

The impact of the mobile telephone on four established social institutions¹

By

Rich Ling, Ph.D.

Telenor R&D

richard-seyler.ling@telenor.com

Abstract

This paper is an examination of the impact of mobile telephony on four social institutions. The institutions are democracy, bureaucracy, education and also adolescence. The material considered here draws both on the existing literature of mobile telephony, qualitative work carried out in Norway and also quantitative analyses from Norway. The analysis shows that the more direct communication provided by the mobile telephone will likely have impacts on the level at which communication takes place within the various institutions, the ways in which pattern maintenance activities take place and also in the independence of the actors within the institutions.

1 Introduction

In this paper I take a dip into the sociological analysis of four institutions vis-à-vis their confrontation with the mobile telephone. These institutions are democracy, bureaucracy, education and adolescence. I want to underscore that it is a dip, not a long distance record attempt. The intention of the paper is to sketch out some of the issues and the preliminary consequences of the meeting between institution and technology. The four institutions each have their own literatures that go far beyond the boundaries of the work presented here.

There are a multitude of institutions, both large and small, that feel the impact of ICTs, and in particular the mobile telephone. These four institutions have been chosen because they either have confronted the adoption of the mobile telephone, or

¹ The correct citation for this paper is:

Ling, R. 2000. "The impact of the mobile telephone on four established social institutions." Presented at the ISSEI2000 conference of the International Society for the Study of European Ideas, Bergen Norway, 14 – 18 August.

it seems that they are on the verge of this. The exact nature of these impacts and their meaning will be examined below.

The reader should also be aware that the juxtaposition of these institutions against the mobile telephone is not to claim that the institutions are in any particular danger. In fact, it may very well be that mobile telephony enhances their functioning. It is clear, however, that in some situations the interaction between the technology and the social structure leads to some chafing. Investigating the interaction between the institution and the technology reveals, in some degree, the way social institutions change and adjust to accommodate the new and innovative. Mobile telephony can rationalize various functions and activities. It can lead to better coordination and better interaction in democracy, bureaucracy, education and the family or peer group. At the same time, it can endanger older ways of doing things and thus be the object of anxiety discussion.

Rather than saying that the mobile telephone is any sort of revolutionary innovation, it may be better to characterize its impacts as being like the pesky fly that catches the attention of the elephant as she grazes on an otherwise uneventful day. There may be some degree of frustration, but a thick skin will put the phenomenon into its proper perspective.

Finally, the reader will note that much of the empirical material as well as the analysis draw on my work examining the use of the mobile telephone among teens. My work there has introduced me to a literature that gives insight into these other areas, i.e. democracy, bureaucracy and the educational system. I hope, however, that I do not exceed the credulity of the reader when I draw this discussion into areas into which teens are not normally considered.

2 Four institutions

In this portion of the paper I will make a quick sketch of democracy, bureaucracy, education and adolescence. Following this I will look into the adoption of mobile telephony in Norway. In the final section of the paper I will contrast the two and examine the issues of this interaction

2.1 Democracy

The first institution to be examined is democracy. The theory of democracy is that the best policy or direction arises from discussion and debate in the broadest group of persons. There is also the notion that those contributing are "enlightened," that is they are informed. These forces served to enfranchise individuals such that they could provide a reasoned vote regarding various policies etc.

Education and the access to information are central to the notion of democracy. Without it, the citizens do not have the basis upon which to make their decisions and cast their votes. Thomas Jefferson wrote "the most important bill in our whole code is that for the diffusion of knowledge among the people. No other sure foundation can be devised for the preservation of freedom and happiness" (1975, 399). The point is that "The will of everyone has a just influence" (416). Thus, all persons – that is all of those who are enfranchised – have the opportunity to contribute to the discussion surrounding the formation of policy. It is, in fact, baked into the constitutional foundation of modern democracies in the form of freedom of speech and of the press. Tocqueville amplified this point when he wrote that:

The more I consider the independence of the press in its principle consequences, the more I am convinced that in the modern world it is the chief and, so to speak, the con-

stitutive element of liberty. A nation that is determined to remain free is therefore right in demanding, at any price, the exercise of this independence (1945, 193).

This issue is often the point of departure when considering the interaction between democracy and information and communication technologies (ICTs). There is the assertion that if the populace has access to information via technologies such as the Internet, and eventually wireless Internet, that it will enhance the functioning of governance. This line of thought continues by asserting that ICTs will also provide better access between the populace and those in power and thus make government more responsive.

There is, however, another dimension here, i.e. the organization of groups that are protesting the actions of the government. In the same letter where Jefferson talked about the need for everybody to have a “just influence,” he also talked about the benefits of a certain level of protest as being positive. In his oft cited comment he wrote to James Madison in 1787 “I hold that a little rebellion now and then is a good thing and as necessary to the political world as storms in the physical” (Jefferson 1975, 417). His comments indicate that while access to information is essential, this discussion does not go far enough.

Beyond simply voicing one’s opinion in the hope that others will listen; there are the actual machinations of democracy that need to be considered. Democratic policies do not simply arise fully formed from discussion but rather, are the result of – sometimes intense – interaction, maneuvering, strategizing, fractionalization, coalition building, etc. There is a gap between the enlightenment of the individual, or their access to information, and participation in political groups and/or action. The way in which democracy, or for that matter any form of government, deals with challenges and demands for new policies is a central issue. The issue of mobilization is not often brought into the picture when considering ICTs. It is this mobilization of support, as opposed to the more benign informing of citizens that I wish to discuss here.

Gamson, in his analysis of the strategies of social protest, or as he calls them challenging groups, talks of mobilization as containing two aspects (1975). First, there is the development and maintenance of commitment to the group. Gamson refers to this as pattern maintenance. In addition, there is also the activation and control of the challenging group as it asserts its agenda. A basic issue confronting political organizations of all types – be they focused on the building of better bicycle paths, electing a president or the overthrow of a government – is the need to develop and maintain both commitment and also the ability to activate the commitment in some disciplined form. Challenging groups that start with only a broad, non-specific form of loyalty face the logistical issue of developing dedication in their followers and also their activation at appropriate moments and in a coordinated manner. This is particularly difficult when a nascent challenging group faces the opposition of entrenched forces who have these organizational imperatives in place. Further, the group that is trying to effect political change needs to maintain the commitment of the individuals and also solve the problems associated with factionalism within the group.

In his analysis of various forms of social protest, Gamson found that those challenging groups that were characterized as having centralized power and also had a bureaucratic organization were more successful in carrying out their agendas of change. Bureaucratic organization, while not enough to insure success, helps to maintain the mobilization of the organization but does little to prevent the development of factionalization. The best antidote to factionalism, according to the

material presented by Gamson, is centralized control. Centralization of authority often reduces the chance for factionalization but, in some situations, it can indeed encourage it, i.e. in the case of the heavy handed and corrupt leader with a cadre of cronies. While centralized and also bureaucratic organization aids a challenging group, factionalism works in the opposite direction. Challenging groups that experience factionalism rarely achieve the goals outlined in their political agenda.

The point here is that new technologies can be a part of the context in which institutional and social change arises. Specifically, new technologies such as the mobile telephone can be employed by challenging groups. Technologies such as the Internet can be used to recruit new members and the mobile telephone can be used for the ongoing pattern maintenance within the group. In addition, the mobile telephone can be used in the case of mobilization. This is a point to which I will return below.

