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The Mobile Phone: Local and Global Dimensions

Rationale

The subject of the dimensions of space, both physical and perceived, has attracted the interest of those studying the mobile phone for some time now.[1] More recently, Bauman has argued that with the mobile phone, you are never outside or away, but you are always inside.[2] Just by glancing over the presentations of the 2003 Grimstad conference[3] we can see how this interest is uniting with a more general sociological analysis of globalization, the new dynamics between the global and local,[4] and so on.

This new direction taken by the study of the mobile phone is revitalizing a topic that has always been central to the study of telephony at large. As LaRose underlines,[5] an overlap between patterns of interaction

[1] Leopoldina Fortunati, "The Mobile Phone: Towards New Categories and Social Relations", *Information, Communication & Society*, vol. 5, no. 4 (2002), pp. 513–528; James E. Katz and Mark Aakhus (eds.), *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*, Cambridge: Cambridge University Press, 2002, see especially the chapter of Kenneth Gergen, "The Challenge of Absent Presence", pp. 227–241.

[2] Zygmunt Bauman, *Liquid Love: On The Frailty of Human Bonds*, Oxford: Polity Press, 2003. I am here quoting from the Italian translation: *Amore liquido: Sulla fragilità dei legami affettivi*, Roma: Laterza, 2004, p. 83.

[3] *Front Stage – Back Stage: Mobile Communication and the Renegotiation of the Social Sphere*, Grimstad, Norway, June 22–24, 2003, proceedings published as R. Ling and P. Pedersen (eds.), *Mobile Communications: Re-Negotiation of the Public Sphere*, London: Springer-Verlag (forthcoming).

[4] George A. Barnett, "Urban Growth and the Development of the Telephone: Some Relationships at the Turn of the Century", in Harmeet Sawhney and George A. Barnett (eds.), *The Social Structure of International Telecommunications* (Progress in Communication Sciences, vol. XV, *Advances in Telecommunications*), Stamford, CT: Ablex, 1998, pp. 151–186; Anthony Giddens, *The Consequences of Modernity*, Stanford, CA: Stanford University Press, 1990; Colin Spark, "What's Wrong with Globalization?", paper presented at the international conference *Transnational Corporations and National Media Systems: China after WTO Entry*, Bellagio, 17–20 May 2004.

[5] Robert LaRose, "Understanding Personal Telephone Behaviour", in Harmeet Sawhney and George A. Barnett (eds.), *The Social Structure of International Telecommunications*, p. 11.

and physical proximity still persists. Moreover, who does not remember how in 1933 Malcolm Willey and Stuart Rice[6] were already maintaining that the telephone had the effect of reinforcing localisms and how Moyer[7] in 1977 took up and reinforced their ideas, or how Fischer, by contrast, spoke about the landline telephone as an antidote to provincialism?[8] It seems that the issue of near/far/global has accompanied the debate over telephony in the same way that virtual/real/actual has for the net. And yet, as opposed to the landline telephone, the mobile phone has brought with it an important specific relationship between mediated communication and space.

Aim and Method

The purpose of this paper is to show that when we speak of concepts such as the local and global in connection with the mobile phone, the historical variable must be given serious consideration. In other words, two important aspects must be considered: 1) how the mobile phone's penetration of so to speak sedentary places and of the local fixed dimension has gradually taken place and has been a design variant introduced by users into the reading of this instrument; 2) how the spatial perception of the technology has changed over time. To do this, we shall recall and analyze the results of some quantitative and qualitative research conducted in Italy and Europe, both into the social use of the mobile phone and into its field of social representation.

Results

The Sedentary Dimension of the Mobile Phone as a Design Variant Produced by Users

The sedentary dimension of the mobile phone has been present in the European debate since 1996, when research conducted in five European countries (Italy, France, Germany, Spain, and the UK) showed that in one fifth of cases the mobile phone was used in fixed places such as the home

[6] Malcolm M. Willey and Stuart A. Rice, *Communication Agencies and Social Life*, New York: McGraw-Hill, 1933.

[7] Alan J. Moyer, "Urban Growth and the Development of the Telephone: Some Relationships at the Turn of the Century", in Ithiel de Sola Pool (ed.), *The Social Impact of the Telephone*, Cambridge, MA: The MIT Press, 1977.

