
CLOSING REMARKS

- DIGITAL TECHNOLOGIES IN THE PROCESS OF SOCIAL RESEARCH: THEORETICAL AND METHODOLOGICAL REFLECTIONS THROUGH VIRTUAL ETHNOGRAPHY

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When technologies were new

“We shape our tools, and thereafter our tools shape us”
Marshall McLuhan

On the platform YouTube –perhaps the best-known social network for distributing and showing videos on the Internet– there is an old black-and-white advertisement dating from 1927 that was screened in US cinemas and which explained how to use rotary dial telephones (previously telephones had worked via a system of operators). This *little* change, which for those watching the video today seems simple and insignificant, completely transformed the relationship that people had had until that time with the telephone as a communication device. The tools and technologies with which we coexist on a daily basis, and which we often take for granted were, at some point in time, innovations that were slowly incorporated into people’s everyday practices. This anecdote serves as an ideal introduction to the reflections we would like to present here concerning the role that is played by information and communication technologies in different areas of our everyday activities, including scientific work. Technology has always been linked with the production of scientific knowledge, as part of its process and as a product of its activity, but its role has tended to be minimised and made invisible in the social sciences (and especially in qualitative methodologies), not to mention in the humanities. Far from envisaging technology as a revolutionary innovation or as an invisible, epistemologically neutral tool, we propose to reflect on the role of the technological in the process of social research and, very particularly, to rethink the relation between method and object of study in the creation of knowledge, based on our experience of ethnographic field work in the social and cultural study of digital technologies, or the *new media*.

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We, the two authors of this article, belong to Mediaccions¹, a research team in which for some time we have been developing a proposal that could be visualised like a Moebius strip: on one hand, the subject of our research has been digital technologies (of mediation, communication and cultural production), and their interrelationship with the social, and on the other, we have been intensive users of those same technologies, and have used them as tools for generating knowledge (for gathering data, disseminating results, etc.). Our need to provide ourselves with new analytical techniques and methods to collect data on the cultural and social study of digital technologies represents part of our reflective concern for the development of social scientific knowledge and, specifically, the way in which method and object of study articulate new forms of knowledge production (Hine, 2005; Wouters and Beaulieu, 2009). The qualitative approach of our research and our production of empirical data is fundamentally based on the case studies and intensive ethnographic fieldwork.

The potential of this methodological approach lies not so much in the generalisation of specific results as in the possibility of extracting common elements of reflection through a comparison of various research projects that apparently belong to different thematic and disciplinary fields. In this way, we accept the multidisciplinary, and plurifocal nature of our research study, and this can be appreciated from the variety of the different studies that have been carried out within the group; for example, work has been done on collaborative practices in audiovisual production (Roig, 2009), audiovisual self-production and the transformations of the home video (Ardèvol and San Cornelio, 2007), body and personal and gender identity in digital environments (Gómez, 2003; Enguix and Ardèvol, 2011), social movements, political action and digital technologies (Grillo, 2008; Estalella, 2011; Lanzeni, 2012), practices in digital photography and sociality processes (Gómez, 2012), etc. In this way, we organise the construction of different objects of study through the development of methodological reflection and the search for new theoretical perspectives for contemporary social research. What follows, therefore, is based on a joint experience of the need to understand technology as an tool of research and transformation of the actual practice of research. Regardless of the *novelty* of a particular technology, methodological *innovation* stems from the way in which we integrate it into our practices, and what we expect from it.

Expanded research

1. Mediaccions is currently focusing on the study of digital culture and the transformations of social and cultural practices through technological mediations, especially those related to the Internet and the new media. The study of digital culture, as we understand it, includes a heterogeneous collection of actors, practices, material apparatus and narratives related with contemporary cultural production, which we explore from an empirical, qualitative and interdisciplinary perspective (Ardèvol (coord.), 2011).

The use of information and communication technologies transforms the field of scientific production in very different ways, and a number of authors have suggested that we should use the terms *e-science* and *e-research* to signify these changes. For instance, in the opinion of Wouters and Beaulieu (2006), the consolidation of an *e-science* in natural sciences is owing to the increasing central importance in its processes of the use of technological tools for obtaining results, and that this is a result of the convergence of three technologies that are different but interrelated: large-scale communication networks, mass databases and distributed computation.

