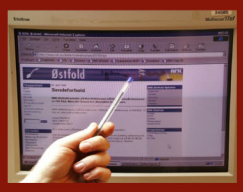
Knowledge and Power - a Media Enterprise Undergoing Change

Anne Lau Revil

Thesis in partial fulfilment of the Cand. Polit Degree

Department of Social Anthropology, University of Oslo, 2001









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Abstract

The focus of this study is how communication between users and developers of a software functions. To understand this communication, the analytical focus is on how relations of power are experienced in daily interaction through a process of developing new internet publishing software.

To understand this relationship, anthropological models originally developed for traditional society are used — for instance, in order to understand the dynamics involved in the growth of a department, comparison is made with traditional political systems of Melanesia.

The thesis illustrates how one group of employees in a particular department have imposed their definition of the world on other parts of the organisation, and tries to explain the mechanisms involved. The study includes a section on how information systems may be used to change organisational structures. Also discussed are the consequences of such processes of change occurring as side-effects of the introduction of a new tool or software.

The material for this study was collected over a period of one year, in the Norwegian Broadcasting Cooperation, NRK, August 1999 – May 2000. The fieldwork took place during two separate periods; first a short preliminary fieldwork in August 1999, then a second period lasting five months in 2000. The methods used were participant observation, interviews and the collection of written and web-material.

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Acknowledgements

A number of people have contributed to this thesis. First of all, I want to express my gratitude to all my informants in the Norwegian Broadcasting Cooperation (NRK) and their internet department, NRKi, for generously sharing their time and thoughts with me despite a pressed working day.

Special thanks go to Are Nundal, the manager of NRKi, who accepted my running around his department, asking questions and taking up his employees time, and listening in to their internal meetings. I would like also to express thanks to Tone Bratteteig and Dagny Stuedahl in the Systems Development group at the Department of Informatics at the University of Oslo, for helping me to access NRK interactive (NRKi) in the beginning.

Many people have helped me through the writing process of this thesis. My co-students, especially André Vågan and Erna Skau, have read many of my drafts, and helped me produce an comprehensible thesis. I am grateful for the feedback and help I have received from my supervisor, Professor Thomas Hylland Eriksen, making my texts more anthropological than they may otherwise have become.

I would also like to express gratitude to the other employees at the University's Centre for Technology, Innovation and Culture (TIK), especially Ingunn Moser and Lars Risan, for keeping up my spirits up and helping me keep my faith that my interest in the relationship between users and developers of a computer software could be made into good anthropology. Towards the end of my fieldwork I met Professor David Hakken from the State University of New York, who helped me with the anthropological literature relevant for people working with internet and technological questions. This has helped me find some interesting literature and writers who have helped me to understand my material.

Lastly I am very grateful to my family, especially my husband Bjørn for having much patience with me, and making me work hard and never give up — even during periods when little progress was made.

Chapter 1

Introduction

Imagine yourself in a modern office building in one of the worlds cities. You have a meeting with one of the heads of a department of the organisation you are going to study, and you finally get your research permit. You are in! You are then shown to a seat in the offices, and left there on your own — completely ignored by the staff[1]. Even though you may speak the same language, it is not necessarily certain that you understand what they say when speaking between themselves — if they do speak at all, and do not only communicate through modern communication-technology. By sitting in your corner, trying to take notes, as taught to do when doing field-work, you observe only the backs of people staring into computer screens. There seems to be no social interaction between the people present, and if there is, they are, in any case not going to let YOU gain access to it.

One morning, a few days later, I met an informant to whose work I was going to be introduced. On arriving, the informant and another employee pulled me aside, and danced what they called a "tribal dance" in my honour, and welcomed me to their "tribe". The more elderly informant then presented himself as the chief of the tribe. Due to the situation, it is clear to me that the informants knew what an anthropologist, at least in a traditional fieldsite, would be interested in, and that they thought they knew what anthropology was. The funny part of the episode was the manner they presented themselves as my "tribe" — it seemed that they had read a bit too much about Red Indians in Disney's

[1]The process of gaining entrance to organisations and sections of modern society is not necessarily easy, as is demonstrated by Nader (1972)

Donald Duck cartoons. That day went fairly well, and I started to get to know some of the employees and what they did.

Towards the end of the day, I approached some other employees, and asked to follow them around for a day; I got one positive and one negative response. However, on returning to the offices the following day, I was called into the managers office, and told that I could not do fieldwork that way, since some of the employees were highly uncomfortable about it. He did, however, understand that I got little information through just being present, so we agreed that I should help the office's secretary with the switchboard and research-work. In exchange I would be able to be present in the offices, and talk to the employees at lunch and other breaks, and could be present at internal meetings.

Such was my introduction to the Norwegian Broadcasting Cooperation's (NRK) internet department (NRKi or NRK interactive). Their work consists of adapting and developing software for the presentation of NRK over the world wide web (WWW) on the internet, as well as assisting those who publish material on the web. The department also employs a few journalists who both publish articles, as well as interacting with the developers in setting up new software and other services — such as in the process I studied, the development of new publishing software for the internet.

Focus

> Most people who encounter computer-based automation at work do not choose the software with which they work, and have comparatively little control over when and how they do what they do. For them, the use of computers can be an oppressive experience, rather than a liberating one.
>
> (Kuhn 1996, p. 274)

I studied a workplace undergoing change. A decision to change the Information and Communication Technology (ICT)[2] used by the employees in the organisation was made,

[2]Information and Communication Technology(ICT): The study of the technology used to handle in-

but my impression is that there was little planning or consideration of how the change of technology would affect the work-lives of those involved. My thesis is an attempt to provide an insight into such processes, specifically for the situation in a large Norwegian broadcasting cooperation.

My interest was originally prompted by experiencing implementation of decisions regarding new software in my own work in another Norwegian organisation. I worked in a customer service department. Previously it had been possible for employees in the department to go in and use the computer to check, and, if necessary to change, customers' contracts when they telephoned. The new computer system was more complex than the old one, and provided a wider range of operations within a single system, but it did not allow for changes in the customers' contracts. This meant that when a customer called, the service department had to delete the old contract and enter in a new one. With a continuous queue of customers on the service telephone, the department did not have the time to do all these operations, and had to send the contracts away for typing in another department. This meant that the new computer system had created more work for the employees in that department, and also forced the organisation to create more jobs. Therefore the system that was introduced to save resources, in fact rather wasted them. However, the development of this software had cost the organisation so much money that they could not afford to replace it again. Due to this experience, I was interested in studying the wider social consequences in and of a systems development process, to examine how a computer system may enable or prohibit the building of human relations; and also to look at how the computer system may change the power relations within an organisation.

I therefore pose the following question:

> *In a modern organisation, what kinds of power relations may arise due to new information and communication technology (ICT), specifically internet publishing?*

To elucidate the research question, I have divided it into three sub-questions: understand-

formation and aid communication. The phrase was coined by Stevenson in his 1997 report to the UK government and promoted by the new National Curriculum documents for the UK in 2000.$http://rubble.ultralab.anglia.ac.uk/stevenson/ICTUKIndex.html$ (Howe 1993)

ing power in the situation, reactions to the use of power, and the consequences of power and individual decisions at an organisational level. More specifically, the research questions concern

- Power and technical knowledge of information technology
- Conflicts between information technologists and the users[3] of their products
- Consequences of individual choices at an organisational level

These questions start at a personal level. This is to show that differences of power may exist even in situations where the actors involved do not think in such terms. If they are aware of power inequalities, they try not to make them relevant and ignore their existence.

The second question concerns situations in which the actors themselves make the power issue relevant. In these situations, power as an analytical element is much more audible, as the powerless actors react loudly, to some extent. I have chosen to tell the story of how my fieldwork progressed in this chapter, therefore the forms of power and reactions[4] to them may seem a little mixed. This is in order to situate the events in chronological order, to ensure that the actors can recognise the evolution of the situation.

In the last analytical chapter I have focused on the consequences of the individual choices at an organisational level, in order to demonstrate that NRKi has a very different form of organisation compared to NRK, of which it is part. It may seem that NRKi's organisational form undermines the formal, almost Weberian, bureaucracy of NRK. This is because NRKi has chosen a network organisation, while NRK as a whole has a formal hierarchy. In a formal hierarchy, all the actors know their place in the system, there are formal limitations to their decisive rights, and there are usually detailed descriptions of the tasks the individual is to undertake. Contrary to this is the network organisation. According to this organisational model, the employees work together on projects to solve a specific task. The same employees need not relate to each other over longer periods of

[3] A *user* in this thesis generally refers to someone utilising a specific computer system — the web-publishing software for publishing on NRK's web-server, unless other understandings are clearly stated

[4] This both include reactions from the users and the technical staff

time, just as long as the present project is completed. This means that a network organisation is more flexible than a hierarchical one, and, that if leaders can put together teams best suited to solving a specific task, it is likely that the resources of expertise within the organisation are better exploited using the network model. My intent in this chapter is to show how ICT may be used to form an organisation, with or without the consent of those responsible for implementing the decisions.

The importance of anthropological study

The study of people at work — and especially when it comes to their relation with modern technology — is considered by many anthropologists to be beyond the scope of interest for social anthropology. I very strongly believe that this is not the case. Much of the anthropological work written about workplaces has an edge of applied anthropology to it: to some extent it provides advice to those studied as to how to improve their workplace. Such was not my intention.

My intention was to understand a situation where a tool mediated more than just the solution of a recurring problem — it mediated the organisation of social interaction. My main interest is not in how the tool itself functions, but how the actors use it, and how it mediates interaction over distance. Lauriston Sharp ([1952] 1968) shows how the introduction of new tools may radically change the social organisation of a society. He describes how the introduction of steel axes to a traditional Aboriginal society in Australia changes the relationships between the different groups constituting local society. The traditional tools (stone axes) mediate a social hierarchy in which elderly men are respected, due to their control over artefacts used by the other members of the society. By introducing cheap, industrially-produced steel axes to this society, the missionaries change the dependency between the age groups and genders, leading to changes in the social structure. In my case, the information technologists may be viewed as occupying the top position in the social system due to their knowledge of information and communication technology. The transfer of power from one group to another, through the use of artefacts, in my

material is comparative to that of Sharp, as both focus on materiality, and how changes in materiality may also cause changes in social organisation.

The anthropological approach has certain advantages in the study of modern technology. The approach of studying people through long-term fieldwork (I was in the field for six months, and from a distance, followed my informants through a whole year) — of really being there — brings out certain qualities in the material. I am certain that had I only spoken to the employees in my department, they would have told me that all the decisions were made in the correct forums, and that the management was in complete control of all the projects on which the department was working[5]. The situation was *really* much more chaotic than that.

In comparing my material to other anthropological literature I have chosen very traditional examples. This is to show that even though it may appear that my informants are very modern, the studies of certain traditional societies show the same forms of social organisation. The same kinds of mechanisms are found in both. For example; I compare the manner in which the managers of NRKi are constantly pressed for time and resources, and give those resources away in the hope of receiving more in return, with the writings of Sahlins (1963). I do this because it seems that what I have observed in a contemporary organisation, that the power of the leader is not inherited but due to the performance of the individual, is very similar to the case of the Big-men in Melanesia.

The relationship man – machine

At a first glance it may seem that I have studied the relationship between man and machine — that is between a human and an artefact. In such an understanding it may seem that the machine "has a life of its own". This is not the case, and my informants are very aware of this. I have studied the relationship between different groups of employees in an organisation, where machines mediated much of their interaction.

When the distance between the user and the computer service and development de-

[5] A typical example of such work is Sommerseth's (1999) thesis from NRKi

partment is large it may seem that the computers are acting on their own. However, the machine is extremely stupid, and only does what the programmer has told it to do through the programming[6] process.

The distance between the users and developers in my material is so small that the users were relating directly with the developers and service department. This meant that the idea of the machine as a separate actor is not quite as visible in my material as it could have been had the distance been greater. Ingunn Moser (1999) writes of a process where a wheelchair seems to act on its own and partially becomes an integral part of a human being; together the user and the wheelchair have become an "cyborg"[7]. I cannot use this understanding with my material. Both the users and the developers are very aware of the existence of the other group, and attempt to avoid angering one another. How successful is this behaviour, is another matter.

In my material the man – machine – man interaction is one of the most visible ones. This means that traditional social anthropological models and theories may be used with the material. I do not find it necessary to focus significantly on the machine, besides its role as a mediator for human interaction.

Why focus on power and change?

Several situations in my material focus on power and change. Changes in technology, such as the development of a new computer system, will lead to changes in social structures. The extent of change depends on, amongst other things, expectations of the new computer system: how it is meant to change the work-situation for the employees.

My focus on power came through the study of the FTP[8]-closure process[9]. The individuals involved focus on how they felt the process interferes with their regular work, and

[6] i.e. the shaping of the artefact.

[7] Cyborg: a human being whose body has been taken over in whole or in part by electromechanical devices; 'a cyborg is a cybernetic organism' (Webster 2001)

[8] FTP: protocol that allows users to copy files between their local computer system and any system they can reach on the network [syn: file transfer protocol]. Protocols are rules determining the format and transmission of data (*Dictionary.com* 2001)

[9] See chapter 4

with their integrity as individual actors. In many situations the actors undercommunicated the differences in knowledge and opportunities in the internal social system in the organisation. Yet it was still there. I therefore use the idea of geographical distance, to show how the actors within my system relate to one another in therms of power based on differential knowledge — even when the actors do not themselves think in such terms.

Differences in knowledge may also be discussed in terms of struggle over relevance. How, why and where different kinds of knowledge are used and made relevant is of importance, as are the situations in which differences are under-communicated. Due to the novelty of this technology, there are few game rules. The rules must be negotiated separately in each case; likewise, the distribution of power.

The term "power" has, as I will show, several connotations. It may mean the use of force, or the right to define reality. I will show how different meanings of the word "power" can be used to describe situations of social interaction, even in situations where the involved actors find the term irrelevant.

Limitations in scope

This thesis focuses on the professional life of the informants. The area of interest is how they relate to their fellow employees and the tools at work. As the focus is on the professional life of my informants, and conflicts due to their expert roles, the thesis to only briefly discusses the consequences of their common background as Norwegians. This is in order to limit the work to a reasonable size. In addition, I believe that the proximity[10] between user and developer in software developing is important, rather than where the different actors are physically placed, or their ethnic background.

[10]By proximity I mean the social distance involved in understanding the problem that the user has to solve through the use of the software, rather than geographical distance.

Organisation and historical background

In this part of the chapter I will give a brief outline of NRKi's historical background, and compare that to the development of colour television transmission.

Historical background for NRK interactive

In 1993-94 Rolf Brandrud and Ottar Grepstad, both employed by NRK radio, made a radio programme on the Norwegian art of speech, and were left with excess research material that they wanted to present to the public. They considered presenting it through a book and cassette, then a CD, and finally considered using internet. Brandrud discussed this issue, concerning the secondary and/or re-use of research and other radio-material on the internet, at several meetings with those he describes as "leaders centrally placed in NRK", and asked by Tor Fuglevik[11] to write a report on possible strategies for the reuse of radio-material in on- and offline media. The report was handed in approximately in December 1994. At the same time Brandrud and Tom Egil Hverven[12] worked on "the radionet", a radio programme about the internet, probably the first programme simultaneously broadcasted on the radio and over the web . As a result of his work on these two projects, Brandrud was interviewed by Tom Ottmar, coordinator for NRK's internal newspaper "Tidssignalet". When suggestions for the future internet strategy of NRK were being elaborated, Brandrud and Ottmar joined forces, and their joint report was submitted in autumn 1995.

Even though this report strongly recommended to the Board of NRK that the internet would very probably be an important media-channel in the future, the Board decided to follow a recommendation from the EBU[13], to wait and not invest much money in internet developments.

[11] Tor Fuglevik was at the time assistant director of radio broadcasting
[12] Hverven worked as a journalist in NRK radio, and continued to work for NRKi
[13] European Broadcasting Union

The department's first years — 1996 – 1998

NRKi started up in offices in Gydas vei in Oslo in February 1996. The department consisted of five people: Brandrud as head of the department; a shift coordinator; a journalist; an editor, and an engineer responsible for technical problems. The work consisted of finding out how the copyright laws covered the material in NRK's TV and radio archives, and exploring whether or not this material may be stored and redistributed digitally. An example of this is the redistribution of some old material, such as one about "Stutum"[14]. These old TV sketches have rarely been available to the Norwegian public between the time of their original publication and the present, but have, in recent years, been made available over NRK's web-server. During the period 1996-1998, the majority of the em-

Figure 1.1: Composition of the employees at NRKi 1996-2000

ployees were in their mid-twenties (see figure 1.1). Although the department continually included people working on editorial issues, the focus was on hiring people with a background or experience in informatics and the internet (see figure 1.2).

In 1997 the department had outgrown its offices in Gydas vei, and moved to the present offices in Forskningsparken. At the time it rented only one room, that which the

[14]Examples of work released for the redistribution over the internet is included on the CD attached to this thesis. Stutum was a character made by Bjørn Sand, an employee at NRK, in the 1970s. The character was originally developed for NRK radio, and redeveloped for television.

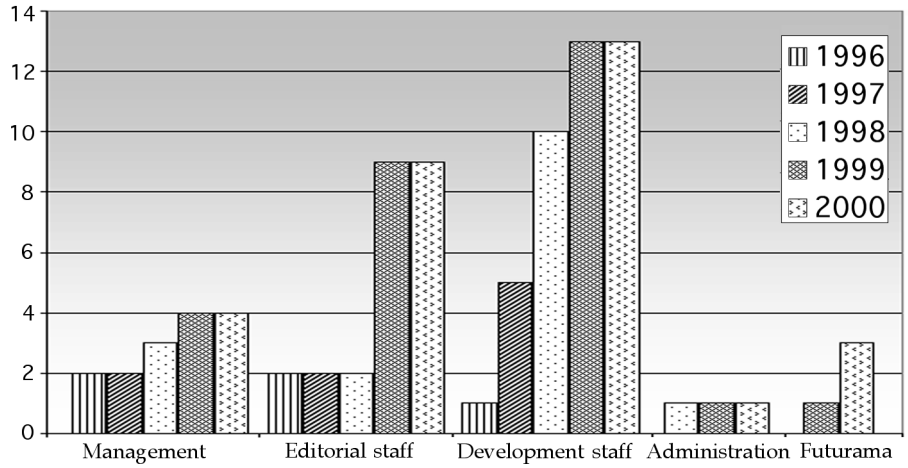

Figure 1.2: Composition of NRKi 1996-2000

developers used during my fieldwork.

The department grew rapidly: in 1997 they were nine employees and in 1998, sixteen. During this period only the number of development staff expanded, the number of editorial staff remained stable. This contrasts to recruitment during the period 1998 until 2000, when the focus was on building an internal journalistic milieu.

Tightening the grip on the web — 1998-2000

In January 1998, the department was moved from an organisational placement under the technical IT-department ("nettverks-avdelingen") to a staff position[15] under the assistant director of television-broadcasting. Moving NRKi from a purely technical service-department to a staff position amounts to an admission that the department not only consist of technologists, whose job is to aid the journalists in publishing web-documents, but that the work is a cooperation between two (or more) parties: the technical people, whose job is to follow up on new technical developments and to present them to the public in a manner that the public understands; and a journalistic corps, whose job is to present the content. There has been a dispute in NRK as to who should decide the how NRK should

[15]By "staff position" I mean departments which provide support for the management of an enterprise, as opposed to those fulfilling the intent of the enterprise.

be presented to the public over internet; this is further discussed in chapter 4.

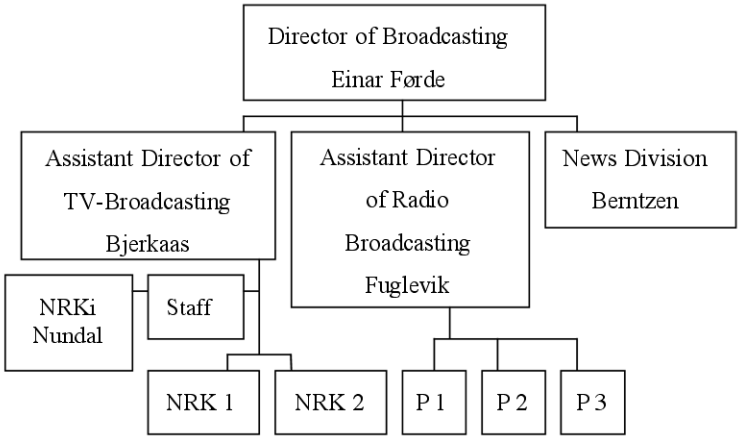

Figure 1.3: NRK's formal organisation chart 1998 – august 1999.

The department in 1997/98 also consisted of journalistic staff, who worked on a daily basis with the technologists, and together they set the limits for NRK's corporate image. At that time those limits were quite flexible. The journalists from outside NRKi working on the web mostly did that job in addition to their regular job; and therefore could not be pushed too hard, and there were few limits set for the journalists' work. NRK's design-programme was paid little heed.

During 1998, the department grew from nine to sixteen employees, and still it[16] mainly recruited technical staff. In October 1998 it employed a secretary, who later commented on the day she arrived at NRKi at forskningsparken, all she saw was a number of young men, sitting at their desks, listening to music through headsets, and working on computers. She was the only woman in a typically male-dominant milieu. This did not last very long, since the department undertook a very large project in August 1999 — "Valg '99". For this project a large number of journalistic staff were hired, as is shown in figure 1.2.

In 1999, NRKi employed a new head of the department — Are Nundal — and Bran-

[16]The focus here is on the department NRKi as such, as there is a tradition within the department to hear the points of view of the employees in important decisions. The decision as such is the responsibility of the manager, but in reality many decisions are made through the staff meeting. These processes are treated further in chapter 5.

drud focused more on being adviser to the Board on the new technologies.

In early spring of that year it became apparent that the existing publishing-programme developed by Bjørn Heller was becoming insufficient, and that something had to be done with both that and the then very loose limits on the appearance of the web-pages. However, at the time the department did not have the formal power to decide on the contents of the web-pages. When later asking what kind of problems they had, I was told that there were a number of pages that did not use NRK's formal design-programme, some pages did not even contain the company's logo; and there were private home-pages and home-pages for businesses on the server. This is all documented on the CD attached to this thesis.

NRKi in staff position

The "staff position" in an organisation generally, provides a service of a given kind to the management; in the case of NRKi, to run the internet-server. This means that they are responsible for the technical support for the hard- and software. There was, however, a problem with the responsibility for the content on the company's server, since all the people producing documents were seated in different parts of the company, each producing their little piece of the totality. The result of this was that NRKi took on editorial responsibility, and started hiring in editorial staff early in 1999.

As is shown in figure 1.3, NRKi had no formal right to make decisions as to NRK's internet provision. Formally everything had to be decided by the Assistant Director of TV-broadcasting, who, however, delegated many of the decisions to NRKi. NRKi ended up with the editorial responsibility, but had neither the resources to check the content of all the documents on their server, nor the formal decisive power to remove unsuitable documents from the server.

It is also my impression that ambitions, over a long period of time, had been rather high. Many projects were accepted by the department, but due to resource limitations many were never finished. This seems to be a general trend in NRK, as confirmed by Eng,

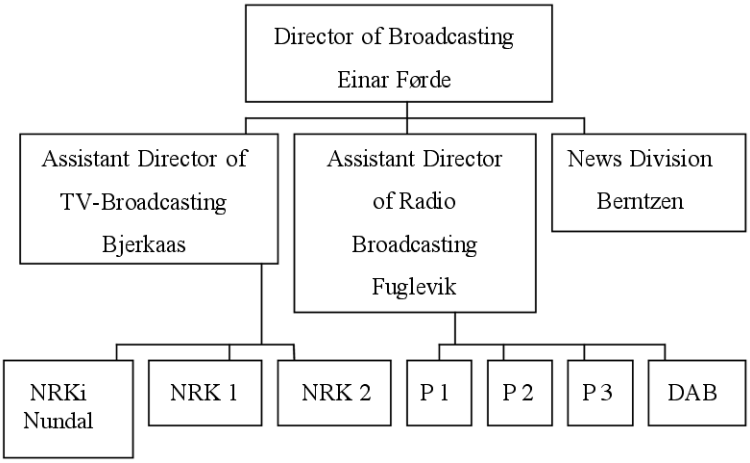

Figure 1.4: NRK's formal organisation chart after august 1999.

Langfloen & Kjone (1997, pp. 53-61) and Henriksen, Sveen & Høye (1998, pp. 46-49).

My fieldwork period — August 1999 to May 2000

During my fieldwork periods in 1999-2000, NRKi was placed in three different positions on the organisation's formal chart. At first it was formally part of the staff for the Assistant Director of television-broadcasting, Bjerkaas (see figure 1.3), and had few formal decisive rights compared to the responsibilities it held and the volume of decisions actually made.

It was the apparent lack of compliance between who formally held power, and the power I saw exercised by the employees of NRKi, that first interested me in studying power-relationships in the organisation and department. It is possible that NRKi had only recently started exercising power in this manner, as it was during the period that I was first introduced to the department that the they were formally moved from their position in figure 1.3, to the position in figure 1.4.

However, comparing the kind of power exercised through for instance the closure of FTP-access (see chapter 4), or the manner in which the employees of NRKi communicated to their users during common meetings, indicates to me that even though the use of power was very visible at the time of FTP-closure, it has been used in the same manner throughout much of NRKi's existence. Most of the time it has been used to define what NRK is

to present over the internet, without forcing the persons using their free time doing extra work for NRK to present the material in a particular manner. Rather, they were saying that "If you use *this* publishing-software we will help you more when you run into trouble than if you use *that*". I do not believe that there was any ill-will behind statements of this kind; only that some kinds of software are easier to support than others.

NRKi's position on the organisational chart from August 1999 until the summer of 2000[17] was that of a productive department whose rights and duties were the same as other productive departments, for example, the entertainment department in TV. This meant that NRKi had formal responsibility for the corporate web site, and also the right to set standards in which all web-publishers at NRK had to comply.

