Is the cell phone undermining the social order?
Understanding mobile technology
from a sociological perspective

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Introduction

Since its invention in 1876, the telephone has interested very few sociologists because it is too exclusively connected with the very lowest level of social life: the level of bilateral interaction. The Internet arouses much more interest because it is a far more universal technology and able to support multilateral relationships of all kinds; resulting in virtual groups, communities and organizations, as well as trans-societal networks, on a local, regional as well as on a global scale.

Within the scant theorizing available we find extremely contradictory positions. On the one hand, the phone is seen as a medium of organization. It enables the real-time integration of highly complex organizations as well as myriad coordination processes within cities that could not be realized on the basis of face-to-face interaction. As a substitute, people would have to adopt the role of moving messengers most of the time (e.g. Lasen 2002: 20, 26; Townsend 2000).

On the other hand, German sociologist Hans Paul Bahrdt considers the phone to be a "medium of disorganization" which produces anarchy by enabling everybody to reach everybody else directly, without observing formalized channels of communication (Bahrdt 1958). Such disruptive effects are especially pronounced in model bureaucracies that allow only vertical (not diagonal) communicative flows. Evidently, the phone is "regressive", at least in the sense that it supports the oldest mode of verbal exchange: oral communication. In this way it reduces the usage of letters or other written documents (which future historians could use for reconstructing our present time) and in addition enables even illiterates to engage in trans-spatial communication.

In this chapter, it is maintained that this "regressive" and "subversive" impact of landline phones is very much amplified and general-

ized by mobile phone devices, because they empower informal micro-social networks to communicate much more efficiently beyond any institutional control.

When visiting Paris in summer 2004, after many years of absence, the author was suddenly struck by seeing so few bistro guests reading newspapers, and so many engaged in mobile phone conversation. This raises the question as to whether the cell phone has a generalized capacity (or even, an effect) to direct the free-time resources of individuals to the sphere of personal interaction: thus shielding them from new acquaintances in their environment as well as from messages originating in the larger world.

Four regressive impacts on social and societal structures

Looking into the fascinating history of communications media, it is remarkable how much emphasis has been given to the development and implementation of various "one-to-many" media with the capacity to empower centralized and formalized organizations: for example, the printing press, radio and TV. All these one-to-many media share the fact that they invade the private sphere of individuals with propaganda, commercials or other messages that serve the interest of enterprises, governments, political parties or other collective entities that are not usually part of daily life. As a stationary device, the landline phone also supports supra-individual institutions by connecting locally fixed offices and by forcing individuals to be at a certain place and to use such institutionally provided intermediaries for entering into mutual communication.

By contrast, current digital technologies have given rise to various innovations with at least some capacity for slowing down or even reversing this long-term trend. Thus, the Internet certainly empowers individuals by providing everybody with identical technical capacities for engaging in any kind of bilateral or multilateral interaction, for researching information, or for publishing his or her personal views on a worldwide scale—and all of this at a minimum of cost and effort, without any spatial restrictions.

Similarly, the mobile phone empowers and enlarges the sphere of micro-social interaction by making individuals free to reach each other under any circumstances and without the need to conform to institutional norms that demand a presence in a specific place (and a relationship with others present at this same location). The seeds are therefore sown for a long-term countertrend that may lead to a major shift from supra-individual collectives (like bureaucratic organizations) based on stable locations and depersonalized formal rules to decentralized networks based on ongoing inter-individual interaction.

Looking at the usage patterns of cell phones shown by children and friends, and studying the still scarce empirical research findings on this same topic, the author increasingly has the impression that, apart from diverting attention from mass media, there are several other aspects in which the cell phone works as an "antievolutionary device" by promoting the retrogression to more simple, "pre-modern" patterns of social life.

In at least four different ways, the mobile phone seems to undermine or even reverse long-term trends of societal development thought to be irreversible, at least since the inception of the industrial revolution and the rise of larger bureaucratic organizations. This falsifies well-established macro-sociological theories hitherto used to model the development of modern societies:

1) by increasing the pervasiveness of primary, particularistic social bonds,
2) by reducing the need for time-based scheduling and coordination,
3) by undermining institutional boundary controls and replacing location-based with person-based communicative systems,
4) by providing support for anachronistic "pervasive roles".