2.2 Bureaucracy

The next institution that I will consider is bureaucracy. According to Weber, the modern notion of bureaucracy comes most directly from medieval Europe though similar forms of administration can be traced to Egypt, in periods of Roman history, within the Roman Catholic Church, and in China (Weber 1978, 964). He notes that with the development of industrial production the rationalization of administration as seen in bureaucratic organization has its clear advantages over, for example, familial or tradition based administration. Beniger says that the development of bureaucratic administration solved the crisis of control that arose as a result of industrialized production. He goes further to suggest that until the development of information technology in its various forms, that bureaucracy was the greatest advance in the organization of control (1986).

Weber notes that the advantage of the bureaucracy is its “Precision, speed, unambiguity, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs” (973). Weber examined bureaucracy as an “ideal type.” His analysis showed several essential features to the institution. These include the following:

- A clear-cut division of labor wherein each individual has a specialized job and a set of specific tasks.
- A hierarchy of authority where the prerogatives, responsibilities and limitations of each individual function are open and understood by all. Individuals take orders from their immediate superiors and take responsibility for those who are immediately below them in the hierarchy. Ideally, members of the bureaucracy interact based on roles and not on personality.
- The functioning of the organization is based on formalized rules and decisions are largely based on rules as well as established precedent.
- The bureaucracy deals in cases not with individuals and, in principle, all persons are judged as being equal.
- Bureaucracy requires a corps of specialized administrative staff including managers, secretaries, archivists and record keepers whose function is to maintain the records and “collective memory.”
- The career path for an individual within a bureaucracy is based on seniority and/or merit as opposed to favoritism, connections or the like (Weber 1978, 956-1003).

While the ideal type is clear, it is also obvious that the system never really works as a completely well functioning system. There are always “irrational” social dynamics that arise and which frustrate the mechanistic implementation of a pure bureaucracy. Since Weber’s analysis there have been many analyses of bureaucracy and its failings. These range from the role of informal relationships within the bureaucratic institution to the push and pull of power relationships (Thompson 1961), the conformist personality (Whyte 1956) and alienation (Blau and Scott 1962). They also include the notion of the “peter principle” i.e. the individual within the bureaucracy rises to their level of incompetence (Peter and Hull 1969).

Thus, bureaucracy has been a major institution that has allowed for the development of industrialization and large-scale administration. It is not without its faults, but it has rationalized the administration of our lives.

Another issue within bureaucracy is the adoption of ICTs to carry out the various tasks associated with communication between the parts and the whole as well as the record keeping function. I will return to these issues below.

2.3 Education and the examination

The educational system, more specifically students in the middle and secondary schools, is another institution that has seen the entry of mobile communications. Before looking at the effects of this innovation however it is interesting to set the stage by looking at the structure of the educational institution.

According to Foucault, (1979) the educational system is one of several institutions in society that shifted from the sense that it was treating a class of individuals, to the notion that each individual needed to be tracked. This shift began in the 17th century. Other institutions that adopted a similar posture towards the individual include the prison, the military, the factory and the hospital. The point of this transition was to measure the individual against a standard of knowledge, behavior, discipline, output or health. A central point here is the reliance on hierarchical observation that allows for the student, prisoner, soldier, worker or patient to be observed without noticing the observer. The point was to know and alter the individual in a predetermined direction.

Foucault notes that “The disciplinary institutions secreted a machinery of control that functioned like a microscope of conduct; the fine, analytical divisions that they created formed around men (sic.) an apparatus of observation, recording and training” (1979, 173). The imperative here was, in the words of Foucault, to “subdivide the gaze” of the observers and – this is of particular interest when considering the mobile telephone – impede the establishment of communication between the observed.

These principles applied as much to the educational system as to the other institutions mentioned here. It was, in fact, integrated into its very fabric. Foucault describes the school as a “pedagogical machine” a thought that is seen all the way down to the architecture of the institution. He notes:

A relation of surveillance, defined and regulated, is inscribed in the heart of the practice of teaching, not as an additional or adjacent part, but as a mechanism that is inherent to it and which increases efficiency (1979, 176).

Physically viewing the individual in itself, however, is not enough. Beyond the physical structure of the school and the focus on the individual, there is also the need to use active forms of individual analysis. The instrument used to achieve this is the examination, through which one is able to extract from the student their

understanding and codify it. According to Foucault “It establishes over individuals a visibility through which one differentiates then judges them. That is why, in all the mechanisms of discipline, the examination is highly ritualized” (1979, 184). Previous to the individualized form of education, the school was a stage upon which the students “pitched their forces against each other in various forms of argumentation.” Increasingly, however, in the 17th and 18th centuries the school became an institution where students were compared to each other and also against an abstract notion of knowledge. The examination was, and still is, the tool used in this analysis. The examination extracts from the individual, usually in written form, a record of their mastery over the material in question. Through the analysis and registration of this the individual develops a type of “track record” that forms the basis of a more general evaluation. This record exposes the strengths and the weaknesses of the individual for either reward or for correction. Further, according to Foucault, the examination and the resulting documentation put the individual into the role of being a case.

The case . . . is the individual as he may be described, judged, measured, compared with others, in his very individuality; and it is also the individual who has to be trained or corrected, classified, normalized, excluded etc. (1979, 191)

Thus, for perhaps the first time, the writing about the individual turns from descriptions of heroes and kings, to the objectification and subjection of normal individuals. Rather than being used in the celebration of heroes, the writing that results from the examination is turned to the purpose of the direct exercise of power on the individual.

In our analysis below we will look into the sanctity of the examination with regard to the development of wireless communication. The obvious question here is the ability of the institution to maintain its panoptical role when the communication among the students is, for all intents and purposes, invisible.

2.4 Adolescence

The final institution that will be considered here is adolescence. This period of life is a fixture in modern industrialized or post-industrialized society. Our modern notion of adolescence is, almost by definition, a transitional state (Ariès 1973; Gillis 1981). There is little stability in the lives of those who are experiencing it. As noted in another analysis,

Very few of the “bricks” that will form the edifice of a person’s life are in place during adolescence. Their homes, education, social and intimate relationships and their careers are either in flux or have not been established. Where in childhood one is firmly embedded within the sphere of their parents, in adolescence one is moving into a more independent period of life. Thus, their place of residence may be in transition. They are gaining the educational background needed later on, but that is not complete. They have begun to meet possible mates but the relationships are often transitory, confusing and inconclusive. They have various jobs and sources of income but these are also transitory. Indeed, the very bodies of adolescents are in transition from those of children into their adult form (Ling and Helmersen 2000).

Adolescence is largely a phenomenon associated with industrialized society. In non-industrialized societies there is often a relatively direct transition from childhood into a comparatively full version of adulthood (Gennep 1960). By way of contrast, in industrial societies there is often a more diffuse and drawn out transition. There are practical reasons for this. Where in tradition bound societies generations experience similar life situations, in industrial, and post-industrial societies, the generations often face a quantitatively different situation. The rapid development of technique and technology mean that the experience of the older generation is only partially

applicable to the situation of their children. The child is, in this way, active in its own socialization (Glazer and Strauss 1971, 57-88; Brittan 1963).