[8] Claude S. Fischer, *America Calling: A Social History of the Telephone to 1940*, Berkeley: University of California Press, 1992. I am here quoting from the Italian translation: *Storia sociale del telefono*, Torino: Utet, 1994, p. 34.

or workplace.[9] Over time this tendency has been accentuated until it has led to the sedentary use of the mobile phone overtaking the mobile use. Recent research conducted in two high schools in the North East of Italy confirms this shift in the use of the mobile phone. The 716 adolescents who responded to our questionnaire declared that on average they use the mobile phone frequently at home, quite often when they go out walking or when they are together downtown, and little at school and at the gym/disco.[10] That is not surprising because the home not only meets the criteria of intimacy and individuality that are, at least in principle, general constitutive elements of telephonic space, but in the home a small, invisible house-within-the-home can be built around the receiver to create an indispensable microcosm of telephone conversation. This domestic anchorage of the use of the mobile phone is strongly influenced by the contribution of the feminine element. Girls claimed they use the mobile phone much more than boys do at home, while boys say they use it more than girls at school and at the gym/disco.

Why has the mobile phone changed gradually from being a primarily mobile technology to a rather sedentary technology? To answer this question, we have to appeal to the theory of the co-construction of technology and society, according to which, if it is true that on one hand ICT design brings with it user design, it is equally true that ICT users and their patterns of use are increasingly able to invent functions and services and then to dictate future ICT developments.[11] We can say that ICTs therefore change in a society which they help to change and which, in its turn, changes them.

The application of this theory enables us to understand how the shift in mobile phone use from mobile to sedentary has taken place as an important design variant produced by users, in the sense that the sedentary use of the mobile phone has been a secondary consequence of its transformation from a mobile to a personal instrument. This transformation was brought about by a very widespread willingness to access mobile communication, which has ended up individualizing this instrument. Despite

[9] Leopoldina Fortunati, "Italy: Stereotypes, True and False", in James E. Katz and Mark Aakhus (eds.), *Perpetual Contact*, p. 44.

[10] On a scale of 1 to 3, the average use at home is 2.19, downtown 1.93, at school 1.27 and at the gym/disco 1.25 (cf. Amalia Cianchi, Francesca D'Alessio, Leopoldina Fortunati, Anna Maria Manganelli, "Moda e cellulare tra criteri d'acquisto e pratiche d'uso", paper presented at the conference *Cultura: lavoro del futuro*, Milano, 13–14 November 2003).

[11] Bruno Latour and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts*, Beverly Hills, CA: SAGE, 1979.

the fact that the mobile phone was designed as a technology to be used while moving from one place to another, users have basically redesigned it as an instrument of individual communication. The inevitable consequence of this different reading of the technological object has been that it is used anywhere the individual might find him/herself, i.e. not just while moving from place to place, but also at home, in the workplace, in restaurants, and so on.

With this transformation, the mobile phone no longer undergoes fusion with different places, but with a single place seen as the individual him/herself – Kellerman calls this phenomenon "person-place convergence"[12] – and his/her most important spatial extensions, such as the home. With respect to an individual who has become an individualized place and to a home which is the place that gives the greatest sensation of spatial individuality, the mobile phone has established itself as a kind of "centre of rotation".[13]

The Far/Near Axis

The space phenomenology of the mobile phone consists of various spaces that work as conditioning and disciplining elements of mobile communication: from the space in which the mobile phone is used, through the shell that is created around the person phoning, to the distance at which the persons being called find themselves. To reconstruct how the spatial perception of this device has changed over time, we will focus our attention on the third element which refers to the far/near axis.

This axis has been the object of a wave of studies on landline and mobile phones in the nineties, which tried to empirically investigate how users perceive the main characteristic of telephony, that is, de-spatialized simultaneousness, to use a definition proposed by Thompson.[14] For example, since 1993, several qualitative ICT research projects carried out in Italy using the semantic differential method involved the far/near axis.[15]

In particular, in research conducted in 1993 with 100 university students and called *The Emotional Image of the Telephone*, the landline telephone

[12] Aharon Kellerman, "Social Aspects of Telecommunications: An Overview", in Harmeet Sawhney and George A. Barnett (eds.), *Progress in Communication Sciences*, p. 230.

