programs, in particular games,⁵⁰ violence and sex in games⁵¹ as well as negative effects of playing the games.⁵² With the advent of the Internet it was rather online activities that caused worries, in the shape of computer viruses "starting as an

³⁸ 05.03.1988.

³⁹ 16.10.1994. This focus is also highly present within research on men's relationship to computers, e.g. (Haddon 1991; Nissen 1993; Mellström 1999; Turkle 1984; Faulkner and Kleif 2003).

⁴⁰ 26.11.1988.

⁴¹ 15.12.1996.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ 15.02.1986, 26.11.1988.

⁴⁵ 28.07.1994.

⁴⁶ Ibid., 15.12.1996.

⁴⁷ 02.05.1995.

⁴⁸ 13.12.1982.

⁴⁹ 02.05.1995.

⁵⁰ 26.11.1988, 12.11.1996, 27.01.2000.

⁵¹ 30.06.1991, 25.06.1994, 01.11.1994.

⁵² 23.11.1995.

innocent boy's game",⁵³ online hacking of computer systems,⁵⁴ and violence, sex and porn on the Internet.⁵⁵ Criticism of the boys' activities did however not change the image of them as highly skilled computer wizards. In most of these entries "the boy's room" was an important metaphor for the computer skilled boys and young men – even in the computer business, where young men's offices reminded more of a boy's room than a working place.⁵⁶ The metaphor became so important that one of the universities even offered a special "boy's room competence course" for female computer students, "in the things we assumed that the boys knew about computers before they attended the program".⁵⁷ The boy's room metaphor emphasised young boys' computer competence as a norm for measuring computer skills (cf. Corneliussen 2003).

A pattern of inclusion and exclusion

There are several differences between the entries focusing on women and entries focusing on men. First, entries discussing women often involved a comparison of women with men, while entries about men most often remained focused on men alone. Second, women's attitude towards computers was often explained through analysing the women "as gender". The intense fascination and working style was associated with men, but gender was not used to explain it (cf. Faulkner 2000). Third, a dominant trend in the entries about women was to encourage female non-users to acquire computer skills. Not a single entry encourages male non-users to acquire computer skills. However, just as the dominant focus on women's lack of interest made female computer users invisible, the dominant focus on young computer skilled men made unskilled boys and men invisible, and the computer-fascinated self-made wizards from "the boy's room" got to represent a "typical" male relationship with the computer (cf. Sørensen 2002).

This discursive construction also seems to have made it easier to "remember", and consequently to repeat, gender as a feature assumed to make a difference rather than other differentiating features. Several entries presented statistics showing gender, age, education, income and geography as features making a difference between users and non-users. Sometimes all of these features were involved, sometimes only a few of them, and a few times gender

⁵³ 29.02.1992, 29.09.1993.

⁵⁴ 24.05.1985, 11.04.1987, 26.01.2000.

⁵⁵ 05.02.1992, 25.06.1994, 16.03.1995, 27.01.2000, 18.05.2000.

⁵⁶ 15.12.1996.

⁵⁷ 04.10.1998.

was explicitly mentioned *not* to be one of them.⁵⁸ However, gender, and to some degree age, are the only markers of difference that seem to be “remembered”, while the other differentiating features were not made important except in the entries actually referring the statistics. Thus, the hegemonic discourse made certain meanings suitable and others unsuitable, and it was apparently easier to rely on gender as the primary difference, than other differences. An entry discussing use and non-use of different media in Norway quoted a survey showing that “technophobia” was mostly found among women, elderly and the low-educated. However, the (male) author added a PS at the end of the entry: “PS.: Do you think that all of this has to do with age? [...] Answer: No. Age is not an important factor.”⁵⁹ Although age had been introduced as a difference alongside gender and education, age was “removed”, while neither gender nor education as features making a difference were questioned. This illustrates a homogenisation of the discourse by neglecting the “unsuitable” difference, making the remaining differences even more important.