Within this context, and because of the need for highly educated labor, children are placed into an age-graded educational system that, in itself, often leads to an expanded period of youth.² This also means that it is not the parents that have the responsibility for major portions of socialization but rather the formal school system. In addition to the school system, the individual's peer group plays a significant role in the development of the individual. To be sure, the peer group plays a central role in the individual's activities, their sense of identity, consumption patterns and in their orientation (Hogan 1985, 2; Savin-Williams and Berndt 1990). According to Sullivan "The pre-adolescent begins to have useful experiences in social assessment and social organization. This begins with the relationship which the two-groups [dyads] come to have larger social organization, the gang" (1953, 257).

In fact, it is in this period that friendships and the peer group is at its apex. In one's childhood it is the parents that are in focus and after one has a stable partner and children, they are the main interpersonal focus of one's life. According to Rubin, "This is perhaps the only time in our lives when friends come fully to center stage, transcending all other relationships in immediate importance as they engage us on a daily basis around every aspect of living." Friendships with peers become a significant aspect of one's life during adolescence. Rubin notes that at the same time, one's relation to their family is often "fraught with the conflict of the struggle for independence" (1985, 110).

Youniss suggests that one's experience with peers is, in fact, essential. He notes that one's interaction with parents and adults provides an experience of order. By contrast, the interaction with peers gives the adolescent the notion that they can modify social interaction and be creative in their own right (Youniss 1980; see also Youniss and Smollar 1986; Savin-Williams and Berndt 1990; Giordano 1995). According to Fine, peers provide one with a sense of self-esteem, reciprocal self-disclosure, emotional support, advice and information (1987). One's adolescent peers provide the ability for one to be vulnerable among equals, sensitive to the needs of others and generally, for one of the first times, to acquire insight into social interaction outside of the family.

The peer group has a protective function and is also active in the definition of members vs. those who are outside of the core group. The group definition can include a whole repertoire of slang, nicknames, artifacts, idols, music etc. These subcultural items help the individual to integrate themselves with one group. This is not to say, however, that there is not chafing and infighting, particularly between the group core and the broader social group (Giordano 1995). There is also the use of various subcultural traits in the marking of one's independence from the family. One's style of clothes, the form of language that they use, the items they consume and other social devices are used to mark the boundary between the generations. The mobile telephone and the jargon surrounding its use has grown to be one of the tools used for marking the boundary.

² Indeed, the last vestiges of adolescence can extend far into the third decade of a persons life if they take an extended graduate education.

3 The adoption of mobile telephones in Norway

The four institutions described above are all, to one degree or another, subject to the adoption of the mobile telephone. The specific effect of the interactions will be examined in the next section. First, however, it is important to set this into its appropriate context, i.e. the general adoption of the device. Through this one will be able to see the adoption within Norway.

I will draw on two separate datasets. The first is that of the national Media Use survey carried out by Statistics Norway. This survey gathered data quarterly in 1999 and included a total of 1898 persons who ranged in age between 9 and 79 (Vaage 2000). The second data source was a survey carried out by Telenor R&D that focused on the mobile telephone use of teens. The material in this study was gathered during the last week of November 1999. The questionnaire was administered to 1006 Norwegian teens.³

The data from Statistics Norway shows a high adoption rate of mobile telephones in Norway. The material indicates that somewhere around 80% of all households have a mobile phone. At the personal level, the material also shows that 58,1% of all persons either own or dispose of a mobile telephone.⁴ In addition, the material shows that about 15% of the population has regular access to a mobile telephone while not owning one and that slightly more than 7% of the population has irregular access. The oldest and the youngest respondents, i.e. those under 15 and those over 67 reported the lowest access rates to the mobile telephone. The data shows that only 37% of those over 67 and 25% of those under 15 owned one.⁵ The elderly seem to be reluctant to adopt the device while, as we will see below, the younger teens are likely to soon be mobile telephone users. The real growth in ownership seems to come between ages 14 and 17. The adoption rates for the 17 – 20 year old ranges roughly between 70 and 80%.

Looking now specifically at teens, the data from the Telenor R&D survey shows that the mobile telephone has been adopted by about three of every four 13–20 year old in Norway as of June 2000. Looking somewhat further, the data shows that girls and boys adopt mobile telephones at about the same rates, i.e. equal numbers of each gender have access to a mobile telephone. Up to this point, boys have had significantly higher adoption rates. The elimination of the gender difference however holds only for the youngest persons in the population. Data from Statistics Norway that examines all ages groups shows that men are overrepresented and women underrepresented among mobile telephone owners when examining the gender distribution.⁶

³ The Telenor R&D material focuses exclusively on teens and is only a single point in time, i.e. November 1999. The Statistics Norway material encompasses the whole population and includes data from four time points during 1999. The weakness with the Statistics Norway material is that there are too few cases among the teen groups to allow a more specific analysis of the various trends.

⁴ This is slightly lower than the rates indicated by taking the number of subscriptions against the whole population. This rate is currently reported as being somewhere between 62 and 65% of the population. However, to simply take the number of subscriptions as a percent of population does not take into account the fact that some persons have several subscriptions, that some subscriptions are assigned to functions and not persons, i.e. various types of job telephones. Finally that there are subscriptions that are, for all intents and purposes, dead. Thus the 58% statistic reported here is likely closer to the actual penetration rate.

⁵ $f = (5, 1888) = 31.791$, sig. < 0.001.

⁶ $f = ((1, 1892) = 31.217$. sig. < 0.001.

The data from the Telenor R&D material also shows that text⁷ messages are heavily used by teens. Almost all the teens that have a mobile telephone have sent or received a text message and about half of those with access to a mobile telephone are regular users. Among the regular users, the material indicates that there are about four messages sent and also four messages received per day. The messages are sent and received in a variety of locations, including school. In fact one of the reasons that text messages have been adopted is that they are seen as being more discrete than voice interaction. In addition, they are less expensive than a standard telephone conversation as well as being asynchronous.

4 Impact of the mobile telephone on existing institutions

In this section of the paper I will return to the examination of the four institutions outlined above. I will draw on various sources to examine the effects of mobile telephony on their structure and operations. First I will take up the examination of democracy. The examination of bureaucracy, education and finally adolescence will follow this.

4.1 Democracy

There are many who suggest that ICTs will come to have an impact on the functioning of democracy. As noted above, a very common theme in this discussion is the access to information and, in turn, the expression of one's will. There is the suggestion that ICTs will encourage freer debate and greater access to various forms of administrative information (London 1995). There is, in addition, a discussion regarding differential access (Julrud et al. 1998). Thus access to the technology becomes a prerequisite for participation.

As I noted above, another issue is the operation of challenging groups. This is also a part of the democratic process. Here I am interested in examining how mobile telephone can be used for the development and maintenance of commitment and also the mobilization for action in key situations. In addition, I will look into the potential of the device to develop parallel communication channels outside the purview of leaders and consequently, be used in the creation and maintenance of factions.

When discussing the potential for mobile telephony to aid in the pattern maintenance and activation of challenging groups I am going to make what may seem to be an odd turn. I am going to draw on material from group interviews with teens. While it is not directly an analysis of the machinations of a challenging group, it does describe how a social group uses the mobile telephone for pattern maintenance and also mobilization.

In some respects the two groups, i.e. teens and protest groups, have somewhat similar structures and functions. In both cases there is the need to maintain an inner sense of group membership, i.e. the notion of pattern maintenance. In addition there is also the need to mobilize the group in certain situations. The mobilization for the political group can come in the form of assembling for protests or organizing various types of actions. The mobilization for teens can come in the form of finding and attending parties and gatherings but also in the case of confrontations with rival groups. It is my hope that by looking at this material one can gain insight from the situation of

⁷ Text messages, also referred to as SMS messages or Short Message System, is a way of sending and receiving text via use of a GSM telephone. The messages are limited to only 160 characters. Teens have adopted this form of communication that allows them to economize their use of the mobile telephone. At the time of the survey the messages cost about 1,5 NKr. (or ca. 0,20 €) to send.

teens organizing their social lives and transfer it to the situation of the politically engaged person organizing their activities. Thus, both the teens and also the protest group have similar institutional imperatives.

