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Discussing a Possible Research Agenda for the Convergence of the Mobile and the Internet

The debate over convergence and divergence has been going on for a long time (Harper, 2005) and has always gone from one side to the other. Sometimes the challenge to make many technologies converge into one multi-functional one prevails, other times the logic of divergence and fragmentation in various super-specialised technologies dominates. There has been a certain braking effect on convergence from the limited efficiency shown so far by multi-functional machines such as, for instance, the intelligent fax which serves also as a printer, photocopier, scanner, and telephone. Actually, these fax machines incorporated two or three guiding technologies (fax, telephone) while the other technologies worked merely as accessory technologies.

Now the debate has begun again in response to the restart of the processes of convergence and divergence in the technological environment. The internet is merging with the mobile phone, the television and radio are also merging with the mobile and the internet, newspapers are merging with the internet, the landline telephone is merging with the mobile phone on one hand and with the internet (Skype) on the other, and so on. At the same time, the opposite process – divergence – is at work, as the phenomenon of ubiquitous computing shows very well. Similarly, the internet has left the computer desk in order to also appear on the mobile phone, television, radio, and the newspaper.

The aim of this paper is to construct a possible line of inquiry on the subject, in particular, the convergence of the mobile and the internet, starting from a series of already available empirical research studies, namely research projects on practices of use of ICTs (Haddon, 2004; Ling, 2004; Ling & Pedersen, 2005; Nyíri, 2003, 2005; Höflich & Gebhardt, 2005; Glotz & Bertschi, 2005), research on the ethnography of objects (Miller, 1998), research on fashion and on the presentation of self (Fortunati, 1998, 2005a, 2005b; Ling, 2003), on the "artificialization" of the human body (Fortunati, Katz, Riccini, 2003; Katz, 2003), social relationships and networks (Wellman, 2001; Knapp & Daly, 1985), on the category of time (Gergen 2002; Fortunati, 2002; Licoppe & Smoreda, 2005; Sørensen & Pica, 2005), on the machinization of the domestic sphere (Fortunati, 2007), and on epistemology (Longo, 2000).

If we consider convergence and divergence within the framework outlined by these studies, it becomes clear that technological convergence and divergence are strategies connected to the division and cooperation of labour, which are, according to Marx, the two natural forces of social labour. The development of the division of labour, which leads to the parcellization and specialization of single tasks, tends to push the technological process towards the divergence of technologies, while the development of the cooperation of labour, which leads to the concentration of different tasks, tends to push the technological process towards convergence. Obviously, these two forces are both powerful and therefore this explains why these two tendencies – convergence and divergence – are at work at the same time.

However, here we are talking of particular technologies – the mobile phone and the internet – whose diffusion and use are analysed especially in the domestic sphere. This sphere presents peculiar, if not opposite, characteristics in comparison to the sphere of the production of commodities and services. For instance, the domestic sphere has much rather developed the division of labour than cooperation, given that housework and care labour are distributed in homes and social spaces. Thus Richard Harper is right in arguing that the history of the machinization of the domestic sphere is a history of divergence. Even so, within the domestic space there is perhaps the freedom to engender some technological convergences. If one sees the mobile and the internet as *work tools for reproduction*, that is tools that support and facilitate almost all the aspects of immaterial reproductive labour (Fortunati, 1996, 2006, 2007), it becomes clear that, although there is still an unjust division of housework among the different members of the family, which leads to it

being above all on women's shoulders, these devices may serve to organize among the various members some cooperation or at least some coordination on a great range of functions, tasks, etc.

However, to be more precise, how can we define technological convergence and divergence? Let us talk about convergence, bearing in mind that divergence is its contrary. Convergence is a strategy to rationalize the physical and technological space or, to put it more adequately, to overcome the distribution of technologies in space, and to rationalize the time and convenience of their use. It is the attempt, as Richard Harper reminds us, to simplify the grammar of actions/tasks accomplished in different spaces. This spatial rationalization might concern the domestic space and the labour done there or the space of mobility, which has become the "personal space" of mobile communication. The "personal space" is the space of the body where the mobile more often is situated. While up to now the domestic space, as we already said, has known the phenomenon of technological divergence more than convergence, the space of the human body is another story. The human body, given the multiplicity of dimensions, languages, and functions, may need a more radical and cogent rationalization of the objects which are transported on it.