Technological development in NRK

Throughout NRK's technological history, some developments stand out as clearly having great importance. In my opinion, these include: the initiation of TV-broadcasting in 1954[18], the introduction of colour-TV in 1972[19], and the use of the internet beginning in 1995. In this section I will compare the the growth of NRK from the beginning of TV-transmissions through the 1960s and commencement of colour-TV, with the setting-up of NRKi, as I find these processes to share many of the same ingredients.

Comparing TV and internet as new media

When comparing the development of the new department for interactive media, NRKi, with the history of NRK, a number of parallel examples are found. This comparison is made to show that the processes exemplified through this thesis are not necessarily completely new or un-recorded, only that they are differ on a few crucial points .

During the 1960s NRK more than trebled its number of employees. "A characteristic trait for the new employees were that almost all of them were young, often strikingly

[17] The decision concerning the move was made in March 2000

[18] In 1954 the test-production of TV-broadcasting started, but regular TV-broadcasting began in 1960. All broadcasts were in black and white.

[19] These events are treated further in Dahl & Bastiansen (1999).

young." (Dahl & Bastiansen 1999, p. 419). This seems to be a trait for new media, as has been shown to be the case for NRKi (ref. figure 1.1 p. 10). In both the cases, the people recruited came from the higher education system; Dahl & Bastiansen write: "Even a fairly youngish man like Rolf Wesenlund (born 1936) admitted in 1975 that he no longer saw any difference between the milieu in the new canteen in the television-house and that at Blindern[20]" (1999, p. 419). This could also describe the composition of the personnel at NRKi. The main difference between the two examples is how long the employees were expected to remain in their respective employments. In a modern ICT organisation like NRKi, a high turnover is expected — on an average, employees in the sector change employment every three to four years. In the old organisation of NRK, the employees were expected to stay most of their working-life, and many of those employed in the expansive years from the early sixties till the mid 1970s have remained in NRK until today.

Another interesting trait for new media was that already in 1968 the "Programbladet"[21] wrote that "There is no longer a question of differences between the generations in a traditional manner of understanding, but there are differences between those that understand the new media and those that do not."[22] (ibid., p. 414). These words have been repeated a number of times, concerning the development of the internet, demonstrating that the distance between the generations due to the digital media was not new. What were new were the possibilities of the new media, which the younger generation was quicker to exploit.

The main difference between the development of colour-television and internet publishing in NRK was that, in the expansion period of the 1960s and 1970s, the majority of new employees came from training leading to journalistic jobs[23], while the focus of the expansion of NRKi has been on technical staff, and exploiting the existing journalistic staff.

[20] "Blindern" is the University of Oslo's campus outside the city centre.

[21] Programbladet was the official magazine for NRK that presented the broadcasting timetable, as well as background articles on the programmes.

[22] Original text: "Det er ikke lenger et spørsmål om generasjonsmotsetninger i tradisjonell forstand, men om forholdet mellom dem som forstår de nye mediene og dem som ikke gjør det"

[23] The training included amongst others studies in social sciences, humanities and journalism.

This must mean a shift in the possible power-relations between the parties involved , as I argue in this thesis.

Chapter 2

Working with the *"famous"* — Theoretical, methodological and ethical issues

The intention of this chapter is to introduce the main theoretical background for the thesis. This is to show within which world-view the thesis is set, as this has consequences for the view on interaction and communication, and in the analysis later in the thesis. Lastly, it will present some of the choices made in the field as to the collection of data, and a discussion of ethics in the field and the writing up process.

Actor network theory (ANT) and material culture

> ANT[1] concentrates attention on movement […] It refers to something entirely different which is the *summing up* of interactions through various kinds of devices, inscriptions, forms and formulae, into a very local, very practical, very tiny locus.
>
> (Latour 1999)

This definition of actor network theory(ANT) has a very strong focus on the artefact as part of human interaction; seen as acting on its own, it is an actant. The focus on the artefact means that it is possible to show interaction between people over geographical

[1] ANT: actor network theory (my note).

distance, or explain cases where the material culture divides individuals. To understand what this theory implies, I find it necessary to examine the meaning of the word "artefact", and the consequences of a world-view in which the artefacts are part of interaction and theoretically are seen to be acting on their own.

An artefact is a man-made object. It is usually made for a purpose: as a tool, a mediator of meaning or decoration (decorations are usually mediators of meaning). This means that it should be possible to show human interaction through following the inscribed meaning in the artefact. Such is not always the case.

On some islands of Melanesia and Polynesia there has been a traditional focus on material culture as signalling integration into social systems through an exchange of gifts. The artefacts gain value according to the social standing of the previous owner[2], and show what, and how many, exchange-networks the owner is involved in. The artefacts show his social standing. The artefacts may have inscribed meaning, but the receiver may ascribe[3] a different meaning. Take for example a television set: the producer of the television has inscribed a meaning onto the material — one plugs the electrical cable into the socket in the wall, pushes the "ON" button (usually found on the front of the box) to turn it on. Thereafter the black screen changes colour, and on it appear moving pictures of people, animals or other things. This is a meaning upon which many people today agree. A problem arises if there is no electricity, and no television transmissions. Such is the case in one of the eastern Pacific islands. Yet the people there import a large number of television sets. The usual (Western) agreement of how to use the television sets to show moving pictures is not present, but the people of the islands have ascribed a new meaning into the television sets: they are used to show the wealth of the individual. The TV-sets are built into the walls of the houses with the screen pointing outwards. In that manner the meaning

[2]See the "spirit of the gift" in Malinowski's accounts from the Trobriand Islands (1984) and Mauss' work on the gift as social glue (1995).

[3]I understand the difference between the two words "inscribe" and "ascribe" to denote difference in how meaning is put into an artefact. When an artefact is made, the maker has certain intentions to its use, and shows this through its forming and functions. When it is taken into use, the user gives meaning to it, ascribing his understanding of the artefact onto it. This meaning may be different to that of the maker.

ascribed into the artefact is different to that inscribed by the producer[4]. This shows that the producer and user at least to some extent have to agree on the use of an artefact, for it to be seen as an actant, and to analyse it in the same kind of context.

If one continues with the same example, of the television set, and the producers and users of the set agree on the usage of the box: that is to show television transmissions; one may question whether there is still agreement on what it should be used for. By this I mean, should it be used to show gameshows, educational programmes, pornography or other kinds of programmes? I believe that this question does not touch into the ascribed meaning of the television set as an artefact; it touches into the question of the artefact as transmitter of meaning. However, this meaning could not be transmitted without the artefact.

Such is my view concerning computers, and information and communication technology. The computers (hardware) must be seen to be acting, to the extent that they are mediating meaning over time and space, from one context to another. In the case of NRK and NRKi there is agreement as to the fact that the computer should mediate something, but not *what and how* this should happen.

Latour says that ANT concentrates on movement, and on the summing up of interaction through various forms of inscriptions. I understand him to mean that to understand a relationship, particularly over distance, it is important to understand all forms of communication between the individuals involved, heedless of the manner it is transmitted. Some anthropologists studying material culture, such as Daniel Miller (1994, 2000), assert that the artefacts have an agency, based on, amongst others, Latour's theories of the actor network system. Contrary to this, I believe that artefacts function as mediators of human interaction. By following the networks that connect humans together, at times through nodes that are artefacts, it is possible to see that humans are both senders and receivers of the messages in the system. The artefacts themselves cannot create or change the messages sent through them without human intervention. I therefore believe that the

[4]This story was told me by PhD-student in anthropology, M. Poltorak, who had worked in the area.

artefacts do not have an agency. Even so, in some cases, the idea of agency may be useful for analytical purposes — to aid in the search for the sender or receiver of a message.

Implications of ANT

Much of the discussion concerning ANT has been centred on the name. I am interested in the world-view this theory implicates, as well as the methods and the boundaries for the social system that the theory gives, rather than its name.

Actor-network theory is a social theory useful for describing a total system in which human actors and non-human actants mingle. Decisions made by the actors have consequences for the actants, and the design of the actants has consequences for the actors. It is possible to study the relationship between only human actors, but it is likely that such a study would not grasp the non-personal relationship between, for instance, a computer systems-developer and the final users of the system. One of the reasons for this is that the developer and user often have little in common and are unlikely to have any direct forms of contact. However, the work of the systems-developer affects the user, and if the user refuses to use the computer-system or uses it in a way different from that intended, this again affects the systems-developer.

The approach of ANT to socio-technical systems makes it particularly applicable for studying an organisation in which some decisions are mainly made visible through computer-systems. Through ANT it is possible to follow a person's actions, to see how these affect other parts of the system, intentionally or unintentionally. It is possible to follow an act from one part of the organisation to another, independent of whether the humans have direct contact. In addition, ANT allows one to follow an act from the interpersonal level to an institutional level, and it is possible to show how individuals may affect the organisation through informal channels of decision.

The reason why it is possible to follow the action of an individual through a non-personal system of artefact to another actor is the use of the idea of a network built around "nodes", or connection points. This means that the social scientist chooses to follow a set

of attributes in a given situation. For instance, if the central attribute of a situation is interaction over time and space through the use of a certain tool, then that is the focus of the study. In the example used in the first chapter, of the introduction of new axes in a traditional Australian Aborigine society, it would have been possible to see the world through the use of the artefact "axe", and to examine how this changed on introduction of a modern version of the tool. This case is examined according to Latour's demand, that one follow the action through the artefact or tool.

In my example I use a computer as the central node in my network. This means that all the interaction I am studying is related to use of the artefact, and I follow the interaction between two groups — users and developers of a certain software — over time and space, to see how they interact and communicate with and around the usage of the tool. I have limited my interest to one tool, the software used in the Norwegian Broadcasting Cooperation for internet publishing.

I do not here examine the use of computer-software as a general theme, but rather situate it in a workplace setting. This is to show clearly how the interaction between the users and developers functions, in a setting with makes continuous efficiency demands on both parties. The situation in the workplace also means that, to some extent, I can use previously developed methods for the collection of data, as I discuss below (page 38).

The ideas of ANT underlie all the analysis and descriptions in this thesis, even in cases where it is not explicitly mentioned. This is because the theory sets up a world-view where it is possible to follow interaction between humans through the use of an artefact. ANT is a method for the collection of data, an approach to social systems and a world-view.

Boundaries of a studied system

Latour identifies the network system through the idea of subjects and objects (actors and actants) forming a loose intervowen network. Both may be seen as acting entities within the space of time and place. Focus is centred on interaction between individuals, and the

artefacts seem to be acting by mediating the interaction. Latour (ibid., p.371) exemplifies this by saying that,

> I can be one meter away from someone in the next telephonebooth and nevertheless be more closely connected to my mother 6000 miles away.

The mere existence of closer geographical space between him and the person next to him, does not abolish the social proximity between him and his mother. I believe that in this example, Latour wishes to show that geographical distance is of lesser importance in the building of social networks than has been previously assumed. The boundaries must be set through studying other variables than geographical distance or proximity.

Within Latour's theory of nodes in a network, the nodes tend to be of the same kind, or mediating the same kind of messages. In the example given above, the node would be considered to be the persons in the family, and the network would consist of the method of contact — the telephone. In *computer terminology*, the nodes consist of machines in contact with another; the terminology of "nodes and networks" only considers the artefacts interacting, not including the humans. As far as I have understood Latour, this is *not* the intention of his model, even though the same names are used for the different parts of the technical system. For Latour, the important aspect is how humans interact through the use of artefacts.

Following Latour's model to the extreme, all existing forms of matter must be connected to each other through different parts of the network, thereby rendering the theory obsolete. However, Latour defines what may be considered to be part of the presently studied network, stating that by following a specific actor/actant through the network, one can find a point where the specific actor/actant plays a lesser role as to the functioning of the network, and at this point the network ends. There is no inside/outside of the network — an actor/actant is either part of the system, or is not.

An actor/actant may at the same time be part of several networks, without the networks being interconnected. One individual may, for example, be part of a network at his workplace and at the same time part of a family network. These networks may in

some cases overlap. Such is often the reality of modern society. I only followed my informants in their workplace, after considering what data would be most relevant in order to understand the communication between the different groups at work. Of course, few people leave their work completely on leaving their job; to some degree, it affects their private lives, and vice versa. However, the distinction between private and work-life in Norway seems to be so effective that the proximity to the node of interest to me is so far removed that I have chosen not to follow my informants in their private lives.

Advantages of the actor network theory are many. If the object of study is divided between different geographical locations, the actors often appear to have no or little contact with another. However, it is observable that an action in one site affects the behaviour of the subjects at the other. For example: when a person in Oslo, Norway, buys a computer, and starts writing on a book in a word-processing software, decisions made by systems developers situated in another geographical and social situation affects him. There may, for example, be restrictions on how he designs the layout of the presentation, which may affect his finished product. Often the communication between the producers and consumer is a one-way relationship, but the consumer may choose to buy other software, and this in turn will affect the former company through reduced sales.

ANT provides a more dynamic method for studying an organisation, than does studying the individuals and the formal organisation independently, as it shows how decisions (and non-decisions) affect other levels of the organisation, facilitated by the theory's focus on following the network's actors/actants in all relevant settings. The department NRKi is a small department of only some 20 individuals. The employees relate to each other most of the time, and may in that sense be seen as a "small-scale" society. They are, however, part of the organisation NRK, and members of Norwegian society, which are both complex, large-scale societies. If this study were to concentrate only on the "small-scale" society of NRKi, it would miss some important aspects: how this society affects the surrounding world, and how the world affects the society. Following the networks of the employees and their artefacts to the different parts of the organisation, gives a more holis-

tic description of the situation, since it is possible to see how the underlying structuring of the organisation really works, and compare that to the nominal structure as given in the organisational chart.

In my material I have chosen as the central node the web-publishing software, Desken. This means that the social system is limited to situations in which the existence of such software is relevant, mainly limited to the relationship between NRKi and its users. In chapter 5 I have widened this definition a little, to show how the exchange of time and knowledge as gifts may be seen in a wider setting, ultimately generating money for NRK and therefore the different departments and projects. While this is an attempt to widen the boundaries of the social system, the central node, Desken, is still important as it defines the presentation of the web-pages to the public.

How to find informants

> ANT does not tell anyone the shape that is to be drawn - circles cubes or lines - but only how to go about systematically recording the world-building abilities of the sites to be documented and registered.
>
> (Latour 1999)

I understand Latour to mean that the important aspect of actor network theory is the worldview, not how the material is collected. I believe that the theory, to some extent, limits how to collect data, through defining where to collect it. According to anthropological methods, all data must be situated in a context. However, when the informants are as dispersed, as they may be when using ANT, the choice of the central location is very important. If one, for example, is to collect data on adoption in Norway, it is relevant to talk to the adopted, their parents and as far as, possible to observe them interacting in their meetings (to the extent that such exist). However, there is an adoption office through which the adoption is arranged, and with which many of the involved parents and adoptees interact. Traditional fieldwork is thereby possible, using methods such as interviews, and, to some extent, participatory observation of the interviewees.

My approach to finding informants was similar. I undertook five months participatory observation of the employees at NRKi. I got to know them fairly well in their professional role, and through working the department's switchboard, I could observe who received which kind of questions; when they were called; how often and who called, and so on. In addition, I talked frequently to the employees about what kind of feedback they got from their users, and who gave what kinds of feedback. In this manner I was able to find out how their network functioned, and how the different actors within NRKi related to outsiders to the department. This approach meant that I was also in touch with users from diverse backgrounds, and diverse manners of relating to NRKi. I believe that this approach has made the material used for this thesis representative.

Doing practical fieldwork

Doing practical fieldwork is very different from reading about other people's experiences. The approaches vary according to the situation. This means that reading, and attempting to copy the approach of other fieldworkers may fail, yet it is possible to learn from other fieldworkers' experiences.

All field situations are unique, and the choice of methods for collecting data must and will vary. Much of the collection of anthropological data is based on a relationship in which trust between the anthropologist and informant is central. This trust, like the anthropologist himself, is often little visible in the published written material. As a student, it is therefore easy to pick up on the methods written about in the fieldwork literature, trying to make the methods one's own. On such basis it is possible to fail miserably. The literature seldom speaks of the months taken to build the trust necessary to collect the data, nor how miserably the theoretical approaches may fail.

My first encounter with "the field"

My first encounter with the field was through the course IN-MMD[5], as one of a mixed group of students and employees from the Department of Informatics. This was my preliminary fieldwork, during which I collected material used later in the analysis.

The offices of NRKi were in "Forskningsparken" in Gaustadbekkdalen in Oslo. This is a building in which much of the technological milieu in Oslo is situated; the University of Oslo also has some offices here. The offices of NRKi were on the third floor, with windows from some offices on the southern side of the building, but the rooms housing the majority of the employees had windows facing an indoor winter garden, two floors down. The larger room on the third floor had no windows.

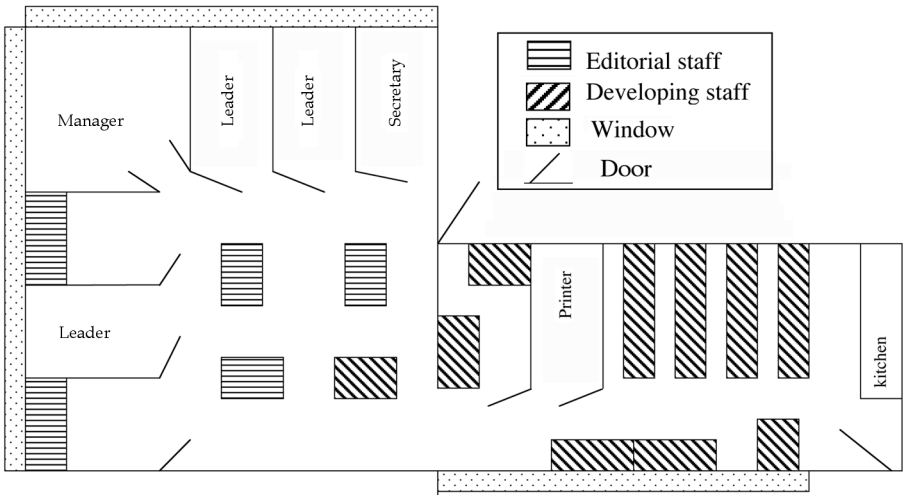

Figure 2.1: Layout of the offices of NRKi, august 1999

The journalistic staff had their places in the room without windows, in which I was also to be based. Most of the computer technologists had workplaces in the other room. Their workplaces were divided by walls approximately two meters tall. On all the desks a PC occupied the central place.

In the journalists' room there were some soft animals (spiders and snakes) hanging

[5]IN-MMD was a fieldwork-course held by the Department of Informatics at the University of Oslo autumn semester 1999

from the ceiling, and some of the workplaces had plants on the desks. One person had decorated his workplace with christmas tinsel and a large amount of Jolt-Cola cans. The "decorations" are central symbols amongst computer technologists, or "hackers"[6]. Jolt-Cola has a higher caffeine content than Coca-Cola, and is therefore drunk much by people working late — amongst them computer technologists. By collecting the cans and setting them up on display, the person using the desk attempted to signal that he lived up to the work-ethic surrounding computer technologists. The informatics students commented on this behaviour, saying that the person was a "wannabee hacker"[7], flaunting the symbols without necessarily living up to either the ethics nor the knowledge expected from a hacker. However, as the person displaying these symbols quit the department prior to my main fieldwork, and as the symbols were not otherwise used in the department during the fieldwork, they will not be discussed further. On the wall there was a large computer-screen, and a magazine rack holding computer magazines.

Most of the employees had a large headset for listening to music plugged into their computers, and one person had a soft animal centrally placed on top of his computer. This was questioned by one of the students — why would a grown man bring a "duck" to work?

There was a small kitchen in the offices, where we noticed a large number of empty take-away pizza boxes. Later I was able to study the kitchen — there was a dishwasher, a washing-up sink, two cupboards and a coffee-maker that had not been cleaned for a long time. Just outside the kitchen there was a small sitting-group with a fruit-basket.

Understanding the physical setting

There are several things that should be noted about the physical setting of the offices. There was a difference how the two rooms were organised: in one room there were walls

[6]Hacker: A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary (Raymond 2000).

[7]Wannabee: When used of any professional programmer, CS academic, writer, or suit, it is derogatory, implying that said person is trying to cuddle up to the hacker mystique but doesn't, fundamentally, have a prayer of understanding what it is all about (Raymond 2000).

between the workplaces, while the other was an open-plan office. This indicates that there were different ways of communicating internally in the different parts of the department. In the first room, to communicate, one had to leave the workplace, and physically move over to the person one wanted to communicate with; or it was possible to *communicate through the use of the computer*. Seemingly, the easiest manner to communicate in the other room would be to speak to the others at their desks. In neither case the employees spoke much; most of the communication happened through e-mail and IRC[8] This meant that the organisation of the workplace was of lesser importance, also placing the involved in the same offices. When there was speaking to be done, the parties involved would reserve one of the meeting-rooms in the building and have a formal meeting, or they would discuss in other forums such as in the "smoking room". This is discussed in chapter 5.

When the secretary started working in NRKi a year prior to my preliminary fieldwork, she found the offices to be very naked. There were few decorations on the walls, and only necessary inventory in the offices. She, therefore, selected decorations. The spiders and snakes hanging from the ceilings as well as the plants were her work. As they were a web department they had to have some spiders, and the others were just there as decorative elements. The one thing that was very different to the rest of the inventory was the "duck" that my co-student observed. This was situated on top of the computer of one developer. These are only available through internet stores, which means that there has to be a reason why he chose that particular one as a decoration. When asked for the meaning of the "duck", the informatics students said that "*that* was not a duck, *that* was a Linux[9] penguin." The Linux penguin symbolised that the person using that workplace used Linux, which is software mainly used by people who dislike the monopoly of Microsoft on the computer software market and for whom free software and thereby open source code is important. The right to access and spread free software, not controlled by copyright pro-

[8]Internet Relay Chat[IRC]: A worldwide "party line" network that allows one to converse with others in real time. IRC is structured as a network of Internet servers, each of which accepts connections from client programs, one per user (Raymond 2000).

[9]For an explanation of Linux, see appendix A

tection or censorship from government, is seen by some as a battle for freedom of speech.

> Free software (or open source software) cannot exist without freedom of speech in software. […]Software has been written for years without general examination of its free speech aspects. So far, attempts to censor software have carefully been couched in other terms, such as "creation of patent rights", "restrictions on export of defence trade goods", or "outlawing circumvention of intellectual property protection technologies".
>
> (Gilmore 1998)

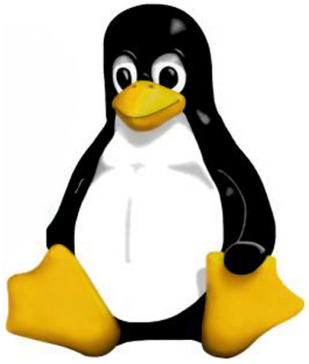

Figure 2.2: Tux the Linux penguin — "This is *not* a duck".

To understand the world of ICT-personnel it is important to understand what they call "the hacker ethic". There exists a general idea of sharing the developments made in software; everything should be made available to the community. On talking with ICT-personnel, it is important to be aware of this common ground, the content of which is often passed around in jokes, such as:

> Linux is like a wigwam …no windows[10], no Gates[11], and an Apache[12] inside.

Another understanding of the penguin, is that of a symbol of belonging to a community of computer scientists. The employees' belonging to different communities is generally undercommunicated in NRKi, except in the context of those with whom individuals choose to take their short breaks, going out to smoke. This undercommunication is possible to examine, but as the focus of this thesis is the relationship

[10] Refers to the Microsoft's commercial software platform "Microsoft windows".

[11] Refers to Bill Gates, the founder and owner of Microsoft.

[12] Apache: A open source HTTP server for Unix, Windows NT, and other platforms. Apache was developed in early 1995, based on code and ideas found in the most popular HTTP server of the time, NCSA httpd 1.3. It has since evolved to rival (and probably surpass) almost any other Unix based HTTP server in terms of functionality, and speed. Since April 1996 Apache has been the most popular HTTP server on the Internet, in May 1999 it was running on 57% of all web servers. (Howe 1993)

between NRKi and their *users*, I find it of little relevance. I will hereafter refer to NRKi mainly as a homogeneous group, though in some cases "developer" will be used, when that role in particular is relevant.

Starting to do *real* fieldwork

My *real* fieldwork at NRKi started at the beginning of February, and lasted till the beginning of June 2000. To collect my material, I used participatory observation and interviews. I followed my informants during their working hours and other times when they met as a group. The reason for this was that the other roles these actors had was of little relevance to their relationship with the users of the Desken software, as discussed above.

On entering the office of NRKi to start the main part of my fieldwork, I noticed a number of changes since the first time I was there. I found the old main door locked, and the main door to the offices had changed. On following the signs to the main door, I also found that one locked. I was there too early in the morning. When the employees came in, I was simply told to find myself an unoccupied workplace, and then to do whatever I was there for. I noticed that the department had grown, as there were workplaces for more employees than previously. The increase in workplaces was centred on the innermost room, where they were placed in an octagon, with the workplaces facing each other. I therefore sat down at a workplace (one without a PC), and started to look around and take notes. I was completely ignored by the staff, and there was little to take notes about, as none of the employees talked. To begin with, the people in the department were a bit shy of me, as they all knew that I was there to study them as part of my project, and some of them thought they had an idea of how anthropologists work and what kind of data they are looking for. For a couple of days I tried to hang around in the offices. However, there was little to take note of, and the communication between the employees was neither visible nor audible. I therefore approached some of the employees with a request to follow them for a day to learn what their job consisted of.

The first day I was to follow one of the employees at work, I came into the office in the

morning. The first thing that happened was that this informant and another employee did a "tribal dance" in my honour; and welcomed me to the tribe. The employee I was following that day appointed Brandrud Chief of their tribe. Following employees around for a day was in accordance with the advise given by Greenbaum (1999)[13]. As some of the employees felt uncomfortable with this approach, I was called into the office of the manager. We there came to agreement, concerning my future work and approach to the department's employees. I was given a job at the offices' switchboard, and asked to help out with some minor research jobs. In return, I was to have full access to the department, their meetings and all written material concerning the department.

