

The Influence of Information and Communication Technologies (ICT) on time and masculinities

Paco Abril

Alfons Romero

Open University of Catalonia (UOC)

Girona University (UDG)

pabril@uoc.edu

alfons.romero@udg.edu

ABSTRACT

In this article we analyze the changes that Information and Communication Technologies (ICT) are introducing in organizations, in men's work and in their personal and domestic sphere. We intend to see whether these changes consolidate or reaffirm hegemonic masculinity or whether the latter is being negotiated, diluted and transformed into other kinds of alternative masculinities. The article is based on an exploratory analysis, from the *GSMA Mobile World Congress* observation carried out in Barcelona in February 2009 as well as on the analysis of 25 semi-structured interviews of different profiles of men, and which are part of a wider study on use of time by men (Abril, Romero, Borràs, 2009).

KEY WORDS: Blurring of boundaries between work and non-work, Family lifestyles/arrangements, Hegemonic masculinity, New forms of working, Qualitative methodology

INTRODUCTION

The importance of this article lies in the fact that virtualisation processes also present spaces for challenging hegemony, in terms of the presence/ absence of men (Hearn, 2009). This in turn entails positive, negative and contradictory repercussions on men stemming from certain uses of ICT. Multiple and complex information and communication technologies, such as immediacy, asynchronicity, compression of space/time, virtuality, etc have an effect on men's social practices. These technologies not only challenge the historical constructions of the state-nation and the political hegemony of space, but they also have an effect on organisation models, both on a corporate level and in a broader sense, highlighting transformations in subjectivities.

In this article we aim to take a closer look at the positive, negative and contradictory repercussions of ICTs on men. Among other things, the repercussions that the introduction of these technologies has on the negotiation or reaffirmation of relationships and gender practices in the work, family and personal sphere. We are interested in studying how men negotiate the meanings and uses of new technologies and the changes that ICT are introducing in organisations, in work and in the personal and domestic sphere of men.

We intend to find out whether such changes consolidate and reaffirm hegemonic masculinity or whether it is being negotiated, diluted down and giving way to other alternative masculinities. In other words, the aim is to explore the contexts of the new relationships between masculinities and technologies.

The article is based on the preliminary results of a broader research study that analyses the influence that ICT have on constructing masculinities in relation to changes in the productive and reproductive spheres. We are dealing therefore with a first approximation, an exploratory study based on the observation carried out at the *GSMA Mobile World Congress* in Barcelona, in February 2009 and from the in-depth interpretation of 25 semi-structured interviews of different male profiles, which form part of a wider study on men's use of time. (Abril, Romero, Borràs, 2009).

This article reviews the key theoretical contributions on the subject of technology, gender and masculinity. It analyses the influence that ICT have on the management of men's work, family and personal time. It centres the debate on the blurring of the boundaries between the work, personal and family spheres and on how this influences the construction of hegemonic or negotiating masculinities in gender relationships and practices.

STATE OF THE ART

This issue encompasses diverse academic disciplines such as the interrelationships between gender theory and technology; and its branches such as the *Critical Men's Studies*, Social Studies of Science and Technology, Information and Communication Technology studies (ICT); and labour and organisations sociology.

The first authors to relate studies of gender and technologies were certain feminists in the 70's. The first pieces of research were by American feminist 'technology historians'. These first articles on the history of domestic technology are to be found in the magazine "Technology and Culture" (Wajcman 2000). According to this author, the debate in these articles was around the apparent paradox that the mechanisation of the home did not ultimately decrease the time that women spent on domestic tasks. Hence, feminist studies on technology were analysing its effects upon the lives of women and the impact of technological change (both at work and in the home) on gender relationships.

The first studies that related gender and technologies explored two main issues (Lohan, M.; Faulkner, W. 2004). The first, "Women in technology", asked why there were so few women working in technologies (as engineers or programmers for example)? This line of inquiry studied how women had been systematically excluded from jobs which could be defined as scientific, technical or technological (Cockburn 1983; 1985; Hacker 1990; Wajcman, 1991). These studies point to the existence of a "cultural context" which determines technology as a masculine domain and deters women's progress in these occupations (Eriksson-Zetterquist, U.; Knights, D. 2004).