In the case of social research, to date, we are not talking about large-scale equipment, but of the formation of international scientific networks, online publication, interconnected libraries and increasing

access to open source information, as well as the gradual introduction of digital tools into a technological ecology that ranges from notebook and pencil to audio and video recorders, and includes computers, the Internet, mobile phones and computer applications for processing data and organising information, by which we refer rather to *e-research* as research that is extended or enlarged through the new digital media (Estalella and Ardèvol, 2011). The *e-research* also includes new academic practices such as bibliographic search² (*Google Scholar*, for instance), collecting qualitative and quantitative data through surveys, interviews, network analyses, focus groups, etc. over the Internet, or using the Internet as a new way of presenting research results (Dicks, Soyinka and Coffey, 2006), as well as an essential tool for participating in academic networks. What is striking is the exponential rise in the number of social research “applications”; these have succeeded in establishing new ways of carrying out scientific work and creating “personal research portals” (Peña, 2008).

The underlying issue raised by these new terms is to what extent we are witnessing a *revolution* in the new ways of conducting science. But once again, we would like to distance ourselves, right now, from these significations of a science that is *new* thanks to new devices and infrastructures, to move towards the more day-to-day practice of research into social sciences, and to ask ourselves how we have acknowledged the role of technologies in our epistemic forms. In short, we are suggesting that a clear link exists between the technological tools we use (and, in some cases, analyse), the narratives we develop about them (and with them) and the theoretical approach that we devise, and furthermore that it is through this link that technology can help us to transform our scientific practices (and not in a uniform way).

We will now proceed to analyse ethnography’s progress as a method of research applied to the study of the Internet as a paradigmatic case, where we can explore this connection between technologies used, objects of study constructed and theories developed. We will do so, firstly, by showing how the ethnographic approach to studies on “life on screen” emerged and adapted, and how it transformed over time, and in close relation to data-gathering technologies and the platforms used for the interaction; and secondly, by reflecting on the Internet as object and method.

From virtual ethnography to digital ethnography

We will now go on to focus on the case of how communication and information technologies have been dealt with as objects of study from an ethnographic standpoint, and how the different approaches to this object of study also correspond to subsequent technological transformations and developments, as well as the advent of a whole wide range of new online methodologies.

Ethnography, as the descriptive knowledge of a people, nation or ethnic group, has its roots in the travel journals of the first explorers and other documents of a colonial nature (Pujadas and Comas, 2004; Hammersley, 1990). Many of these documents were later systematised by the earliest anthropologists³, but it was not until the work of Malinowski and Boas,

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2. To give just one simple example. Since Google Scholar has been incorporated into the electronic libraries of different universities and databases, bibliographic search has become much easier. The same applies with press and documentary searches or, in other areas, the use of blogs for presenting scientific results. Quite simply, the use of electronic mail has meant that scientific practice without technological tools has become unthinkable.
3. James Clifford notes: “before the late 19th century, the ethnographer and the anthropologist, the descriptor-translator of customs and the constructor of general theories on humanity were different persons” (1991: 46), in reference to the way in which anthropologists did not gather their data by themselves, but by using reports, documents and interviews carried out by others.

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in the early 20th century, that fieldwork was specified as such, featuring the presence of the researcher on the ground and the development of the technique of participatory observation.

Ethnography is a method that involves the researcher immersing him/herself in the world he/she is studying, and attempting to describe it, bearing in mind the viewpoint of the people who live there. It became the main tool of anthropological knowledge in the study of non-industrialised societies. Later on, during post-colonialism, it began to be used not only to study hunter-gatherer and agricultural cultures and peoples, but also modern, western societies⁴. Guber notes that “the history of ethnographic fieldwork is associated, in anthropology, with the study of exotic cultures, and in sociology, with the marginal segments of the actual society” (2001: 23). However, other disciplines such as psychology and education have incorporated ethnographic methods into their studies, and today anthropology carries out ethnographic studies on all types of societies and social groups, whether majority or minority, hegemonic or marginalised. At present, ethnography is a trans/interdisciplinary method in social sciences with an epistemological approach based on three perspectives: the holistic (that is, it seeks to understand the culture using a global, complete view); the cultural (basing its analysis on the manifestations that give a particular collective the sense of being a group); and the approach of the actor (Guber, 2001). This panorama has become even more diversified with emerging objects of study in the Information Society.