Through the work at the switch-board I was able to observe who was working on what; with whom the employees of NRKi related to on a regular and more irregular basis outside the department; and the various working hours of the different employees. In addition, people left messages at the switchboard when the person contacted was unavailable. The work made me less visible in the department, and at times I believe that my role as anthropologist and observer was more or less forgotten. To some extent, I became part of the department.

It is difficult to observe the interaction between the sender and the receiver of a message in an environment where almost all communication is computer- or telephone-mediated. Just sitting in the room, trying to observe what is going on is very difficult. For this reason, interviewing provided much of the information on which the analysis is based. However, the interviews would have been very unprecise without accompanying participatory observation.

Choice of methods

Informants

My informants in NRKi have different occupations; there are computer software developers, graphic artists, and journalists. I have interviewed most of the staff. I believe that

[13] For further discussion on this theory see p. 38.

this makes it possible for me to understand internal processes and disagreements, and compare this to the information I have from the users of the publishing software.

I did not choose my informants at NRKi; I observed all the employees in their daily work and interviewed most of them. However, I found it difficult to get close to some of the developers. They would not be interviewed, and therefore my observations on these people are from daily working-life: what I picked up from their conversations in the smokers' room and in the lunch-room.

I used several approaches to find informants in other departments. It was necessary that they had something to say about the working-situation for web-publishers and editors. I contacted some informants based in tips from people in NRKi, others I found through a debate in "Tidssignalet[14]" on the shutting down of FTP-access (see chapter 4). Others I got to know through a training-course in the use of the new Desken publishing-software. I found users with little previous experience in web-publishing through searching the web-pages of NRK. I interviewed extremely experienced web-editors with many years publishing experience, and web journalists with little or no experience. Some hardly knew of any other web-publishers in NRK while others had a well-developed informal network. I therefore believe I have interviewed a representative selection of the publishers in NRK.

Some trends can be found in my material. The user-group consist of two very different groups, the experienced and inexperienced publishers. The experienced web-publishers are on average older than thirty-five. In the district offices there are more men than women publishing, while in the radio there are mainly female publishers. In general all these people are journalists. These people have all started web-publishing out of their own interest, and many of them started publishing before NRKi was started. These trends in my informants was confirmed as representative by the person in NRKi in charge of contact with the users. The inexperienced publishers had little in common, besides that they all worked for TV. They were of all ages, both genders, and many different professions.

[14]Tidssignalet is the internal newspaper in NRK

Most of these people had not chosen to work with the web, but had been given the task in addition to other tasks. In general they had much less knowledge of web-publishing than the first group, and more frequently accepted the decisions from NRKi, regarding restrictions in layout and design, than the first group.

Participatory observation

The ideal anthropological method for collecting data is going to a field location, being present and participating in the informants' daily life. The fieldwork should ideally last at least twelve months to ensure sufficient knowledge of local life and language, and should consist of a continuous contact with "the natives". Malinowski (1984, p. 6) writes:

> Proper conditions for ethnographic work [...] consist mainly in cutting oneself off from the company of other white men, and remaining as close contact with the natives as possible, which really can only be achieved by camping right in their villages.

Doing this ideal form of participatory observation was not possible for my fieldwork. My field was a fragment of the total social life of my informants. On average, Norwegians spend eight hours a day at work. Very few relate to their fellow workers outside the working hours[15], unless attending a previously arranged social meeting.

To contextualize this fieldwork, therefore, there are various possible comparative settings.

It is possible to compare the observations I made with general Norwegian ethnography. Few comparative studies have been made in Norway; the main studies of businesses are of traditional industries in other parts of the country (Haukelid 1989, Hepsø 1990, Kringen 1995). Few ethnographies have been written of the knowledge industry in Norway. The relevant parts of the Norwegian ethnography for comparison are some of the gatekeeper concepts; for instance, the Norwegian idea of equality. I use this concept in

[15]This is at least true for people working in businesses in larger towns and cities

chapter 5 to show the differences between NRK and the department NRKi both in structure and manners of thinking.

It is possible to compare the observations made in NRK with similar processes in other public broadcasting multimedia houses, such as the BBC[16]. There are rumours that a study of their internet publishing department has been undertaken. However, this study is unavailable, as it was written by research staff within BBC and remains unpublished.

Another possible comparative setting is the multimediahouse NRK in the present and the past. Descriptions of past processes of change are available in the historical study of Dahl & Bastiansen (1999), but this book does not cover the period of the last twenty years. Since my study is of a new media, and the processes surrounding introduction of a new media such as colour television in NRK have already been studied by Dahl & Bastiansen (1999, pp.480 – 492), I find this to be a more relevant comparative setting than an uncertain report from BBC.

To understand the setting of which my informants are part, I have used all available material. As NRK has been a very popular organisation about which to write a postgraduate thesis, there exist a number of thesis' on various aspects of the organisation. This also includes NRKi. I have found two thesis' on NRKi (Fagerjord 1997, Sommerseth 1999); in the latter I find the methodological approach to be very dubious[17].

Fieldwork in a modern technological setting

Doing an ethnographic fieldwork in a technical milieu opens up possibilities for distance study, either through electronically surveying the activities on specific computers or through collecting artefacts that the informants leave. The latter is an unobtrusive collection of data, and the first very obtrusive. The electronic survey is possible through logging the activities on a specific computer or username over a period of time. This approach has ethical implications that will be treated below, as well as other, more practical,

[16]BBC: British Broadcasting Cooperation.

[17]This thesis is based on interviews with the leaders of NRKi, and material written by them, and as far as I can tell it uses no cross-references to other sources

methological problems. Doing electronic fieldwork means that the activities and interactions between human actors can only be traced through the final decisions made, as seen through the technical applications. The discussion undertaken internally and externally before the final decision is made is difficult to see, and the more subtle influence of corridor interaction between the actors is invisible.

Observing the subtle, and usually informal, channels of decision was for me only possible through being present in the milieu at NRKi over a longer period of time. I participated in the daily life of the department — in the lunch-break discussions and staff meetings; talking on "smokers' corner" and meeting for a drink after work. Many of the pieces of information collected in this manner were further examined through interviews.

Interviews

My interviews at NRKi were mainly held outside the offices. This was done to avoid disturbing the other people working. I let the interviewees choose the settings, with the result that some were interviewed outdoors. Since I was working with a tape-recorder, I lost some parts of some interviews taped outdoors; however, most of the time I was able to reconstruct these parts from my notes. The interviews were semi-structured, meaning that all the interviews contained certain themes, while otherwise being a free-moving conversation between the interviewer and the interviewee.

In a semi-structured interview, the interviewee participates in setting the premises. This may lead to new information arising; information that could otherwise be easily overlooked. No interviews take the same direction, and they cannot be used as part of quantitative research. However, the interviewer has a set of themes that should be touched upon, assuring, at least, that all the themes are discussed.

I found it important to compare the statements of the interviewee to other interviews and, when possible, to written material. This is especially important if the case in question occurred some time ago. In such cases, it is very easy for an informant to forget what the issue was, and only say that *"it was a necessary decision"* as the manager of NRKi did in the

aftermath of the FTP-closure, thus not considering the different inputs at the time, only the final decision.

One problem of interviews as a method for collection of data is that it is difficult to tell whether the interviewees statements are biased by the situation. This problem is met in quantitative interviews by questions to check the informers reliability, and by interviewing a large number of persons. In a qualitative study, this problem is met by combining different methods of data-collection; for instance, combining interviews with long-term observation and study of written material. As I was studying a group of people producing and setting the premises for web-documents, I also regularly visited the web-site $http://www.nrk.no$.

Greenbaum's approaches to fieldwork in an office-setting

Greenbaum(1999) suggests three different approaches to doing fieldwork in an office-environment. These methods are very specific to this kind of collection of data, and may be combined with different methods and analytical tools: Greenbaum suggests, amongst others, actor network theory.

"Sit-throughs"

Greenbaum (1999) describes "sit-throughs" as:

> [M]ore observation than interview, where the researcher is observing the subject doing some work, and where questions can be asked at appropriate break points, but only when the person doing the work stops between the tasks.

This was the method I initially tried. However, my informants felt that this method intervened with their personal zones; it was too intrusive. The reason for this may have been that I attempted to use the method early in my fieldwork, and did not know my informants sufficiently well before asking to follow them for a day at work.

Another aspect of this method is that the informant is the active, and the ethnographer passive, leading to a situation in which the person being followed may feel that he or she

has to show how much is done during a day, therefore biasing the research data. This method may be suitable for obtaining a short and quick introduction into a person's work, but following them for a whole day, or even longer periods of time, may feel intrusive.

"Walk-throughs" and "Talk-throughs"

I find these two methods to be very similar, as the interviewee sits at his or her workplace, showing what they do in their daily work. The difference is that a talk-through, according to Greenbaum, is a sort of semi-structured interview with the person in their regular surroundings, while the walk-through focuses more on action: the interviewee demonstrates the product or process while the interviewer asks questions at an appropriate time(Greenbaum 1999).

I found these two methods more useful than the purely following my informants, as they could easily be combined with an interview. The majority of my interviews with users were made at their workplace; and since the material they work with is very much visual- and audio-based, some of them, on their own initiative, started to demonstrate what was good and not so good with both Desken and NRKi.

Written/ web-material

There are written several sources that have been important for my research. Roughly they may be divided in three categories: internally produced material such as the internal newspaper "Tidssignalet" and the intranet-pages "Torget"; scientific descriptions and analysis (Fagerjord 1997, Dahl & Bastiansen 1999, Ytreberg 1999); and external internet web-documents[18]. In addition I have used descriptions and analysis provided by external media to compare the internal information with that which is presented to the public.

The internal newspaper and intranet say a lot about the organisation, and the relationships between different actors in the system. Some of the material published has a character of strong personal disagreement, while other articles appear to be more neutral. I found the internal newspaper interesting, as it shows how the different employees reflect

[18] "External" in the sense that they are available to the public over $www.NRK.no$

on their own situation and the processes going on in the organisation. These sources may be biased, in the sense that personal disagreements, based in other problems, may appear to concern the problem presently debated, while it in reality concerns something else. By examining to the different sides of the disagreement, it is, however, fairly easy to discover when such is the case.

There are particular problems associated with using web-documents as sources. In some cases, when one has problems with ratifying who is the producer of a document, one should not refer to that source. However, if one knows the address of a site, and that *that* source is reliable, I see no problem with referring and quoting it. Drafts for articles on the web are referred to by address and date, with a note that it is unpublished. If the article is published in an e-journal, it is treated as if published on paper.

The use of technical equipment in the field

During preliminary fieldwork in the course IN-MMD, we used various pieces of technical equipment, such as video-recording and taking photographs, in the collection of data. For the main fieldwork only a tape-recorder was used.

In many fieldwork circumstances, using a tape-recorder makes the informants uncertain of what the information may be used for, and more on guard as to what statements to give. There is, however, a difference when working with informants employed by a media-house like NRK. The majority is comfortable with modern technology, and not hampered when talking to an interviewer with a tape-recorder. On one occasion, when interviewing, the interviewee actually set my tape-recorder right, as he was more familiar with the technology than I was. The problem with working with tapes is that to transcribe them takes a long time transcribing the tape took approximately three times the time taken to carry out the interview. This is a consideration to be made before deciding to work with tapes. For my main fieldwork, I decided to tape the interviews, as I felt that I would be unable to both ask relevant questions, listen to the answer and note it down. I listened through the interviews, and decided to fully transcribe most of them; from those

not fully transcribed I took notes.

Using video-recordings as part of data-collection has methodological implications. The recording itself is more conspicuous than just putting a small tape-recorder on the table. One has to ensure proper light-conditions; somewhere to place the camera (which is usually on a tripod, making the camera use a lot of space), in addition to placing it such that passers-by do not trip over it. In addition to the practical considerations the interviewee has to be very comfortable with the technology, otherwise he easily becomes affected by the mere presence of the camera. A tape recorder is easily forgotten on the table, but a camera is much more present as part of the situation. However, if the recording session goes over a longer period of time, with a stable placement of the cameras, they tend to be forgotten, and may record important information.

Doing fieldwork "at home"

Doing fieldwork in what appears to be one's own society has some different challenges compared to doing fieldwork in a society very different to one's own. When doing fieldwork abroad one usually has to work using a different language, and to some extent without knowing the local social rules.

This is also partially true when doing fieldwork "at home". Even though people basically speak the same language in most parts of Norway, there are a large number of dialects, sociolects and professional languages. This means that even though at the outset I had some things in common with my informants, there were a large number of differences. *The problem is seeing these,* and describing them. Whitehead has said that "Familiar things happen and people don't bother about them. It takes an unusual mind to discover the obvious"(Whitehead in Wadel(1991)). This is also true concerning the use of symbols, as for instance in the use of the Linux penguin mentioned above.

Even though some information is taken for granted, being given the role of being "the local anthropologist", I was given the opportunity of asking what in other circumstances would have been thought of as stupid questions. When they discovered that I had some

background in informatics,some, particularly the programmers, tolerated my presence in their quarters to a larger degree, and talked to me more as their peer, although there was quite a lot that I did not understand when they were using their professional language. According to Wadel (1991) this process of going from being a stranger, through student, to their peer as an "employee" is a typical process of fieldwork "at home".

One problem encountered by many students doing a fieldwork in their own cultural sphere is the problem of access to arenas. This is thoroughly treated at a general level by Nader(1972).

Access

Being accepted onto a formal research programme by the Department of Informatics was a great advantage. The programme granted me access to the general arena at NRKinteractive, and the researcher in charge of the programme, Tone Bratteteig, wrote a letter to the manager of NRKi, asking for permission for me, as an anthropology student, to undertake a postgraduate research project in their department. I received this permission, and after a couple of days of just being present, I was called into the offices of the manager, and obtained a more formal agreement. I experienced this as a very positive openness, and during my fieldwork noticed that the department practised a very open policy to students and researchers. I was, however, warned by a trained researcher to lie a little low when working in NRK, because my research permission could be revoked by someone in a higher position in the hierarchy. The Director of the News Department, at a meeting of the Board, December 2000(transmitted via web-radio) that:

> There is quite a lot of what is done in this house that escapes to the public, things that can be both fortunate and less fortunate. Things are too often taken out of their context"[19]

[19]Original quote: " Nå er det ganske mye av det som gjøres i dette huset som kommer ut i det offentlige, det kan være heldig og mindre heldig. Ting tas for ofte ut av sin sammenheng."

I understand this to be signal of general restrictiveness; as an employee of NRK one should be careful what one says and to whom. Even though I am and was not an employee of NRK, I still find it difficult to write all I know of NRK — and I believe that to do so is not part of the anthropological project.

Much of my general information regarding what was going on in the department came through staff meetings in NRKi. They were open to me throughout my fieldwork period. I was not explicitly informed of the meetings, as were the other employees, as the invitation came through bulk-email distributed to all staff. Not being formally employed, it proved difficult to be put on this mailinglist, since I had no NRK-mail address. NRK has an internal policy that no internal mail should be distributed to externals; the possibility to do so is limited through technical means. Therefore, all such information was received orally from one of my key informants.

Ethics in fieldwork and the writing process

When doing fieldwork in one's own society there are ethical implications that may be more pressing and visible than when doing fieldwork in a society further from one's own.

One must expect informants to read what is written about them, and take precautions against writing something that may in any way harm them. These precautions should be taken just as carefully when writing about societies further from one's own, but it is easier to get away with.

The field situation

Doing fieldwork in a situation of highly educated and profiled people as in NRK is a challenge. My informants knew what an *anthropologist* is, and expected me to behave in a manner different to the role in which I had imagined myself. They expected me to collect data of them as if they were my *tribe*; for example to ask them about rituals and cosmologies. However, after I managed to tell them that *that* was not my point of interest, they relaxed.

An ethical problem is how to present the research question to one's informants. In some cases one cannot expect informants to understand the research questions at all; in other cases they understand, or believe they understand, them only too well. The last case was the situation in my fieldwork. All my informants had an academic background, and understood the academic way of thinking. However, they were still Norwegians, and the problem I was interested in — power — is not one discussed in many situations; it is more often strongly undercommunicated. I had presented my interest to some people at the University of Oslo who had worked with NRK previously, and advice was not to say too much of my interest in power relations, and instead to say that I was interested in communication. I cannot say that I directly lied to my informants when I said that I was interested in the communication between users and developers of an information system — since *communication* is an important part of a power relationship between groups.

Working with the "famous"

Working in a milieu where a large percentage of the employees' work expose themselves on national radio and/or television poses some problems as to the demand of absolute anonymity of the informants in an ethnographic description. My informants will be visible internally due to their own positioning through, for example, articles in the internal paper "Tidssignalet". I have, however, chosen not to use their names, as I find that irrelevant to the work they do, and I do not wish to expose these people externally in a manner which they have not themselves chosen.

It is, however, difficult to protect people against their own acts when they work in an organisation like NRK. Their roles as employees of NRK make them more or less public, even though people working with technical installations and the internet are less public than those working in front of the camera or microphone in radio and television. In my experience, when other media have a chance to expose these kinds of public figures in a less flattering mode, they do it fully. I therefore choose to leave my informants without names.

The use of illustrations

I took only a few photographs during my fieldwork. None of these are taken in NRKi. The reason for this is that I find photographs to be very exposing for the individuals. The person depicted on the front of the thesis has given his permission for this use of the photograph. This point of view surprised some of my informants, as they were used to working with both audio and video. In some cases I have, however used illustrations from the internal paper and screen-shots of the web-pages at nrk.no, as I believe that some points are easier demonstrated when shown as they were depicted at the time.

The writing up process

In my thesis I have made choices as how to protect my informants. The informants in this thesis are not contextualised to ensure a minimum of anonymity. Most of my informants are left without names, as I am writing about a very small milieu; the total number of users is approximately fifteen. Some of them are highly critical of the way in which NRKi runs the web-services of NRK, and have signalled this heavily through "Tidssignalet". They may therefore be identifiable through my thesis even though I attempt to anonymize them.

When describing a group of people acting over a period of time, it is always possible to find less flattering situations. I do not find it necessary to describe these situations unless they show a general pattern of behaviour of the group or illustrate a theoretical point. When, however, they do show a trend or illustrate a theoretical point, I believe it would be incorrect to leave out the description of the occurrence.

Bringing the analysis back to the informants

When doing fieldwork in one's own society, in which the informants usually speak the same language as the ethnographer, it may seem easier to return with the final thesis than if one did a fieldwork in a situation where the informants were unable to read. This is however not necessarily the case, as the informants and ethnographer in a modern setting

may have very different points of view as to the description of a situation. The ethnographer may, for example, find one situation much more important than the informants do, and use that situation for an analysis, while the informants find that happening of lesser importance in the total working-situation. In this thesis, I believe that may be the case with the situation described in chapter 4, p. 81.

I believe that my informants are able to read and understand the contents of this thesis, and maybe they will read it. As I am writing of internal situations in a large Norwegian organisation, some of the information in this thesis is not generally known, but may be of interest to the general public. In the writing-up process I have therefore kept this in mind, and considered restricting access to the thesis. However, I do not believe that any of the things I write can harm my informants, as the information is of a period passed by, and the problems about which I am writing have been thoroughly treated internally in NRK.

Chapter 3

Symbolic power, powerlessness and knowledge

In this chapter I will give an account of the main approaches to the study of power, and argue why I use a relational approach. I intend to show that it is easier to analyse a relationship according to ideas of power when the actors are geographically distant than when they are close to each other, especially when the actors do not think in terms of power. I introduce the terms "symbolic power" and "dominant discourse" as developed by Bourdieu (1991, p. 163-170), to try to understand why it seems that one group of my informants have power over another, what this power means, and how and why this difference in power has developed.

Introduction

The term "power" covers a large number of aspects of a society. The abstract word "power" is generally thought to mean that "A has power over B to the extent that he can get B to do something that B would not otherwise do" (Lukes 1974, p. 11-12). This definition is so general that it is possible to substitute the letter A with either the name of a person or a collective.

There are three large schools in the study of power: those who study institutionalised power (notably Marx and Durkheim), from an actor's point of view (M. Weber) and finally power as relational (Foucault and Bourdieu). The different schools have some ideas

of power in common, like the idea that "power is a pervasive aspect of all human relationships" (Giddens 1997). There are, however, disagreements as to whether or not power is the most important aspect of all relationships, and whether it is the individual's choices that mainly affect power relations or the structures surrounding the individual that contains these relations. In this introduction I will present briefly the three different schools to give a theoretical background on which I rest my analysis.

Institutionalised power

The idea of institutionalised power was mainly advocated by the Marxists, and the main idea is that all relations are collectivist and controlled by society. This means that the individual has few opportunities to change or influence the social system; change therefore has to happen through major social upheavals, or revolutions.

A problem with this approach, is that it can only explain changes to the social system to a very limited extent, unless they, according to Marx, are made through revolution. I find the idea of revolution too strong to explain minor changes within an organisation, and find that I cannot use the basic ideas of institutionalised power. However, the Marxists' ideas of empowerment and powerlessness, and power due to the ownership to the means of production, are concepts I find useful. They provide methods for describing and analysing the non-empowered in a given situation, and may partially explain why my informants in NRKi experienced a change in power. I will treat these concepts further in the next chapter, as they are easier to demonstrate in situations in which there are different degrees of reactions to the exercise of power.

Weber, individual power and bureaucracy

The Weberian view of power and the exercise thereof is dominated by discussions of legitimacy and the right to make decisions on behalf of a group. The focus of this approach is on how the individual uses the available possibilities, making change possible. These changes are brought to a systemic level. I find this approach useful in the cases I present

where the use of power is visible, and which, in some cases, are reacted to openly.

The Weberian ideas that are important to my analysis are not those of power, but those of formal organisation. This is because, like many other previously state-owned or -run organisations, the management of NRK presents their organisation in the terms of a bureaucracy, in which the idea of the Weberian ideal bureaucracy is very visible. A Weberian bureaucracy is an organisational form in which all parties make decisions according to rules and regulations provided by formal decisionmakers higher up in the hierarchy. There are formal rules for employment — for instance what background the individual employees in the organisation are to have — and who makes what kind of decisions. The Weberian formal bureaucracy gives a very hierarchical organisation, where all employees make decisions within their own limited sphere.

The manner in which the organisational charts of NRK have been set up, how leaders are recruited and decisions are made, reminds one very much of the Weberian ideal bureaucracy. Through the organisation of NRKi and the manner in which the employees *really* solve problems, I show that this is *not* the manner in which things really work.

Power as a relational feature

"Power" is, generally speaking, either being able to make someone do something through the use or threat of using force or the use of society's conventions. My interpretation is contrary to this — *power is behaviour affecting others to an extent not necessarily intended by the actor through the use of applications made to serve the community*. My interpretation consists of three parts, inspired by two different scholars, Latour and Bourdieu: affecting others, unintentionality and the exercise of power through use of material culture.

The first part of my definition — affecting others — is a general term on which all those studying power agree. What differs is the manner in which it is done, and what is accepted to be power. It is possible to divide the idea of "power" according to the degree of use of force involved — but I do not believe that force has to be involved to say that power has been used.

Bourdieu says that "symbolic power is that invisible power which can be exercised only with the complicity of those who do not want to know that they are subject to it or even that they themselves exercise it" (Bourdieu 1991, p. 164). This definition implies that both parties have to be involved in a social relationship in order to allow one of the parties to exercise power over the other. The questions are who defines the world in which both parties live, and whether there is a discourse and language that dominates.

In Bourdieu's definition of symbolic power, as well as in my definition of power, there is a question of knowledge of exercising power. In Bourdieu's definition the neither the powerful nor the disempowered want to know, and in my definition neither are aware of the power in the situation. Both point to a situation in which the actors do not consider the difference in knowledge; one actor (or group of actors) control more or different kinds of knowledge than the other. In both cases the situation may be analysed in terms of secret or exclusive knowledge. This means that the traditional anthropological analysis of "rites de passage", as in van Gennep's wording (1960), may be used, as this points to a transition from a status of "unknowing" to one of "knowing" secrets of that particular society. In the case of a traditional society, this transition may be connected to either age, gender or general social standing, while in modern society it is often connected to formal education.

Another side of Bourdieu's view of power is that it may include a "Body of specialists competing for the monopoly of legitimate cultural production" (1991, p. 165). This means that by making their language dominant, the actors attain the power to define reality. The question to be raised is how the individuals make their language dominant in a particular situation, and whether this is a process that they control.

I include an aspect of Latour and the actor network theory in my definition of power. This is because not all forms of power are so immediate that those involved are able to see and react to them. By this I mean that in designing the premises for how an artefact is to function, the designer or developer may make decisions that at a later stage eases his own work, but complicates that of the user. For the developer, the intent is to ease his own work; he does not necessarily see the side-effects of the decision on the user. Such exam-

ples of power-use are numerous in the modern world of technology, though not through the malicious intent of the designer or developers; rather through poor work done by those ordering computer systems.

Language and power

As a group, the employees of NRK generally have a higher level of education than the average Norwegian[1] .

On average, the users, had studied from three to six years in the social sciences, humanities or journalism. In addition, the majority of them had many years of experience working as journalists in NRK or other similar enterprises. The developers, on the other hand, had a much more limited range of backgrounds; they had all studied Informatics for at least three years. In addition, some had some studied social sciences. They generally had less working experience than the users, and, for the majority, this was their first job after finishing their formal education.

The most pressing question that emerges when comparing the background of the two groups is: is there anything in the subjects studied by the different informants that in any manner should make one group attain a higher position either formally or informally in the hierarchy of the organisation? And, not least: why should this be so?