It is clear that the structure of the two groups is often different, the motivations for participation vary and also the inner dynamics of the groups are different. Specifically, one is a life phase while the other is founded on the identification with an ideology. None-the-less the similarities are strong enough that the examination of the one provides insight into the other at some level.

The issue of pattern maintenance via the mobile telephone among teens is easily seen. Many of the informants in the group interview material speak of maintaining contact with peers via the device. The maintenance of contact does not necessarily mean that they are in the process of planning new common activities. Rather, the interaction is simply checking on each other, perhaps sending some sort of simple greeting or, perhaps sending a joke or a comment. These text messages or conversations are a confirmation of one's group membership (Stuedahl, 1999).

The comments also draw on various internal lingo that can be interpreted only by group members. Its theme may be crudely sexual or only an innocent "teddy bear" hug. The effect, however, is to confirm the individual membership and to further engage them in the lore of the group.

As with the teenaged peer group, the political challenging group can use the mobile telephone for pattern maintenance. The content of the messages and conversations will likely be quite different, but the function of the idle chatter, the development and mutation of slang and the recognition of individuals is similar in the two groups. The point here is that the interaction gives the individual a sense of belonging. It provides them with the common experiences, talk and argot of the group. It serves to keep the ideology of the group fresh, be it a giddy group of 14-year-olds or an overly serious group of politically committed persons.

Beyond the point of maintaining the functioning of the group, the mobile telephone is also a device that allows for the activation of the group in special situations. When considering teens the most common type of mobilization is that associated with social gatherings and parties.

Interviewer: We have the sense that the mobile telephone expands the area that you move in and the number of people that you are in contact with

Helen (15) That's true

Interviewer: that you will be in contact with others that you would not normally be in contact with.

Annika (17) For example, if you are at a family party and you were going to go to a party afterwards but that party is cancelled and you sit there and say 'What should I do now?' So instead of just sitting there you send text messages to others and eventually you find a place you can go or a party or something. Or sometimes you go someplace and there is nothing happening and you find out that something is happening another place

Here one sees a that the mobile telephone is used in order to remain updated as to the movements of the peer group and the shifting possibilities for finding an acceptable party. A similar approach to "mobilizing" is described by another informant, Geir:

Geir (15): . . . I don't use my mobile telephone so much at parties you know, but if I am at a party that is really dull (*kjip*) then I use it of course to get to another party, because there is always another party.

Interviewer: So you shop around for parties?

Geir: Yeah.⁸

Thus one can see that the device is used as a way to stay informed of the various parties and their dynamics.⁹

Fights between youth groups are another situation where the mobile telephone facilitates mobilization. As with parties, the mobile telephone allows one to activate a large network.

Rita (18): If, for example there is some trouble, then it is a bigger problem, for example if there is trouble then somebody calls all their friends and then it can be dangerous.

Erik (14): It doesn't have to be dangerous.

Rita: No, you are wrong because then they call others and so it just gets bigger you know. It has to be if there are 100 involved instead of just 2.

Erik: Yeah, but it is good if there are 20 people that are going to beat **you** up.

Rita: But the problem just gets bigger you know.

Lein and Haaland (1998) have also suggested this potential. In their work they note that the mobile telephone eliminates the social friction of face-to-face mobilization that can reduce the severity of these threatening situations. The fragmentary and point-to-point nature of mobile telephony allows rumor – and the chained corruption of the rumor – to spread more easily (Shibutani 1966).

If we take these examples and apply them to the political world there are clear parallels. The mobile telephone allows the spontaneous interaction of group members. This can be used for either more general maintenance of the group or for specific coordination of mobilizations. The mobile telephone, like the traditional telephone, is a point-to-point technology and thus requires a pyramid structure in order to spread information quickly, i.e. one person calling three and each of the three calling three more etc. In addition, certain types of sequentially sent messages can approximate broadcasting from a central point. Thus, the device can be used as a clarion call to action for members of political groups regardless of where they are and time of day.

Will this, in itself, make social protests easier to organize and thus, enhance the chances of protesting groups? There are two possibilities here. On the one hand the mobile telephone can undoubtedly enhance the coordination of various types of actions. At the same time, however, it is also quite likely that they will also lead to factionalization.

The fact that one can establish parallel communication channels that are outside those that are “officially” recognized by the challenging group mean that centralized control within the group becomes more tenuous. The ability to engage in point-to-point interaction beyond the view of the centralized group's control may well encourage organization at lower levels, i.e. at the level of the small clique or group as opposed to the larger centralized organization. The establishment of local, small-scale institutions and modes of interaction may also be the womb of factionalism.

⁸ The opposite issue here is that parties can easily be overrun. If word gets out in the network that a party is taking place at a particular place many peripherally known persons can show up and ruin the party for the legitimate invitees. Because of this, teens noted that they were reluctant to host parties.

⁹ The same thing is described by (Manceron, 1997) who examined the search for parties and happenings among teens and young adults in Paris. The difference being that Manceron's work was with regard to the nomadic search for parties and happenings via the use of the traditional telephone.

As noted above, groups that had centralized power and also had a bureaucratic organization were the most successful. Factionalism has the opposite effect in that factionalized groups rarely achieve the goals outlined in their political agenda (Gameson 1975).

The material here, however, asserts that the mobile telephone works against centralized control. Consequently, if protests come to the point of concrete actions, the mobile telephone will allow for better coordination. However, the factionalism that the system allows may well mean that the protest groups have a more difficult time gaining an internal consensus and pattern maintenance that allows for serious challenges.

4.2 Bureaucracy and the adoption of mobile telephony

The next institution I will examine is bureaucracy. In the previous example, the issue of centralized control was a central issue. This also comes into play here.

As noted above, the characteristics describing bureaucracy include division of labor, specific job tasks, hierarchy of authority, formalized rules based on precedent, the need for record keeping and the equal treatment of all. While the ideal type bureaucracy functions according to these principles, it is also clear that alternative, informal channels of information also arise (Garton, Haythornthwaite and Wellman 1997). These alternative channels are often based on friendship, interpersonal interaction, cronyism etc. They often afford certain efficiency to the system at the expense of the notion of equal treatment.

Technology and bureaucracy have had a long association with each other (Beninger 1986). This history includes the typewriter, automatic telephone switching, tickertape machines, duplicating machines, the mainframe computer and of course the personal computer (Giuliano 1982). From the perspective of the organization, technology often has the potential of streamlining information movement and retrieval. When considering the mobile telephone, it can enhance the efficiency of communication and reduce the time needed to reach people, particularly those who do not have a specific location where they work. Thus, it is often seen as a positive contribution to the functioning of the bureaucracy.

When any technology is introduced into an organization, however, there are often various types of adjustments that need to be made. In addition to a more efficient information flow, new technology can also change the social organization of the bureaucracy. The relationships between workers and supervisors can be altered and they can destabilize the power balance between various portions of an organization by disrupting communication patterns, roles, the division of labor, established formats and taken for granted routines. Thus, ICTs, including the mobile telephone, have the ability to work at cross-purposes to the functioning of the “ideal type” bureaucracy.