[13] I have borrowed this expression from Georg Simmel, *Soziologie: Untersuchungen über die Formen der Vergesellschaftung*, Leipzig: Duncker & Humblot, 1908. Here quoted from the Italian translation: *Sociologia*, Torino: Edizioni di Comunità, 1998, p. 537.

[14] John B. Thompson, *The Media and Modernity: A Social Theory of the Media*, Cambridge: Polity Press, 1995.

[15] Leopoldina Fortunati (ed.), *Gli Italiani al telefono*, Milano: Angeli, 1995.

and mobile phone were perceived as being near, but the latter was seen as being significantly less near than the former; this was probably a judgement that was influenced by the psychological distance from the mobile phone which at the time was scarcely present or used.[16]

Also, in another research project, *The Affective Meanings of the Telephone*, conducted in the same year but with a larger convenience sample (519 respondents), both the landline and mobile telephone were perceived as being near, even though the latter was always seen as farther away than the former. In addition, women were more likely than men to see the landline phone as being nearer, while perceiving the mobile phone as significantly farther.[17] In yet another piece of research, *The "Experience" of Telephone Calls*, where a semantic differential was applied to 863 telephone calls made and received by members of 12 families over two months, the results once again indicate a perception of the telephone call as being very near.[18]

Finally, another research project that used, among several techniques, the semantic differential and this scale in particular, was conducted in 1996 and entitled *The Social Representation of Telecommunications*.[19] Here the convenience sample was made up of 303 subjects (163 female and 140 male) between 15 and 84 years of age. According to the results, the radio, telephone, and mobile turned out to be considered the nearest of the communications technologies/devices studied, while the fax was regarded as the farthest.[20]

The question of far/near emerged again in this research project, in the answer to a question posed within a telephone questionnaire administered to a representative sample of the Italian population made up of 2,100 respondents. The question was: what problems do you hope that

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[16] The average scores of the seven-point "far/near" scale on seven stimuli related to telephony are: Local call (5.26), Landline telephone (4.93), Partner (4.58), Mobile Phone (4.55), Ring (4.49), Myself (4.30), Long-distance call (2.97).

[17] This scale reveals that the average scores for the landline phone were 4.73, and for the mobile 4.40. But we must recall that at that time fewer women than men owned and used a mobile phone.

[18] The far/near scale gives an average score of 5.25.

[19] Leopoldina Fortunati and Anna Maria Manganelli, *The Social Representation of Telecommunications*, Roma: Telecom Italia, 1999.

[20] The 23 scales of the semantic differential were applied to seven concepts: mobile phone, telephone, radio, computer, telecommunications, television, and fax. The average scores on the seven-point "far/near" scale for these stimuli are: radio (5.07), landline telephone (4.94), mobile phone (4.37), computer (4.30), telecommunications (4.24), TV (4.12) and fax (4.05).

telecommunications can resolve? There were two replies related to the dimension of far/near: overcome distances (332 replies, equal to 15.8% of the sample) and bring together distant populations and countries (278, equal to 13.2%). These two replies, interestingly enough, correspond to the two notions of telecommunications suggested by the geographical studies of telecommunications: "space-adjusting technologies"[21] and "time–space convergence.[22] As Kellerman argues,[23] the two notions are not identical. The first relates generally to the reduction of the impact of distance, while the second to the degree in which spaces move closer together. According to the analysis of the log-linear model which was applied here, women are more convinced than men that distances can be overcome by means of ITCs; men are more likely than women to feel that the means of communication serve to bring together distant populations and nations. In the research projects which used the semantic differential, the far/near scale was set by the researchers on the basis of a debate in progress at that time and a pre-test. This scale was considered appropriate for measuring the perception of distance, both because the issue of overcoming distances is considered one of the main points of the landline and mobile phone, and because the adjective "near" was frequently indicated in the pre-test. In fact, the results in all this research are homogeneous in indicating that the mobile phone is perceived as being near and increasingly nearer.