When seeing how the different groups communicate, there are at least two apparent differences. The users', journalists' and other staff's primary work is to pass a message from themselves to a public of whom they know little. Amongst themselves, they speak expert language. On communicating with their external audience they must assume that the audience have limited abstract understanding, and therefore explain in words that even children understand. Contrary to this are the developers, who have little experience of talking to anybody besides their peers, and when doing so, they are used to conversations in which the other person does not question the use of subject-specific expert

[1] According to a survey by the Statistics of Norway, a governmental office, in March 2001, 25% of the population between 20 and 66 years had education beyond secondary school (a total of 12 years) (SSB 2001)

language. In the words of Giddens (1990), both groups may be termed experts, though in separate areas. The developers are experts in information *technology*, and the journalists in information. Both groups are dependent on the acceptance by their public of their knowledge as correct, otherwise it is difficult to make their existence seem legitimate[2].

Giddens' model of modernity involves the idea of expert systems meeting non-expert systems. The groups involved in this interaction all belong to expert systems due to their formal training and work-practice. On interacting, the knowledge and language of one group — the information technologists — becomes dominant, and their language is used in attempts at communicative action. The question is why one expert system becomes dominant, and the other group accepts this dominance.

Bourdieu's model of power, contrary to Giddens' model of modernity, focuses solely on relations of power. When Bourdieu refers to the "body of specialists competing for the monopoly of legitimate cultural production" (1991, p. 165), he defines "cultural production" as belonging to an elite, and those who "win" the battle and rights to define the reality suppress the "losers".

Defining the world through language

When the employees of NRKi spoke of the people writing articles for internet, they spoke of the "content-providers". On analysing the manner they spoke, it seems that it was not so important what these "content-providers" wrote, as long as it was presented through the visual apparatus provided by the Desken application. On using this manner of thinking in considering other historic examples, it shows how the power has been shifted from those writing to those giving the visual appearance of a text. If, for example, one is to use this manner of thinking when considering one of the great plays written by Shakespeare, and to talk of him only as a "content-provider", focusing on the presentation of the plays in books, it seems utterly strange. This is, however, how many modern writers are seen, especially those writing for the internet. The question that must be posed is therefore:

[2]I do not consider the part of Giddens' model on risk and risk management, as it is not particularly relevant for my material

Why has there been a shift in power-relations from those writing the content to those providing the visual appearance of the presentation?

In the case of NRKi, the answer seems to be fairly simple: in Marxist terms: NRKi were in control of the means of production. NRKi controlled the server on which all the material was to be published, and could exclude publishers who did not comply to the manner in which NRKi wanted the production to appear.

I do not believe that that is a sufficient explanation for why the employees at NRKi called the writers "content-providers". Other explanations must be found. I will analyse this term according to power-relations, and try examine it in accordance with ideas of magic and secret knowledge, differences in career opportunities and as an aspect of symbolic power.

On studying what differentiates the "content-providers" from the average employee at NRKi, there are a few differences. The first group is very diverse,in background, formal training, age and gender. The same is true for the employees, apart from the variable age. The average age in NRKi is much younger than the average publisher in other parts of NRK. I do not know all the publishers in NRK, but my guess is that their average age would be in the late forties, much reflecting the average age composition of NRK. The average age in NRKi during my fieldwork was thirty, amongst the developers it was in the mid twenties. This difference in age reflects the different career possibilities for the different groups. For the "content-providers", NRK has been the main employer, on which they have based their career. Many of the "content-providers" were employed in the period of expansion for NRK from the early 1960s till the early 1980s (Dahl & Bastiansen 1999). Their careers have largely been based on working in NRK and gradually accumulating more responsibility, and thereby respect based on their experience. The idea reminds one of the oligarchies described in much anthropological literature, in which the society is ruled by a group of elders.

It seems that there has been a transfer of power from an oligarchy to a much younger group of specialists. The question is therefore: *why has the basis for power been trans-*

ferred from the older to the younger specialists, as exhibited through the use of the word "content-providers"? I believe this question touches on two different aspects of the situation.

Magic and secret knowledge

The younger group controls their society's "magic"; they have the knowledge of how to handle ICT, a form of "magic" upon which modern society is dependent[3]. To gain access to this "magic" the apprentices (or students) have to go through a lengthy period of formal training; studying informatics; take several exams, before finally applying for and attaining a full-time position. This may be viewed as a *rite de passage* (van Gennep 1960), whereby the individuals finally are initiated into the department. Since the initiated speak a language exclusive to their group, and control some of the symbols of that culture[4], they are looked up to by others belonging to the society[5].

The period of gaining control over the society's magic involves learning the secret knowledge on which the magic is based. The magical formular consist of different forms of programming languages, not intuitive to those not initiated. Some forms of magic are "stronger" than other and demand even higher qualified specialists to command; NRKi paid substantial amounts of money to hire in consultants who had knowledge of programming a certain type of database for a short period of time .

In terms of traditional anthropology, one may term those unable to command the magic themselves, but who function as contact between those who do command the magic and the rest of NRK, as some kind of priests. They translate the language of the technical staff (magicians) to the language of the users. This should indicate that they have a different social standing than the rest of the employees in NRK. However, internally in NRK they seem to have a lower social standing than the average employee. They are talked of as being incompetent, unable to communicate with the rest of the journal-

[3]For an illustration (in Norwegian) see:
*$http://www.nrk.no/magasin/underholdning/programmer/oystein\_og\_meg/1312634.html$

[4]This includes the knowledge; their local integrative symbols such as the penguin doll (Linux) observed on one desk, as well as the servers.

[5]For further deliberation on this point, see next section.

ists, as well being seen as arrogant. This is what several persons, who moved from being regular employees to NRKi, said they knew of the department when they started there. Why would such talk arise? I find it likely that at least one previous employee at NRKi had been really arrogant and possibly not very competent. When this person had been in contact with the writers, he gave a bad impression of NRKi, which the writers spread to the rest of their network within NRK. This was then used to show that, although the department commanded the magic, others should be in control of it, to check that NRKi did what it was supposed to do.

Career opportunities

This question also touches on the value of ICT technology as viewed by the general Western society. During the 1990s much of the growth on the world's stock exchanges has been caused by the development of ICT businesses. Much of the value of these have been based on the faith that they will,in time, make money, and those employed by the trade have been given larger wages and/or freedom than they would had they been employed by another; taking into consideration for both forms of employment the length of formal education and experience of the employee. Within this business, employment has continually been the employees' market, since higher educational systems have not been able to supply the industry with sufficient manpower with the demanded qualifications. Therefore when an employee signs a contract, he expects to, and in most cases obtains, high wages or other forms of compensation; for instance the opportunity to work at the hours most convenient for the employee, rather than following a rigorous time scheme.

In the case of NRK, non-ICT employees have career opportunities in the organisation. Most of them have worked for NRK most of their work-lives, doing different kinds of tasks. For example, one of my informants, started work as a journalist several years ago, thereafter gaining responsibility for the shift, and advancing to branch manager. He then chose to work in publishing for the internet. These kinds of opportunities are very rare at NRKi. For the employees with technical knowledge, they can either work with the techni-

cal solutions (i.e. do programming) or, at most, be made in charge of a project. They have few other employment opportunities within NRK. For most of these, the job at NRKi is their first job after formal schooling, and is used to gain experience. Most change jobs after three to four years.

Understanding the use of the word "content-providers"

Even though the career opportunities and control of the modern "magic" in part may explain the use of the word "content-providers", I do not believe it to be sufficient. The cases in which it were used was within the department, not when meeting the writers face-to-face. This indicates that the word is used as a category for all those producing material for the web, whether they formally are employed as journalists, or in other job categories who simply re-publishes what others have written. This indicates that it describes a categorisation of "us" and "them", the category "us" meaning those situated in the offices of NRKi, including the journalists. I therefore understand the use of the word "content-providers" as part of the formation of a common identity of belonging to NRKi as opposed to all the other departments. It is interesting to note this differentiation between identity, when one compares the organisational idea that NRKi is built on: that of the virtual organisation (see chapter 5, p. 116).

Speaking the same language?

When there is a difference in knowledge it is often seen through how the actors speak about an occurrence. Expert language may be used to be extremely specific about a process or particular problem, but when used *by* or *to* non-experts it may cause a degree of misunderstanding or frustration.

In the case of NRK, I observed a certain degree of admiration from some of the publishers towards the expert system at NRKi. On the question of why Desken was to be used instead of other publishing software, one of the users said:

> When we started publishing our regular home-pages, I made them with a web-

> software, Microsoft FrontPage, […] Much can be said of that, but for a person who is not a nerd it is an OK tool.[…] *But then, what do the guys say: — it gives such ugly code*.

When pairing this statement up with the statement from one of the developers, it is interesting to notice that the user only refers what the developer previously has said, while the developer explains his point of view further:

> We previously had a lot of problems with people using some kind of a questionable HTML-editor, that spat out the code in a large lump, that was *this* wide and *this* long [gesticulating], and then you are supposed to find the mistake in the table on such an HTML-page[6]. So we have just said that, sorry, we will not do that.

These statements show that the user simply repeated what the developer at NRKi said concerning why they wanted the users to change publishing-software, but has not understood it. Another informant said that:

> I received an e-mail from interactive saying that if I had a specific kind of script I had to notify them.

Further into the interview with the informant it became apparent that he did not know what a script[7] was, but he only said that "I didn't know where to look to find out what kind I was using". On asking him whether he understood what was said and written by the people at NRKi he answered that "*I* understand what they say, but I know others that do not understand". This person is well educated, has a high degree of knowledge within many fields, and is an experienced journalist. Through the manner in which he said that he knew others who had problems understanding what they (at NRKi) said, it became apparent to me that he was talking of himself, but did not wish to say so openly.

[6] For an example of such, see appendix B

[7] A script is a list of commands that can be executed without user interaction. A script language is a simple programming language with which one can write scripts (Webopedia 2001). The most commonly script languages are Java (for internet use) and Visual Basic (for PCs)

These examples show situations in which the users received messages unintelligible to them. In both cases, they gave impression that they had understood the messages, and therefore did not wish to ask for an explanation, in order not to appear stupid to the sender. The sender had assumed that the message was understood, having received no return questions. In many cases, such as these, the experts send messages containing their expert words, which have little meaning for the receiver. The receiver never questions the content, assuming the unintelligibility to be based in their missing knowledge, since the sender has a higher social standing due to their expert status. If an organisation is to function, and misunderstandings to be prevented, it is important to make the experts use the language of the non-experts in the interaction between the groups.

Helping — or not helping?

At the outset of fieldwork I was shown how the publishing software functioned; one of editorial staff showed me the way in which she used Desken, from the initial operations to the finished product[8].

She was going to publish an article for which it was necessary to "borrow" a picture off the internet, as there were no up-to-date pictures of the person in question in NRKinteractive's archives[9]. She started to explain that she first had to download the picture into the filing-system of Desken, and thereafter load it up again in the article she was writing.

She started to download the picture, but on discovering that it was on a different format than that which she wanted[10], she changed the name of the extension[11] and tried to store the file. The machine refused to accept such a change in the extension-name, and to store the file with the extension-name solicited. I asked her if that was the way she usually did it when the file had a different extension-name than that required, and she answered

[8]This section was video-taped.

[9]The method of "borrowing" pictures from other media is quite acceptable on the internet as long as the photographer is accredited.

[10]The picture was on a .gif format and not .jpg. The differences between .jpg and .gif files is the manner in which the files are compressed, and that .gif supports animations.

[11]The name after the full stop in any computer file is called the extension, and indicates what computer programme the file was made in. Pictures usually have the extensions .jpg or .gif.

in the affirmative. Seeing that she was a bit stuck, and not comfortable with the situation, I asked her whether this was a situation that happened often, and she gave a vague answer that must be understood to mean yes. I asked her how she usually solved such a situation, and she answered that she had to call or e-mail for one of the guys who helped her. He would then bend over her shoulder (she was seated on a low office-stool), take the keyboard, and fix the problem. When he was finished he would go back to his regular work. She would then go on with her work as if this episode had never happened.

The manner in which she answered the question as to whether this was a regular occurrence, made me wonder, whether she usually, as she said, renamed the file in the manner she had explained, and then got it working. When watching the video with some people from the Department of Informatics at the University of Oslo, it became obvious that the informant had never been taught how to do this work in a manner that the machine would accept. She was supposed to download the picture to the desktop of her computer, open the picture in a software for picture-manipulation, and then store it in the desired format with the correct extension-name. This was the operation done by the person who bent over her shoulder, if he not simply save the file directly into the filing system of Desken, ignoring its format.

The whole problem may have been a misunderstanding by the informant — that she had to keep all pictures on a certain format in the Desken filing-system, while the difference between the .gif and .jpg systems is of minor relevance. However, it is important to notice that the person who "helped" her did little to find out why she regularly asked for help on the same issue. Another side of this situation is that she did not ask the helper what he did, nor why, and most probably forgot it as soon as the problem was solved. This last part is indicated by the manner she answered when asked whether this was a regular occurrence; she answered slowly as if thinking it through, and then said that it happened every now and then. For this reason I find it interesting to analyse this incident, to provide possible explanations to the actor's behaviour.

Could this be a gender issue?

The first analytical view that sprang to my mind when examining this situation, was that it was a classic gender conflict. On one side there was the pretty, young female who had problems that one of the gentlemen in the office could assist her with, without her loosing too much face. On testing this assertion on some friends who work with Informatics, they just laughed it off, saying that it was social scientific nonsense. It is typical for the Informatics milieu that both men and women work together; people are measured by what they perform, more than by who they are by birth. Even though men in some environments are more represented, it does not mean that the females are thought to be less intelligent — in NRKi, for example, the first technical employee was a woman. Through my field-work I noticed that when there was a new project coming in to NRKi, the manager of the department would ask the person most competent in that part of the department's activities to take charge of the project, heedless of the person's gender. When concerning work, gender was simply not an issue.

There is, however one good reason to consider this behaviour to be gender related. Women seem more eager to ask for help when it comes to problems with machines than men. There is no logical reason for such an observation, especially since there is a stress in Norwegian society that there is little difference between the genders, and that this difference should not have any consequences as to occupation, wages or interests. Still, it is possible to consider the situation to be gender-related, and considering that the informants do not talk of it as gender-related, it has to be based in what Bourdieu talks of as habitus — that is

> a set of *dispositions* which incline agents to act and react in certain ways. The dispositions generates practices, perceptions and attitudes which are 'regular' without being consciously co-ordinated or governed by any 'rule'.
>
> (Bourdieu 1991, p.13)

When considering this as an issue of gender, it is difficult not to think in positions of gender and power. If one is to analyse it in this way, the most apparent way of seeing it is that the whole world of Informatics is defined by men, and it is their language that is used. The female language does not contain the same words, and therefore the women are powerless as to describe what their problem consists of; therefore the man, bending over her shoulder has to identify the problem before solving it. Quite contrary to this description is my own experience of helping other students with Informatics-related problems. The general trend of the posed question is "I can't get the stupid machine to do what I want it to …", and thereby not identifying the problem. I, as a helper (and a woman), then have to identify the problem, and the only way of doing so is by sitting down by the computer, and seeing what works and what does not. It may be said that the difference between the two actors in this little example is that of power, but it is not usually one of gender.

The only other question that can make this an issue of gender, therefore, is why there is a greater possibility of a woman asking others for help concerning machines and technology. This question is beyond the scope of my material, and also beyond the scope of this thesis.

A reciprocal relationship?

For what reason is it likely that one person in a modern workplace would bend over the shoulder of another person, take over the first person's computer-keyboard and do a number of strange and unknown moves with the help of the keyboard and the computer-mouse? As described above: in order to help the other reach the common goal of getting the article published as soon as possible. The problem described was a minor one, and it would have taken the helper much more time to explain in an intelligible manner than just solving the problem for the time being, so the latter solution was chosen.

The question that must first be posed for this situation is whether it may have been a reciprocal situation, as the actors themselves considered it to be. The informant in question was project-employed for the project "Valg '99", working as one of two editors and

moderators[12]; in other words, a mixture of a journalist and a secretarial position. The other person in question worked as a developer, and what he "sold" to NRK was his time and knowledge. If one is cynical, and says that he should have spent all his time working on his employer's projects, then he would have had to catch up later; this is not the case. When he used his time and knowledge in this manner he canalised it to a different "project" than his employer intended; and, supposing he helped other people often, he would have to work overtime to finish his own projects. Such a cynical and extreme view helps one to examine what he might expect to get in return, if this were to be considered to be a reciprocal situation. It is unlikely that she could give him back any time or knowledge that would be of value to him, since her work was of a different kind to his; she was dependent on him, but he was not dependent on her in this setting. The question is whether the manner she would thank him, and thereby make him feel valuable and indispensable, is sufficient to consider this as a reciprocal situation. As this relationship is not long-term in the manner described by Mauss (1995), due to the non-permanency of the employment situation, it is easy to dismiss the situation as not being reciprocal. In addition, time is the traded item, and it may be repaid later to a greater or lesser degree, through, for instance, a friendly comment. It is extremely difficult both to observe and measure the values "traded" in this example, but it is important not to forget this dimension when studying modern society, as many employees only have their time to sell — and included in that time is their knowledge.

A difference in power?

It is obvious in this situation that the person helped was aware of her limited knowledge of computers (she was a typical user), and had a great deal of respect both of the artefact, "the computer", and of the people who knew how to treat it. This is shown by the fact that instead of trying out possible solutions to the problem, she sat down and called for help. This is a classic situation of power/powerless. However, neither of the actors thought of

[12]Many of the discussion groups and e-mail-lists on the internet are read through by "moderators"; that is, someone who removes abusive or illegal or utterings undesirable to the publisher.

their power/powerlessness, and it did not make any difference to them. This may be seen by the manner she talked of the incident afterwards; not focusing on it, instead saying that "it did not happen *that* often". This is a situation typical of what Bourdieu calls "symbolic power"; where

> symbolic power is that invisible power that can be exercised only with the complicity of those who do not want to know that they are subject to it or even that they themselves exercise it
>
> (Bourdieu 1991, p. 164).

It must be said that both parties in this situation agreed to the rules of the game — she had to expect to wait until her helper had the time, and he took time from other pressing projects to help her. When such a situation occurs at work, it is normal for the powerless to find other tasks that need almost as pressing attention while waiting for help, while the helper for a moment sets other tasks aside. When the helper arrives, the pressing problem is solved, and both parties resume their regular work.

The division between empowered/powerless is here demarked by the fact that one person has to wait until the other takes his time to come and help. If the empowered wanted, he could have made the powerless wait for a long period of time, thereby influencing her work further, and marking his importance. He did not do so, probably because they both worked in the same department, and because such behaviour would create a bad cooperative climate; or simply because helping others made him feel better.

When compared to Bourdieu's theories of symbolic power, it seems clear that neither of the actors think or even consider the possibility of the difference in power in the situation; they both just want to get on with their work. The interesting part is that both the actors worked in more or less the same room, so there could be other forms of social sanctions possible if the helper did not help within reasonable time.

I believe it is important to note that the journalistic employees at NRKi had a higher-than-average knowledge of word-processing and other normal software handled by reg-

ular office-staff. It is also important to note that this was the only time through my fieldwork that I saw firsthand that one of the department's staff needed help in this manner. It is possible that it happened fairly often, but it was not a kind of incident that was talked about, and if it happened, it was probably forgotten about shortly afterwards.

Place and time

In the situation described above, there is a third party in addition to the two people present - the computer. The first person has problems with the artefact, and the other person solves just that problem. However, it is not certain that it mattered whether both the helper and the helped were in the same room.

When people today work, and much of an individual's work is dependant upon computers, the work stops upon the breaking down of the machine. In such a situation, it is natural to call the service-desk, and get them to fix the problem. The service-desk is usually a group of persons working somewhere else in the company, and the person picking up the telephone to call them seldom knows any of them by name, or where they are situated physically.

At one point during my fieldwork, a new journalist was appointed to NRKi. This journalist had extensive experience as a reporter with NRK, and was used to the computer-system. However, when she moved department, she had to be accredited to the new department's computer systems, and this had to be done through a service-desk. She called them a number of times, and spent much time just waiting for them to pick up the phone. It took her over a week just to get the correct accreditation in the new department, something that should not take more than a couple of hours, if the system worked smoothly.

This example shows that, contrary to the first example where the helper is close at hand and has a clearer common goal with the helped, it is easier for the helper to pass over to other tasks when not in regular contact with the helped. It makes no difference whether the helped and the helper have common long-term goals; what matters is that there and then the helper (the empowered) prioritises other tasks over answering the telephone.

There was also a fairly general complaint about NRKi from their users that they often got to talk to an answering machine or a person who could not put them over to the person desired, since that person usually was either occupied or out of the offices. This shows, according to some of the users, that NRKi was not a service-department for the web-publishers, but more a technological Big-Brother who controlled what and how things were published. This point of view will be treated further in the next chapter, where the main issue is that of power and resistance to power.

If one puts this complaint rather as a question, than as a complaint …why do NRKi not answer their telephones, turn on the answering machine (voice mail) or take so long to answer their e-mails? It is then easier to see reasonable explanations. All requests take time to handle, time that the developers (who usually are the persons requested) feel short of. Many of the requests may be handled by people with less knowledge than the developers. For example: on answering the switchboard one day I got a request from one user to put him over to one specific person. That person was not in at the time, and I asked what the persons problem consisted of, so that I could put him over to somebody else. It turned out that the person had problems with Desken, it would not make one of his links work, i.e. the link was "dead", and did not function. I asked what he had written in the field in Desken where the address of the link was to be put, and on comparing this to the web-address of the page the link was to go to, we found a typing-mistake. Calls such as this one make up the majority of the calls to the department's developers. It is easy to understand why they did not wish to spend their time answering this kind of question, when they had other tasks that demanded their kind of expertise. I believe that this example shows a problem in the department not taken seriously enough by the responsible people, that they should have people with communicative abilities and some experience with web-publishing (and understanding of HTML) working regular office-hours, and thereby relieving the pressure on the developers. This then comes down to money, which the department had only in limited amounts. There is a question here whether it would be worth turning down other projects to have one person working as a help-desk for this

kind of question.

That is not *technologically* possible

Most of the internal communication within NRKi happened by e-mail. For example, there was little talk between people in the different workplaces; most of it took place either in meetings or short messages over e-mail. I asked to be put on the internal e-mail list, but got the answer that since I was not employed by NRK, and therefore did not have username on their system I would not be able to receive internal mails unless one of the employees passed it on to me. The reason given for this was technical, but the limitation was a result of a policy decision to prevent outsiders accessing internal communications. It is possible that the policy had been decided by someone higher up in the hierarchy, and that it was guarded by another department, but to my informants, the fact that there was a physical, technological, block in the system that prevented me from being put on the list was reason enough. When "the system had decided", there was no reason to question the decision. This is an interesting trait, as this was not the only time through my fieldwork that someone answered that "that is not *technologically* possible" to a decision that had the character of a policy-decision.

At one point of the development during the new version of the software Desken, there was a discussion internally in NRKi as to how to mark links to servers other than those owned by NRK. The staff came to an agreement that such links should be marked "external", to differentiate them from their own, also marking that they had no legal responsibility for the content of those pages. As the decision was made in a staff meeting, it is not formal, and it was up to the manager of the department to decide whether or not to implement the decision. The decision was implemented, but on trying to do so, *all* links were named "external", a slight mistake. However, at the time the development server ("datter") was out of use due to a repair, and all development of the software had to take place on the main server ("mor"). So, the mistake of naming all the internal and external links as being external became visible, and on reporting this mistake to the correct per-

sons, the response was "this is a technical problem that we cannot do anything about for the time being"[13].

The examples given above show how knowledge of Informatics may be used to silence people questioning policy-decisions where machines and software are involved. As long as it seems that the machines have decided through their limitations, few question whether the problem could be solved in another manner. As the first example shows, only minor changes would be required, but since that creates extra work for the employees involved it seems easier to answer "Yes" in a manner that really means "Yes, I hear you, but I don't have the time to listen or do what you want, so I will ignore your request".

Ignoring a request, by saying that something is determined by the technology rather than by people, is a strong form of technological determinism that is accepted to a lesser degree today than it was a few years ago. For instance, during the development of the new Desken, one user called NRKi and asked for a particular kind of functionality. At the time there was a policy-decision to work on the most central parts of the software. However, the user was told that *that* was not possible due to the kernel of the software — the Oracle database. This user would, however, not accept such an argument, and called Oracle Corporation in USA, and was there told that such limitations were not made by them or their software, and that the decision must be an internal policy-decision. Due to this discovery (among other things), the user lost much of his faith in the department, and announced that he would not continue to co-operate with them in the future.

The consequences of e-mail

As example 3.1[14] shows, the messages are usually short, and the reply is put on top of the question to ease the reading of the message. This is written language, almost on telegraphic form, it is usual to use signs, known as emoticons[15], known to most users of e-

[13]The server that this happened on was not "on air", and not visible to the public, but the internal users in NRK had access to this internet-server and could see the problem.

[14]This example was created for the illustration, as the name of the sender and receiver indicates.

[15]Emoticons: "An ASCII glyph used to indicate an emotional state in email or news. Although originally intended mostly as jokes, emoticons (or some other explicit humour indication) are virtually required un-

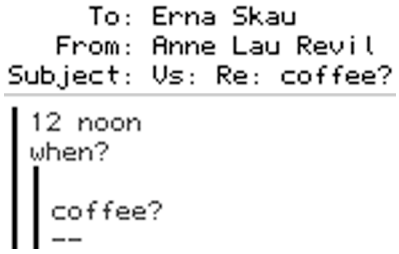

Figure 3.1: How agreeing on a coffee-break may look.

mail.

This makes it possible to communicate without disturbing the other people present, but also either to make your communication widely known by passing on messages meant for a closed company, or, such as in the first example in this chapter, to keep it unheard, and invisible to the other people in the room. Such a e-mail may have said:

A: help!!

B: what problem?

A: downloading pictures

B: coming.