Manning has provided an analysis of the interaction between mobile telephony and a specific type of bureaucratic organization (1996). In his work he has examined the impact of mobile telephone adoption within police departments. The adoption exposes the various formal and information communication practices as well as their adaptability in the face of new technologies.

A police department is a specific type of bureaucracy. A typical police department has a centralized and structured hierarchy wherein information flows from the lower portions of the organization, i.e. the police officers on the beat through the radio dispatcher and, in summary form, to the upper portions of the organization. Thus, the

centralized radio dispatcher has linked the officer on the beat to the organization. The dispatcher has maintained an overview over the location of the various officers and their activities. The dispatcher has also kept records on the different cases or calls and their resolution. Traditionally, the dispatcher has also provided a link between the officers on the beat and other organizations such as ambulance services, fire departments, other police organizations and other services, such as tow trucks etc. In addition, the dispatcher has created and maintained many of the records that provide the higher portions of the hierarchy with their perspective on the functioning of the police department.¹⁰

Another element in this context is the adoption of various new technologies. As with other bureaucracies and based on the hope that technological adaptations will lead to efficiency, there is a strong appeal associated with them. Computerized information, various types of location technologies, and the ability to retrieve records quickly all have an appeal in that they can allow more efficient policing and centralized control over police operations. Indeed, Beniger suggests that bureaucratic organization is the precursor and now the current motivator for the rapid adoption of information and communication technology.

From the perspective of the officer on the beat there are other imperatives at work. Centralized control is useful in some situations, but not always. According to Manning, the lower level officers may, in some cases, search for ways to avoid supervision, avoid “unnecessary” paperwork and other forms of intrusion into their sense of the actual police work. It is not always the case that one “goes by the book.” Rather, there is intuition, back channel information, and various techniques that are used in the activities of the police. In addition, the gathering of centralized information may also represent a problem to these officers in the case of disciplinary hearings or in the case of assertions of inappropriate police work made by arrestees and others who come into contact with the police. Thus, as opposed to the idea that all work is centralized and accountable, there is to some degree the opposite impulse among the lower level officers.

Given this backdrop, i.e. the rather strict formal bureaucratic structure of the police department, the imperative of the lower level officers to operate to some degree outside the centralized structure of the organization, the adoption of new technologies must find its place among these opposing forces. As Manning notes,

Management makes the effort to embed the new technology within current authority patterns and organizational aims while those subject to the technology work out their own response to such efforts (1996, 58).

The specific effects of the mobile telephone are that it allows back channel communications between officers, between officers and other agencies and also between officers and various private individuals. This means that the mobile telephone can change the specific routines associated with police work. Where one relied on a central dispatcher to communicate messages to other agencies and organizations, the police officer is able to do this by themselves. In some cases this may lead to more efficient work. On the other hand, there is a reduction in the pool of general knowledge provided by the traditional radio communication. This may mean that the information, and perhaps the activities of the agency are more disjointed. This is similar to the tendency noted above in connection with factionalization within challenging groups.

¹⁰ Officers also produce reports on their activities, indeed this is a central but perhaps maligned, portion of their work.

The mobile telephone also allows room for direct informal interaction between officers and also between officers and other persons. Thus, it provides a back channel through which they can agree upon various irregular covert activities. Manning describes how officers conspire to maintain a front vis-à-vis the central organization as represented by the radio dispatcher while carrying out various, often harmless, high jinks.

Thus, the development of independent, point-to-point communication between individuals can have various impacts on the functioning of a bureaucratic organization. On the one hand it can lead to efficiency in that low level and inconsequential interactions do not need the attention of centralized portions of the organization. On the other hand, there is more room for alternative activities that may be at odds with those of the organization.

4.3 Educational system

Now I will turn to the impact of the mobile telephone on the educational system. Here there is also a tendency towards the organization of interaction at lower levels.

In the discussion above I noted how the educational system had focused on the interaction between the institution and the isolated individual. The point of this is the formation and examination of the individual's conduct. The formal examination becomes a record of the individual's progress towards the ideal of being an educated person.

When examining the impact of the mobile telephone on the educational system, it is clear that there have always been systems of communication between students that counteract the ideals of the educational institution. To be sure, a whole range of traditional technologies exist for the subversion of this system. Students have communicated to each other by passing notes, whispering, using hand signals and the like. The sanctity of the examination has also been disrupted through the use of crib sheets, writing the answers on one's hands, looking at the neighbor's paper etc.

None-the-less, the development of mobile telephony changes the nature of passing notes. In the survey of 1006 Norwegian teens, aged 13 to 20 described above, we found that the use of mobile telephone mediated text messages in school is relatively well established. The data shows that more than one in four of all students had either sent or received a text message in class during the fall semester in 1999.¹¹ It also shows that about 8% of all students had received and 3% had sent a text message in class during the previous day. In group interviews one also comes across recognition of this practice and its advantages when compared to the more traditional methods of illicit communication in the classroom.

Ola (14) It doesn't make any sense to pass a message because they see it immediately, but they can't see it if you have a mobile [telephone] in your pocket for example.

The use of the mobile telephone to send text messages eliminates the physical note and it also reduces the chance that the message will be discovered and read by others. According to the informants, text messages were used in order to, for example, organize various types of social interaction.

Interviewer: There has been a lot of talk about the use of the mobile [telephone] in class. Have you done it?

Ola (14) Not too much

¹¹ The data also shows that 18% of all students had either made or received a voice mobile telephone call in class during the fall semester of 1999.

Interviewer: Is it talking or text messages?

Ola: It's messages.

Interviewer: What do you say? What type of messages are they? . . .

Rune (15) Things you wonder about.

Interviewer: For example?

Rune: If you want to go home together from school or to do something, what you did yesterday or things like that.

Here is the social use of the device. The informants talk about the coordination of their activities or provide reports of the previous day's events. This is the pattern maintenance of the group that takes place via the mobile telephone since other, more direct communication channels are not available. Given the emphasis on discipline in the school, however, this form of communication is not without its problems. Following in the spirit of the educational enterprise as described by Foucault some teachers enforce rules that isolate the individual students.

Interviewer: What does your teacher think? Has it been a problem in your class?

Inger (17) We have very strict rules at our school. It is not allowed to use the mobile [telephone] at all.

Nina (18) We can't even have it on our desks. Then the teacher can take it and you have to get it at the end of class.

While there has been a technical advance, there are also dangers in its unrestricted use. The severity of the sanctions can vary from class to class and school to school. In some cases the teachers turn a blind eye towards the disturbance. At the other extreme the mobile telephone can be confiscated and withheld from the student until their parents come to school to retrieve it. None-the-less there is the common understanding that the use of the device is at cross purposes with the mission of the school.

Arne (17) We have it pretty free in our class. If [the mobile telephone] is on your desk it is ok then you can hide it a little to write [text messages].

Going one step further, the informants indicated that it was not beyond their thoughts that the mobile telephone was used in examinations. One strategy was to use the device as a type of "stand alone" cheat sheet where relevant material was entered into the memory of the mobile handset. Others pointed out that they had used the mobile telephone to communicate with others during examinations.

Morten (14): In the trial examination I always write messages

Interviewer: What do you write?

Erika (17): Questions and answers on the exam.