The massive focus on girls and women’s lack of interest compared to boys and men as highly skilled computer users produced a particular discursive effect. On the one hand, male users and female non-users were made visible and included as “self-evident” in the hegemonic discourse, whereas male non-users and female users, on the other hand, remained invisible and excluded from the discourse. This is perhaps the most important construction in this discourse, and it is also an important basis for the next discursive constructions I will discuss.

An “intersection rhetoric”

The revolutionary perspective placing the computer at an intersection between different spheres seems to have fostered a special “intersection rhetoric” which also increased the visibility of women’s negative relationship to computers. One example is found in an entry discussing “computer phobia” in working life.⁶⁰ Although computer phobia was assumed to be found among both men and women, it was more widespread among women, it was claimed, illustrated by a woman describing her difficulties in using a computer at work. In the next section of the entry, a researcher explained the differences between men and women’s relations to the computer by referring to a study of computers in Norwegian households, where it was found that women resisted the computer because of their husbands’ intense and time-consuming use of it. Thus, women’s resistance was explained as a protest against men’s extensive use. However, in

⁵⁸ 12.06.1993.

⁵⁹ 25.09.1993.

⁶⁰ 26.03.1995.

the context of this entry, research about women's resistance in the *home* was used to shed light on women's computer phobia in *working life*. This illustrates how the position of the computer at an intersection between different fields of society was developed into a particular "intersection rhetoric", that made arguments from one sphere valid for another sphere, as if the different spheres were guided by entirely similar "rules".

Another illustrating example of the "intersection rhetoric" is found in the entry presented earlier, about women's low participation in computer related contexts. This entry opened with an "expert" – a sales manager in a computer company – who was worried about women's inability to keep up with the technological development. He claimed that "many women have the attitude that the PC is a boy thing for men who are a bit childish", and that too many women were spectators to, instead of participants in, the rapid development.⁶¹ In consequence, women were facing the risk of becoming "the losers of the future" who would miss out on exciting jobs and in a worst case scenario would "have to go back to the kitchen sink or low paid professions." They might also "experience a greater distance to children's everyday life because they do not understand what children are doing".⁶² The "intersection rhetoric" in this entry involves education, working life and the home, as well as different levels of computer skills, a mixture that continues throughout the entry. A representative from NTNU⁶³ claimed that it was often "required that you can handle a PC when you apply for a job", then moved straight on to talk about the small number of women in computer science, again illustrating the "intersection rhetoric" by confusing two fundamentally different levels of computer knowledge.

The last example of the "intersection rhetoric" is from a short entry about a local council that had decided to create a PC club for women, where the members could get an interest free loan to buy a home computer.⁶⁴ The motivation was to make women who worked in this local council more interested in using a PC. There is no documentation of women's lack of interest in this short entry – that was apparently self-evident. And there is no explanation as to why women should become more interested in computers, which might also have been self-evident. But is it? Why would an employer want the employees to be *interested* in computers? If the point was to make them familiar with a technology they used at work, why did they not receive (sufficient) training at work instead of being encouraged to train at home?

⁶¹ 05.10.1997.

⁶² 05.10.1997.

⁶³ The Norwegian University of Science and Technology.

⁶⁴ 29.08.1997.

(Which other commodities or artefacts would an employer encourage the employees to be interested in “at home”?)

The fact that the computer entered the culture at an intersection between different spheres and different levels of users, from the hobby user to the secretary to the expert, apparently made it easy – and natural – to use an “intersection rhetoric”, where arguments from one sphere or group of users could be applied to another sphere or user group. The last case also illustrates that the computer had acquired a special value which made it vital for everyone to use the technology. However, why and for what they should use it was not always that obvious, which brings us to the next discursive construction: the computer as a flop.