The new pervasiveness of primary social bonds

Despite its technical capacity for making any individuals immediately accessible to each other, the landline phone has nevertheless contributed to strengthening ties among people already familiar with each other (e.g. in the neighbourhood or community), while its contribution to larger social networking has been rather modest (Lasen 2002: 25).

Cell phones can even more effectively be used to shield oneself from wider surroundings by escaping into the narrower realm of highly familiar, predictable and self-controlled social relationships with close kin or friends (Fortunati 2000; Portes 1998). Such tendencies are supported by the fact that, in contrast to fixed phone numbers, which are usually publicized in phone books, cell phone numbers are usually only communicated to a narrow circle of self-selected friends and acquaintances. In this way, no calls from unpredictable new sources (including insurance salespeople, telephone survey institutions etc.) need to be feared (Ling 2000).

Mobile phones may therefore support tendencies towards closure rather than towards the opening up to new acquaintances. This function is highlighted by the empirical finding that in Finland, ownership of mobile phones is most frequent among members of two or three-person households (Puro 2002: 20), not among single people. In Italy, usage is highest among individuals who maintain close contact with their kin (Fortunati 2002: 56). Similarly, Koreans have been found

to use the cell phone much more for strengthening existing social ties than for initiating new ties (Park 2003). Finally, a Japanese study shows that one of the major functions of web phones is to get into contact with nearby friends (Miyata et. al. 2003).[1]

As Fox vividly describes, the cell phone can function as a powerful tool for re-establishing the fluid, casual modes of informal communication typical to traditional communal life. In this way it counteracts the loss of communalistic social integration caused by traditional media, as well as the depersonalization of modern urban life (Fox 2001).

"[...] this for me is the essential thing about mobile phones: they enable the type of (virtual) communication and interaction that characterizes pre-modernity: people who never move far, live in small towns and villages near each other, everybody knows where everybody else is etc. But being virtual, this kind of communication is no longer bound to any single locality, as was the case in pre-modern times." (Roos 2001)

While the intrusion of strangers can be reduced, circles of established friendships can be deepened because a higher density of communication within such circles can be maintained, irrespective of time and place (Ling 2000).

Given their capacity to retain primary social relationships over distance, the use of cell phones can be matched by regressive psychological tendencies: e.g. with the need to cushion the traumatic experiences of foreign environments by remaining tightly connected to loved ones at home. In this way, the mobile can function as a "pacifier for adults" that reduces feelings of loneliness and vulnerability in any place and at any time. A similar metaphor conceptualizes the cell phone as an "umbilical cord", making social emancipation processes more gradual and less traumatic by allowing parents and children to retain a permanent channel of communication during periods of spatial distance (Palen/Salzman/Youngs 2001; Ling 2004: 48).

Given the constant availability of external communication partners (as sources of opinion and advice), individuals may easily unlearn the ability to rely on their own judgment, memory and reflection. They therefore regress to a state of infantile dependency on a consistently narrow circle of "significant others"—even in cases where these people might be 10,000 miles away (Plant 2001: 62). As a consequence, individuals may become less prone to develop certain "social competencies": e.g. the ability to react adaptively to unpredictable encounters, participate in conversations about unforeseen topics, form quick impressions

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1. The broad relevance of such "regressive" modes of usage is vividly illustrated by the results of the pan-European EURESCOM study of 1999, where almost 85 per cent of younger users (aged 14-24) shared the opinion that "a mobile telephone helps one to stay in steady contact with family and friends." (Ling 2004: 60)

and judgments about new acquaintances, or learn quickly how to conform in new "collocal" gatherings and groups (Fortunati 2000).

While the fixed phone has promoted the diffusion of universal linguistic expressions (like "Hello", "Pronto", etc.), the cell phone seems to support the Balkanization of language into numerous particularistic subcultures characterized by a highly informal style of expression (Ling 2004: 145ff.). Given such an empowerment of informal language, schools may have increasing difficulties imposing formal writing styles on individuals who permanently use a very different jargon when writing their SMS (or when chatting on the web).

The decline of time-based scheduling and coordination

Continuous campfire sites established more than 500,000 years ago testify to the skills of emerging hominids to reach agreement about convening at the same place at a specific hour (or day). Since then, evolutionary advances of human societies have been closely associated with an increasing capacity to use timekeeping for purposes of social coordination.