The introduction of the mobile telephone puts into question the notion of the school wherein the student is observed as an isolated case to be closely controlled and regimented. The ability to compare the students against each other, and, in the context of the examination, compare them to some sort of normal distribution or abstract notion of knowledge is sabotaged by the technology. There is no individual track record, rather the evidence showing the strength of one's social network.

While the ideal of the isolated student open to the panoptic eye of the institution never exists in any pure form, the adoption of mobile telephony puts it even more into question. The end is not in sight. Ever more discrete mobile communication technologies are now on the point of being developed.¹²

¹² One can, for example think of Bluetooth and various items of wearable computing.

4.4 Adolescence

The mobile telephone changes some of the dynamics of adolescence and the emancipation process. The mobile telephone, we have seen, lowers the threshold of availability and can result in new ways to organize everyday life. It allows persons to engage in pattern maintenance and it is this type of activity that is important to teens vis-à-vis their peer group.

In this section I will examine the mobile telephone in relation to the family, the peer group, the expressive use of the mobile telephone and some issues surrounding the display of the hand terminal itself.

4.4.1 The mobile telephone vis-à-vis parents

The mobile phone affects two areas of interaction when considering the relationship of teens to their parents. On the one hand it allows for better coordination within the family, and on the other hand it brings up issues surrounding the emancipation of the teen. Looking first at the coordination of the family, the fact that contact can be made as needed means that the device allows for better coordination, or micro-coordination, within the family. This issue is broached in the comments of Ola, a father whose children own and use mobile telephones.

These 12 year olds, and 13 and 14 year olds also, they are very active in that huge circle of acquaintances that they have with sports and visits and, and when they begin with middle school then they start different things and there are different confirmation things and everything else (Ola).

The mobile telephone means that the children can do a more nuanced job of coordinating their activities with their parents. They can, for example, call their parents when they are done with activities instead of having the parents arrive too early or too late. In addition, the mobile telephone allows the children to reach their parents as needed and receive the various messages and information that is needed in the functioning of the family.

Along with this coordination arises the issue of the freedom of the teen. Since adolescence associated with increasing emancipation of the child, the mobile telephone plays into the various episodes and resolutions that this implies. The mobile telephone allows freedom to the adolescent while at the same time it provides a link. The difficulty of striking the correct balance is seen in the comments of these parents.

Anne I have a boy that is 17 years old and is in high school and he has not gotten [a mobile telephone] yet but he can borrow one sometimes. But now I am thinking about a cheap one that functions for him. Because he is beginning to go out occasionally now. He goes downtown and, and it is not that he needs to call me or that I need to call him because it doesn't matter if he has the mobile telephone with him *but if something should happen*. He was someplace this summer, at a conference at the university and he didn't make it to the last subway from there or something. And then he could have called so that we could come and get him. We planned that he would go together with some others on the subway but they didn't make it. And they stood there. In those kinds of situations I think it is good to have a mobile telephone. . . . (Emphasis added)

Marta I have a 17 year old and the worst thing I know is when she goes downtown. I am so afraid but I just have to accept this you know. But it helps that she has a mobile telephone because she can call if something happens. It is not to control my daughter that she should take her mobile telephone when she goes out, but it is ahh . . .

Interviewer: For her safety?

Marta: 'If something happens, call home and we will come immediately!' you know. Because she needs to go out and experience Oslo. She has to learn about the world.

One can see the weighing of freedom vs. a certain insecurity in the comments of these parents. On the one hand they know that the children are moving more and more outside their orbit. At the same time, there is the desire to be available for them in the case of problems. They are interested in that their children are self-sufficient individuals but perhaps also see the transitional problems facing the children. In this contest, the mobile telephone is a type of link that stretches the parental bond beyond its traditional range. This aspect of its adoption is welcomed. Another moment in the discussion is the shift in influence that the device affords the peer group, something that can be interpreted differently by the parties on either side of the generational divide.

4.4.2 The mobile telephone vis-à-vis the peer group

As suggested above, teens are in the process of establishing their own social world. One of the clear functions of the mobile telephone is that it allows them to establish a communication channel with their peers over which their parents have little insight. We have already seen a similar development when we considered the adoption of the mobile telephone by police officers.

When considering the coordinative aspect of the mobile telephone, there are two different types of communication here. One is the direct coordination of activities and the other is the expressive maintenance of the group. In both cases, the adoption of the mobile telephone allows the adolescents to coordinate their social life and, in some ways to veil their activities from their parents.

A primary use of the mobile telephone is the functional coordination of peer group activities. One can see this in the comments of Arne:

I imagine that 75% [of my calls] are like that. You just wonder about where they are or if they are coming or what they are doing or things like that. They just call to hear what is happening. We call before school to find out if they have left home or after school to find out what they are doing after school (Arne 17).

Aside from the mundane coordination of everyday affairs, the mobile telephone is also drawn upon in the micro-coordination of the teens' social life. According to informants, it is used more extensively in the weekends, both for voice telephony and also text messages.

Inger (17): If you have a mobile telephone, you can change plans along the way. You do not need to agree to meet either; you can just call whenever you want actually.

Interviewer: But how do you make agreements?

Inger: I don't know, you agree where and when you are going to meet and if there is a change you say that you will meet another place for example, if that is easier.

Arne (17): I usually just make plans by calling [on the mobile telephone]. 'What are you doing tonight?' 'I do not know yet.' 'Ok, I will call you later.'

Interviewer: It is such that you call and ask if you can do something together?

Arne: Yeah, for example today when I am here, I can just agree with my friends that I will call them, when I am done. Then it is easier than planning what you are going to do [beforehand].

From the perspective of the teen the mobile telephone also provides them with sought after privacy. It allows them a communications channel that is outside the direct purview for their parents.

It is ok when somebody will leave a message on an answering machine on my mobile telephone instead of the family's machine. I can call people who call; it is a little more private (Rita 18).

If I am not home and if I don't have a mobile telephone then my parents would have been clear about all the people I hang out with and if they [the friends] wanted to give

me a message when I am not home but instead put it on the telephone answering machine then they would have to be fast on their feet when thinking about what they want to say. When you have a mobile telephone then you have a private answering machine and a private telephone (Erika 17).

Thus, the mobile telephone provides the teens with the ability to quickly and directly coordinate activities with their peers outside the direct view of their parents. In addition, the mobile telephone is used for expressive interaction to a much greater degree than among other age groups. Beyond that the device is also a channel through which they can develop their sense of identity and membership in their peer group and also develop new friendships.

As we have also seen above, the mobile telephone provides the teen with a channel through which they can derive a sense of belonging. Receiving and sending messages confirms one's membership in the group (Stuedahl, 1999). Thus, it is an occasion that receives extra attention. One sees this in the comments of Bente (18) when she says:

“If I get a text message I am curious. I want to be included, so, like if I am in the shower and I get a message, I, you know, have to read it. If I write a message and don't get a response immediately then it is like, you know. ehhh . . .”

These comments underscore the role of accessibility in the eyes of teens. Being available to their peers and also being updated as to what is happening, where it is happening and being included are important issues. The areas of use go beyond simply exchanging the times and dates of various parties and meetings. There is also the use of the device for chatting and social interaction. This more casual approach to the mobile telephone is seen in the comments of Nora (18) who said: “[With] friends it is chatting, parents . . . call for something.” This type of interaction is similar to the pattern maintenance discussed above. It is a type of social interaction wherein the sender and receiver share a common experience. This common experience can be created with either traditional speech based telephony or through the use of asynchronous text messages.