The second line of inquiry, "Women and technologies", emerged from two main roots: women's use of word processors and their activism around medical technologies in health and reproduction. Here the research focussed more on issues of equity, highlighting how women's engagement with technology was more as users than as designers. These encounters are often marked by a juxtaposition of positive and negative feelings. For example, for many women the Internet is a tool that enables them to acquire technical skills whereas others think that yet another "boy's toy" has nothing to offer them. This ambivalence concerning ICT has been at the centre of the debate for numerous feminist authors. At one end they view these technologies as determined by patriarchy and they portray women as the victims of men's technologies and as an extension of men's desire for control (Wajcman, 1991). At the other end we have the techno-enthusiasm of cyber-feminists who view technologies as neutral and offering many opportunities for women (Haraway, 1991; Plant, 1997).

In the 90's the focus of research moved from "Women and technology" to "Gender and technology", highlighting that both gender and technology are socially constructed. It was at this point that the research topic of Feminist Technological Studies (FTS) was born. FTS began with Hughes (1986) and her notion of the "sociotechnical" (cited in Lohan, M.; Faulkner, W. 2004), according to which technology is never just technical nor just social. A consequence of this is that whoever designs new technologies is, at the same time designing society (Latour 1988; Bijker and Law 1992). But the process of designing technologies and societies is not easy given that technology is subject to considerable "flexibility of interpretation" (Pinch & Bijker 1984). In this way technology is shaped as the outcome of a complex social process in which different groups battle over what an artefact should be or look like. Therefore FTS is situated within the constructivist paradigm which highlights the view that the relationships between technology and society are mutually constructed. And so gender and technology are mutually co-generated.

The first studies in this area explored the ways in which technologies acquire gender. For example, Cockburn (1983, 1985) shows that technical skills and artefacts can be constructed in ways which favour men over women in the labour market.

More recently FTS has highlighted not only how gender can configure technology but also how the design and/or the use of technologies can shape gender identities and relationships. Lohan and Faulkner (2004) show that the empirical studies in FTS throughout the 90's centred on the daily and day to day use of technologies, especially in the home (Lie and Sørensen 1996; Silverstone & Hirsch 1992; Cockburn & Dilic 1994).

Despite the considerable number of studies on masculinities, especially in the Anglo-Saxon literature, since the 90's, the subject of technology and masculinity has scarcely evolved as a branch on the tree of "Critical men's studies" (Mellström 2004). This author points out for example that in authors such as Kimmel and Messner, the intellectual inventors of the "Men's Lives" area (1997) an enormous gap exists concerning technology and masculinity in general. This is surprising if we take into account that on a mass scale men around the world employ their time every day interacting with machines and technologies. It is even more surprising if we take into account that since industrialisation and modernisation in the West and in other parts of the world, men have always had control over technologies (Cockburn 1985).

The small body of existing theoretical and empirical research on men and technology focuses on:

- Technology as an expression of male culture (Hacker 1989; Wajcman 1991; Cockburn 1983, 1985)
- Various empirical studies on men "in love" with technologies (Mellström, 2004), and others who aren't but who interact with them on a daily basis.
- Analyses on how masculinities and technologies converge in terms of subjectivities, identities, practices and symbols. This conceptual approach persists thanks to the durable and omnipresent equation between masculinity and technology (Faulkner 2000, 2001; Wajcman 1991, Cockburn 1983, 1985; Hacker 1989). Researchers are interested in understanding the continuous stability of this equation or in destabilising it by exploring contexts in which new relationships may evolve between masculinities and technologies (Lohan & Faulkner 2004).