Since the early 13th century, artificial clocks have increasingly replaced natural indicators (e.g. the position of the sun, moon or stars): thereby making coordination more precise and independent of geographical location (Landes 1983; Ling 2004: 64). Since the 17th century, philosophers have used the clock as a paradigm for modelling a universe where everything that occurs is strictly determined in advance, and since the 18th century, *"the clock, not the steam engine is the key machine of our industrial age"* (Mumford 1963: 14). The life of contemporary individuals is increasingly permeated by time regulations forced upon them by formal institutions: by the time-tables of railways and buses, by the opening hours of shops, the scheduling of school classes, or the rigid daily, weekly and yearly oscillations of work hours and leisure time.

Under conventional technological conditions, preplanning was inevitable because people had no means of communicating at later points in time (especially if they were already on the move). Taking this perspective, it is evident that cell phones reduce the need for temporal preplanning, insofar as rearrangements can be made at any moment, even very shortly before an agreed time. A new, more fluid culture of informal social interaction therefore can emerge, one which is less based on ex-ante agreements, but more on current ad hoc coordination according to short-term changes in circumstances, opportunities, or subjective preferences and moods (Ling/Yttri 1999; Ling 2004: 69ff.).

"The old schedule of minutes, hours, days, and weeks becomes shattered into a constant stream of negotiations, reconfigurations, and rescheduling. One can be interrupted

or interrupt friends and colleagues at any time. Individuals living in this phone space can never let it go, because it is their primary link to the temporally, spatially fragmented network of friends and colleagues they have constructed for themselves." (Townsend 2000)

Such social settings are "real-time systems" where everything happening is conditioned by *current* situations, while the impact of the past (effected through rules and schedules) and of the future (impinging in the form of planning activities) declines (Townsend 2000; Plant 2001: 64). Transnational empirical studies have shown that such contributions to the coordination of everyday activities are universally recognized as one of the most outstanding advantages of new technology. Rich Ling judges them to be "the greatest social consequence" of mobile telephony (Ling 2004: 58f.).

The extremely high penetration rate of the mobile in Italy seems to be associated with the spontaneous, disorganized lifestyle that has always reigned among most of the country's population (Fortunati 2002: 55). To the degree that this deregulation takes place, there is a growing discrepancy between the sphere of informal, interpersonal relationships and the realm of formal organizations and institutions (where time scheduling is relentlessly maintained). As a consequence, there are more tensions at the interface of these two discrepant worlds: e.g. when public transport timetables limit the spontaneity of intra-urban movement, or when schools and work organizations experience growing difficulties in imposing norms of punctuality on children and youths no longer accustomed to scheduling their daily life (Ling 2004: 77f.).[2]

The deregulation of institutional boundary controls and the shift from location-based to person-based social systems

In the view of Spencer, Parsons, Luhmann and many other reputable theorists, the major defining characteristic of modern society is its outstanding degree of differentiation along functional (instead of ethnic or stratified) lines. In other words: the net of social reality is woven by complementary relationships between highly autonomous institutional orders and other functional subsystems, each cultivating its own distinctive views, values and norms. A closer look reveals that such autonomy is heavily based on spatial segregation. By insulating social systems from their general social environment, the preconditions have been created for subjecting them to processes of systematic (e.g. technological and organizational) development and specialization.

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2. Similarly, there is a growing gap between small groups (especially pairs) where ad hoc coordination by cell phone can be fully effective, and larger groupings that must still rely on more conventional, time-based pre-scheduling modes (Ling 2004: 77).

Modern economic systems are therefore anchored in industrial organizations that have separated work processes from their traditional embedment in family households or other institutional settings. Modern medicine, for example, would be unthinkable without hospitals where patients are spatially concentrated for systematic diagnosis and treatment (Foucault 1963).

While designed for talking at a distance, landline phones have paradoxically facilitated dense aggregations of people in space, for example by supporting communication within large-sized firms (Townsend 2000). Similarly, the fixed phone had a stabilizing impact on location-based social orders because it created communicative connections between stationary, supra-individual systems (e.g. offices or households) rather than individual members. Thus, it still fundamentally belongs to the historical era of "place-to-place networks". Just as people had to *go somewhere* to meet someone, they also had to *phone somewhere* in order to communicate with a specific person (Wellman 2001).