Think, for example, of the great number of objects carried in pockets (by men) or in handbags (by women). They are little objects, and also a mixed bag (wallet, keys, handkerchief, mobile, etc.), which we often risk losing or forgetting at home or somewhere else, because not having yet found a fixed or ideal place inside clothing, they are like nomads on the body, and in the spatial bubble around us (the restaurant table, the office desk, the bedside table, etc.). Flügel in 1930 had already analysed this problem of the "transport of essential objects" as being one of the great problems of fashion. After more than 70 years, we are still not able to resolve this problem. On the contrary, the problem is worsened because a new generation of handy technologies, such as mobiles, walkmans, laptops and so on has enriched the family of essential objects.

In this case, it is the spatial contiguity of an object to another which may suggest their convergence, that is their concentration in a determined point. But this, while being a spatial advantage, is perhaps a technological, social and cultural disadvantage. What appears like a rationalization of space might entail a loss of effectiveness in functionality, definition of languages, modalities and services and an increase, at the same time, of the functional complexity of technology, which is scarcely tolerated by users. Technological convergence may mean that the new hybrid devices change their identity (passing, for instance, from being mobile to becoming fixed or vice versa). Convergence may imply also a model of control that deserves to be discussed. The convergence of different artefacts in one single technological object has the consequence that if an individual loses or is robbed of his/her mobile phone, which is also purse, diary, watch, and so on, he/she loses a lot of information regarding different spheres of his/her personal identity. That is, he/she loses the control over consistent parts of his/her life. So, we discover that technological convergence builds a model of control which is absolute. But in our Western experience, we have learned that it is much safer for citizens if the political, social, and personal control is diversified. In fact, when control is diversified, each point of control can support and be subsidiary to another point of control, in case the latter for some reason lacks.

On the contrary, divergence may arise through the opposite necessity: to divide things that till yesterday were unique and/or together. Divergence might include not only a parcellization of a device in many different technological platforms, but also the deconstruction of the device itself: take for instance the mobile in which the screen, keypad, and earpiece become separate components. The strange thing is that convergence and divergence are strategies that can be applied to the same technology. The television, for example, is a typical technological artefact which is submitted to a process both of convergence (mobile/Tv, internet/Tv) and divergence (digital terrestrial television, satellite TV, cable Tv, NetTv).

Although both these two strategies are powerful, convergence is more enhanced in comparison to divergence by the specific historical moment: the moment postmodernity. In fact, postmodernity is characterized by the principle of fusion, which tends to merge processes that were distinct up to yesterday. Today, convergence is sometimes an innovative proposal by designers,

other times an innovative practice of users, other times it gives rise to behaviour of prudence by users or even resistance and refusal. Convergence, in fact, is above all a problem of domestication not only at the level of social behaviour, but, even before that, at a cognitive level. Domestication is also *the* neuralgic terrain where we can really test out the mid-long term tendencies of users, and where we can understand also the real dynamics of this convergence.

We should also investigate this process of convergence from another point of view. Convergence is usually seen inside the same set, that is, technologies. But it is necessary to expand this approach and think also of a convergence between the mobile/internet and other families of objects. For instance, the relationship, which we already mentioned, between the mobile/internet and the big family of essential objects must also definitely not be forgotten (Douglas & Isherwood, 1984; Miller, 1998). It may even be the case that the cross between information and communication technologies and one or another of the small essential objects that we generally carry around, such as the key for instance, may be the keystone of content to be offered to the convergence of mobile/internet. Two cases are already emblematic of this tendency and both have been designed by users: the convergence between the mobile phone and music, and between the mobile phone and the purse (Donner, 2005). However, it would be a serious mistake to think of convergence only within the family of technologies or essential objects. We should also take into account the convergence, which is already going on, between the mobile/internet and, for instance, biodegradable materials, textiles, jewels, clothes and so on. On the other hand, it has also been a dozen years since there has been research on the mobile and vestimentary order, and, more generally, fashion (Fortunati, 2005; Ling, 2003; Katz & Sugiyama, 2005) and the presentation of the self (Ling, Pedersen, 2005).