The experience [of mobile telephone communication] has a concrete content such as the joke, picture or other content. In addition, there is a meta-content, i.e. the receiver is in the thoughts of the sender and when they next meet they will be able to base a certain portion of their further interaction on the exchange of messages. The messages serve to tie the group together through the development of a common history or narrative. As one teen noted, “If you get a good message or one that is cool you often send it on.” Thus, the sharing of messages is a type of gifting and it is a part of the relationship's objectification. (Ling and Yttri, forthcoming).

Looking specifically at the use of text messages, the difficulty of entering the various letters,¹³ the limited space available for the messages¹⁴ and indeed their very text based nature means that this form of communication lends itself to the establishment of abbreviations and slang. The slang, which emphasises homophones, cognates and abbreviations,¹⁵ can be slightly illicit. There is an explicit sexual content to many of the messages and, in addition, a portion of the messages are sent and received during class when the use of the mobile telephone is forbidden. The willingness of the

¹³ To send a message one uses the mobile telephone's keypad to enter the letters. A, B and C are, for example on the #2 key and thus to type B one enters a text mode and then presses the #2 key two times in order to display the B. While this may appear awkward, teens have been observed “touch typing” while using this system, i.e. composing and writing messages without looking at the keypad.

¹⁴ The length of a message cannot exceed 160 letters.

¹⁵ Thus, for example “CUL8R” reads “see you later.”

individual to transgress these boundaries further indicates their commitment to the group.

The composition of the language in text messages shows another expressive dimension of the mobile telephony i.e. the way in which the device is used to develop and control the boundary of the peer group. Specifically the use of slang or newly minted words within the context of a small group serves to identify group members, mark group boundaries and also to exclude those who are not fluent in the slang (Fine 1987). Those outside the group will either not understand the content of the slang, or will appear inept when trying to use it. Thus, the use of slang, in general, is an aspect of identity formation for the adolescents as well as for other groups.

Beyond the confirmation of existing relationships the mobile telephone and in particular text messages have been drawn on in the establishment of new relationships. The asynchronous nature of text messages allows a couple that have perhaps just met, to map out common areas of interest and the contours of the relationship at a slower pace. In addition, the fact that the contact is directly between the individuals and not mediated by parents means that one of the hurdles that may hinder the interaction is removed. One sees this in the comments of Ida who describes why text messages are preferable to direct speech based telephony.

Then one does not have to use their voice that can shout or break up. *You have to have time to think. . . .* You always use it in situations like this because it gives the other person the chance to think through and answer 'no'. If the person is on the phone it is not always so easy to answer no (Ida 18). (Emphasis added)

Focusing for the moment on the establishment of relationships, the informants provided the following comments:

Interviewer: You said that when you meet people when you are out on the town that you send text messages because it is easier than to talk together. Is this when you are out in town?

Rita (18): No, this is the day after or something. If you have exchanged telephone numbers then it is a lot easier to send a text message than to talk together.

Erika (17) If you meet a nice guy when you are out and he gives you his number, then you don't know if he is a jerk and that is why he did it or if he is serious. So, you send him a message and then at least you know that. He also has the possibility to say no.

Ida (18) Or if you regret then you just don't take the phone¹⁶ or send a message.

Interviewer: Don't send it back?

Rita: Then you avoid the situation where you have to sit and talk with a person that you really don't want to talk with.

Thus, while the first contact is face-to-face, the subsequent exploration of the potential for a relationship is carried out asynchronously. This allows the potentially impending couple to deliberately compose their messages and perhaps to draw on the experience of their friends in the composition of a response. In addition, there is a direct communication channel uncluttered by parents or teachers whose attention may lead to embarrassment. There is no need to actually see the other since no physical object is passed between the two. After the initial contact and the asynchronous mapping of the possibilities has occurred, the couple can begin to use synchronous telephone calls and eventually meet face-to-face if there is mutual interest. Thus, it is not surprising that the mobile telephone has been adopted for use in these situations.

¹⁶ Caller ID is a function of the standard GSM telephone.

4.4.3 The quantification of popularity and the establishment of status

Up to this point, I have considered how the mobile telephone is used for electronically mediated interaction. Beyond this, the device is employed for other types of interaction. These include various ways of quantifying one's popularity and also the symbolic nature of the handset itself.

Looking at the quantification of popularity, the mobile telephone offers the teen several ways that they can measure their popularity. One of these is the number of text messages one receives. This can be seen in the comments of an informant in the group interviews.

I have received seven or eight messages from him today and so I have answered seven or eight messages but that is not the way it is every day you know. When I come home then I often have a pile of text messages from the day but it varies in relation to who you are in contact with and what day it is (Erika 17).

Erika uses the number of text messages she received as a way to quantify her interaction. In addition, the mobile telephone allows one to compare the number of names one has entered into the automatic dialing registers on their telephones and the number of messages in the answering machine function. Thus, one can use the mobile telephone to document the degree to which one is integrated into the peer network.

Beyond this, the physical object of the mobile telephone has, in itself, a social value. It is clear from the comments of the informants, that teens lay a certain importance on the model, size, façade and functions of the actual physical mobile telephone. These characteristics are seen as being important. A mother noted that her daughter refused to use her mobile telephone because of its size and vintage.

Mia: My 13-year-old is allowed to use her father's, but she refuses. That belongs in a museum. It is two years old and one cannot be seen with it. I had my two daughters on the ferryboat from Denmark last weekend. I said to one of them that they could call home and say that we would be landing at this and that time. 'With that telephone? Are you crazy?' It was a blank refusal. She had to change the [SIM] card over to her own telephone. She would not touch the other one in public. She would have to hide to do that.

The informants were quite well oriented about the types of handsets that are available on the market. It was clear that they knew the models, capacities and possibilities that were included in each of them, though it must be said that the design and visual impact of the handset were important. The size of the device was particularly important in determining its desirability. One can see this in the comments of Nina: "It depends on the way it looks and also the size. It is often the small very nice mobile telephones that have the highest status" (Nina 18) and also in the comments of Inger.

Inger (17) I have a real ugly Bosch telephone.

Interviewer: Why is it ugly

Inger: Because it is big and ugly

In addition to having the correct type of mobile telephone, there was also a premium placed on its correct display. As with any other type of status enhancing object, this is a ticklish issue that requires a certain understanding and management on the part of the teen.

Interviewer: Where do you carry your mobile telephone, on your belt?

Arne (17): Covered up as much as possible.

Interviewer: Covered up as much as possible?

Oda (18): It is tacky to have your mobile telephone in your belt. It is not very cool to show off your mobile telephone.

Interviewer: It is not cool to show it off?

Nina (18) I think that it looks dumb.

Interviewer: Where should it be?

Inger (17): In either your purse or your bag.

Arne: Or in your pocket

Interviewer: Why shouldn't you show it?

Oda: It is not that you shouldn't show it off but you look like the village idiot if you have it in your belt.

Thus, the mobile telephone has been adopted by a large portion of the teens in Norway. Its adoption is changing the contours of adolescence in several ways. These include changing the way in which the family coordinates its activities, the way in which the peer group plans their activities, the style and form of expressive interaction and the ways in which status is established and elaborated. It is likely that as the technology matures its status enhancing potential will recede. However, the technology is here to stay among teens. We can look towards a future in which the mobile telephone will be institutionalized in teens' interaction.