Since the emergence of Computer-Mediated Communication (CMC) and the boom in Internet use, academics and institutions have also become interested in studying the social processes that go with the aforementioned technologies⁵. The establishing of discourses on these objects of study and the growth in interdisciplinary interest also prompted a methodological and epistemological reflection on how these phenomena should be studied.

One could say that there have been three different stages in the connection between ethnographic methods and Internet research, which we could call Cyberspace Ethnographies, Internet Ethnographies and Ethnographies of the Digital. Though these stages could be differentiated into short time periods (the 1990s for the first, from the year 2000 onwards for the second, and more or less since 2005 for the third), the fact is that the three coexist, even today. What is hard to contest is that they represent three consecutive stages in the link between ethnographic methodology and the objects of study related to digital technologies.

Cyberspace Ethnographies

Some of the first theoretical concepts for understanding and researching Internet-related phenomena stemmed from the literature and informative texts. This point is important given that, in some way, such concepts methodologically guided the type of research –both qualitative and ethnographic– that was developed in the early years of Internet research. In another text (Gómez Cruz, 2007), an analysis of the creation of these “metaphors” as theoretical concepts is made. One of those concepts was particularly used as the basis for the others: cyberspace. The defini-

4. For a reflection on the ethnographic object of study of contemporary anthropology, see Guber and Rosato (1986).

5. For an historical analysis of the methodologies used to analyse the objects of study related to CMC, see Wellman, 2004; Silver, 2000; 2004; Silver & Massanari, 2006.

tion of cyberspace given by its creator, Canadian novelist William Gibson, was as follows:

“A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts [...] A graphical representation of data abstracted from the banks of every computer and human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data [...], the actual land of the virtual, where all the media join (flow) together and surround us” (1984: 30).

The consequence of this concept (which was later used by activists such as John Perry Barlow and academics like Michael Benedikt to refer to the “space” made possible by connecting to the Internet) was that it began to be used almost as a synonym for the Internet in both the popular imaginary and among academics interested in the phenomenon of the Internet.

Along the same lines, in 1994 the ex-hippie journalist Howard Rheingold published a book that brought a second powerful metaphor into being: *The virtual community*. Given that there was a (cyber)space in existence, it was logical to think that (virtual) communities could be generated within it. Meanwhile, Sherry Turkle (1997) coined a third concept, that of *virtual identity*. If there were communities that shared a space, and if people generated an identity there that was their own and distinct, then it seemed that there was a clear need to study these communities ethnographically. But above all, the idea was prioritised that, as the nature of these communities was specifically “virtual”, it was enough to study them by only considering “on-screen life”. That is, it was sufficient to analyse the interaction that was originated in cyberspace and to participate in the forums, chats, etc. that were studied.

In those days, communication by computer was textual and, therefore, anonymity seemed to be an intrinsic characteristic of the systems which were also very limited in terms of their technical possibilities. Steiner expressed it well in his famous (and much-cited) cartoon that shows two dogs in front of a computer, one saying to the other: “On the Internet nobody knows that you’re a dog”. The combination was obvious; if connecting to Internet was like “entering a cyberspace”, and alternative identities could be generated (the socialisation of which would create virtual communities), then it was logical to consider that these new communities could be studied, just like primitive peoples had been studied in the early days of anthropology. This was mainly for two reasons: firstly, it was a field of research of which anthropologists knew nothing, a “virgin culture” (just like the jungle peoples were for the first explorers), and secondly, because the mediated interaction seemed to give rise to new “genres” of discourse (Mayans, 2002). Thus, there was a whole series of texts that advocated and proposed mechanisms for creating “virtual ethnographies” (Paccagnella, 1997⁶; Ward, 1999; Hamman, 1997, etc.); ethnographies which proposed that observing textual communication on platforms such as BBS, chats and forums was the appropriate method for describing and explaining the manifestations of these “cyber-cultures”. And what is more important, thereby demonstrating that those communities were *real*, even though they did not possess a physical location.

6. Pacagnella's text, titled “Getting the Seats of Your Pants Dirty: Strategies for Ethnographic Research on Virtual Communities”, represented a nod toward that famous phrase by Robert Park from the Chicago School, who proposed visiting whorehouses, shantytowns and luxury hotels: “In short, go and get the seat of your pants dirty in real research”.