But it may also be wrong to start only from the analysis of the technological support/function. A serious research agenda on the subject of convergence/divergence should start also, and perhaps especially, should start from the study of interpersonal, social, and business relationships in postmodern society, from needs and trends that individuals express at the primary and secondary socialization levels, in paths of sociability and education, in modes of body-to-body and mediated communication, in the relationship with the body as "portal" (Wellman, 2001), where an extraordinary network of languages converge (Fortunati, 2005c). Also, for the accurate study of the category time/space, a category with which studies of information and communication technologies have always had to come to terms. And which studies on the mobile in particular have revitalised, describing the new category of presence-absence (Gergen, 2002; Fortunati, 2002), and re-presenting the concept of rhythm (Ling, 2004; Haddon, 2004; Sørensen & Pica 2005; Licoppe & Smoreda, 2005), which obviously derives from the temporal qualities of interpersonal relationships (Werner & Haggard, 1985).

On the other hand, it might not be enough to start only from sociology, without going through epistemology, which shows us why studies on information and communication technologies (including the issue of mobile/internet convergence) must necessarily come to terms with the category "time". In Longo's words (2000:7), technology has brought time back into its analytic frame (which physical-mathematical sciences had attempted to exclude) because, from this perspective,

> it seems much closer to biology than to impassive and a-historical physics and mathematics, whose daughter many still consider technology to be. This is confirmed by the ever greater gap between science and technology: if it is true that today scientific conquests pass immediately into the applications laboratory and the day after they end up on the market stall, thus feeding a rapid turnover, it is also true that ever more often technology proceeds on its own, with a hurry that cannot wait for justifications and explanations from science… Furthermore science, while declaring that it is always ready to reconsider its conquests, would actually prefer to consider them more and more definitive. Technology never: no one has ever spoken of the perfect car or the definitive computer. If anything, the opposite… New technologies, of the mind-body, seem to be more mammals, even humans: they are born flexible and incomplete and then they develop for an indefinite length of time through interaction and learning.

It is starting from this picture that we should ask ourselves: how will the mother of all convergences, that between the mobile phone and the internet, develop? Will convergence be mobile/internet, as I believe, or internet/mobile, as believed by others? As becomes clear from a series of studies on the social representations of ICTs, which have studied cognitively the structural similarities and differences of ICTs as well as their strategies of convergence and divergence (Fortunati, Contarello, 2002; Contarello et al., 2003; Contarello, Fortunati, 2005; Fortunati, Manganelli, 2007), the convergence which was expected to develop more successfully was that of the mobile/internet. Actually, we are witnessing quite important attempts to create different modes of convergence: see the presence of e-mail on mobiles, the possibility of connecting directly with the web, MMS, etc. (Haddon, 2005).

However, we are also witnessing at different paths in various countries. The Chinese case, in addition to the Japanese (Ito & Okabe & Matsuda, 2005) and Korean ones (Kim, 2005), where the mobile is normally used much more as a computer than in Europe (Fortunati, Yang, 2005), are worth examining. According to recent studies (Law, Peng, 2007; Yang, 2007), mobile phones in China have become for users a necessary tool in maintaining, in expanded spatio-temporal contexts, existing relational networks (friends, schoolmates, family, fellow citizens) through SMS and calls, but also in enlarging their social sphere, making connections in cyberspace also with strangers, through mobile online chat (by means of the software QQ). The spreading practice to expand social networks through mobile online chat might be one of the reasons that explains why the majority of 487 respondents in research carried out in Beijing in 2006 (with an appropriate sample of inhabitants of Beijing) answered that subsequent to the diffusion of the mobile phone, not only contact between people but also body-to-body relationships have increased, and the quality of communication has improved (Fortunati, Manganelli, Law, Yang, 2007).

In Western countries, instead, the beginning of this convergence has been rather timid. But must this cautious and limited adhesion by users in Western countries be seen as the classic refractoriness in accepting something new, or as an indication that this convergence is not likely to take off? The results reached by these various lines of inquiry and especially those connected with the introduction on the mobile phone of news, e-mail, micro-payments, and so on, may help to give a positive answer to this question, even if it is probably still too early to see which of these functions and services will really develop.

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