5 Conclusion

In this paper, I have looked into some of the ways that the mobile telephone can potentially affect four institutions, i.e. democracy, bureaucracy, education and adolescence. I have tried to describe how the mobile telephone will potentially affect the organization of protests and challenging groups within democracy, the interaction between police officers on the beat and their interaction with the more centralized portions of the bureaucratic organization, corrupting the notion of the isolated individual in the educational system and also the emancipation of the teen from their parents.

The consequences that I have outlined here point to the need for readjustment of the various institutions. In some situations, these readjustments challenge existing power relationships within the organization as for example in the case of bureaucracy and adolescents. In other cases, the adoption of the mobile telephone can indeed lead to the rationalization and streamlining of the institution.

It is also worth noting that the mobile telephone in itself is unlikely to cause the major readjustment of any of these institutions. For example, if one looks at the educational system, it is not likely that the mobile telephone will result in any dramatic changes in the near future. At the end of the day, the individual will still need to master various techniques in order to survive in the contemporary world. Reading, math, writing and indeed, independent thought are still necessary skills for the individual. Without them jobs, and the daily management of everyday tasks is difficult. Mastery of the mobile telephone and information technology may provide an alternative avenue for the individual's development, but these will likely be within the context of the educational system (Skog 2000):

A common thread that runs through the various analyses is that the mobile telephone provides a more immediate, independent and point-to-point communication channel. The social effect of this is that it becomes more difficult to control the interaction of small social groups within the various institutions. Again, this can be an advantage for the functioning of the institution since the lower level communication that is essential for the functioning of the institution does not need to clog the more centralized communication channels. Thus, the protest group can be more flexible in

its mobilization, the police officer can order a tow truck directly instead of going through a dispatcher and the teen can interact with his/her peers directly without tying up the family phone. In addition, this type of direct communication between individuals can also strengthen the pattern maintenance activities of the organization. Thus, the lore of the group, be it political activists, bureaucrats, students or adolescents, can be more easily maintained and at a more direct level.

At the same time, this efficiency of communication can also encourage the development of factions and smaller groups that make central integration of the institution more difficult. More natural communication, i.e. the communication between individuals after as the need arises and not the more centralized, time and place contingent communication can fractionalize these institutions. Thus, the introduction of the mobile telephone into existing social situations allows one to see the way that technology effects the ongoing functioning of social institutions.

Bibliography

- Ariès, P. 1973. *Centuries of Childhood*. Harmondsworth, Penguin.
- Beniger, J.R. 1986. *The control revolution: Technical and economic origins of the information society*. Cambridge, Harvard.
- Blau, P.M. and Scott, W.R. 1962. *Formal organizations*. San Francisco, Chandler.
- Brittain, C.V. 1963. Adolescent choices and parent-peer cross pressure. *American Sociological Review*. 28, 385-91.
- Calhoun, C. 1988. Populist politics, communications media and large scale societal integration. *Sociological theory*. 6, 219-241.
- Fine, G. 1987. *With the boys: Little league baseball and pre-adolescent culture*. Chicago, Univ. of Chicago press.
- Foucault, M. 1979. *Discipline and punish: The birth of the Prison*. New York, Vintage.
- Gameson, W. 1975. *The strategy of social protest* Chicago, Dorsey.
- Garton, L., Haythornthwaite, C., and Wellman, B. 1997. Studying online social networks. *Journal of computer mediated communication* 3, 1. also at : <http://jcmc.huji.ac.il/vol3/issue1/garton.html>
- Gennep, A.v. 1960. *Passage rites*. Vizedom, M.B. and Caffè, G.L. (trans). London, Routledge and Kegen, Paul
- Gillis, J. 1981. *Youth and History: Tradition and Change in Age Relations, 1770-Present*, London, Academic Press.
- Giordano, P.C. 1995. "The wider circle of friends." *American Journal of Sociology* 101 (3) 661-97.
- Giuliano, V.E. 1982. The mechanization of office work. In *The mechanization of work*. Scientific American. Pp. 77 – 88, San Francisco, W.H. Freeman.
- Glaser, A. and Strauss, B. 1971. *Status passage*. London, Routledge and Kegen Paul.
- Hogan, D.P. 1985. Parental influences on the timing of early life transitions. *Current perspectives on aging and lifecycle*. 1, 1-59.
- Jefferson, T. 1975. "A letter to James Madison, Paris January 30 1787." In *The portable Thomas Jefferson*. Peterson, M.D (ed.), New York, Viking. 415-21.
- Julsrud, T, Krange, I. and Ling, R. 1998. *Who are the computer illiterate?*. Kjeller, Telenor Research and Development (FoU R&D R 19/1998).
- Lien, I.L and Haaland, T. Vold og gjengatferd: En pilotstudie av et ungdomsmiljø. Oslo, NIBR.
- Ling, R. 2000. *Norwegian teens, mobile telephony and SMS use in school*. Kjeller, Telenor Research and Development (FoU R&D R 07/2000).
- Ling, R. and Helmersen, P. forthcoming. "It must be necessary, it has to cover a need": *The adoption of mobile telephony among pre-adolescents and adolescents*. Kjeller, Telenor Research and Development (FoU R&D R 9/2000).

- Ling, R. and Yttri, B. forthcoming. "Nobody sits at home and waits for the telephone to ring:" Micro and hyper-coordination through the use of the mobile telephone.
- London, S. 1995. Teledemocracy vs. deliberative democracy: A comparative look at two models of public talk. *Journal of interpersonal computing and technology* 3, (2), 33-55.
- Manning, P.K. 1996. "Information technology in the police context: The 'sailor phone.'" *Information systems research*. 7, (1). 52- 62.
- Peter, L.J. and Hull, R. 1969. *The Peter principle*. New York, William Morrow.
- Ruben, L. 1985. *Just friends*. New York, Harper and Row.
- Savin-Williams, R.C. and Berndt, T.J. 1990. Friendship and peer relations. In *At the threshold: The developing adolescent*. Feldman, S.S. and Elliott, G.R. (eds.) Cambridge, Mass., Harvard. 277- 307.
- Shibutani, T. 1966. *Improvised News: A sociological study of rumor*. Indianapolis, Ind., Bobbs Merrill.
- Skog, B. 2000. *Mobiltelefonen som symbolsk kapital I ungdomskulturen*. Paper presented at the seminar on the social consequences of mobile telephony, 16 June 2000, Oslo.
- Stuedahl, D. 1999. Virkelige fantasier: Kibermedia og Goa Kyberia. In [Netts@mfunn](#) Braa, K, Hetland, P. and Leistøl, G. (eds.) Oslo, Tanu Aschehoug, 219- 232
- Sullivan, H.S. 1953. *The interpersonal theory of psychiatry*. New York, Norton.
- Thompson, V. 1961. *Modern organizations*. New York, Knopf.
- Tocqueville, A. 1945. *Democracy in America*. New York, Knopf.
- Vaage, O. 1999. *Norsk mediebarometer 1999*. Oslo, SSB.
- Weber, M. 1978. *Economy and society: An outline of interpretative sociology*. Roth, G. and Wittich (eds.) Fischhoff et al. (trans.) Berkely, University of California.
- Whyte, W. H. 1956. *The organization man*. New York, Simon and Schuster.
- Youniss, J and Smollar, J. 1985. *Adolescent relations with mothers, fathers and friends*. Chicago, University of Chicago press.
- Youniss, J. 1980. *Parents and peers in social development: A Piaget-Sullivan perspective*. Chicago, Univ. of Chicago.