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However, the proposals concerning ethnographic research on cyberspace seemed to be far removed from the discussions on ethnography as a method and the difficulty of constructing the field of research that were being debated in anthropology in the late 1980s; for example, the problematisation of the concept of community (Amit, 2002), or the emergence of multi-situated ethnographies (Marcus, 1995). And all this in spite of claims that placed reflections on cyberspace in relation to the disciplinary discussions ongoing at that time (for example, the anthropologist Arturo Escobar (1994) published a text in which he proposed a thorough reflection on the transformations that computer, information and biological technologies were bringing with them in terms of culture in its broadest sense). Even though this text was widely cited, it did not appear to fuel a debate on the validity of studying a technological platform and what happens *there* as a society in itself. Another text that proposed something similar, also produced by an anthropologist, was by David Hakken (1999: 3), who propounded the idea of the study of cyberspace not as “invented discourses on these new “natives”, but based on extending the participation and observation of new ways of life to introduce an intelligible order into the conversation”.

Meanwhile, and in line with the above, in anthropological research studies the idea of fieldwork in a community linked to one single territory had been under question for some time with the proposal of multi-sited ethnographies (Marcus, 1995; Hannerz, 2003). This disconnection, among the pioneering proposals for a virtual ethnography and the broadest debates within the discipline, could be largely a result of the fact that the first studies carried out on the Internet (using that approach of researching a space that was “separated” from the physical one) were carried out by young academics, particularly graduates in the discipline of communications⁷ (Jones 1995; 1997). Meanwhile, one could also say that, in that period, significant importance was granted to technologies and their possibilities. Thus, Slater (2002: 534) pointed out that, in this type of research, four of the technologies’ properties were established in relation to the capacity of these technologies to create social spaces: virtuality, spatiality, disintegration and decorporealisation. That is to say, few anthropologists and sociologists seemed to be interested at that time in “cyberspace”, as many of them were even questioning whether it represented a true anthropological object of study. This was, to a great extent, the result of the scepticism with which this communication medium had been received in many academic spheres, mainly because no-one could see how it would be possible to apply the ethnographic method, based on personal contact and prolonged stays, to these virtual environments, which were characterised by anonymity and opposition to the physical world. But it was precisely the ethnographic method that was applied, to show that interaction mediated by computer was just as authentic and filled with meaning as face-to-face interaction could be.

In this way, the link between the emerging subjects and the theoretical-methodological position used to study them resulted in the consequence that the technologies necessary for collecting data were those of computer screens and textual analysis, given that the interaction took place through textual mediations and in specific socialisation spaces that were *independent* from the physical space. Ethnographic studies showed that it was possible to speak of a culture that had emerged in cyberspace which had its own forms of social regulation and had developed its own codes of conduct, in such a way that its participants found meaning and

7. Murphy (1999), in a reflection on the use of the ethnographic method in cultural studies of media, suggests that even though a significant corpus of ethnographic works was created in studies on audiences, “theorisation exercises” were preferred to the carrying out of field work.

developed collective identities and feelings of shared belonging similar to those that took place in physical communities. Cyberspace and cyberculture had been established as an object of study, as well as the different forms of virtual identity. The problem, however, was that the users of these spaces did not believe that the virtual world they inhabited would radically transform their way of being in the world and, in fact, many studies from that period showed that the differences and inequalities of the real world were being reproduced in cyberspace (Nakamura, 2002).