By contrast, cell phones undermine these traditional orders by creating direct links between particular individuals: irrespective of their institutional role and location. They tend to weaken the control of all formal institutions over their members' behaviour. This is because they provide the opportunity for all members to reduce or interrupt their formal role involvements by engaging in alternative role behaviour and wholly private interactions anywhere and anytime: e.g. during office hours, school lessons or military duties, and when driving a car or piloting a plane. Schools therefore come under pressure to allow pupils to use cell phones, because their parents are eager to keep in touch with them at any time, whenever needed (Mathews 2001).

Under such new circumstances, centralized institutional control of system boundaries is more difficult to maintain, because it is no longer achieved as a simple correlate of physical walls or spatial distances, but has to be actively upheld by constant controlling procedures (e.g. by preventing employees from using mobile phones for private purposes).

Cell phones undermine the basic notion that physical and communicative isolation are tightly correlated, so that measures on the "hardware" level of physical allocation and transportation are no longer sufficient to produce parallel effects in the loftier "software" sphere of interpersonal communication. They introduce an element of entropy into all social groups and institutions anchored in places or territories, because they permeate them with communicative relationships that transcend system boundaries in highly heterogeneous and unpredictable ways (Agre 2001).

Homes, churches or school buildings will of course continue to symbolize the unity of families, parishes or schools as organizations

and institutions. However, they may become "empty shells" without much determining influence on what is "really going on" on the level of social communication and cooperation.

SUPPORT FOR THE SURVIVAL (OR RE-ESTABLISHMENT) OF ANACHRONISTIC "PERVASIVE ROLES"

Cell phones can be instrumental in preserving diffuse, pervasive roles which demand that the individual is available almost all the time, because such encompassing availability can be upheld even when people are highly mobile and involved in other activities. In this way, mothers can use mobile phones as "umbilical cords" to their children, so that they are in contact with them the whole day even when they are at work or travelling. Paradoxically, the cell phone could make it easier to perpetuate (rather than to eliminate) traditional forms of labour division between the genders, because mothers are still available as traditional "caregivers" even while working (Ling 2004: 63). The husbands of successful "remote mothers" may feel it more legitimate to evade family duties.[3] Similarly, traditional family doctors can be available to their patients whenever needed, even if attending a dinner party or at some other private location. Male business owners can also preserve a traditional patriarchal leadership role, which demands their availability around the clock. This can inhibit processes of organizational differentiation because these businesspeople remain "on duty" all the time instead of delegating responsibility to subordinates.

In general, the cell phone can give new impetus to the old-fashioned idea that individuals "belong" exclusively to particular groups, communities or organizations—to which they have to be committed unconditionally for limitless hours. This idea clashes totally with all of the recent societal developments that have provided a secure basis for individual autonomy: for the individual capacity of everyone to maintain a secure private sphere as well as to divide his or her commitment to several segregated roles.

Empirical studies indicate that the needs to increase "safety" and "security" are the most prominent motives for adopting cell phones (Ling 2004: 35ff.). This implies that most users are ready to tolerate the loss of personal freedom inevitably associated with such gains in social involvement and personal protection. The freedoms gained by being able to connect to anybody from anywhere at any time is therefore at least partially offset by the increasing obligation to answer incoming calls and to "keep in touch" with kin and friends who expect to be con-

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3. Consequently, the cell phone may enable women to retain the traditional "social administrator" role they have taken on by being the ones usually answering the fixed phone at home (Ling 2004: 63).

tacted (Bachen 2001). In addition, a whole gamut of newly emerging reciprocity norms have to be observed: by responding promptly with an equivalent message that must not be standardized (such as a canned joke), but produced ad hoc for the specific occasion (Ling 2004: 153). In fact:

"one higher order consequence of wireless communication is that it makes us more responsible, for both our own actions and those of people for whom we have assumed responsibility. In effect, we become more subject to social control". (Katz 1999: 17)

In contrast to many earlier negative visions of an emerging "surveillance society" (Marx), it is less likely to be some sort of "Big Brother" wishing to trace our whereabouts than it is our own "little brother", sister, parent or child. In other words: the Orwellian visions of "totalitarian control" emanating from unlimited governmental and mass media power have given way to a sort of "neo-communitarian" control emerging from a denser horizontal cohesion of informal groupings facilitated by the ubiquity of mobile digital communication.