Such short messages are easily written, and reacted upon, when the actors are within the same office environment, but if not in the same physical space, they are just as easily ignored. This shows that distance matters to some degree in the same way that it would if the communication had happened through other long-distance communication such as telephone or a postal letter[16]. However, it is different from the telephone that the recipient may receive it just as quickly, but may hesitate to act upon it or answer it, in the manner of a traditional letter. Another difference from the other two is the style of wording; it is almost in the manner of a telegram. However, unlike the telegram, this last factor is not due to the cost of the communication, but rather to the fact that people today have less

der certain circumstances in high-volume text-only communication forums such as Usenet [contains among other things newsgroups]; the lack of verbal and visual cues can otherwise cause what were intended to be humorous, sarcastic, ironic, or otherwise non-100% -serious comments to be badly misinterpreted ". (Raymond 2000)

[16] A letter is today talked of as "snail-mail" as opposed to e-mail.

time, and wish to reduce unnecessary communication to a minimum. This means that the e-mail may in such kinds of communications retain aspects of the different modes of communication that proceed it: it expresses feelings through pre-defined symbols, almost like written body-language; it has the speed and immediacy of the telephone call, yet may be answered like a postal letter. At the same time it often has the wording of a telegram.

E-mail and power is not a new subject, however, to some extent, there are some differences between the use of e-mail in NRK as compared to other businesses world-wide. For example, it is not normal that on sending an e-mail, one uses the possibility of getting a return-mail when the receiver has opened the mail[17], which may open the possibility of a surveying of the employees of a business, as is described by Brigham & Corbett (1997). Such behaviour would be close to illegal in Norway, and most likely the trade unions would protest.

Brigham & Corbett (ibid.) describe what appears to be an industrial enterprise, where orders travel via the e-mail system. This is very different to the use of e-mail in NRK, as I have observed it. In NRK, what I have seen passed round through this channel is mainly information of events, small letters of a private character (as shown in the examples above) and some letters. However, many are careful about distributing information through such an electronic channel, as it is known that a note being passed around electronically may easily end up in the wrong hands.

Variations in the use of space and time

In the examples provided above, there are uses of time and space specific to the kinds of technology used. When, in the second example, the people of NRKi do not answer their telephone, and demand that their users communicate with them by e-mail, they are sending several messages. One is: "I do not have the opportunity to put all my other work aside, disrupt it to answer your (stupid?) question of how to use software that is so easy

[17] This opportunity exists at least in Microsoft's mail-software, Outlook

to use that even my mother can use it[18]", another is: "I really have a lot to do, please do not disturb me". When Latour (1996, p. 371)says that:

> I can be one metre away from someone in the next telephone booth and nevertheless be more closely connected to my mother 6000 miles away; […] my son may sit at school with a young Arab of his age, but in spite of this close proximity in first grade they might drift apart in worlds that will become incommensurable later.

I understand Latour to say that physical and social distance is not necessarily interconnected. When the case is as above, however, it is difficult to see that the actors have much in common besides working with internet publishing for the same organisation. They rarely talk face-to-face, they do not have much in common in the kinds of work they do, they are not even located in the same building (or in some cases in the same city). All of these variables make it easier for the people at NRKi to ignore communicative action from their users, than if there were a close social contact, as in this chapter's first example.

According to Harvey (1989, p. 226), what is seen in the example of e-mail and of calling the help-desk is a form of social power; that of controlling time and space. When the developers at NRKi do not answer their telephones or take long time answering their e-mail it is an aspect of power: that of controlling their time. These people sell their time and thereby their knowledge to their employer, but since this is state-employment it is not as well paid as most comparable positions in private businesses. As compensation for the lower wages, there is a unspoken policy in NRKi that the employees may come and go more or less as they like (unless there is something pressing, or meetings where particular employees have to be present), just as long as they do their jobs, and complete the projects they are involved in. During my fieldwork I never heard anybody say that they did not complete their tasks, just that it at times took too long. There was, however, a discussion internally in the department concerning what kind of projects NRKi should

[18]The developer of the original Desken told me that it was originally developed as "a hack" over a weekend, and tested out on his mother.

accept, and what time-limits should be set, as there was a general view that the department accepted more projects than they could solve within a reasonable time. This was also the reason given when the new Desken project, ended up postponing several other projects, as they took too many resources away from the central focus of the department.

What is, and what is not, power?

In this chapter I have tried to show various aspects of power in the relationship between users and developers. I have shown that what is meant by the term "power" is not always clear, and that in some situations the social scientist sees aspects of a situation that the actors do not see.

In the example of the lady in NRKi who got help to download a picture, it is possible to ask whether the situation was one of a power-relationship or not. As discussed above, I believe that it was a situation of symbolic power, in which the power lay in the body-language and the manner in which the helper did not share his knowledge with the helped. I have analysed the situation for other possible explanations, and I wish to leave them as *"other possible explanations"*, since the actors themselves were unwilling to discuss the situation in these terms.

Using a variety of examples, I have shown that in many cases the actors themselves do not even consider that they are exercising or are being subjected to power, they are just going about their job in the best manner possible. This part of the analysis may be used to make professionals of informatics aware of their ability to influence and change behaviour in other people, and also make them aware of the potential results of such behaviour when they do not see the affected people on a regular basis.

By controlling their own time, the actors in NRKi are exercising power over others. They are, to a large extent, not aware of this; therefore it must be considered to be symbolic power, as understood within the terms and limitations of Bourdieu. This kind of power-exercise is easier to discover through the use of Latour's view of society, in which one follows the consequences of an act from the actor to the subjected, than through much

of the prevailing social sciences methodology, where the object of study is the interaction between individuals and groups.

There is a subtle distinction between the word "powerless" in English and the words used in Norwegian: "avmakt" and "maktesløshet". The first is a feeling of "powerlessness", but of not yet having decided what to do with the feeling; the latter is the feeling of haven given up, and just accepting all decisions made by the powerful. In the above examples, when the people at NRKi feel they have little time for the core of their work due to all the telephone calls and e-mail they receive, what they feel should be termed as "avmakt". However, NRKi employees have come to terms with the feeling, and by not answering the telephones and only some of the e-mail they have power, while the callers and senders are subjected to the power, and are powerless. The latter can decide whether they want to stand up and fight the department, and thereby exerting "active resistance"[19], or to give in and really become powerless.

Through the use of language specific to informatics, the developers are making a distinction between "us" and "them". I am not certain whether this is a distinction that they are using to create a distance between themselves and the rest of the world as groups — that is, using language as mark between themselves and the others; or whether it is just a wish to utilise a clear language that cannot be misunderstood by those unfamiliar with the subtle distinctions between different kinds of encoding in informatics. Having spent several hours in the "smokers' room" with some of the developers during breaks in their work, I have a clear feeling that the last explanation is the case, as this is the language used between themselves.

On using the limitations of the technology as an excuse, and saying that "*that* is not *technologically* possible", the developers are answering a number of different questions, with an excuse. They are really saying that "I know what limitations the technology has, but since this is my speciality you cannot check my statement". This use of technology as an excuse — from admitting to one's own limitations in knowledge, not wishing to spend

[19]Examples of such is treated in chapter 4

time on something considered to be of minor importance, or admitting limits in ones own power in respect to other informatics departments or organisations — can be a dangerous way of speaking to users who are as resourceful as those in NRK. The example of the user who called Oracle Corporation in the US when he got such an answer is a good example, as it shows that people in Norway may be less willing to accept explanations of the kind that says that since "the system"[20] has decided, then the individuals have to accept its decisions.

[20]It is here irrelevant what "system" we are talking about, be it the political, social or, as in this case, a technological system. However, unless otherwise noted, "the system" generally refers to the technical, information-system.

Chapter 4

Strategies of meeting with power

In this chapter I intend to show how different users of the publishing software choose strategies to meet changing inter-personal relations. To the users, to some extent these changes seem to be caused by changes in the material culture. I will show that they are instead caused by changed preferences in the work routines of the developers and technical support staff.

During the period of growth of NRKi, the leaders of the department made strategic decisions to make it as prosperous and successful as possible. They decided what publishing system the company was to have and whether uniform presentation was to be used. By making such decisions they also decided that the users can either work with or opposing the system. To follow the events in NRK in a chronologically accurate order, I will first present discuss on power, active resistance and opposition; then changing the system from within; and finally organised resistance from a group working within the system.

This chapter covers all the important events concerning power relations through the year that I followed NRKi, though the main focus is on the first half of the year. The reason for this is that NRKi changed its strategies towards the users during the first half of year 2000, and conducted much more dialogue with the them than the one-way communication that I observed at the beginning.

Background

1999 was a very turbulent year for NRKi.

The development of new publishing software for the internet internally in NRK during 1999 and 2000, known as the Desken 2i or simply just the Desken project, was the largest single project undertaken by NRKi during my fieldwork. The development of this software was my primary point of interest, as it involved a large percentage of the employees at NRKi and some of the publishers on the NRK web for a longer period of time. I use the developmental process of Desken 2i as the setting for an analysis concerning technologists, power and reactions to the use of power.

In the early days of NRKi, the world wide web was fairly new, and to be able to produce for the format demanded a certain knowledge of programming in HTML[1], which may explain why the early publishers predominately were male[2]. However, prior to the Olympic Games in Nagano 1998, one of the developers at NRKi developed a new publishing system, so that journalists with no or little knowledge of HTML could publish their vast amounts of surplus and background material. The system was tested on the developer's mother.

The system was changed and improved several times during the following two years. Due to its structure there were problems concerning the storage capacity of the system, in addition to the system having to be installed individually on all the machines. These two problems led to a wish by the service personnel in NRKi to have it replaced, and in may 1999, they started to look for an off-the-shelf system[3]. They tested out several systems, but found that these did not fulfil the needs of a large media-organisation like NRK. Instead they started searching for a partner for the development of a completely new software-system for publishing, and in August/September 1999 a contract was drawn up with the Norwegian branch of Oracle Corporation.

[1] HTML: A hypertext document format used on the World-Wide Web (Webster 2001).
[2] According to the jargon files (Raymond 2000), "hackers" are predominantly men.
[3] An off-the-shelf software system means that it is ready-made and little or no changes are possible.

The decision to spend considerable sums on developing a new system meant that NRKi had to make certain that other departments did not buy software for local use. At the time, they did not have the authority or ability to control what software was used. NRKi found such restrictions necessary, since they maintained a focus on the consistent presentation of NRK over the web. In all companies there exists a graphical profile in all material representing the company. This usually consist of the company's logo, as well as specially produced letterheads; a range of colours to be used in the decoration of the offices (or studios); and at times uniforms for some of the employees. The same is true within NRK. NRKi maintained that this graphic standard for presenting the company should include the web presentations, and added to the standard a specific method for moving between the documents on their web-server.

The limitations in layout was induced through allowing support only to hand-coded HTML or documents produced through Desken; thus they gave a technical explanation for a policy decision. This is use of power in the sense of threatening to remove the benefit of assistance if one runs into trouble. In cases where there is a major difference in knowledge, the users have little opportunity to resist such arguments. Otherwise they have to manage their own internet publishing, without receiving help when running into trouble. However, it seems that this was not a sufficient threat, as those not using Desken at the time were mainly self-taught, and had considerable knowledge of HTML. This meant that other strategies had to be used to control the use of software.

Chapter 1 shows that the formal placement of NRKi was changed in August 1999. This meant that NRKi could formally make strategic decisions regarding the company's internet policy. They used this change in formal decisive power to close down the FTP-access[4] for all users (see p. 81); thereby forcing all who wished to publish documents on the web to use the Desken publishing system.

[4]FTP: protocol that allows users to copy files between their local computer system and any system they can reach on the network, protocols are rules determining the format and transmission of data (Webster 2001).

The "Valgveven" project

Local elections were held in August 1999 in Norway. NRK arranged several debates and other programmes on TV and Radio on the theme, in addition to presenting what they called "Valg '99" over the internet. This project included world wide web, a message-board system where the public could send questions and receive answers from the politicians, and an IRC service during and following the televised political debates. The services published through WWW basically had a local form. This was particularly important since only the local district offices of NRK had an overview of the politics in their area. On initiating the "Valg '99" project, NRKi had decided to use Desken for the publishing, and to follow the general graphic design used on television, to ensure public recognition of the pages. This meant that the top banner designed for television was used on the web, and the background colour of the page was dark grey and the lettering white.

Through making the documents for "Valg '99" in Desken, the publishers would get used to working with it, and thereby the removal of other possible accesses to the server in the near future would be made easier. As it worked out, this was not the case (see p. 81). Due to the choice of background and lettering colours, NRKi received a number of complaints from the public that the pages were difficult to read. Half-way through the project they therefore decided to change the background colour to light grey and the lettering to black. However, this meant that if content-producers had graphics with the old background-colour in the area where the background was changed, the colour of the graphics was not automatically changed. Such was the case of the pages of one of the district offices (ref. figure 4.1).

I arrived at their offices the same morning as this change had been made, and was met by a frustrated journalist. He had spent several hours making the illustrations for the "Valg '99" project seem transparent by changing the background of the small maps to the same colour as the rest of the background of the web-pages. On changing the background, without notifying this user, NRKi had created much extra work for him. From the manner in which this user talked of NRKi, it seemed that he admired both their work and their

Figure 4.1: Changing background and font colour of the center frame, NRKi caused extra work to the maker of this, since he had made the background of the image the same colour as the rest of the original web-page.

knowledge. To a great extent he respected their right to make decisions for the web. I would say he seemed to be the average user; he had some knowledge of web-publishing and design, but not much.

This could have ended with an angry telephone to NRKi. However, the informant said that he both knew how much the employees at NRKi had to do, and that they neither answered their telephone nor e-mail, so he just ignored them and continued with his other work. In any case, he said, protesting would not affect the decision-makers at NRKi.

In this example there are two different possible aspects of power-behaviour. The person resigns himself to the change, therefore saying either that what he does is of minor importance, and thereby that the time and work of the IT-specialists are more worth; or that his time is of more importance and that he does not wish to spend his time waiting for them to behave in a specified manner to his reactions. Either way, he does not respond to the fact that the web-pages that he produced have changed. When compared to other statements by this informant, it becomes clear that he does not wish to spend his time try-

ing to get something through to people he knows have more important work to do, and who will not consider answering his call.

Power and powerlessness

The feeling of not getting through to those who have done something must be classified as powerlessness. This is a state described by sociologist Thomas Mathiesen (1981, p. 65):

> Powerlessness generally means that one sees no solution, no means or possibilities to change one's situation, including resistance; nor any possibility to stop or revoke the execution of someone else's will towards oneself[5].

One of the reasons why this situation may be considered to be powerlessness rather than, for example, a non-decision, is that the informant considers reacting to the decision, but after thinking through the possibilities of how his reaction may influence the decision-makers, he reconsiders his chain of action and decides on non-action. The informant is very aware that he has been overrun, and expresses such feeling, yet chooses not to react.

This situation could have been described in terms of Bourdieu's symbolic power. However, the user of the system is aware of being subjected to power, and the developer at NRKi must have been aware that he was executing it. Still the power is invisible, and the decision at NRKi was made to suit the public who were unable to read the content of the webpage, rather than to cause problems for those publishing.

To many users the "Valgveven" project was their first meeting with web-publishing. For them, there was little difference whether they published within the user-interface of Desken or another publishing system. They knew little of the possibilities in other publishing systems, and did not care much to have possibilities outside the easy everyday use of Desken. However, some users had other demands, and were used to structuring their web-pages much more freely than Desken allowed, and it was these people who reacted to the limitations in the publishing software.

[5] My translation.

The FTP-closure debate

> On Monday September 13^{th}, NRKinteractive closed down the FTP-access to www.nrk.no. This was done with little warning, and caused much frustration for some of the NRK-employees. The truth is that this should have been done long ago. Several times we have debated this internally, and every time we have reached the same decision: Yes, it was right to do so. The notification time was short, but we have found solutions for all the involved editorial departments with special needs.
>
> *(Nundal 1999*b*)*

One reason given by NRKi for closing the FTP access to the server was that there was a large number of passwords "on the loose", and they needed to control and reduce the number of user-names. NRKi claimed that some of the user-names were controlled by people not working for NRK, and there were personal home-pages on the server, as well as internet-pages belonging to other firms and organisations. I have found a number of such pages on their server, some of which were removed in May 2001. Copies of these sites are on the attached CD.

Another argument from NRKi for restricting access to the server was that they were responsible for the contents of the server. It was an unsatisfactory situation for NRKi, being responsible for all the material promoted through the web server of NRK, yet having no control over who put documents on the server and how they presented the company. These problems were discussed, and decided that all usernames and passwords should be revoked, and the users notified.

These are technical explanations for a strategic decision.

Many would expect the presentation of NRK over the web to mirror the diversity in the company's productions for radio and TV. However, in ICT-milieus and web-publishing agencies, there is a tendency to follow Vora's (1997) advice concerning corporate websites:

> *"…it may be useful to get corporate public relations involved to make sure that appropriate branding or corporate image is conveyed by the Web site. When these considerations are overlooked, Web sites may have very short life spans".*

Or in Nundal's words: "It is important with an identity that the users re-find when they are on the NRK-web" (1999*b*). On one side, then, there are technical personnel who find the corporate branding and design programme important, and on the other side there are the journalists and programme producers who are used to deciding how the appearance of a production is to be presented to the public. When one side of one such disagreement is able to exclude the other from publishing on the company's server through control of the hardware, there are likely to be reactions.

Reactions to the FTP-closure

The users were informed of the FTP-closure by e-mail. But as NRKi did not have a complete list of those with usernames and passwords to the server, they were unable to inform all involved parties properly of the decision. It is likely that NRKi got some reactions to the decision by e-mail or telephone; however, they would not speak of these afterwards. Some of the users protested through the internal newspaper, "Tidssignalet". It seems that the rest either accepted the situation, or tried to give feedback through more correct channels at a later stage.

The protest was led by users who had published for a longer period of time, and therefore had knowledge of both the possibilities and limitations of the world wide web. In some cases their existing sites had different methods of navigation than the way generated by Desken. Some of the users were experienced in integrating audio and video into the pages. When they were informed that for future documents, only one style of design would be allowed, and that in addition, publishing audio and video would be made more difficult, these users protested. The only protests available afterwards were those printed in the internal newspaper, "Tidssignalet", but I have also touched on this theme in some of my interviews.

> …I think that the FTP-closure process is an example of how *not* to communicate with the […] content-providers; because it was so brutal, so little prepared, and we had very few resources to change things, and it was all done in very-very-very little time. […] There were no deadlines, there were no margins or prayers. It was just …"this is the way it is going to be". There was a feeling of being overrun, and very little communication. Zero communication. It was just a decision. There was a state of mutiny. There are many who can say much about Desken and the way it works, but I mainly reacted to the way it was done. […] There were many who reacted to the way Desken was, and the limitations in it …if you are sitting with your own highly advanced pages, and are a highly qualified on the net, then you become very frustrated when you have your possibilities limited down into a system.
>
> *(User)*

The decision to remove FTP-access led to a heated discussion in NRK whether or not NRK should have a strict layout for their web-pages , and whether NRKi had the right to limit the users' artistic freedom through their control of the server (Meyn 1999, Christensen 1999, Bartnes 1999). However, most of the users only reacted to the FTP-closure with a shrug of the shoulder. It was amongst those who had put great effort and many working hours into developing the existing web that the reactions were strongest.

Some users, particularly those working for the television, reacted to the fact that they were allowed to spend considerable money and time, and were given considerable artistic freedom in designing a television programme, but met restrictions when presenting the same programme on the web. The different programmes were not allowed to use the design programme for the individual TV-programme, but were "forced into using a design that only to a very small degree reminds the public of the original television programme" (User). Two of these users resigned from their web-responsible jobs, and returned to producing traditional TV and radio. This was announced through "Tidssignalet", followed

by a drawing showing how the users felt overrun by the steamroller NRKi.

Figure 4.2: Cartoon from Tidssignalet (18/1999) concerning the FTP-closure. NRKi, through their manager, Are Nundal, claimed their right to make strategic decisions concerning the NRK-web; though the writers for the NRK-web felt overrun. Nundal is here depicted driving the steamroller (NRKi), by which the users are overrun.

The reaction to this behaviour internally in NRKi was that these people were behaving childishly, and that "they have quit their jobs so many times already if they don't get things their own way. This time it will not make any difference". Externally, Nundal said that:

> The Desken, FTP-closure and the whole of www.nrk.no, are down to earth measures to increase the effectiveness of our daily work. Only in this way can we manage to give the service we intend to, to the different editorial departments who provide content for the net.
>
> *(Nundal 1999*a*)*

In my opinion, resigning from one's job due to a disagreement is a very strong reaction. I would say that it is an overreaction. However, they were not the only ones resigning

from their jobs during this process. One employee at NRKi resigned in protest at the few resources and constant pressure on NRKi.

These examples are some of a large number in the history of the department where people *really* have changed jobs (the two publishers quit after their time-period was over), due to disagreements. In reality it is an attempt to try to force the powerful to change their behaviour by posing a counter-threat. In all the cases I have come across in NRKi, this counter-threat has not worked, and the powerless have either had to succumb or fulfil their threat without reaching their goal, so as not to loose too much face.

In this case, if NRKi had allowed the users to continue to use any publishing software they liked, the situation would have worsened drastically for NRKi. They no longer would have had the authority to make any changes without risking some publisher making a veto, and thereby stopping all future changes or possible improvements. If they had allowed some, but not all, users to continue to use the old method for publishing (which they did for a short period of time), neither they nor the publishers would necessarily loose so much face. However, on allowing this solution, it is important that the users given this freedom accepted the sovereignty of NRKi, and did not question their authority when the time came to finally close the FTP-connection into the server.

On deciding and announcing to the users that the FTP-access is to be closed, NRKi announces that it has power, and intends to use it to exclude those who will not conform to their decision. NRKi's employees are also announcing that, since they have been given the power to make decisions concerning the company's presentation over the internet, they will use the opportunity to develop the site in a manner which they believe is best for NRK. There is, however, disagreement between NRKi and some of the users as to what is "the best for the company".

Power and active resistance

The individuals in this case reacted, as individuals. They did not organise as a group and attempt to revoke the decision; they only expressed their dissatisfaction orally and

through articles in Tidssignalet. However, the reactions were still a "resistance to displays of power which are perceived as abuse of power"[6] (Mathiesen 1981, p.14). I differentiate here between "resistance" and "active resistance". I define "resistance"[7] as reacting to a decision, but not necessarily poses a counter-threat or ultimatum to the powerful; while "active resistance"[8] I understand to include some degree of action after posing a counter-threat to the powerful. Those resisting a decision may either work within or oppose a system, while those "actively resisting" pose a counter-threat to the powerful, and are willing to accept the consequences. Contrary to Thomas Mathiesen (1981), who states that to work with active resistance one has to produce networks or groups of individuals who are willing to take a greater or smaller part in opposing the powerful, I believe that what I observed in the process of the FTP-closure were attempts by individuals, without forming groups, to oppose a group or system of powerful and acting on the response they were given. The reason that this is active resistance, and not purely resistance, is that they threatened to leave their jobs if they did not achieve what they desired, and then actually carried out their threats. Had they only posed the threat, and not carried it out, they would have lost face, but in such a small case as this one, things are usually quickly forgotten, and would be covered up. When the manager of NRKi was asked about the case half a year later, he just shrugged his shoulders, saying that there was some degree of unstableness some time ago.

According to Mathiesen it would have been more likely that the protesters had succeeded if they had been better organised. I do not believe that the manner in which they were (un)organised mattered. This is because the issue which they were really contesting was whether or not NRKi should be allowed to make decisions pertaining to the NRK-web. However, had they succeeded, they would have undermined the authority of NRKi completely, leaving them only a service department for the publishers, and not a department forming the future of the NRK-web. Such a situation would have taken the depart-

[6] My translation.
[7] The Norwegian work "motstand".
[8] The Norwegian word "motmakt".

ment back to the position in which they were previously, as a service-department to users, leaving the NRK web in complete anarchy. It is said that ideas on which internet, and the Free Software Foundation (FSF)[9] build, are anarchy. Institutions like the FSF, promote freedom of speech in software, and the right to share such, not absolute freedom from all constraints or laws, as some people using the internet seem to expect. The rules of conduct within an enterprise are are expected to be more restricted than the generally anarchic internet, even by FSF.

Perspectives on power-behaviour

From the point of view of NRKi it is likely that their intent on closing down the FTP-access was to make all the users, with whom they were previously unable to reason, use the desired publishing software. That would have left NRKi responsible for both the servicing and developing of the software, as well as able to control the design and content of the pages for which they were responsible. NRKi lived through several years during which the internal economic system required that in order to get any money, service departments such NRKi had to bill all the other departments when they did work for them. When the other departments spent the majority of their money on their most important products (radio/TV), there was little to spare for internet-production. The consequence was that those working with the web often did so unpaid, and NRKi could not bill their department when they needed assistance, as there was no money available. Thereby NRKi had to survive on very meagre means. To prove its right to be a program-department in the television (as they were made in August 1999), and thereby get a budget of its own, NRKi had to maintain control over the web.

Following Mathiesen's system for analysis of the situation, there seems to be a breach between the long-term intentions of NRKi and the short-term goals. To the users, it seemed that the important point for NRKi was to make all the internet presentations ap-

[9]Free Software Foundation: an organisation devoted to the creation and dissemination of free software, i.e. software that is free from licensing fees or restrictions on use. The Foundation's main work is supporting the GNU project, started by Richard Stallman (RMS), partly to proselytise for his position that information is community property and all software source should be shared (Howe 1993).

pear much in the same style. This meant that the important part of the decision was whether or not the entertainment department should or should not use the same publishing template as the news-department. NRKi, on the other hand, argued that there should be some basic standard regarding the appearance of the pages, making them recognisable to the public as *NRK web-pages* — creating a common basis for the planned publishing software. This software would, at the beginning produce similar pages for all editorial offices, but in the longer term, all editorial offices that asked for it would be given specially designed software suitable for their needs[10]. Some might even be given the freedom to not use the software for special projects [11].