The computer as a flop

As we have seen, the revolutionary potential of computer technology was one of the recurring themes in *Aftenposten*, and in descriptions of the home this took on a special form, envisioning the computer doing “everything”. This constructed a “flop” around the computer, and I will bring us back to 1981 to illustrate this:

Computer technology will offer a myriad of possibilities for people at home and in their leisure time. You can have your own cookbook, medical book, a number of games. When is the tram leaving? Just ask the computer. And what products do you have in the fridge? Most people will probably use the family’s computer to keep track of their economy. So far the computer technology has been too expensive and too difficult to use for it to become widespread in the home, but both of these barriers are about to disappear now.⁶⁵

This entry describes the future use of computers, but this future was not far away. The computer was just about to “enter the living room”, however the living room of people not familiar with the computer. Consequently, a need had to be created, and this entry included a long list – “a computer menu” – with examples of what you would use a computer for in the home. The list included keeping track of your personal economy, control and security systems in the home, banking systems, news, information and a number of personal archives: content in the fridge, things we need for the holiday, addresses, sports results, etc.

The visions about the computer doing “everything” involved the creation of what I will call a “flop”, as it involved an unrealistic description of both the

⁶⁵ 07.11.1981.

need for, and the usefulness of, the computer. This becomes clear if we consider how the “computer menu” coincided with most people’s practical situation in the beginning of the 1980s. Most of the things that needed a network could be removed from the list for most people. Likewise, security systems could be removed, as it would need more than a single computer. That basically leaves the personal archives as the most practicable use: personal economy, the content of the fridge and what you need to pack for your holidays. Pfaffenberg claims that for new technology to become culturally appropriated it needs to acquire meaning in and through already meaningful cultural stories (Pfaffenberg 1988). The same goes for the practical domestication of new technology, which, in order to become successfully included in everyday life, somehow needs to support what seem to be meaningful activities. Listing the content of the fridge was not one of them. Thus, the attempt to enforce a domestication of the computer in the home was relying on a big flop, in which the computer was described as fulfilling a number of roles that it did not fulfil, and fulfilling needs that did not exist.⁶⁶ This flop increased the importance of being computer literate, in order to be able to find the “recipes for roast lamb or meatballs”, to manage your personal economy and other more or less important things on the computer. Thus this flop enhanced the signification of the gap between the “cans and the can-nots”, and as we have seen earlier, the “can-nots” were primarily assumed to be women.

Not everyone was “fooled” by the flop. An entry telling about a family who had a “foretaste of the computer age”, bringing computer equipment into their home for a weekend, illustrates this. They explored computer games, educational programs and programming, searching for the computer’s “usefulness”:

But we did not find the *effective output* for the household which we were originally looking for. We do not have so many acquaintances that we cannot keep them organised in a manual address book, and we stay away from

⁶⁶ The flop also existed in trade and industry. It is not that pronounced in the material gathered from *Aftenposten*, however it was made visible in *Datatid* (also mostly in entries not discussing gender, which might explain why this has not become visible through *Aftenposten*), in numerous articles about how companies had bought computers “head over heels”, not really knowing what to use them for, and without expertise to differentiate between useful and less useful equipment. Also schools seem to have experienced the flop and a “head over heels” introduction of computers, as one entry illustrates in stating: “The computer is the answer, but what is the question?” (08.05.1985)

accounting in all its shapes, and word processing [...] was not possible without more expensive supplementing equipment.⁶⁷

They did not find the home computer particularly *useful*, and they were not interested in the kind of use presented through the flop, but they did conclude that “if you want to, you can always find an excuse for ‘needing it’.”⁶⁸ They pointed to a possible reason why the flop became a popular rhetoric: as long as the early cheap computers did not really fulfil any needs in the home, a “fake” need had to be created. Thus it can be argued that making the computer important in the home in the early 80s required the flop to create a need. Soon, however, the active creation of a “need” or explanations of the usefulness of the computer was superfluous. Even though the flop was exposed it still lived on, as an indefinable need that “everyone” had.

Non-hegemonic men and women

I have claimed that the hegemonic discourse presented men as computer skilled and women as disinterested. However, there were also two non-hegemonic groups, a group of female users and a group of male non-users, made visible in the news entries. How do these fit into the hegemonic discourse?