Some preliminary conclusions

To view the mobile phone as a transformative factor of contemporary society means adopting Georg Simmel's view that even the largest societal structures and institutions are determined from below. This means they emerge from the numerous tiny, inter-individual interactions ("Wechselwirkungen") not subject to encompassing planning and control. While *conventional mass media (and fixed phones)* have primarily supported centralized, formalized organizations, households and other supra-individual systems, *cell phones* increase the reach and capacity of decentralized, informal systems based on inter-individual interactions. In this way mobile phones decelerate or even reverse long-term evolutionary trends of human society: trends toward stable, depersonalized, formalized, complex and predictable supra-individual institutions.

Firstly, the cell phone is prone to increase the pervasiveness of the most intimate personal relationships in individual life. Anywhere and anytime, we can evade unfamiliar contacts in public places, bridge time gaps of loneliness and avoid reliance on our own judgement by contacting our loved ones at home. This increases the extent to which social life is filled out with the most simple of relationships: bilateral interaction. It offers an easy escape route from unfamiliar public encounters and from more complex multilateral situations, thus limiting the possibilities for acquiring more demanding "social competencies".

Secondly, a decline in time-based scheduling and the re-emergence of spontaneous, unpredictable patterns of social life is likely.

Long-term evolutionary trends toward planning, scheduling and temporal discipline come to a halt, giving way to spontaneous, ad-hoc coordination according to current whims and circumstances. Social life therefore becomes more unpredictable and more complex forms of social cooperation may become more difficult to create and maintain.

Thirdly, in a very general way, mobile phones undermine the traditional mechanisms that have secured segregation between different social systems. Instead, each individual is now burdened with the task of regulating the boundaries between different social relationships, groupings, organizations or institutions.

Fourthly, cell phones support the maintenance of highly pervasive social roles that bind individuals wholly into particular groups, communities or occupational functions. This diminishes their capacity for keeping a separate private life or maintaining any other commitments.

In all these four aspects, a kind of "disintermediation" takes place: in the sense that the mediating contribution of supra-individual institutions is no longer required for realizing and coordinating informal interactions, because such informal interactions can be initiated and maintained by direct interpersonal communication. This is most vividly illustrated by the declining relevance of objective time as a medium of interactive coordination:

"In a sense, mobile telephones allow us to cut out the 'middleman'. Rather than relying on a secondary system—which may not necessarily be synchronized—mobile telephony allows for direct interaction." (Ling 2004: 70)

Another disintermediation effect is seen in the case of adolescents who have no further need to meet in public places in order to decide about common endeavours because such decisions can easily made directly from home. This again encourages a social life that is exclusively taking place inside homes—thereby reducing the relevance of public localities and events altogether (Ling 2004: 102).

To quote the famous terminology of Habermas, this would imply that the recognized "colonization of the everyday life-world by formalized systems" would give way to a countervailing trend in which the life-world will increasingly encroach on systemic institutions. This can be seen, for example, in the way that schoolchildren cannot be prevented from reading and writing SMS messages during class, or that even religious services are nowadays interrupted by mobile calls.

By facilitating highly informal, spontaneous modes of social cooperation, the cell phone promotes collectively acting networks that operate on the very lowest level of organization. This involves actors that remain opaque and incalculable because they do not manifest themselves in terms of explicit formal organization. The problematic

downside of these developments can be seen vividly in the case of clandestine terrorist groups that use the cell phone for remote detonations, or in the case of highly "chaotic" anti-globalisation movements that act without leadership and explicit planning because they constantly re-specify their collective actions by means of mobile communication (Klein 2000).

Given its affinity with informal, non-institutional social spheres, the cell phone may be most useful for more marginal population groups (e.g. children, adolescents, migrants, the jobless or retirees) not integrated into work roles or other stationary institutions.

In our own societies, it seems that the unrestricted public usage of mobile phones is more suited to lower-class culture than to middle- and higher-class settings. Studies show that the intrusive effects of cell phone calls are much better tolerated in proletarian restaurants than in higher-class dining rooms (Mars/Nicod 1984; Ling 1997). From a worldwide perspective, the cell phone may be particularly popular with populations used to living in a sub-institutional world of social informality, by people who have never been much affected by the standards of Western formal bureaucracies and the tyranny of time-based regulations.

The "digital divide" separating high and low user groups is therefore of a much different kind than that associated with the PC and the World Wide Web (Ling 2004: 15). Considering its affinity with lower-class culture, the cell phone could well become a "negative status symbol" in the future: so that its explicit *non-use* or even *conspicuous absence* would increasingly become an indicator of positive social distinction.

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