Internet ethnographies

Since the year 2000, and especially following the publication of *The Internet: an ethnographic approach* by Miller and Slater, and *Virtual Ethnography* by Christine Hine, a shift has taken place in the conceptualisation of the Internet as a “world apart”. These three researchers, with their experience of research into the material culture, economic processes and social science studies, started to abandon the idea of a homogenous cyberspace, independent of local cultural contexts. In the case of Miller and Slater, the unit of analysis is not a virtual community, but the island-nation of Trinidad and the use that its citizens make of the Internet in different areas of their social, individual and collective lives. The object of study is enlarged to include the intersections and interrelations between the Internet and everyday life, thus rejecting the idea of a de-territorialised Internet and a globally homogenous cyberculture. Meanwhile, Hine takes a specific case with a transnational resonance as her unit of analysis – the trial in the USA of an English nanny accused of murdering a child. The object of study in this case is not the Internet as a culture, but the Internet as a tool of social communication. These and other studies give rise to the idea that instead of a culture that is autonomous and separated from *the physical*, we are now beginning to speak in terms of *online/offline* as a way of acknowledging the multiple connections and close links between the two spheres of interrelation. Thus the term *virtual* is replaced by that of *online*, and any reference to the physical world as the *real one* is avoided, describing them instead as *offline* interactions. However, even after all this, it still proves problematic (Slater, 2002). Meanwhile, the demography and uses of the Internet also changed: there was a significant increase in participation by different groups and societies in the Net following the Internet’s incorporation into the most mundane, everyday activities, and this coincides with the fact that it has become known as the Web 2.0 (Wellman and Haythornthwaite, 2002; Bakardjieva, 2005). Academics then began to acknowledge that ethnographic fieldwork had to be carried out *inside* and *outside* the screen. Instead of assuming that *online* and *offline* were separate spheres, they searched for the interrelations between one and the other. As Bakardjieva (2008: 54) explains: “the Internet is precisely that place where the *online* meets up with the *offline*. Studying it should mean keeping sight of both sides at the same time, especially because every so often the Internet is only a bridge between one *offline* and the other”⁸.

In this way, the technological tools necessary for carrying out research on this second stage went beyond the *online* interaction, thereby problematising the *screen* as the field of study. Internet ethnographies were no longer carried out *on* the screen, but *about* the screen and its relations with people in specific spheres and contexts.

8. It is interesting to note that in 1999, George Legrady, an artist and digital art theorist, proposed something very similar: “In the process of interacting with the digital world, we can consider the real space as the place where our bodies come into contact with technological devices through which we experience the virtual space” (cited by Lehmann, 2009: 37).

Digital ethnography

The third phase in the connection between the ethnographic method and research into communication technologies seems to have been established over the past few years. The link between the collecting of data *online* and *offline* is not only acknowledged, it is also theorised and seeks to integrate itself as a whole into ethnographic works (Sade-Beck, 2008; Leander and McKim, 2003; Jordan, 2009). Meanwhile, the technological panorama has also evolved, and is no longer a situation of computers connected up to the Internet and its platforms, but of new devices that have made the panorama even more complex: Wi-Fi networks, mobile phones, video game consoles and, in general, the “communicative ecosystem” has been almost completely digitalised. Thus, and especially from the use of the mobile phone (which represents a much more complex, liminal interface), it has become clear that the distinction between online and offline was not in fact ontologically constructed, but also discursively. As a result, ethnographies from this latter period seem to have been created “beyond the screen”.

The concerns and subjects in this third stage have changed; for example, after initially focusing on questions about identity games in cyberspace, now the emphasis is placed on trying to understand privacy issues, content production and mediated socialisation. The topics are expanding, and technological mediation is used to try to understand the culture’s broader phenomena and their links with digital practices.

What is striking is that the distinction between virtual and real appears to be reconstructed to the extent that ethnographies exist which appeal to it as an epistemological and methodological response to the challenges of “virtual worlds”. Thus, we find new, exclusively *online* ethnographies (Boellstorff, 2008; Pearce, 2009) that are explained because the authors present the study of “virtual cultures” linked once again to “territories”, both in Second Life and in mass, multiplayer online games. Corneliusen and Rettberg (2008: 1) clarify this position with a metaphor: “Being new in the culture of *World of Warcraft* can be compared to being an immigrant in a foreign culture”, and some authors suggest that these phenomena can be studied as “subcultures” (Gelder, 2007). While in the beginning Internet was considered to represent a world apart owing to its “intrinsic” technological features, now it is argued that if this is the case, it is thanks to the efforts made by social actors to construct a world apart in such settings; the independence of cyberspace is not something that is given to us by technology, but something that people seek in technology. The independence and neutrality of the ‘network of networks’ represents today a struggle and championing of certain social movements based around the idea of a free culture, or that the market should not destroy the horizontal, anarchist and hacker principles that inspired the actual birth of the Internet.