Restricting layout

One of the users objected to the restriction in layout because he meant it reduced the connection between the internet and the other media for which NRK produces. By closing down the FTP-access, and thereby making all users dependent on Desken, he said that Desken removed eighty percent of his freedom to shape and visualise web-pages.

I find this somewhat similar to the discussion which took place in the early 1970s, when NRK saw itself as a mediator of objective news (Dahl & Bastiansen 1999). The institution[12] had employed a number of politically active people, who did not find it possible to mediate news or other programmes that were without political message, and therefore produced news and other programmes showing, for example the protests against war in Vietnam, and against capitalist owners of factories (Dahl & Bastiansen 1999). Ustvedt, the Director of Broadcasting at the time, did not manage to restrain the journalists from expressing their views on radio and television, thereby setting a standard for rights of expression. It is this right that some producers of web-pages demand to retain.

These examples show how the long-term goals of a leader or responsible group may be broken by groups or persons with a short-term goal, who will loose their power if such

[10] See the example on the CD of the site belonging to "Newton". The site was made in the autumn of 2000.
[11] See the example on the CD — "To trøtte typer", made autumn 2000.
[12] At that time NRK was a state-owned institution.

a decision is implemented. The question is, what kind of strategy do the actors choose in their reaction to a decision, and is that reaction within the bounds of what the powerful can accept? In the example of FTP-closure the powerless chose a course of action that was unacceptable to NRKi. It is possible to pose the question as to what might have happened had the powerless become better organised, in the manner suggested by Mathiesen.

The development of new publishing software

When the discussion around the closure of FTP-access had quietened down by mid-September 1999, NRKi started on a preliminary project to draw the lines for a new publishing software. They went through the old Desken system to find out what to use and what to discard. They then drew up a specification document for the new system.

According to the contract between Oracle and NRK, the whole project was to be finished on November 1^{st} 1999, thereafter to be tested and presented to the users from November through January 2000, and implemented in February 2000. However, the process did not go as well as intended. By November 1999 only the preliminary project was finished, and they had to start anew on the main project due to technical problems. The developers would not speak of this afterwards, beyond saying that they ran into technical problems. I do, however, have reason to believe that there were disagreements within NRKi, due to the use of resources for this project.

Heedless of the problems that the developers ran into during this process, the dates for the completion of the system remained unchanged, and the users were brought into the process in early November 1999. The first meeting between the users and developing staff was held on November 15^{th}. The users talked of this meeting as if everything went well, and they could start expressing their wishes for the developed system.

The relationship with the users

Resignation and apathy

This accounts for the period November 1999 until March 2000.

Several meetings were held with the users in NRKi's offices in Forskningsparken from November 1999 until March 2000. The users either had to move from their regular surroundings at Marienlyst (the headquarters of NRK) or be 'present' via a telephone-conference. The users afterwards talked of these meetings as a waste of time, since they got little out of them. There were reoccurring problems with the telephone-conference system, and the language used by the employees of NRKi was difficult to understand. One of the users present at the last meeting of this kind said that at the first meetings they were approximately twenty users present, but the numbers fell quickly to the two I observed.

The final meeting of this kind was held in March 2000. For the last two meetings, the telephone conference was held separately to avoid wasting the time of both those physically present and those on the telephone.

The users expected these meetings to be get-togethers to discuss what functionalities were to be implemented in the software. However, they turned out to be presentations of what progress had been made since the last meeting. Most of this was presented in the language of the specialists. When asked what they got out of these meetings, users answered "little", yet some kept coming, hoping it would soon be their turn to give feedback on their needs.

Throughout the process the developers focused on the core of the software, the Oracle database, and had to complete its development before starting work on other functionalities in the HTML-producing part of the publishing software. This they did not explain in a manner that the users understood and thereby could accept, leading to grumbling and discontent amongst the latter.

At one point during these meetings there was a confrontation between one of the NRKi employees and a user. This user never came back to the meetings, because he found the NRKi employees to be arrogant, and unwilling to listen to reason. I understand this as a sign of powerlessness. This user had had confrontations with NRKi at an earlier stage, but wished to try to keep co-operating with them. However, he knew through his experi-

ence that if they made a decision, there was no use fighting them. He therefore resigned himself, and just ignored them, and did only the most pressing tasks until he was relieved of the responsibility.

Converting the systems

According to the dates set at the beginning of the Desken development project, the project was to be finished by December 1^{st} 1999, then tested and ready for implementation by January 20^{th} 2000. To the users, the time-schedule seemed to stand, and they were told to wait on particular days. NRKi would then telephone them, and move the material onto the new server and system. As one user put it:

> I was given the date January 31^{st}, and told to be ready and to set aside one day to participate in the "conversion" [13]. So then I sat there, all ironed and ready from the morning of January 31^{st}, but did not receive a telephone call. After a couple of hours I called, asking whether anything was going to happen. I was then told that it was postponed, and that nothing was going to happen that day. I then understood that there was no point in me sitting there the day it was converted, because that was none of my business; it was going to happen in Oslo, in any case.

Communication between NRKi and this user had somewhere gone awry. One may say that it was arrogant of NRKi to leave this user waiting to be called up; but I believe that the problem was, not that of arrogance, but rather that of not quite understanding how much the users really understood of the messages given. Most likely the message that was meant to be given was that "that day we may need to get hold of you, so please be fairly available", but the language in which it was given was probably the internal language, which meant that the user did not understand it.

[13] They talked of "konverteringen", here translated as "conversion", the moving of documents from one software system and server to another.

In the terms of power-behaviour, I deem this to be a classic situation of powerful - powerless. The reason for this is that the people of NRKi had sent a message, but had not checked what the user had done on not hearing anything further from them. They had neither sent the user information concerning to the total delay of the new system, leading to his misconception of the availability of a new, completely finished publishing system wherein he would find his old documents.

Changing the system from within

This accounts for the period from February until May 2000.

The conversion from the old to the new Desken systems, and the meetings between NRKi and the users, show that there were problems with communication. In the specification documents for the new Desken, the developers had set the functionalities based on those of the old system, and on previous feedbacks from the users. They decided what was, and what was not to be implemented at an early stage of the development process. In reality they prioritised developing the core of the software. However, this was not presented in a manner the users understood. NRKi asked for feedback on what they had already made, but the users took this for an invitation to present wishes regarding the content and layout to be offered by the new system.

As NRKi prioritised development of the core of the software, the feedback they received from the users at the editors' meetings was not implemented. This led to grumbling, since the users did not understand why the wishes they expressed could not be implemented *right away*.

At this stage NRKi employed a new member of editorial staff. This person picked up some of the challenges in the communication with the users, and started distributing newsletters from NRKi. These contained information on what NRKi were doing, how far they had got in the development of the new software. The newsletters were in a *language specially designated for the users*. Therefore, the newsletters managed to improve the communication with the users in a manner that none of the previously information had done.

More or less at the same time, NRKi set up a web-board on which the users could give feedback. This was supposed to go directly to the developers, and the feedback could concern things the users thought were good, or needed to be improved. This was meant to be a direct feedback channel, and quite a few of the users posted questions and feedback on bugs[14] they had discovered in the system. This web-board did not function as intended. The users saw that they posted questions, and never got any answers; one user put it in this manner:

> I had a feeling that they were not on this web-board, that there were only us asking there, so we answered each others a bit, as to the degree that we had discovered anything. But it was too little compared to our needs. So I posted a message saying that NRKi do not answer, so what is the point in doing this. It is just like sticking your tongue out of the window …what is happening? Then some of the postings were answered.

In this case the users attempted to work within a system set up by the powerful, but those responsible failed to pick up on the feedback. The problem seems to have been that NRKi had set up the web-board, but not assigned a person responsible for answering the incoming messages. It is possible to pin the responsibility for the failure of the web-board to the project-leader of the Desken project; but I find it just as likely that it is a result of a general trend in NRK that no-one took responsibility of new tasks unless having clearly been assigned to them by someone higher up in the hierarchy. Therefore, no-one questioned whether the the problems reported through the web-board had been solved.

For NRKi this may be rooted in the problem receiving insufficient resources for the daily running of the department. Everybody had more than enough problems to solve, and was not really willing to accept additional tasks. This is yet another situation of powerlessness. It is, however, much less clear than the previous examples in this chapter. The powerlessness here is traceable to the problems of budgeting and organisation of the

[14]Bugs: An unwanted and unintended property of a program or piece of hardware, especially. one that causes it to malfunction (Raymond 2000).

whole company. These were battles that the management of the department had to fight, but in which, in most organisations, the regular employees play little part. In the case of NRKi, the employees saw it through the manager's absence. He spent much time in meetings fighting for the department, while the employees felt left to work on their own, with many projects that needed a good leader.

In this case, there were two groups of powerless, therefore the case differs from the rest of the examples. The users were powerless when they did not receive answers to their feedback, and the employees at NRKi were so due to lack of leadership. Both groups signalled their powerlessness through interviews; and the employees at NRKi grumbled. In one case one of the employees at NRKi said:

> When *You* know who is in charge here, please tell us.

This dissatisfaction amongst the employees of the department may also be traced back in time — I find the turnover of employees a bit too high to be normal.

Building personal networks

Through the process of the development of the Desken software, some users who had been publishing as individual editors came into contact with others. This was especially noticeable amongst a group of female radio journalists. They termed themselves "the spider-women", and had regular meetings every fortnight from mid-April 2000. They behaved as a very exclusive group, and said that they had formed this group so that women in leading positions in internet-publishing in NRK could had an opportunity to meet their peers, and discuss journalism and internet-publishing. They excluded others who "only" published, and did not wish to "have any intrusion from NRKi at their meetings". The reason they gave for this was that this group needed intellectual space in which they could meet and ask questions, and where there were no experts present to correct them.

I was allowed to be present at one of their meetings, in addition to accessing the network through interviews with some of the members of the group. There seems to be two

different ways of analysing this network: as a group based on *who* they were or on *what* they were. The first would be an analysis of gender, the other, of aspects of power and reactions to power.

The formation of a group based on gender

It is interesting to note that only women were represented in the group "spider-women", and that they had taken a name indicating just that. On asking whether this was intended as gender-based exclusion, one member answered:

> I was one of those who wanted to include the guys, I find it unnatural to exclude them. We have in a way passed the old feminist stage[15].

This person said that it just happened that there were women in all the central positions for web-publishing in the radio department; the only men represented were journalists who handed over their manuscripts to these women to have them published over the internet.

A feminist understanding of this situation could be that the women publishing had an inferior position to the men, and therefore did the "women's work" in publishing the manuscripts for them. I do not believe that those involved saw the situation in this light. The women publishing saw it as an advantage to be handed the manuscripts, as in this way they were able to increase the quality of the part of the web for which they were responsible. In addition, the men for whom they published did not have the same knowledge of internet publishing as they did, and would otherwise have left their manuscripts unpublished.

I confronted the members of the group with the gender situation. They were surprised when I could show that in the radio department there were mainly female publishers and editors, while in the district organisation the publishers and editors were predominately men. Both these groups were journalists whose main occupation involved working with other media.

[15]The Norwegian words used was "Vi har på en måte passert den gamle kvinnefrontgreia".

The reason that they formalised the informal network was that they felt very isolated working as single editors, and because they "felt very comfortable in the company of the others". Also, they set the informal rules such that it is permissible and encouraged to ask if there is anything one is uncertain about. It is permissible to ask "What is that real audio thing *really* about?". They stated that they felt safer asking this kind of question in a forum in which only their peers were present. But from the manner in which they talked about gender, I felt that this concerned not only gender, but rather the feeling of being at loss when talking to experts who gave answers in a language that they did not understand.

For the women in the network, the important part was not really who they were by birth, but what they were by profession, as for them it is a job-situation, where gender is not supposed to matter.

Power and resistance

On forming the network, it was clearly stated that this was to be a network for users in the radio department. They do not wish to be, as they said it, infiltrated by people from NRKi. There were requests by the desk-responsible at NRKi to have a meeting, but the spider-women did not want to meet NRKi. At one meeting the manager of NRKi was "just hanging around". The network-member said that

> When he approached us within hearing-distance, we would say "*SHUSSHHH!*" so that he would hear it. I could see that he was a little affected by the fact that we were a group of very strong contributors having meetings of our own, to which he was denied entrance. And I like it a bit — it is a bit nasty, in a way — but when they have not given us a journalistic forum, we have made one ourselves. It has taken us some time to find out who's who; and who knows what, and how we can use one another. We wish to become a pressure group to be reckoned with. I wish we could come up with a joint statement for example concerning NRKs front-page on the web.

I find it interesting to note that the head of NRKi "just happened to hang around" when these women were having their meeting. Even though they arranged them in the open, public spaces of Marienlyst (on the veranda on the roof of the radio-building or in the canteen), these were not places he would spend unnecessary time, as he had a very tight schedule. I understand both him hanging around their meetings and the request from the Desken-responsible employee to mean that NRKi were taking this network very seriously, and wished to open a dialogue with the group.

It is possible to conclude that NRKi saw the spider-women as a threat to the core of their work. Contrary to this, my understanding is that NRKi saw a group forming with whom it would be interesting and important to communicate and cooperate with, as representatives of the rest of the users. I believe my understanding is underpinned by the fact that some of the central actors in the network were later employed by NRKi.

Even though these women formed the network as a form of resistance to the power enacted by NRKi, it is interesting to note that one of the central actors said in an interview in May 2000 that:

> Now they are opening much up — they don't any longer make decisions without having presented them first. They did that previously. They just decided what things were going to be like, and that was that. But I believe that they have learned after that FTP-closure process, where they had made a decision without considering that there were content-providers.

Looking ahead in May 2000

The last meeting held by the department in May 2000 was a well attended event. The reason for this was that two presentations were to be given that were not to be of a technical character. The first part was a presentation of different forms of story-telling over the internet, based in research by Martin Engebretsen from Høgskolen i Agder (Kristiansand)[16]; the second was a presentation by staff from NRKi on the future front-page of the NRK

[16]For a presentation of this research, see $*http://home.hia.no/martine/$

web. I noticed that many people left between the first and second presentations, and in the break before the last presentation on the technical solutions of the future web, the majority left. The language of the last presentation was that of the technical specialist, and it seemed that the presenter was expecting to be talking to his peers, giving a detailed account of the technical possibilities and limitations of the new software. It is unclear to me whether the listeners understood the message, but I noticed that few besides the developers of NRKi were present.

My understanding of the situation previous to the last presentation was that the majority of the audience were expecting a presentation full of technicalities, when the technical staff presented the software, and that *that* was of little interest to them. They were primarily interested in future possibilities for presenting the company on the internet, and what their new front-page was to look like. It was not in their interest to know anything about the technical specifications behind the publishing software. What mattered to them was the layout produced by the software, and that it was easy to use. As they were prepared to be shown a lot of technical content for which they neither had the qualifications nor the interest to understand, they left before that presentation began, in stead of wasting time listening to something they did not understand.

In organising an open meeting in the manner done on May 5^{th}, it was possible to reach out to both the ordinary journalist with little technical expertise, and the technical experts. Instead of presenting technical solutions to people with little knowledge of Informatics, the meeting was arranged in a manner by which the individuals present could choose what their level of knowledge could absorb. At this level they may learn more, and then decide whether or not to be present at the next presentation, which demands some more technical knowledge.

This meeting seems to have been the result of a learning process for NRKi. At the beginning of the process they were not used to being in regular contact with the users, except for situations in which the users needed direct help. They were not quite used to having the opportunity to make decisions, and were only integrated into the NRK-culture to a

very limited extent. I see the process of the FTP-closure as a cultural conflict — between those that were used to the NRK-culture of extensive user-participation in all decisive processes; and NRKi which belonged to a culture typical of an ICT milieu, in which the result of an implemented decision is important, not the manner in which it is reached. On recruiting people belonging to, and able to communicate with, both cultures through the spring of 2000, NRKi has been able to adapt much better to the organisation of which they are part, than they were pre-autumn 1999.

The change in recruiting policy has also led to NRKi talking to their users, instead of above their heads. Observing the web-pages from a distance from May 2000 until August 2001, I have noticed that NRKi are not so strict regarding the layout of all the pages, but have started allowing the different departments to use different versions of the software. In addition, they have allowed producers to use other software and layout for certain projects, though this is more an exception than a general rule.

Conclusive remarks

This chapter has had focussed on situations in which the use of power — both directly observable forms, and more subtle forms can be identified, and how the people subjected to it have reacted. It is important to note that this focus may have led to a description of the internal conditions in both NRKi and generally in NRK that many of the employees may not recognise.

These situations of conflict have been spread across one year, and I asked the actors specifically to talk about different situations which seemed problematic. There are, of course, recurring problems like trying to get through on the telephone to NRKi, but these are minor problems of everyday life that are dealt with as they arise.

One of the new challenges to NRKi, was the shift into a new formal organisation culminating in mid-summer 2000. It seems that the structures of this organisation largely coincide with the informal structures that NRKi has built and used for obtaining resources for the building of the NRK-web.

Chapter 5

Consequences

This thesis has so far concentrated on changing power relations between users and developers through the systems-development process of the software Desken. In this chapter, I intend to show how these changes have wider consequences, and depict friction between the post-war and contemporary Norway. I will let NRK as a whole represent Norway, as the organisation has some very typical Norwegian traits, while the culture within NRKi is more modern.

NRK and Norwegianness

To understand the differences between NRK and NRKi it is important to understand what makes NRK *Norwegian*, and what is different in NRKi.

NRK is considered by its employees to be what they call a "arbeiderbedrift" ("labourers' company"). By this they mean that they expect to have lifelong employment in the company, and employees are expected to work their way up from minor, often part-time positions. An employee may advance to become manager, but this should take at least fifteen years of full-time employment. This means that there are clearly defined possible career ladders. Such is not the case in NRKi — the employees belong to a new group of experts, whose career ladders are unclear and very limited. This means that to have a career, the technical staff at NRKi have to look to other companies than NRK. According to Sennett (1998), disappearing career ladders is an aspect of work in the new capitalism,

which may mean that what I have observed in NRK is a organisational transformation to new capitalism, represented by NRKi.

Decisions in NRK are expected to be made through a participatory process which includes the employees. This means that, the process of closing the FTP-access, for example, was considered by some of the employees to be an illegitimate process — there had been no consultation, during which those involved in publishing on the web could have their say. Even though in the end it is the manager who is responsible for a decision within a company or department, the employees in most cases consider that they have a right to express their point of view before a decision is made. It is then up to the manager to decide whether or not to listen to the advice, but it is given in any case. This is what is termed an ideology of equality by Lien, Lidén and Vike (2001).

According to Nancy Adler (1986, p. 37), the power distance in Norwegian companies is generally below average, and the employees are more individualist than collectivist. This means that the employees expect to take part in decisive processes and thereby be treated as group members, yet they expect to be heard in those processes as individuals. This is clearly seen in the FTP-closure process, in which the individuals protest, claiming to represent the whole community of internet-publishing journalists in NRK.

Sameness and egalitarianism — a disappearing gatekeeper concept?

Ideas of sameness and egalitarianism[1] is considered by some to be one of the gatekeeper concepts for describing Norwegianness. The concept is considered to be part of the social democratic ideas that were rooted in Norwegian manner of thinking through the rebuilding of the country after World War II, in 1950-1970. NRK expanded considerably during this period, and many of its present employees were hired at that time. Many of these employees carried with them ideals inspired by Marxist thought, where sameness, egaliatiarianism and rights to participate in the decisive processes were core principles.

[1]The concept in Norwegian is that of "likhet", that word covers both sameness and egalitarianism.

When the organisation expanded, these ideals were brought into the process, and therefore, on the surface, the organisation seems to be built around ideas of egalitarianism and participatory democracy. I understand this period to be one of the reason why NRK appears to be very *Norwegian*.

The ideas of likeness or egalitarianism are contested by both younger Norwegians and anthropological theorists. Lien, Lidén and Vike (2001) show that even though many Norwegians talk of how alike they are, and undercommunicate their difference, individualism stands strongly in Norway. This coincides with many of my observations at NRK. My observations at NRKi show that the employees in the department are primarily individuals and experts (journalists or technical staff), and secondarily NRK employees. At the same time, it seems that the average NRK employee primarily considers him/herself a NRK-employee, thereafter Norwegian. In this sense, the protests against the FTP-closure from individuals have become protests against a new system that harms the whole company as well as the journalists as a group. This therefore indicates that there are several different processes taking place, of which the change of power relations between journalists and ICT-personnel is a symptom.

Displacement of power

> Popular management literature indicates that we should put greater decision-making power in the hands of the people who are closest to the work, regardless of the positions that those people hold in the company. The people doing software design should have the authority to make design decisions. […] Having the power to make design decisions does not mean to operate without constraints.
>
> (De Young 1996)

In NRK the journalists decide and are responsible for the production, of the different programmes, and the technicians provide technical support. In this manner NRKi is very dif-

ferent. In the staff meeting in NRKi *all* the employees discuss the issues debated, heedless of the expert knowledge of the individual, until a unanimous decision is reached. This means that internally, all the employees participate in the decisive processes, though on purely technical questions, the technician's opinion hold more weight than those of the journalistic staff. The problem is, how does one define a technical question? Many of the questions treated by the staff meeting have both a technical and a policy side. The question is: who is primarily to be heard, and which arguments should be listened given greater attention, those of the people producing the system, or those of people using the it?

After August 1999, NRKi was given greater decision-power over the daily running of the department than previously, and more money for running the internet services. By moving the department, and thereby giving them more formal decisive power, the decision-makers of the company show that they accept NRKi as something more than just a department of technicians. They are technologists.

NRKi thereafter took the editorial responsibility for the NRK-web. The manager of NRKi (who is technically trained) was given the responsibility for the content of the web, thereby transferring power from the journalists in the different departments to what they saw as a technician.

Within the thinking of traditional television and radio production it would be utterly unacceptable that the technical staff was responsible for the content of the programmes. Their job is to certify that the production goes smoothly, technically speaking, and that no blunders are made. This is quite contrary to the work of NRKi. NRKi are "the owners" of the servers, and are therefore, according to Norwegian law, accountable for their content. This means that the content of any Norwegian-owned web-server must comply to Norwegian law (i.e. not contain offensive material, such as, certain types of pornography). On a web-server such as the one belonging to NRK, with approximately 60 000 pages at the time of the FTP-closure, it is an impossible job to control the content. By controlling who has access to the server, and which software they use to make documents on the server,

the responsible department at least certifies that the documents are kept within the limits of the company (and their design-programme). But this is not the job of the technicians — these decisions are made at a higher level.

Those who see NRKi as a technical staff are in conflict with both NRKi and other user-groups: those who see NRKi as *something more* than that. One user said:

> I find it rather strange to look at them as technicians. I know that they partially look upon themselves as that, but to me they are more like the main control[2], and I don't usually have any contact with them in any case. They have power at a higher level — "we are not sending at the moment", or "the king is dead, we are going to send funeral music". So they [NRKi] are at a higher level. […] they are technicians – designers.

The power that NRKi is exerting is much in line with the view of this user. Through the development of the new software, Desken 2i, the developers at NRKi have made decisions in line with those necessary for developing a software system. At the same time, it seems that they are uncertain of their right to make these decisions, and try to legitimate the decisions through what appears to be puppet participation[3] from the users. By this I mean that the designers presented their software to the users at a much too early stage. In these editorial-meetings, they asked for feedback from the users, according to what was presented in the meeting. As the users understood little of what was going on in those meetings, they gave feedback as to what they wished for the system to contain, thereby giving feedback in a very different direction to that solicited by NRKi. One user compared the software-developing process in NRK to the design of an aeroplane:

> In the design-process of a plane; if one asks the users what they wish for, absolutely without constrains, the plane will contain swimming-pools, casinos and suites. One must make the users contribute within certain limits, otherwise the feedback is worthless.

[2]The words used was: "Jeg ser dem mer som linjeledere"
[3]Puppet participation means an apparent participation, where the real influence is minimal.

The consequences of uncertainty

When a department is going through a process of change, there is often a certain degree of uncertainty amongst its employees. In this case it concerned the role of the employees when the department took on more responsibility.

Most of the technologists in NRKi had been working for the department for a longer period of time, and were used to being viewed as technicians — doing the work, but not being able to make any changes of importance. In accepting their knowledge, and allowing them to develop a new software system, the company sent them in a new situation. Instead of continuously asking the users to set the boundaries, the developers could do so themselves.

The developers wished to please all their users, so after going through the functionalities of the old system, they asked the users to present their wishes. The old system had been modified several times, and it was likely therefore that not all parts of it functioned properly together. In writing the new system's specifications, the developers did not prioritise the contents of the new system. They only described the functionalities of the old system, and used that as a template. This approach led to a situation in which the developers continuously received new demands, and the users became disappointed when their wishes were not immediately implemented in the software. At one point, it was decided that the development would have to be concentrated around the core of the software.

Much of the feedback that the developers received through the channels they set up[4] was "when will *this* or *that* functionality be working?". Instead of communicating clearly through e-mail or the intranet that "everything else besides the core of the system would have to wait" — on being asked, they gave a vague answer like "we are pleased by your interest, at the moment we are working on something else; but when *that* is finished we will attend to *your* request". Some users complained afterwards that the developers had promised too much at too early a stage; but had they discussed their interests with the project-leader, it is likely that they would have been given the answer that they afterwards

[4] i.e. e-mail, web-board, telephone and face-to-face communication.

requested. In contacting the developers directly they had been out of line, and should have been told to contact the project-leader. The reason that the developers did not ask the callers to contact the project-leader was because they knew that he was available infrequently, and because they had little experience of working on this kind of project, and wanted to be nice by giving the users the answer solicited.

There was little tradition in the department concerning software development, and some of the developers were given too loose constraints. This meant that there were several unnecessary delays in the development process due to internal disagreement amongst the developers.

Freedom and responsibility

In this case, the development demanded highly skilled experts in database-development. This was a skill that some of the developers could obtain, but in which the leaders of the project were unskilled.