As far as ICT are concerned there is very little critical research on their creation, use and influence on masculinities. There have been a great many studies on the lack of representation of women in the ICT sector in western societies. However, similar research on masculinities and ICT has limited itself to studying technology as a part of men's vital experience (Lie 1995; Lohan 2001, Faulkner 2000 Mellström, 1995; 2004). Nevertheless, we need to keep in mind that today the diverse areas where masculinities have been studied in sociology such as paternity, co-responsibility, male activism and politics, fathers' and men's rights, personal growth, pornography, race, ethnicity, work and social class, sexualities, difference, sport, violence, etc. are influenced and in many cases transformed by ICT.

METHODOLOGY

The methodology is based on a qualitative analysis using two techniques:

- A two-day participant observation carried out at the *GSMA Mobile Word Congress* held in Barcelona from February 16th -19th 2009. This technique has enabled us to discover the social reality, life experiences and the meaning of actions in a highly masculinised context such as that of global mobile technology companies.
- The technology dimension (the use of ICT and their influence on time management and the organisation of work, family and personal life) was analysed by studying 25 semi-structured interviews of different male profiles, from a wider study on the use of time and masculinities (Abril, Romero, Borràs, 2009).

The interviews were carried out by a team of male interviewers between January and March 2009. The "snowball" technique was used (Goodman, 1961) to select interviewees. The interviewers resorted to their circle of acquaintances and these in turn provided other acquaintances until they had found all the assigned profiles.

Literal transcriptions were made of the interviews by the interviewers themselves. The data analysis was carried out using an inductive qualitative methodology based on the tenets of *grounded theory* (Strauss & Corbin 1994) but from an "open" perspective. In other words, they coded the discourses which they then used to generate concepts with which to construct the theory. What we have here is an "open" interpretation of the precept of *grounded theory*, because it is difficult, at least in our case, to start the research from "zero" or from a blank slate. In fact, this is one of the main criticisms that are lodged against this methodological

approach, which does not recognise that the problem and theoretical framework may be at the beginning of the research. Thus, in our case, during the research design phase, the analysis phase as well as the final phase, we made use of a theoretical reference framework, which entailed studying theoretical and empirical works related to the subject, that we integrated into the analysis.

FINDINGS

Masculinity in the global technology industry

The world mobile congress, organised by the GSMA association which represents the mobile communications industry, constitutes an ideal showcase for analysing trends, messages and practices from a gender perspective. According to the theory of Actor-Red de Callon (1986) and Latour (1987; 1989) the designers define the actors or potential users of their technologies in different ways and imprint this vision of the world on the technical content of the new object.

In this section we intend to analyse the "inscriptions" that gender leaves on new mobile devices, by taking an in-depth look at the observations from the GSMA tradefair. We have undertaken an exploratory analysis based on the gathered observations. The fieldwork notes presented below describe the profile of those attending the event.

"The first thing that becomes obvious is the larger percentage of men as compared to women both inside the different stands as well as walking around the precincts. Most of the men are dressed in a suit, normally black, and a tie. It's strange to see so many men uniformed in practically the same manner. The few women who are there go by unnoticed. The majority of them are also dressed in black, wearing a jacket and trousers. The only thing that makes them stand out is their longer neat hair. The average age is around 35-40. White Anglo-Saxon men predominate. English is spoken all over the place. Another racial group that predominates are Asians, mainly Chinese, Japanese and Indians. According to GSMA 45,000 people visited the tradefair, 5,000 fewer than in 2008, due to the economic downturn; 1300 exhibitors from 280 countries". (Fieldwork notebook, February 17th 2009)

Women play a minority role in this sector of the mobile communications industry or they are used as a sexual lure to attract customers, normally men. The following quote reveals how the values of hegemonic masculinity, competition, are mixed with women's role as a sexual object.

"A frontline multinational company in convergence of support systems to technology firms had five girls at its stand, with very little on, dancing to Brazilian music at certain time intervals. In the stand the following type of messages were displayed on big screens: "Above your rivals", "loyalty". A group of executives crowded round the girls to watch the show" (Fieldwork notebook, February 17th, 2009)

Hence the women who appear in the corporate stands and on the product adverts play a secondary role and are there to "attract" potential customers. The young and attractive hostesses were lightly dressed and eye-catching. The women that appear on the adverts are also young and attractive, at times they occupy a secondary place, behind the man, looking on while the latter manipulates a phone or a computer.