Finally, at present, the use of the Internet is so widespread and complex that to attempt to describe one single platform (even a mass, multiple one, such as Facebook) would be risky, owing to the multiplicity of applications and overlaps involved in its uses, with the occasional exception such as “Tales from Facebook”, located in one single country (Miller, 2011). We could say that nowadays, any social science object of study will involve the Internet, and that there are very few fields of study that

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do not involve the Internet, given that it permeates almost every sphere of social, personal and collective life. This is true to the extent that the researchers specialising in such studies who belong to the Association of Internet Researchers (AoIR) stressed, at their 2008 conference, the importance of continuing to construct Internet as a specific object of study, in the same way that while at previous social science conferences there was a specific section dedicated to Internet studies, such as the European Communication Research and Education Association (ECREA), now, any research into media and audiences should include the Internet in its field of study. And the same goes for so many other research fields in the areas of the economy, politics, health, the study of migration processes and research into cities and urban development.

In this broad panorama, we no longer speak of virtual ethnography or cyber ethnography: Instead, other adjectival expressions are proposed, such as “collective ethnography” (Hine, 2007), given that what demarcates the field of study is the different connections that the subjects trace inside and outside the Net, or “digital ethnography”, to refer to the specificity of ethnographic methodology when carried out on the Internet, even if it is not ended or exhausted in this.

On one hand, we can say that nowadays, Internet is no longer an actual object of study, well demarcated and delineated. It has now become one part of the objects of study used by any researcher of contemporary societies, even though, as we shall see, its conceptualisation continues to pose major challenges. On the other hand, the methodology developed for Internet studies can be extrapolated and widened to other objects of study; that is, it can be valid for studying on or through the Internet specific issues that intersect with it, such as the representation of youth cultures on the Internet, the current structure of the job market, alternative economies, and the knowledges that are exchanged over the Internet concerning bringing up children, home cooking or traditional fishing, etc. And so, while studies on the Internet seem to be seeking new conceptualisations of their object of study, the methods that have been initiated are still open to development, and have already come to be part of the methodological baggage that any social researcher should use, or at least, consider and bear in mind when it comes to planning their research. At present, it seems unlikely that any ethnography could be devised (and especially if it is on urban groups) without taking into account its technological forms of mediation (Díaz de Rada, 2010).

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Digital methodologies

A different discussion, but one that is closely related to the reflection on objects of research and the technologies used for their study, is not about objects of study *on* the Internet but about the Internet’s capabilities as a research method. Christine Hine (2000) suggests that the Internet, as an object of study, has been theorised and analysed in two ways: as a culture (the Internet’s cultural forms) and as a cultural artefact (cultural practices on the Internet). By ‘cultural form’, we refer to “cultures characteristic of the Internet”; that is, autonomous, specific cultural forms on the Internet, *Second Life* being the paradigmatic example. Hine (2008: 11) herself notes that these ethnographies can be “about the mobility between contexts of production and use, between the *online*

and the *offline*, and they can creatively deploy forms of attraction to see how these sites are socially constructed and at the same time social constructs". As for cultural practice, Hine propounds that just like any other creation, the Internet can be analysed as a "cultural artefact". That is, observable practices exist that are not necessarily feature of the Internet but which take on a different dimension online, such as making videos for screening on Youtube and photography on Flickr. In the latter case, the object of research are the practices, and what the researcher does is to follow the subjects in their practices and, in this respect, the Internet becomes just another element in the composition of its object of study, but not the main focal point.

Meanwhile, Annette Markham (2003) analyses Internet studies from another perspective. The author suggests that the Internet has been viewed on one hand as a "field of study" and on the other as a research tool. The former would analyse how the Internet and its platforms have been the "context" for observing different phenomena. Thus, studies have been carried out (and not only ethnographic studies but qualitative ones in general) on specific platforms: Facebook, Flickr, Twitter, etc. In this sense, Internet has become the "empirical field" that we ethnographers call the *fieldsite* (the place in which the fieldwork is carried out), and that to a great extent corresponds to the research context where the interactions with the subjects of study or *informants* take place. This was in fact one of the struggles for the first Internet ethnographies: to show that it was possible to engage with the subjects of study on the Internet, to establish a *rapport* or trust through computer-mediated communication, and even to carry out in-depth interviews by means of technologies such as chats. It was argued at the time that the data obtained in this way were not so reliable, given that the personal data of the interviewees (who usually acted under pseudonyms or virtual identities) could not always be compared and contrasted, and that furthermore the data lacked the information provided by physical features and non-verbal communication. These points are still called into question today, as the Internet is not fully accepted as a field and as a data-gathering tool, and especially by researchers who have not experimented with these techniques.