When an employee has greater knowledge-based skills than his leader, there either has to be a system within the department that ensures that the employee complies with the leader's wishes, or the leader has to be able rely on the employee's assessments.

Through the development of Desken 2i there were some problems concerning who made decisions, and how the decisions were implemented.

At one point in the development of Desken 2i, the internal staff meeting discussed what one should do if the users make links pointing out of the NRK-web. The reason for this was that work done by NRK is, by many Norwegians, considered to be a hallmark of quality. For this reason, the links they put up to external sites should, according to NRKi, be of high quality. The editorial offices making programmes for radio and television often use internet-based information for their research, but when they make this available to the public through links, it is difficult to make clear their assessment of the quality of the link. The staff meeting decided that all external links should automatically receive an extra tag after the name of the link describing it as "(external)". All present at the meet-

ing agreed to this, but then one of the developers set up the system so that *all* the links made through Desken 2i were marked "(external)". It should have been easy to change this back again, but it took considerable time to make this person change it back.

In another case, the staff meeting decided on the specification of a certain part of the system, but the person with the knowledge to make the change disagreed with the consensus. Instead of arguing reasonably at the meeting, the person only left it lying, doing other work instead. This meant that the part of the software system was not finished in time, and had to be presented unfinished to the users.

The main point is that if a person did not wish to do so, there was no system or other person internally that who could force him or her to comply. There is a question here whether or not the employer should have the ability to force an employee, even in knowledge-based industries, to comply with decisions. The general trend in Norwegian work-relations is that the employees have a great deal of freedom to decide how to do their job, and employers have very limited powers to force corrections when problems arise.

I find it striking how much the organisation of NRK as a whole, is reminiscent of the American corporate structure of the 1950's and 1960's as described by Deal and Kennedy (1982, p. 188-189), while NRKi reminds one more of the predictions made for corporate structure in the 1990's[5]. In this I therefore see a conflict between the modern organisation of the 1990s and a more old-fashioned, bureaucratic, one. This, I believe has partially caused the conflict described above.

Who decides, and where are decisions made in NRKi

Contrary to the formal organisation that characterises the rest of NRK, that NRKi has a more modern form of organisation and internal decision-making. In this part of the chapter I will show how it seems that the organisation- and decision-making forms prevalent

[5]I believe that the main difference between NRKi and that predicted, is that, due to the combination of rapid growth and unclear leader strategies, the loyalty to the "atomised organisation" (or department) is lower than could be expected.

in NRKi have influenced the rest of NRK, and show why I find it likely that it has influenced the reorganisation-process embarked upon in March 2000.

Staff meetings

Staff meetings were held on a regular basis, once a week. Present at these meetings were all the staff at NRKi except the people working on the Futurama[6] project. In addition to the regular staff, the managers and one project-leader was present. The meetings normally started with a short overview of all of the department's present projects, and went on to discuss one or two of the most pressing problems. To my knowledge no-one took notes of what happened in the meetings, and no reports or summaries of the decisions were passed round afterwards. This was demonstrated to me after one meeting when one of the leaders were not present. A couple of days later, this person came to me asking to see my notes from the meeting, as he had noticed that I meticulously noted all that went on. As there were no internal routines for reporting decisions, I question whether this meeting was really for show, and whether the real decisions were made in other fora.

Formally, these meetings are arenas for the employees to discuss present problems, and it is up to the manager of the department to make the formal decisions. It was in one such meeting that the problem of access to the web-server through FTP was discussed. The staff meeting advised that NRKi should shut down the FTP access for the producers of web-documents mainly due to security problems. The FTP-access was then closed down within one week of the decision. It is possible to question this manner of decision-making, but formally it was the manager of the department who made the decision, and who had to defend it against the other parts of the company.

This shows the difference between the formal hierarchical structure and the real system consisting of a unstable, floating network. The formal correct decisive channel is the manager of the department — and to outsiders of the system, he defends the decisions

[6]The Futurama project was one attempting to develop the "future of internet", as they put it. It was co-owned between NRK and several private enterprises. More information about the project is found on www.futurama.no.

— yet the informal (in the sense that no summaries are made) staff meeting really makes the decision. The decision is not agreed upon through a process of voting; it is reached through discussion until all participants agree, and the final decision seems to be unanimous.

The Canteen and informal meetings over a beer

Lunch-breaks and the meetings over a beer after work functioned as social glue in the department. I noticed that some of the employees were more active than others in the sense that they organised these gatherings, and set the agendas. Especially important in these settings were the department's female employees; they circulated asking "Is anybody coming down to lunch?" or "Isn't it about time we go out and grab a beer?".

These employees were on the journalistic and administrative staff, and, in the informal settings in which they were dominant, few important decisions seemed to be made. It seems to me that they respected the authority of the staff meetings and the manager of the department to a much higher degree than did the developers. One explanation of this may be a difference in gender, but I find it more likely that the difference lies in the different kinds of work done — one being based in knowledge others had few possibilities to check, the others being dependent on this first group.

It seems that women have more respect for authorities than do men. At a first glance that may be the case in this example; but it should be asked, what kinds of decisions that affect all the other employees, and are specific to their gender, can secretaries and journalists make in a highly technified department? If their decisions are to have more than a little value outside creating a good atmosphere, and setting up routines for general office-work, they have to make allies with some of the technical staff, as they do not have any instruction-rights.

This means that one must question why the canteen, which in many organisations is important for decision-making, is of lesser importance in this department. My guess is that since NRKi hires offices in a large, public, office building in which some of their com-

petitors to the Norwegian web-market also have offices, there is a quiet internal agreement not to discuss internal decisions in the public canteen. Such is also the case when they get together in the evening for a beer — they usually go to a pub where NRK-employees get a discount for on their purchases. There is little willingness to discuss internal decisions, as one can never know if anyone is listening in.

Contrary to this, it is interesting to note that technical questions *are* discussed in the "smokers room" which also is public arena.

The smokers room

At NRKi I soon noticed that at certain times during the day either the room for the developers or the journalistic staff would be completely void of people, and nobody would answer the telephone. I tried to take notice of what times this happened, and found that people had "gone out for a smoke". I write it this way because, even though most of the employees were smokers, everybody — including the non-smokers — would be gone. Being a smoker myself, it soon became natural that I should join the staff. Trying to follow both groups, both the journalists and the developers, I ended up smoking a lot.

I find it important to notice that the non-smokers also were present at these informal breaks — they could have chosen to take breaks in the sitting-group by the kitchen, but this they did not do. Even though it was neither very comfortable nor aesthetically appealing in the "smokers room"[7], all the employees would go down together to "smoke". I find it rather interesting that the non-smokers did not wish to be left out of this community, even though the surroundings were so unappealing.

The developers

In the developers' group everybody went downstairs, including the project-leader of the Desken-project. The only ones in the developers room that did not go downstairs with the rest were the externally-hired consultants from Oracle. I will treat the relationship

[7] "The smokers room" was actually in the garage in the basement of the building, with cars, exhaust and the building's garbage-room nearby.

between the Oracle consultants and the regular staff below.

I noticed that the developers discussed problems of the projects on which they were working in the smokers room, and tried to solve informally issues that would at a later time come up as themes for discussion in the staff meetings. These discussions were at a highly technical level, and impossible to follow unless the listener had a equivalent training and/ or experience to the participants in the discussion. This meant that one had to have at least three years formal training with a speciality within the same software design system to understand the full extent of the conversation. When I did not have a complete understanding of the discussion, I would ask to be filled in on the conversation by one who had been present.

It is possible to discuss the formal training in terms of an initiation to the developers group. As I was not properly one of them[8], some of the developers were unwilling to discuss or be interviewed by me. That may be attributed to a difference in gender (the developers was male, and some were very shy), or to my professional interest in their work, and that I was training to become an Anthropologist and not a Computer Scientist. I was therefore not properly initiated into the group, yet still they accepted me to the extent that they explained what they had been discussing, and the consequences of the discussion. Other people present in the smokers room were to relatively uninitiated into the same knowledge-culture as the developers, and there was therefore little risk in discussing the technical functionality of the software they were developing.

The journalistic staff

These would go down in groups of up to six people, depending on who was at the time working on the different projects. I noticed that the people working on the Futurama project would not go down, and kept their meetings and decisions within a formal sphere where the responsible for the project, were be present.

The rest of the journalists in the department were working on different, clearly defined

[8]I have more than a year of formal training in informatics and natural science at University level, in addition to Anthropology.

projects, but they did not have any person in charge between them and the departments manager. Due to the fact that he was very busy working with the formalisation of the department in the formal structure, he was rarely present in the department. This meant that, unlike the developers who had their project-leader with them in the informal arena of the smokers room, the journalists did not go out to discuss their work collectively with their boss present. This difference meant that the project-leader of the Desken project was able to pick up on trends in the discussions amongst the developers, but the manager of the department did not have the same opportunity.

When there was unrest amongst the journalists and developers due to the number of projects that the department accepted, it was talked about in the informal arenas. As the department's manager was not present with his employees in the arenas where important discussion happened, he could not pick up on the dissatisfaction, and was therefore unable to act upon it and find solutions to quench it.

Another aspect of the journalists' work was that they were very dependent on cooperation with the developers for support on technical questions. This led to a situation in which the journalists would agree on decisions of minor value in the smokers room, but make more important decisions in the formalised staff meetings in the presence of Nundal, the developers and the complete journalistic staff.[9]

Conclusion on the use of different arenas

The use of informal arenas at NRKi meant that problems and decisions in reality were taken out of the hands of the manager of NRKi. He would have to defend the decisions and solutions to his bosses but his staff, particularly the developers, could anticipate decisions and have readymade solutions of a technical character. The manager of the department or the non-technical staff had little opportunity to develop alternative solutions, as the developers controlled the knowledge of how to develop a specific part of the software.

[9] I do, however, believe that this situation has changed after the restructuring of the whole NRK as well as NRKi. In August 2000 they got another intermediary department-manager who was to have responsibility over the web's content. This meant that they got another set of hands to solve internal problems, while the manager could continue to fight his external battles.

I do not, however, believe that the developers had any reasons for discussing the projects they were working on, other than to find good, workable solutions for the particular problems which they encountered. I do not believe that they disrespected their leader or his decisions, but they had to make quick decisions in order to be able to continue working with the development of Desken 2i, and had no time to wait for staff-meetings to be held, as they were far behind the schedule set for the completion of the project. According to my observations, I have no reason to believe that they were aware of the power they were exerting; they simply had to try to make the software work.

This is a problem in projects in which the framework of the project is as loosely set at the outset of the project as was the case in the development of Desken 2i. For further analysis of the Desken 2i project, see chapter 4.

Decision-arenas and reciprocity

At first glance, it seems that all decisions in NRK are made by the Board or correct authorities in an almost Weberian ideal bureaucracy. When a decision is to be made, there are several parties in the organisation with rights and a duty to give feedback, amongst them various trade-unions and the affected departments. This means that it may be considerable time before important decisions are implemented; in some cases, this takes too long time.

Although most of the decisions are made in the correct forums, it is my impression that some are taken as preliminary measures, which tend to become permanent. When the formal decisive channels end up too bureaucratic, the employees tend to use work-arounds[10], or use alternative channels or networks to solve their problems. An example of this occurred at a meeting discussing the future organisation of NRK in may 2000, when Kai Sibbern[11] said that:

> You can always slip by fifteen acquaintances and go round a corner — and

[10] By "work-around" I mean using other than the specified approaches to solve a problem.
[11] Kai Sibbern is employed by NRK Radio, and led the meeting.

> there sits the man you want to get hold of. You then talk nicely to him, then you can manage to solve your problem …even though there are marvellous systems and solutions for everything in this house, things may be solved in that manner. [12]

Much of the feedback from employees at such meetings are oral, but those deciding are present. The feedback affects their decision, without coming through the formal channels, in written form from the trade-unions.

The informal networks vs. the formal hierarchy

Through the ideas of formal hierarchy and line organisation, the managers of the different departments are supposed to make decisions and mediate them to their subordinates. If one of these subordinates needs to co-operate with someone outside his department, he is supposed to contact his leader, who contacts the leader of the other department (or goes through their common leader who orders the leader of the other group to comply). This is why it is possible to spend enormous resources on administration, and produce insignificant results.

In a large organisation like NRK, there are always local work-arounds to get things done; often they prove more efficient than going through the formal channels. Since this system is informal, and the discussions happen outside the formal meetings, not all parties involved necessarily have a say in important decisions that affect them or their department. Thus there is a possible democratic problem in this practice. I find it interesting to note that basically NRKi uses a parallel model to this in their decision-making, and that this may be one of the reasons why there have been so many protests about its decisions.

[12] Original wording: Du kan alltid hoppe bukk over femten bekjente og gå rundt et hjørne, og der sitter mannen du skal ha tak i. Så snakker du pent med ham, så får du det til. …På tross av at det finnes fantastiske systemer for alt i dette huset, så kan du også gjøre det på den måten, og så ordner det seg.

The virtual department

Here, there, and nowhere at all?

The idea behind starting NRKi was to re-use, and re-publish pre-researched material, on the internet (see chapter 1). This meant that NRKi had to function as a center of an internal network, in which the periphery provided the material that was to be published, and the core provided the technical possibilities. The reason for this was that NRKi had neither the money nor the human resources to publish all the material themselves. This meant that they built the department around the idea of a network structure, in which NRKi provided the technical support.

Since the content-providers were spread across different offices throughout Norway, and some had been publishing longer than NRKi existed, it seems that the department functioned like a virtual organisation: the central employees had some idea of who was working for them, but those so working had little contact with one another.

This kind of organisation has consequences for the employees working on the periphery. Since they only have direct contact into NRKi, they may burden the technical experts with questions that other users could have solved for them. This means that the experts spend their time answering simple questions, while the users do not necessarily get an answer they understand. I believe that this leads to a situation in which the technical staff feel powerless because they are unable to do their *real* work due to questions from the users that did not need to be directed to the technological experts, while the users feel powerless due to differences in language and knowledge.

Another aspect of this kind of organisation is that many of the decisions are made in informal forums, thereby creating a possible democratic problem for the department. It is, however, difficult to get all the departments employees and content-providers together for a common meeting, as they are spread over large distances.

In starting to invite the users to more or less informal information-meetings about the new Desken software in December 1999, NRKi countered some of the effects of the idea of core-periphery. Through being present in the offices of NRKi, the users got to know

others in the same position as themselves, and started making their own networks. One result of this informal networking was the rise of the "spider-women", and at the end of my fieldwork other users were forming their own networks.

The publishers at the district offices were in a special situation. In a smaller office, it is likely that one person takes the responsibility to get the office on-line, filling the role of local editor, with the responsibility for the content of the local site. It is difficult for this person to have a face-to-face relationship with editors in other district offices or at Marienlyst. This is a general problem that the district offices face, and in the case of web-publishing some of the editors have solved it through personal, telephonic contact. This network is based on previous, personal networks to a greater extent than, for example, the network of the "spider-women". In comparison with the "spider-women", which was to discuss issues internally, and thereafter to write formal feedback to NRKi, the network amongst the district offices was started only in May 2000, and feedback to NRKi was given individually through channels that NRKi had set up. When one of the people participating in this informal network was asked whether there was a network at the time, he answered that some of the editors at the district offices were in touch, and knew who had special knowledge and other resources concerning web-publishing, but nothing was yet formal.

The idea of the virtual organisation was developed by sociologists such as Pascal Sieber, Gabriele Sandhoff (1999) and J. Griese[13], working on the introduction of ICT-systems in organisations from the early 1990s. The basic idea was to build an organisation with a very loose structure; one may even say that it is an institutionalisation of the non-institution, in which problems are solved on a project-basis, and the necessary professionals and experts are brought into the project. The idea is that the professionals involved build up a personal network, which they maintain over time, heedless of whether those involved in the network at that moment work on the same project. In this manner an individual may use their personal network to complete tasks at hand — using the mechanisms present in a traditional reciprocal gift-exchange system. Sandhoff (1999) says that:

[13]These sociologists all work in central-European higher education. An electronic journal where this research is presented is available on http://www.virtual-organization.net

> The use of new information and communication technology (ICT) is regarded as an essential feature […], as well as the institution of non-institutionalisation.[…] The structure is replaced by ICT, trust and open communication, which are the precondition for the cultivation of latent relations in non-institutionalised and temporalised cooperation. […] Virtual organizations are mostly characterised by flat hierarchies or an absence of them, and in this sense require the participation of all members in a processes on an equal-rights basis. It should be clear that therefore the efficiency of the management is the greatest problem in virtual organizations. Many management tasks are solved on the spot. A virtual organization is thus able to tolerate less 'cheating' (it is more vulnerable), so that the choice of suitable employees is a problem.

Viewing NRKi and the network of more or less formal contacts they had with the content-providers as a virtual organisation is contrary to how they viewed themselves. According to the idea of internal invoicing, NRKi should write an invoice every time they help a content-provider, yet the content providers should invoice NRKi for the hours they spend on writing material for the web instead of working on internal projects in their own department. This would create a very strange situation, and generate much extra work for all parties involved. There was therefore a quiet agreement between NRKi and their users not to write invoices unless there was considerable time spent. At one time, one of the users called this system of internal invoicing "moving Mickey-Mouse money". I believe his point of view was understandable, considering how things really worked, with the employees going round the system and asking and repaying favours in stead of formalising the relationship at a bureaucratic level.

Building a department based on gift-exchange

In traditional anthropology it is normal to consider a relation between groups or individuals in which commodities are in circulation in terms of gift-giving and alliance-building. It is fairly easy to follow the flow of material objects in different situations, but what is spe-

cial in alliance or gift-giving systems is that the gifts are given over time, with different gifts given at different times, thereby consolidating the alliance network.

Examples of such formalised exchange-circles include, the famous kula-trade in the Trobriand Islands as described by Malinowski (1984), or many different examples of bride-wealth. What these examples have in common is that they are ruled by unwritten rules of when, where, which, and how the gifts should be exchanged, and in what qualities. In addition, they include prescriptions as to how, when, where etc. return-gifts should be given.

I see the same kind of system in how NRKi built its network between the users and employees of the department. The valuables circulating here were time and knowledge. It is noticeable that the only commodity that the employees at NRKi have control over themselves is their time and knowledge. The same goes for the journalists in the various departments writing content for the NRK-web.

An example: When a journalist in the radio-department writes an article for the web, he puts aside his other work. It is likely that only he has the knowledge necessary to write this article, so it has a certain degree of value on the understanding that no-one else could have done the work for him. When he writes the article and moves it onto the central web-server of NRK, he gives away his knowledge (a valuable) to NRKi — since they are responsible for the content. Had he only written the article for the department in which he primarily works and from which receives his pay-packet, I would find it considerably more difficult to consider the situation as a reciprocal relation. This is because there is no obligation for future pay-backs in one or another form form the employer to the employee except the wage paid in money. Even though there exists a contract of employment between the two parties, the relation lacks the informality that usually characterises a reciprocal situation.

On the other side of this relationship are the employees of NRKi. One example of such a situation is when a content-provider calls NRKi saying " I can't get my article published;

what is wrong?". The responder in NRKi then discusses how the problem appears on the screen, and what the publisher has done prior to the problem arising. In so doing, the NRKi employees shares his knowledge with the user.

There are no forms of monetary payment involved in these transactions, but in giving away their time and knowledge in the manner done here, the individuals signal to the other parties involved that they respect the others' work, and intend to continue to cooperate with them.

Reciprocity and the FTP-closure

Since NRKi is partially built on the voluntary work of individuals in different parts of the company, I believe the mechanism of reciprocity is very important in this case.

In the case of the closure of the FTP-access, I believe that much of the anger that was felt by the users, was because they felt that the informal relationship, into which they had invested considerable time and effort, was not taken into consideration when "they had a whim to change things at NRKi". This aspect of the relationship has not been treated previously in this thesis.

In considering a relationship in the light of power and displacement thereof, one does not usually consider the same relationship in terms of reciprocity. I believe that both analytic forms may be present. In a long-term exchange, there may occur situation be changes due to short-term preferences by one or several of the parties involved. In such a situation, I find it likely that the party affected by the other's changed preferences may feel betrayed, and react accordingly — either through resigning or resisting.

If the affected party resist rather than resign itself (as was the case here), I find it likely that rebuilding of the relationship by the initiator of changes is more difficult than if the powerless succumbed to the changes. Either the powerful must give up the change, or the powerless will have to give up the resistance; otherwise there will be a stand-off, and little will be resolved. When one of the parties gives up, it is again possible to start discussing and exchanging gifts in a reciprocal manner, though I find it likely that the manner

in which it is done will be changed.

User-networks in light of reciprocity

When the users started building their own networks, and exchanging information within them, the reciprocal situation changed once more. Instead of individuals exchanging information, knowledge and time with NRKi, such a relationship developed between individuals within the informal group, while they acted in part as a group towards NRKi as a department. At the same time, the individuals continued to publish documents and receive aid from the individuals at NRKi.

So with the rise of the user-networks I see the outline of three different possible reciprocal systems within the virtual department of NRKi.

1. Between the individual users and the employees at NRKi;

2. Between the individuals within the user-network;

3. Between the user-network and NRKi as department?

I pose a question concerning the last point, since I am uncertain whether this really may be considered to be a reciprocal relationship. The reason that I am uncertain of that is that their idea is to provide NRKi with formal, written feedback; but it seems uncertain what they expect NRKi to provide them with.

For this reason I would not call the relationship between the "spider-women" and NRKi a directly reciprocal relationship, but there seems to be a relation there, which is part of a larger system.

Reciprocity, knowledge and ANT

By using knowledge as the article exchanged through the reciprocal networks, it seems that I am taking for granted knowledge is an object that may be traded in the same manner as other material objects. I am not.

I am considering knowledge in the terms of actor network theory. I have observed documents moving from one server to another, as well as overhearing the people at NRKi giving support to their users over the telephone or e-mail. As there are no direct social networks between the involved individuals, I have considered and analysed the relationships in terms of how the communication was enacted and the visible results of that communication.

As the communication was enacted through technical means, I have worked following the documents from one computer to another, as if the machines were acting by mediating their message; I am treating the machines as actants. Thereafter I have asked for and observed the individuals' reactions to the different documents mediated in this manner, and finally analysed the communication in terms of knowledge. I believe that this approach shows how knowledge is transmitted across time and space, and may become the basis for a network where those involved only have the opportunity to exchange their knowledge. All other means of exchange are too strictly regulated.

In the last part of this chapter I widen my social network to include a broader understanding of those affected by the relationship, between the developers and journalists, described previously in this thesis. This is to show how the exchange of knowledge have wider consequences, and how one may integrate the actors in this thesis into a wider, Norwegian setting without loosing the focus. This is done by examining how the web-pages are received through the three-monthly surveys by Norsk Gallup[14], their media and web-barometer; and examining how these results affect the budgets of the different departments.

NRK as a Kula-system

In the traditional Kula-system as described by Malinowski (1984), there were different kinds of valuables moving in a large system — in one direction moved one kind of neck-

[14]Norsk Gallup Institutt AS, a part of Taylor Nelson Sofres, is a full service market research company […] and provides most of the audience measurement systems in Norway (television, radio, national and regional readership). http://www.gallup.no

laces, in the other arm-shells. In the manner described by Malinowski, it seems that the whole society rotated around the movement of these valuables.

On selecting a part of NRK as the focus of my interest, I can see a similar kind of system also working in modern companies. In this case, I extend my social system only to include the actors that are involved in the production of web-documents. As they are all part of the company NRK, I include the company to some extent; it is important in supplying the system with exchange-values.

The social status of the actors in the system is unclear, due to floating organisational model on which it is based. This means that it is difficult to assess whether participation in this system increases or decreases the social value of the actors, as Malinowski assessed amongst the Trobrianders. The reason for this is that, even though they seem to be interacting in an intricate system, the users otherwise have little in common besides working for NRK and publishing on the web. They have no common standards by which they measure the value of their work as editors or publicists — their pay-packet and total social position relates to their main status, as ,for example, journalist or researcher.

When a person is employed by the company NRK, he is expected to spend a certain amount of hours per time-unit at work, and to produce a certain kind of result. In the case of journalists, they are expected to research and present their research for televised or radio-broadcasting (or the internal newspaper), since these are the core working-areas for the different departments. They are expected to produce the broadcasted or printed material according to the project they are working on at that moment, according to the department's priorities. So far this is an issue of buying and selling labour.

When the journalists in the department start writing or rewriting their material for web-publishing, they are still doing a job for NRK, but not only for the department who are paying their wages. They are also spending time and knowledge for another department, NRKi. The interesting part is that for most of the work done, neither the employees' department nor the individual receives any compensation in the form of money or other commodities, so return of some other kind of commodity must be expected over a certain

degree of time.

On following the article, time or knowledge, from the journalist to the server and offices of NRKi, I find an interesting connection. When all goes well with the publishing, there is little contact between the owner of the server and the publisher. But when things do not go so well, it is likely that the journalist contacts NRKi and asks for help, as shown above. This little circle of gift-exchange is still not sufficient to call it a "kula-ring". But it is a reciprocal system.

In following the article further, from the server of NRK, to the screen of a public user, one may say that the public user receives information and knowledge that he does not pay for, yet it is likely that when he chooses to access the web-pages of NRK instead of another newspaper or broadcasting channel's web-page, he will choose the primary products of NRK instead of the other television or radio-channels. In this manner NRK can argue that, as a state-owned channel it needs larger subsidies from the government, thereby ensuring its existence. This is at least how people in NRKi argue for their existence in an increasingly complex Norwegian media-world.

In the end, part of the increased funding partially ends up in the pay-packet of the journalist who wrote the article.

Even though this manner of seeing things greatly increases the social system, I believe the approach is interesting, as it shows how NRKi is part of, and affects the larger formal organisational systems. Understanding NRK and NRKi from this perspective, also provides the basis for an increased understanding for the reorganisation, which was implemented in August 2000.

Which model of organisation?