First of all, women were in several entries presented as the “super users” or the main user group of computers in the office, both in the private and the public sector,⁶⁹ claiming that “the secretaries have many places become the companies’ racers in computing.”⁷⁰ It was claimed that “many female secretaries do the computing for their male leaders”,⁷¹ and “[m]any secretaries are more competent than their superiors with regard to computers and technology”.⁷² Thus, the secretary was not assumed to have been “automated” out of the office.⁷³ Instead, the secretary job was re-evaluated, and the “punching lady” was about to give way for the – still female – “office manager” with a more responsible job, higher wages and higher status.⁷⁴ Together with claims about women being well represented or dominant in “low level” computer work, like

⁶⁷ 13.12.1982.

⁶⁸ Ibid.

⁶⁹ 17.12.1985, 16.10.1994, 04.08.1996.

⁷⁰ 16.10.1994.

⁷¹ 04.08.1996.

⁷² 14.08.1996.

⁷³ 02.12.1985.

⁷⁴ 08.09.1989, 14.08.1996. This was however not supported by research from the late 80s (cf. Rasmussen 1988).

routine work and word processing,⁷⁵ this gives an impression of a widespread perception of women as an important user group of office computers. However, this claim about women being the largest user group in working life does not seem to have become a part of the hegemonic discourse about computer use, illustrated by the numerous news entries presenting women as a group of disinterested non-users.

It is likely that one reason why female office workers were discursively ignored as computer users is that in the early 80s there was a difference between a secretary's computer, a "word processing machine", and a "general" computer (cf. Lie et al. 1984). Another likely reason is the tasks these women used the computer for, basically limited to operating the technology, not creating it. Thus the "intersection rhetoric", using computer expertise as the norm for "computer competence" would wipe this group off the map of those considered computer competent. This group of women were made visible "as women", but their computer use did not count in the hegemonic discourse.

The other group that does not seem to have affected the hegemonic discourse is the male non-users, or "the stone age leaders", as they were called. In the computer magazine *Datatid*, this group was a recurring theme throughout the 80s and 90s, but they were not made visible in *Aftenposten* until the end of the 90s. In 1995, a number of "renowned" non-users were presented – all of them in high positions, and all of them men. One of them, apparently not happy with being interviewed about his non-use, claimed that "I think of myself as smart enough to master this, but with so many computer competent people around me I do not want to spend time on it".⁷⁶ This is in line with what *Datatid* found in 1985 among leaders in Norwegian computer companies, who claimed to be busy with other things, and left the computer to be handled by the secretary (Corneliussen 2006). Thus the male leaders presented it as a *deliberate choice* not to use a computer. This choice was apparently accepted, at least until the end of the 90s. One entry in *Aftenposten* illustrating this was written by a journalist who claimed that he recently started using email after being rebuked by a business associate: "Do you live in the stone age!"⁷⁷ This entry made fun of leaders and people in high positions who did not use computers, and in particular for not using email. All the examples of non-users were men, one of them who would tell people that he had a PC in his office, followed by a whisper: "But I don't use it!"⁷⁸ Another entry making fun of "stone age leaders" claimed that the Internet revolution was in the making, however, awaiting the

⁷⁵ 17.12.1985, 15.05.1986, 17.03.1987.

⁷⁶ 26.03.1995.

⁷⁷ 22.11.1999.

⁷⁸ Ibid.

leaders to realise that the world was about to change.⁷⁹ The connection between men and leaders was obvious: most of the leaders and administrative managers were men over 40 years old. In this entry it was also claimed that “[m]en between 40 and 60 are those who use the Internet the least in Norway.”⁸⁰ However, many of these got a PC in their office in the early 1990s because “it looked pretty”, but many of them still wrote by hand, it was claimed. Apparently some of the male leaders acquired the *status* of the computer quite early without actually using it and it is tempting to speculate whether male leaders were able to hide their non-use until email became widespread enough for others to discover that they did not actually use the computer.

Although this group of men was accused of being an obstacle to “the real Internet revolution”,⁸¹ the consequence of their non-use for themselves was described as no more severe than the risk of receiving business communication on paper through “snail-mail”, as before. This is far from the consequences described for non-using women, who faced the risk of being sent back to the home.