On the other hand, the Internet has also been used as a data-collection tool, though it has not been considered an "object" or a "field" of research; especially with non-ethnographic qualitative methodologies, given that in the case of ethnography, as we have said, the fieldwork is the basis for the data gathering. However, other researchers have also successfully adapted the techniques of structured or semi-structured interviews or group discussions (focus group) to the Internet. In this respect, the research context –that is to say, the "place" where the data are collected– does not enter directly into consideration for the research, rather, the information that we obtain through these techniques. To give one example, in one *focus group*, efforts are made to ensure that the location where the discussion takes place is as neutral and cosy as possible, given that the context itself does not enter into the analysis of what the subjects of the research are expressing, and the same goes for when an interview is set up using an instant messaging system. There are different publications that act from this perspective as guides for using the Internet and its possibilities as a research tool (Mann and Stewart, 2000; O'Connor and Madge, 2003; Jones, 2000; Hine, 2005; Fielding, Lee and Blank, 2008; Dicks, Mason, Coffey and Atkinson, 2005). That is why it is

important to stress that the methods and tools should be specific for the objects of study proposed. To what extent does the fact of *adapting* an interview to mediated communication *transform* our practice of conducting science? Our proposal is that the *transformation* takes place when we act reflectively, when we rethink our object of study and the way that we make knowledge.

Conclusion

A reflection on digital methodologies has become necessary due to the Internet's growing role as a part of academic research processes. Beyond the fact that interest has increased in the Internet as an object of study, mediation technologies increasingly form part of the research dynamics, and because of this we must consider their epistemic, ontological and ethical implications.

Until now we have seen that a specific method –namely, ethnography– has been adapted to different objects of study, and that the changes produced in their theoretical conceptualisation have also involved methodological readjustments. We have also stressed the importance at all times that the configuration of the Internet as an object of study should correspond to how it is imagined by its users; that is, how the ontologies of each historic moment in the development of Internet correspond to specific academic conceptions of same. Social researchers also take part in constructing the Internet, not only in the discursive, narrative, imaginary sphere, but also with proposals that have a correlation in technological developments that are incorporated into their actual object of study. As we have attempted to demonstrate in this article, what the Internet *is* does not depend exclusively on its technological features, it also depends on what it *is* at each moment in time for its designers, researchers and users.

The type of knowledge that we acquire depends on *how* we know. Social knowledge is a large part of experiential knowledge. At least, it sets the epistemological basis for ethnography and, specifically, for the method of participatory observation, which invites us, specifically, not only to observe a given cultural system from outside, but to *feel it* from within, to participate in it, thus socialising the researcher in the cultural environment that he/she wants to understand. This represents a high level of self-reflexivity, given that we have to learn a specific cultural logic from our participatory experience, and this usually also implies a reflection on the technologies of the environment being described. For ethnography, the research context is not a neutral field or a laboratory, instead it forms part of its data and, therefore, the way of knowing a technology involves having to use it, even if one does not aim to achieve *expertise*. It is here, therefore, where different ways of knowing in social sciences bifurcate, and even within the actual qualitative methodologies that have been analysed. We must be reflective, as the methodological decisions we take help to develop not only our object of study, but also what we manage to say about them. This reflexivity also extends to the field of ethics, which does not only consist of following a few deontological guidelines, instead it is a question of attitude and of understanding what the challenges are that are presented by technology-mediated interaction (Estalella and Ardèvol, 2007).

To what extent does the fact of adapting an interview to mediated communication transform our practice of conducting science? Our proposal is that the transformation takes place when we act reflectively, when we rethink our object of study and the way that we make knowledge

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While the example of digital ethnography might seem specific to a series of particular objects of study, we decided to present it here for debate because Internet has become such an indispensable tool for social research. And so, as with the example of the rotary dial telephone with which this text began, digital ethnography has become “invisibilised” in the everyday practice of making calls, and now our young people are rediscovering it; thus the proposal of this text is to maintain a constant reflectivity, not only toward our objects of research and the theories we use to explain them, but also toward the tools we employ to research them.

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