In the example above it looks seems that there is a conflict between different forms of leadership. In a traditional industry, run according to American management traditions[15], there is supposed to be a division between those with knowledge who plan and decide,

[15]This is a form of line-organisation, with control downwards and reporting upwards (Sørhaug 1996).

and those who actually produce the goods; or as Sørhaug formulates it, "between hand and spirit" (Sørhaug 1996). In such a system, if there is no, or an unqualified leader, it is likely that those employed below him (or her) get little done as tasks are not properly assigned.

Contrary to this method of leading a business, NRK seems to fall into the European tradition, as described by Weber. There is a hierarchy, bureaucracy and an expert system of employees. The organisation should function according to a written plan, in which all the employees know their place and act on that basis. This is the way in which most Norwegian organisations present themselves. This is not what I have observed in NRK.

In the case of NRKi, the internal hierarchy in the department was very unclear. In the period covered by this thesis, there were three leaders in a department of totally twenty employees. In addition to the responsible manager of the department, there were two people whose position was rather unclear. One person was a "adviser to the Director of Broadcasting in questions of new technology" and the other led the "Futurama" project. These two people accepted new projects on behalf of NRKi, and used their resources, while the responsible leader had to find the money and other resources to maintain the department operational. This led to a situation in which the department accepted more projects than it had human resources to complete. The employees were continually being moved between different projects, few of which were finished. The Desken project suffered especially under this arrangement. The developers and other staff assigned to this project were continually being asked to solve problems for other projects. The Desken project had a project-leader, but he was not strong enough to resist the pressure from one of these leaders, and therefore ceded resources to projects of lesser importance to the department.

Management

I believe that the employees end up in apathy due to contradictory messages from management. The result was that they asked for a strong leader, who would be able to priori-

tise. One of the users commented the situation in the following manner:

> They have been too nice when we have called and put forward our wishes. *"Certainly — we'll fix that, just wait till the new Desken is finished"*. But then when the usual trot caught up with them, interactive has neither had the time, money, people nor other resources necessary to complete it. Therefore there have been many promises that have swirled around for a long time — some of which are in written. But it has just been impossible to keep those promises, and it has been very unwise that there has not been anybody there who has said *"No, sorry, we can't do that , you will have to wait with that until …"*, or something like that.

I believe that many of the management problems that the employees of NRKi and the users were experiencing were due to the expansion of the department. The manager was more or less constantly in meetings, fending for the right of the department's existence and right to grow. When he was present in the department he spent much of his time in his office. Even though the door to his office was always kept open, signalling that people were welcome to come in, it was rare to see employees use this opportunity other than for pre-arranged meetings.

It is possible to compare this situation to the political system in Melanesia. The Melanesian "big-man" system has leadership based in the building of networks and the exchange of gifts (Sahlins 1963). Just like the management system that I have observed in NRKi, the potential chief, or big-man, in the Melanesian political model has to build networks and get his family and affines to give him goods; goods that he can pass onto others to increase his personal power and influence. If the big-man does not give sufficient in return, his family will revolt, or at least cease to trust him. This means that they stop giving him gifts that he can pass on.

I believe that I have seen much the same situation in NRKi. The leader of the department was constantly out giving "gifts" to those in NRK who could affect the department's

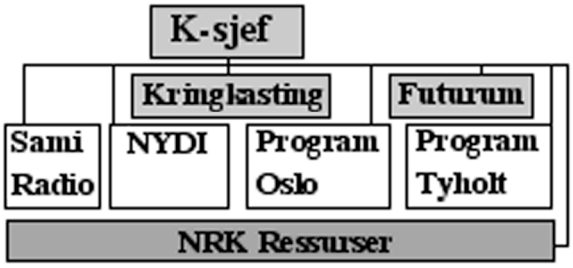

Figure 5.1: NRK's formal organisation chart as decided upon in March 2000.

situation. The gifts he gave away were the working-hours of the department's employees. In return, the manager received influence concerning the future of the internet publishing of NRK, and some increased funding in the form of more employees. At the same time, the existing employees suffered from a strained work-situation. They had too many projects, and felt that they could not finish what they already had started with satisfactory quality. This meant that they had to make decisions as to which projects to prioritise; a task they expected their leader to undertake. For this reason, they put up some degree of resistance, and asked who was *really* in charge of the department. I believe that had the situation continued, with the department's manager constantly out fighting for the department, some of the employees may have signalled a stronger threat of mutiny.

The new organisation of NRK

In March 2000, the Board of NRK agreed upon a new model for the organisation of the company. I include here a short consideration of this model as it appeared at the time, as I believe this formal model developed from what I observed in real life, how things *really* functioned. I do not know how the model worked when implemented; whether employees of the organisation created new work-arounds to solve daily organisational problems, or whether this time the formal organisation described and was adjusted to the actual work of the organisation.

The reorganisation's aim was to save money; NRK's departments were not to be orga-

nized according to the media for which they were producing, but according to the kind of programmes in production. This meant that the idea on which NRKi was built, of re-using already produced material in other media, was included in the formal organisation of the whole enterprise.

The new organisation did, however, leave NRKi and the other new media[16] in much the same position as previously. They were to be part of a new department called "NRK Futurum", and at a meeting in May 2000, were promised a large sum of money by the new manager of NRK Futurum. In November of the same year, all this money was withdrawn due to shortages in the budget.

NRKi was not included in the producing departments, which meant that it had to keep up "borrowing" resources from the radio and television in order to be able to present the company over the web. As far as I understand, this means that their situation cannot have changed much with the new organisation of the company. The fact that the extra money (which also means extra human resources) was withdrawn, will have affected the intention of the new editor of the NRKi, to become the website in Norway which obtains the most hits[17]. It has not yet reached this goal[18].

Towards the end of May 2000, NRKi was promised new offices in the main building of NRK, at Marienlyst, by the end of the summer. This signalled an acceptance of the work the department were doing. One year later they still had offices at Forskningsparken, some fifteen minutes walk away.

Even though this thesis has focussed on a difficult period of change for NRKi, I hope that what I have observed, and the work put into the NRK-web by the individuals both in NRKi and other departments, will be appreciated, when people in leading positions in the company understand the importance of this new medium.

[16]Departments for developing Digital Audio Broadcasting and Digital television (which really was part of NRKi).

[17]Every three months Gallup of Norway researches the most used Norwegian websites. They present their results on $http://www.gallup.no$.

[18]As of March-May 2001 they were on an average no. 13 in Norway.

Chapter 6

Conclusion

In this final chapter I will sum up my findings, and present an overall conclusion to my previous analysis.

Changes in power relations

The introduction of a new group of employees into NRK, has shifted the power relations; which are visible through changes in language, symbolic power and ownership of the means of production. The question why this has happened has therefore been raised.

Seeing the power being exerted

Using Bourdieu's model of symbolic power, this thesis shows that much of the power exerted in the relationship between the users and developers of a software is of a kind of which the parties involved are, to a large extent, unaware. This is in part due to different roles assigned to the groups, of expert and non-expert; and in part due to the geographical distance between NRKi and its users outside the department; in other words, an effect of their organisational model.

The changes in roles within NRK's internet publishing has been caused partially by the growth of NRKi, but also by the fact that the technical staff within the department have been accepted for what they are: technologists. In the beginning, NRKi employees were viewed as technicians like other kinds of technicians within NRK. They are still viewed

in this way by some people who have been producing web-documents for a considerable time. However, their organisational placement after autumn 1999 shows that they are accepted as technologists, or as one user put it: "I see them as being 'line leaders' — those who decide what kind of programmes we are going to send".

The power NRKi employees are exerting is in line with the view of them as 'line leaders', yet they seem afraid of formally accepting this position, and still present themselves externally as technicians. This means that the conflicts observed are partly caused by unclear signals from the department itself, in addition to the existence of individuals within the organisation who are unwilling to accept the changed formal structure.

This study shows that the power exerted through the introduction of new information and communication technology is not necessarily inherent in the technology itself. The power exerted is rather a consequence of structural limitations, as demonstrated by the changes in power occuring when the department was formally moved in August 1999. It has also been shown that the differences in power between expert and non-expert are many cases undercommunicated, as are differences between the genders.

Changes in forms of reaction

This thesis shows that those who are powerful may decide which reactive patterns they accept, and what they do not. This is heedless of whether or not the powerful are aware of their power, and of how they perceive their own actions, perceived by others as expressions of power. When those involved protested loudly, it seems to have produced a reaction, almost like a stubborn child, within NRKi that they would not accept that kind of behaviour. They would not alter their decision in any direction for those protesting. In the cases where the protests were brought forward in a more constructive manner, as in the development process of the new Desken software, there seems to have been greater willingness to discuss solutions.

The opportunity to choose patterns of reaction according to the manner in which the protests were brought forward, is based on control of the tools of production. I am certain

that had another department physically controlled access to the servers, or had the expert knowledge necessary to undertake the daily running and developing of software for the web-server, the situation would have been very different. However, I do not find the way in which NRKi used this power unreasonable. The main problem with the FTP-closure process was that the problem was not discussed with the users before action was taken; not that they closed FTP-access. One user said:

> They are opening a lot up now. They do not any longer make decisions without having presented them first. They did that before. They had decided that things were going to be done in a certain manner, and that was that. But I believe that they have learned from the FTP-closure process, when they really had made a decision without paying heed to the existence of those producing the documents.

In this thesis, the reactions to power have been discussed using the terms developed by sociologist Thomas Mathiesen. When the users protested loudly to the FTP-closure, it is discussed in terms of resistance as described by Mathiesen. However, I do not find his terminology to be sufficient to describe the totality of what was observed in this case: individuals resisting through singular actions and posing a counter-threat. I describe such action as "active resistance", using a somewhat different definition from Mathiesen's who focuses on the formation of networks or groups of individuals willing to take part in opposing the powerful.

From marginalised to powerful

It seems that NRKi has developed from being a marginalised to a powerful department. By this I mean that there has been a strong growth in the department — both in the number of employees and the amount of money allocated to internet publishing.

As a measure of the growth of their power, it is possible to compare what work NRKi has done in the years that it has existed. In the beginning, they investigated what rights existed regarding previously developed material, and prepared such material for web

publication. This was a combined technical and journalistic job. Their next job was technical support for journalists in other parts of NRK, exemplified by the production of a publishing software, the original Desken, with which little knowledge of HTML was needed to publish on the company's web server. Finally, it is possible to see that in obtaining a proper budget that allowed for tasks other than the most pressing[1], and being formally assigned control of the web server, NRKi has attained a position previously unaccesible. It is able to control the settings of the milieu in which it exist: both through controlling channels of communication with their users, and by closing access to the server except to those using the Desken software.

In the cases discussed in this thesis, there has been a shift in power, from journalists in the different departments to NRKi. This shift was non-formal, yet it has had consequences for the formal structure of the company. This may be seen in the new organisational model presented in chapter 5.

NRKi has, throughout its existence, been organised as a virtual organisation, as described in chapter 5. This is mirrored by the new organisational form of NRK, as agreed upon in March 2000. The Board talked of multimediality: the staff were to present their work in all the available media, and to use the resources available, even if the resources existed in other formal departments. It therefore seems that NRKi has served as an internal test of how virtual organisation may function within NRK, despite occupying a marginal position for most of its existence.

The hierarchical vs. process-oriented organisation?

In this material, there seems to be basic differences between the manner in which NRK is *formally* organised, and how NRKi actually functions. This points to differences in the total structure of the company — the hierarchical versus the flat, expert run structure; the manner in which decisions *really* are made; the belief in the process-oriented organisation compared to the bureaucratic; and finally the difference in career-opportunities.

[1] including the development of a new publishing software.

As is shown in chapters 4 and 5, there seems to be a difference between how NRK is formally organised, how the employees believe they are organised, and how things function in NRKi.

There seems to be a strong belief in the formal, almost Weberian bureaucratic, hierarchical organisation. This appears through the formal organisational chart. Contradictory to this is the usage of informal networks, to work around what many employees consider to be a very slow-working system; yet they still maintain that they are working within the hierarchical system.

Contrary to this system is the functioning of NRKi within the NRK system. As is shown in chapters 1 and 5, the aim of this department was to re-use the products of other departments in a new media. The manner in which it was intended to be used meant that the journalists in other departments were supposed to simply re-publish their material on the internet. This meant that NRKi would be able to control employees, whose working hours were to be paid for by other departments. One journalist could, therefore, for a shorter period of time, work on a project in which publishing on the internet became a natural part of his daily tasks, and thereafter go back, for example, to making radio programmes. This organisational form is also known as *virtual organisation*, in which reciprocity and building personal social networks are of importance.

A virtual organisation is process-oriented in that the work is organised according to individual tasks to be completed. Work-groups are formed according to the problems being solved, and may consist of different groups of employees, according to the employees' expert knowledge. This also means that individual employees form an informal social network, on which many of the tasks to be solved are dependent. Therefore the formation of informal networks, and thereby reciprocal exchanges of goods (usually in the form of knowledge), is encouraged.

According to this definition, NRKi is process-oriented. This is because the department consists of a formal organisation, in which the employees and their knowledge are more or less stable. However, different employees are included in the different projects, accord-

ing to their knowledge and the needs of the project. At the same time, the people producing web-pages in different departments vary according to available time and knowledge. In addition to their internal staff, NRKi has contacts with a number of technological training institutions, from whence they may obtain additional knowledge when required. One example of this occurred in the autumn of 2000, when the television programme "Newton"[2] wanted a new web-page that would be attractive to their target group. This was acheived by the person responsible of the web-project contacting first NRKi, and thereafter the Department of Informatics at UiO. The Department of Informatics thereafter ceded some of its post-graduate students to the project to design a new web-page for the television programme. This is one way in which NRKi attained access to expert knowledge for a project they otherwise would have had difficulty in completing due to financial difficulties. In this case NRK got new web-pages, while the students working on the project were allowed to work on developing software for a large Norwegian company, to which access may have otherwise proven difficult.

Career opportunities

An organisation with standard hierarchies, is prone to have standard career opportunities for their employees. This is the case in NRK. However, the contrary is also true — when the hierarchies are not standard, neither are the career opportunities. This means that in a virtual organisation, the employees have fewer standard advancement opportunities, unless they create such opportunities for themselves. For the employees at NRKi this means that they either have to participate in the formal hierarchies of NRK as a whole (this opportunity is exclusive to the journalists at NRKi), or create projects in which the individual can advance to become a project leader; or simply leave NRK for other employment. I believe these structural limitations provide partial explanations for the turnover of employees observed in NRKi.

[2]Newton is a programme presenting natural science knowledge to children and adolescents.

Conclusive remarks

The situation observed in NRK and NRKi was very complex. There were several layers of interaction, partially conflicting interests, and people executing power without being aware of it.

The answer to the main question treated by this thesis, *What kind of power relations may arise due to new information and communication technology (ICT), specifically internet publishing?*, has been broken down into two different kinds of power: the kind of which those executing it are aware, the visible kind of power that may be reacted to; and the invisible power of which those executing it are unaware. The last kind is also difficult to react to, since those subject to it are not aware of their position either.

The power treated in this thesis has both interpersonal and structural consequences. The consequences are interpersonal in the sense that those involved use their knowledge to build and maintain social relationships, and as a commodity in a gift-exchange system in which different kinds of knowledge is exchanged; and structural in the sense that decisions primarily designed to affect the computer system also affect the working days and routines of the users. This thesis shows that by making changes to the software, the developers also change their relationship with the users, which causes changes in the informal network structure within the organisation.

The focus of this thesis has been on the professional life of the informants. This means that standard anthropological variables such as ethnicity, age and gender have been treated only to a limited extent. Exeptions to this are the situations in which such analytical perspectives are alternatives for analysing power, or may be seen to be affecting the power relations. In any case, these variables are not highlighted by the actors in their work situation, and are only used in the analysis to gain a deeper understanding of what is *really* happening. Methodological restrictions have been made. The informants have only been observed in their work situations; their private lives have been left out of the scope of interests. This is in line with Latour's ideas of the actor-network system: an

individual may be part of several social networks that may be only minimally interconnected.

The main findings in the present work have been shown to be comparable to, and indeed compatible with, general principles of social life developed in classical anthropological texts, including those of Mauss, Malinowski and Sahlins. The model of virtual organisation uses concepts such as reciprocity and trust (Mauss and Malinowski)as essential features for the understanding of interpersonal relationships within postmodern enterprises. Like the ideal virtual organisation, NRKi is characterised by a flat hierarchical organisation, yet it has a formal leader whose job is to oversee the department and work for the further extension of its networks. In this sense it is similar to political systems without inherited power, and is therefore compared to the Big-Man system of Melanesia.

Appendix A

Glossary

Apache: A open source HTTP server for Unix, Windows NT, and other platforms. Apache was developed in early 1995, based on code and ideas found in the most popular HTTP server of the time, NCSA httpd 1.3. It has since evolved to rival (and probably surpass) almost any other Unix based HTTP server in terms of functionality, and speed. Since April 1996 Apache has been the most popular HTTP server on the Internet, in May 1999 it was running on 57% of all web servers (Howe 1993).

Bug: An unwanted and unintended property of a program or piece of hardware, especially. one that causes it to malfunction. (Raymond 2000).

Cyborg: A human being whose body has been taken over in whole or in part by electromechanical devices; 'a cyborg is a cybernetic organism' (Webster 2001).

EBU: European Broadcasting Union.

Emoticons: An ASCII glyph used to indicate an emotional state in email or news. Although originally intended mostly as jokes, emoticons (or some other explicit humor indication) are virtually required under certain circumstances in high-volume text-only communication forums such as Usenet [contains among other things newsgroups]; the lack of verbal and visual cues can otherwise cause what were intended to be humorous, sarcastic, ironic, or otherwise non-100% -serious comments to be badly misinterpreted (Raymond 2000).

Encryption: Any procedure used in cryptography to convert plaintext into ciphertext in order to prevent any but the intended recipient from reading that data (Webster 2001).

Extension: The name after the full stop in any computer file is called the extension, and indicates what computer programme the file was made in. Pictures usually have the extensions .jpg or .gif.

Frames: (especially concerning web): A feature that divides a browser's window into separate segments that can be scrolled independently of each other (*Dictionary.com* 2001).

FTP: protocol that allows users to copy files between their local computer system and any system they can reach on the network [syn: file transfer protocol], protocols are rules determining the format and transmission of data (*Dictionary.com* 2001).

Free Software Foundation: an organisation devoted to the creation and dissemination of free software, i.e. software that is free from licensing fees or restrictions on use. The Foundation's main work is supporting the GNU project, started by Richard Stallman (RMS), partly to proselytise for his position that information is community property and all software source should be shared (Howe 1993).

GNU: A Unix-workalike development effort of the Free Software Foundation headed by Richard Stallman <<rms@gnu.org>>. GNU EMACS and the GNU C compiler, two tools designed for this project, have become very popular in hackerdom and elsewhere. The GNU project was designed partly to proselytize for RMS's position that information is community property and all software source should be shared. One of its slogans is "Help stamp out software hoarding!" Though this remains controversial (because it implicitly denies any right of designers to own, assign, and sell the results of their labors), many hackers who disagree with RMS have nevertheless cooperated to produce large amounts of high-quality software for free redistribu-

tion under the Free Software Foundation's imprimatur. The GNU project has a web page at 'http://www.gnu.org' (Raymond 2000).

Hacker: 1. A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary. 2. One who programs enthusiastically (even obsessively) or who enjoys programming rather than just theorizing about programming. 3. A person capable of appreciating hack value. 4. A person who is good at programming quickly. 5. An expert at a particular program, or one who frequently does work using it or on it; as in 'a Unix hacker'. (Definitions 1 through 5 are correlated, and people who fit them congregate.) 6. An expert or enthusiast of any kind. One might be an astronomy hacker, for example. 7. One who enjoys the intellectual challenge of creatively overcoming or circumventing limitations (Raymond 2000).

Http: A protocol used to request and transmit files, especially Web pages and Web page components, over the Internet or other computer network (Webster 2001).

Hyper Text Markup Language: HTML is a set of tags and rules (conforming to SGML which is a standardized language for the descriptive markup of documents) for developing hypertext documents. Hypertext is machine-readable text that is not sequential but is organized so that related items of information are connected (Webster 2001).

Information and Communication Technology(ICT): The study of the technology used to handle information and aid communication. The phrase was coined by Stevenson in his 1997 report to the UK government and promoted by the new National Curriculum documents for the UK in 2000.
$http://rubble.ultralab.anglia.ac.uk/stevenson/ICTUKIndex.html$ (Howe 1993).

IRC or Internet Relay Chat: A worldwide 'party line' network that allows one to converse with others in real time. IRC is structured as a network of Internet servers,

each of which accepts connections from client programs, one per user (Raymond 2000).

Linux: The free Unix workalike created by Linus Torvalds and friends starting about 1991. […]This may be the most remarkable hacker project in history – an entire clone of Unix for 386, 486 and Pentium micros, distributed for free with sources over the net (ports to Alpha and Sparc and many other machines are also in use).

Linux is what GNU aimed to be, and it relies on the GNU toolset. But the Free Software Foundation didn't produce the kernel to go with that toolset until 1999, which was too late. Other, similar efforts like FreeBSD and NetBSD have been technically successful but never caught fire the way Linux has; as this is written in 2000, Linux is seriously challenging Microsoft's OS dominance. It has already captured 31% of the Internet-server market and 25% of general business servers (Raymond 2000).

Moderator: someone who removes abusive or illegal or by the publisher unwanted utterings from, usually, e-mail-lists and newsgroups on the internet.

NRKi: The Norwegian Broadcasting Cooperation's (NRK) department for internet publishing, also called NRK interaktiv.

Oracle: the largest software company whose primary business is database products. Historically, Oracle has targeted high-end workstations and minicomputers as the server platforms to run its database systems. Its relational database was the first to support the SQL language, which has since become the industry standard (Webopedia 2001).

Script: a list of commands that can be executed without user interaction. A script language is a simple programming language with which you can write scripts (Webopedia 2001).

Server: a computer that provides client stations with access to files and printers as shared resources to a computer network [syn: host] (Webster 2001).

Snail-mail: Paper mail, as opposed to electronic. Sometimes written as the single word 'SnailMail'. One's postal address is, correspondingly, a 'snail address'. Derives from earlier coinage 'USnail' (from 'U.S. Mail'), for which there have even been parody posters and stamps made. Also (less commonly) called 'P-mail', from 'paper mail' or 'physical mail' Oppose email. (Raymond 2000).

SQL: a standardized query language for requesting information from a database. The original version called SEQUEL (**s**tructured **E**nglish **qu**ery **l**anguage) was designed by an IBM research center in 1974 and 1975. SQL was first introduced as a commercial database system in 1979 by Oracle Corporation (Webopedia 2001).

URL: Uniform Resource Locator, an address widget that identifies a document or resource on the World Wide Web (Webster 2001).

User: A *user* in this thesis generally refers to someone utilising a specific computer system — the web-publishing software for publishing on NRK's web-server, unless other understandings are clearly stated.

WAP: An open international standard for applications that use wireless communication, e.g. Internet access from a mobile phone.

Wannabee: When used of any professional programmer, CS academic, writer, or suit, it is derogatory, implying that said person is trying to cuddle up to the hacker mystique but doesn't, fundamentally, have a prayer of understanding what it is all about (Raymond 2000).

Appendix B

Example of HTML-code

This chapter contains HTML-source, and was probably created by some kind of HTML-generator. Imagine trying to find, for instance, a mistake in one of the numbers listed. This HTML-source was "borrowed" as an illustration from $http$: $//news.bbc.co.uk/hi/english/world/default.stm$ on may 18^{th} 2001. Totally the source for this **one** web-page would have filled approximately 20 pages in this appendix, therefore only two pages are included.

!–NOLWorldIndex–>

<!–NewsOnLineQLX–>

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<HEAD>

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<TITLE> BBC News — WORLD</TITLE>

<META HTTP-EQUIV="expires" CONTENT="now"> <META

HTTP-EQUIV="pragma" CONTENT="no-cache">

<META name="keywords" content="BBC news world uk international foreign british online service">

<META name="OriginalPublicationDate" content="2001/05/18 13:50:06"> <!–

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<AREA SHAPE=RECT COORDS="108,0,200,15"
HREF="http://www.bbc.co.uk/worldservice/index.shtml" ALT="World Service">
<AREA SHAPE=RECT COORDS="203,0,270,15"
HREF="http://www.bbc.co.uk/education/" ALT="Education">
</MAP>
<MAP NAME="world_map">
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COORDS="59,27,66,55" HREF="/hi/english/ world/south_asia/ default.stm">
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HREF="/hi/english/ world/middle_east/ default.stm"> <AREA SHAPE=POLY
COORDS="35,27,41, 27,41,33, 50,33,50, 36,53,36, 53,55,35,55, 35,27"
HREF="/hi/english/ world/africa/ default.stm"> </MAP>

<LINK TYPE="text/css" REL="stylesheet" HREF="/stylesheets/ corenews.css">
</HEAD> <BODY BGCOLOR=" #FFFFFF" TEXT="#000000" LINK="#333366"
ALINK="#000066" VLINK="#666699"> <TABLE border="0" CELLPADDING="0"
CELLSPACING="0" WIDTH="600"> <TR> <TD WIDTH=100> <IMG
SRC="/furniture/ nothing.gif" WIDTH=100 HEIGHT=3 ALT=""></TD> <TD
WIDTH=5><IMG SRC="/furniture/ nothing.gif" WIDTH=5 HEIGHT=3
ALT=""></TD> <TD WIDTH=315> <IMG SRC="/furniture/ nothing.gif"
WIDTH=315 HEIGHT=3 ALT=""></TD> <TD WIDTH=10><IMG SRC="/furniture/
nothing.gif" WIDTH=10 HEIGHT=3 ALT=""></TD> <TD WIDTH=170> <IMG
SRC="/furniture/ nothing.gif" WIDTH=170 HEIGHT=3 ALT=""></TD> </TR>
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