These men were obviously not the only male non-users in the 80s and 90s, but this is the only group made visible. However, the ridiculing of this group in the late 90s indicates that non-use was being less acceptable also for this group. But despite the leaders’ visibility as men, they were not discussed “as gender”, and gender was not used as an argument or explanation for their behaviour. And they did not affect the general image of men as computer competent. They were excused, apparently based on a different discourse – the discourse of the busy business leader.

How to change things if gender is a primary difference

If the hegemonic discourse excludes women, a change is needed if women are to be included. I have analysed elsewhere the discursive constructions in computer education and initiatives to recruit more women into this field, illustrating a “gender blind”, a “masculine” and a “feminised” discourse of computing (Corneliussen 2003), and we find examples of all these in *Aftenposten*. We find the “gender blind” discourse blaming women for making the wrong choices,⁸² the “masculine” discourse encouraging women to “think in new ways”,⁸³ to “close the milk shop and pedicure and start in the computer

⁷⁹ 11.04.2000.

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² 10.02.1987.

⁸³ 24.12.1985.

business”;⁸⁴ and we find a more feminised version trying to rewrite the meaning of computing into being less technical and more social – in accordance with women’s “social abilities”. While the first two discourses tried to change women, the last one is the most interesting in this context, as it definitely tried to change the discourse to make room for women, and that is the one I will focus on here.

Many entries discussing women’s absence in computer related contexts also tried to explain why and how to change it, and many of them did so by discussing men and women as different. Men and women have different attitudes towards the technology, it was claimed. It was assumed that men have a playful and explorative attitude while women are driven solely by need, not by enthusiasm or inquisitiveness.⁸⁵ Men get addicted, they love the technology for itself, while women ask what they can use it for. Boys are interested in “finesses and technique” and girls in “communication, email and information retrieval.”⁸⁶ These arguments are well known also from earlier research (Aune 1996; Håpnes and Rasmussen 2003; Turkle 1984). More interesting is, however, how men and women were described as having essentially different qualities, and several entries claimed that women in certain ways were *better* than men with regard to computing: “women are better in comprehending the users’ situation. Men have a tendency to loose themselves in exciting details”.⁸⁷ This echoes the arguments made in a contemporary campaign to recruit women to computing, in which women’s advantage was described as their excellent communication abilities, while men were considered to be “the technical geniuses” (Lagesen 2003; Corneliussen 2003). This description of men and women did also coincide with an attempt at redefining computing. One representative from the computer business claimed that many of the jobs were “not technical at all”, and another expert claimed that what was needed to succeed in the computer business were “the characteristics associated with girls: creativity and to be good at teamwork”.⁸⁸ The arguments were well intended in the way that they made room for girls, and described computing as something girls could manage as well, or rather, better than boys. However, this did not really include girls and women in the technological aspects. The main argument was that computing was not *really* about technology, but about something else. Women were still not considered “technical geniuses”. Thus women might study computing or work in the computer business, but not for the same reasons as men.

⁸⁴ 11.07.1986.

⁸⁵ 16.12.1987, 16.10.1994, 04.08.1996.

⁸⁶ 09.05.1997.

⁸⁷ 05.10.1997.

⁸⁸ Ibid.

This “social” aspect was also made visible in other ways. One entry encouraging women to choose computer education also presented six female computer engineers. They were presented as computer experts, but it was immediately emphasised what they were not. They were not “square eyed” as a result of extensive computer use, their hands were not shaking because there were no computers nearby, and they did not talk constantly about RAM and CD-ROM. “Instead they talk about weddings, children, men, buying a house, tasty food, the cinema and the theatre. About a lot of things that often occupy women in their late 20s and early 30s. [...] These women look precisely like most people.”⁸⁹ They were described as the negation of an idea about male computer experts, creating an image of women as “normal” even when they were computer experts. The six women emphasised that they “worked with people” – just as they assumed girls wanted to. Besides, the computer business did not want the male computer geeks, it was claimed, but rather women who could “listen to users and their needs”. Thus the message was that the computer business needed women because they were *not* like male experts. However, they were not wanted for their technical expertise.