But what is the meaning of this nearness? Although in all the research a recurrent result of factor analysis is a dimension of "pleasant intimacy and openness to the world", it is actually a well-known fact that the mobile phone usually puts us in contact with friends, family members, and relatives, that is, with our intimate, often local, circle. By doing this, the mobile phone does not make the world narrower but widens it out.[24] The landline and mobile phone in fact belong to the strategy of communicative defence more than that of widening the field of interpersonal relationships. And anyway, it would be more correct to say that the telephone potentially widens out the world but in reality keeps the world

[21] Edward A. Ackerman, *Geography as a Fundamental Research Discipline*, Research Paper 53, Department of Geography, Chicago: University of Chicago, 1958.

[22] Donald G. Janelle, "Global Interdependence and Its Consequences", in Stanley D. Brunn and Thomas R. Leinbach (eds.), *Collapsing Space and Time: Geographic Aspects of Communication and Information*, London: Harper Collins Academic, 1991, pp. 49–81.

[23] See A. Kellerman, *op. cit.*, p. 218.

[24] Rich Ling, Birgitte Yttri, Ben Anderson, Deborah DiDuca, "Mobile Communication and Social Capital in Europe", in Kristóf Nyíri (ed.), *Mobile Democracy: Essays on Society, Self and Politics*, Vienna: Passagen Verlag, 2003, pp. 359–373.

widely local, even in the age of globalization. In conclusion, the meaning of this nearness should be understood as a psychological dimension and a defence strategy at the communicative level.

At this point, another question emerges. Is it then the local dimension that is reflected in the proximity dimension? To all appearances and good sense, it would seem so. However, we shall see in the conclusion that this is not really so. Nevertheless, before passing to the final discussion, let us recall a research project where the qualification of the mobile phone suddenly became "global". This research on the social representation of ICTs and the Human Body was carried out in 2001. Here, during a free association task, the term "global" was frequently used to define the mobile phone; the term was in seventh place after "annoyance", "the human body", "futile", "harmfulness", "a lot", "everybody's".[25] Two years later, in another research, we no longer applied the axis of far/near, but that of local/global. This was a piece of research on representations conducted in 2003, with 585 respondents from Italy, the Netherlands, Romania, Russia, and Spain.[26] In fact, a local/global scale was introduced in the semantic differential administered in the course of this research, which assessed how respondents at the time perceived the mobile phone and landline phone with respect to the spatial dimension.

The results show that both the internet and the mobile phone are perceived as global, even if the former is perceived as such more than the latter is. By disentangling the data of the different countries, it turns out that the respondents' sense of the globality of the mobile phone shows a certain variability in the answers. In fact, the Romanians and Spaniards consider it to be global, as do the Russians, even if with some reservations, and the Dutch are neutral. This lack of homogeneity in the perception of the mobile phone with respect to its spatial dimension shows that the cultural variable is sensitive to the issue.

But how are we to explain this attitude of the respondents towards the

[25] Alberta Contarello, Leopoldina Fortunati and Mauro Sarrica, "The Mobile, the Human Body and Social Well Being: Representing Benefits and Risks of a Social Device", paper presented at the workshop *Mobile Technologies and Health: Benefits and Risks*, Udine, 7–8 June 2004.

[26] Alberta Contarello, Pedro Gomez Fernandez, Enid Mante-Meijer, Olga Versinskaya, Daniel Volovici, "Social Representations of ICTs and the Human Body: A Comparative Study in Five Countries", in Leslie Haddon, Enid Mante-Meijer, Bartolomeo Sapio, Kari-Hans Kommonen, Leopoldina Fortunati and Annevi Kant (eds.), *The Good, the Bad and the Irrelevant: The User and the Future of Information and Communication Technologies*, Helsinki: Media Lab UIAH, 2003, pp. 56–62.

spatialization of the mobile phone? Let us try to formulate an answer. The shift from the far/near axis to the global/local one actually has a historical reason. There is a technical development that has without doubt had an influence in the transformation of the spatial perception of the mobile phone. In particular, there are two technical elements that have contributed to modifying the assessment of the mobile phone as global: 1) The strong implication of the technical reinforcement of the communicative capacity of the mobile phone itself. The mobile phone has in fact gone from using TACS, making it an instrument that enables communication at a national level, to using GSM, making it an instrument able to handle international communication, initially at a European and then increasingly at a global level. 2) The connection to the internet, which has further increased its global dimension. But apart from this historical reason, there is also a structural one, which we shall touch on in the following section.