The implicit meaning seems to be that computing is incompatible with femininity (cf. Turkle 1988), and this imbalance was restored by a) retaining a distance to male computer experts, and b) rewriting computing to be more in line with “female qualities” and what was regarded a girls’ wish, that is, to work with people, not with technology. As I have argued elsewhere (Corneliussen 2003, 2004), it seems to be harder for women to establish an identity as “computer expert”, because they do not have any ready-made images or subject positions to identify with. Consequently, this co-construction of gender and computers by combining the ideas of “being active, but not like men”, and “computing is really about people, not about technology”, is one way of discursively redefining the situation in a more appropriate manner. However, this attempt to write technology out of computing has received criticism, along with criticism for the negative image it created of men (Lagesen 2003), and as already claimed, it did not really include women in the technological aspects of computing.

“Don’t call us retards one more time!!!!!!!!!!!!!!!!!!!!!!”

In this chapter we have seen how the hegemonic discourse was created through a systematic pattern of making female non-users and male users visible, simultaneously as male non-users and female users have remained discursively invisible. We have seen how the position of the computer at an intersection

⁸⁹ 16.03.1997.

between different fields, as well as the creation of a flop – neither of which originated with a basis in a gender perspective – were both used to serve the hegemonic discourse of computers. The “intersection rhetoric” increased the visibility of women’s lack of knowledge by allowing the use of arguments from one arena, group or level of use to be valid explanations at another arena, group or level of use. The “flop”, as well as the position the computer acquired as something “everyone” was expected to use, further increased the negative meaning of being computer illiterate, a group assumed to be dominated by women. By overemphasising gender, an idea about gender as the primary difference was sustained, and other differences were made unimportant (cf. Sorensen and Nordli 2005). Differences within the genders were ignored, as were other differentiating features. It was apparently easier to portray men’s fascination than women’s (cf. Corneliussen 2005). Women’s fascination rather had to be moderated to keep a gender balance. They were *not* nerds and they *did* have other interests. Once the male non-users entered the scene, they were not met with the same threat of being excluded, that women were. And when the hegemonic discourse was challenged, it was met with doubt, disregard, or even contradiction.

I started this article by claiming that we have a strong sense of gender equality in Norway. We talk as if we (nearly) have gender equality, and mentioning gender as a difference is not always considered appropriate (cf. Corneliussen 2003). However, when we talk about computers and technology, this does not seem to apply. Rather, a general acceptance of the computer as a boy’s toy was established as common knowledge, and the claim about gender making a difference in relation to computers was not considered “political incorrect”, as most other claims about gender making a difference in terms of skills or knowledge would be. And these claims did make a difference, as illustrated by a reader’s letter from a 12 year old girl after the publicity of a survey showing that Norwegian girls used the computer less than boys.⁹⁰

I get really furious, or rather bloody furious when it is written that Norsk Gallup sort of has made an investigation about Norwegian girls as PC retards! Because it is not true! Where I live there are lots of girls who use the PC regularly every day! I also use it every day, many hours. [...] I just want to say that I am a girl, I know something, and I am not a retard!! You got the wrong impression of us girls. [...] Don’t call us retards one more time!!!!!!!!!!!!!!!!!!!!!! (*Dagens Næringsliv*, 18.05.1999)

⁹⁰ 29.04.1999.

The quote is taken from another newspaper. However, it is illustrative for how the discursive claim about girls and women's low interest in computers could affect real people, and we see how this girl apparently felt that she had to use a loud voice to get her counter discursive message across. What she reacted to was not the fact that girls in general used the computer less than boys, but that girls were discursively constructed as one large group of "PC retards" and the exclusive focus on girls as less interested, ignoring the fact that 27,5% of the girls in the survey *did* use the computer several hours *every day*.⁹¹

Religious societies are excused from the law of gender equality in Norway (Skjeie and Teigen 2003:20). Computers are not. But while religious societies *practicing* this excuse in several cases have met heavy criticism, claims of gender as a difference in relation to computers rarely do. The law of gender equality might guarantee equal rights, but cultural discourses are not easily ruled by national laws – discourses have their own laws, and they have their own power.

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⁹¹ Ibid.

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