Discussion of Results and Conclusion

In reference to our two initial aims, we have explored: a) why the mobile phone is largely associated with sedentariness; b) the sedentary dimension of the mobile phone as an important design variant produced by users; c) the perception of it as psychologically near in the nineties; d) the importance of the historical variable in its perception nowadays as being global; e) the current perception of the mobile phone as being more global than local, although it continues to be actually connected to local calls. But what this perception of nearness and globality of the mobile (and landline) phone is based on remains to be seen.

To fully oncover what this perception of nearness is based on, that is, to understand the meaning of mobile phone space, it is not to the theory of spatial representation[27] nor to the conceptual structure theory[28] that we have to turn, but to the Kantian and Simmelian concepts of space. Kant defined space philosophically, but also sociologically as "the possibility of being together"; so it is only social action and the realization of sociality that fills and connotes space. Kant's position becomes the premise from which Simmel launches his analysis, looking to space as a psychological function that produces mental contents and unites sensible af-

[27] Irving Biederman, "Recognition-by-Components: A Theory of Human Image Understanding", *Psychological Review*, vol. 94, no. 2 (1987), pp. 115–147; David Marr, *Vision*, San Francisco: Freeman, 1982.

[28] Ray Jackendoff, *Semantics and Cognition*, Cambridge, MA: MIT Press, 1983; Ray Jackendoff, *Semantic Structures*, Cambridge, MA: MIT Press, 1990.

fections, which are unconnected, into unified visions. Actually, it is not spatial nearness or distance or the different articulations of space that create or automatically preserve intimacy or extraneousness, but it is, rather, the quality of the spatial synthesis that takes place at the psychological level.[29] It is the content of the telephone conversation that constitutes the intimacy or the extraneousness between the two parties, not the measurement of the spatial distance that exists between them.

By contrast, in order to discover what the perception of globality is based on, it is to the concept of network, connectivity,[30] seen obviously not only from the technical but also the social point of view, that we have to turn. Connectivity in fact contains in itself the germ of a continuous widening out towards the global dimension. Telephony puts one place in contact with another distant place and creates a continual tension between the local and the global. It brings the germ of the elsewhere to the local, and vice versa. The mobile phone maintains this dynamic and makes it more complex, because the local dimension can generally be subjected to short and middle-range mobility. Let's say rather that it *can* be subjected, not that it normally is, because, as we said before, the mobile phone is much more connected to one stable place than to movement between places.

This sedentary use of the mobile has highlighted how movement, mobility, commuting, and travel, despite taking up an ever-greater part of a single day, still only cover a minor part of the day itself. At the same time, this sedentary use has also shown how the mobile phone has penetrated into the sacred realms of sedentariness and has begun to challenge and compete with the landline phone. A contradictory and fluid situation has emerged, as the mobile phone has begun to be used also where it would have been handier and less costly to use a landline phone. The reason for this is that the pressure of the network[31] and impelling reasons for connectivity lead to it also being used in sedentary places. Friends, people to whom we have started giving our mobile phone numbers, have been calling us up on our mobile phones more and more, because it is easier, even when they know or suspect that we are at home or at work, etc. This is how connection to the mobile network, which is an extra-spatial but also

[29] See G. Simmel, *op. cit.*, p. 524.

[30] Barry Wellman, "Physical Place and Cyberplace: The Rise of Personalized Networking", *International Journal of Urban and Regional Research*, vol. 25, no. 2 (2001), pp. 227–252; Manuel Castells, *The Information Age: Economy, Society and Culture*, 3 vols., Oxford: Blackwell, 1996–1998.

[31] Everett M. Rogers, *Diffusion of Innovations*, New York: Free Press of Glencoe, 1962.

global virtual space, has begun its inexorable battle to erode the dominion of the landline phone in sedentary places.

Understanding how the far/near axis in combination with the local/global axis makes the near/global dimension of the mobile phone emerge remains at present a very stimulating problem that needs further investigation.