When there are products targeted at women, such as companies that offer "feminine" mobile phones, these are sold as adornment items (phone-pendants with Swarovski stones, bracelet-phones, etc.) without highlighting the technical features and user options.

2009 was the year of convergence between platforms, portability and connectivity. The Chinese company Huawei, a world leader in telecommunications stood out. The following notes gathered in the fieldwork notebook portray the researcher's perceptions regarding the transnational hegemonic model of masculinity. In this case the example is related with the ethnic and cultural origin of those they observed.

"I was unable to enter the Huawei stand, the biggest and most spectacular in the tradefair, because you need a special pass to get in. I sat in an outdoor café opposite the pavilion. A legion of Asian men, Chinese, many of them in their early thirties and others who were middle aged, uniformed in black suits, crowded round the entrance. At the table next to me there was a group of about eight people, one European man and the rest Chinese. A Chinese man around 50 years of age led the conversation. Everyone listened to him with reverence. The man was holding a latest generation mobile phone in his hand and had a bluetooth device attached to his ear. There were three women in the group. When they got up to leave, two of the women

cleared the table. They threw the coca-cola cans and the plastic cups in the waste paper bin. This made me think of the company as a context that reproduces the most traditional and pronounced gender roles of Chinese culture. I viewed the scene as a typical model of hegemonic masculinity, almost military, in the patriarchal system, ethnically contextualised in a global dimension". (Fieldwork notebook notes, February 17th 2009)

As Hearn points out (2009), in transnational corporations a particular group of men take on the role of the most powerful actors. These men who are known as "the transnational capitalist class" (Sklair, 2001) generate a series of practices such as the preference for men and companies of men and they use masculine models, stereotypes and symbols taken from the world of sport or the military. The male socialisation that takes place within these contexts, according to Hearn (2009) combines emotional separation, competitiveness, the portrayal of women as a sexual object and reproduces hierarchies above men. This author points out that there is a structural trend and a tendency towards transnational gender dominance. He has coined this concept as "transpatriarchies", where the dominant gender structure – patriarchy- is no longer localised or limited to a particular national, social or cultural setting but takes on a transnational character.

The evidence is overwhelming. Whereas women have systematically been excluded from ICT, a male subculture has formed around a special affinity with computers. "Men's affinity with technology is now viewed as an integral part of the constitution of male identity and the technology culture. This doesn't mean to say that there is only one masculinity or only one form of technology. However, in western societies, hegemonic masculinity, the dominant cultural form of masculinity continues to be strongly associated with technical skill and power (Wajcman 2000).

ICT AND TIME MANAGEMENT

"I am the customer who sends an email when I am out of the office, but needs to contact me. I am my assistant who sends corrections to me when I'm in the taxi and the taxi driver checks the online address. I am David my colleague, who briefs me on what's going on at the office and the online journalist who keeps me informed about what's going on in the world. I am my small daughter Sonia, who sends me an instant text message and is now chatting with me as I return home on the train.

I am Graham , head editor, and thanks to everyone I can keep my job and my life going the way I want "(Publicity billposter by the company Orange in the GSMA international mobile tradefair precinct. Barcelona February 16th – 19th, 2009, Author's translation)

This advert sums up the features of the latest technology (convergent and connected mobile handset) and the relationships and practices that are established with regard to time management. A technology that converges and blurs work, family and personal spaces and times.

In the following sections we will go on to analyse how ICT affect remunerated work time and the blurring of work, family and personal boundaries. We will finish off by asking ourselves whether they also affect the construction of masculinity in terms or negotiation or hegemony in gender practices and relationships.

ICT and men's remunerated work time

The interviewees coincided in that ICT are changing the way our time is managed, both in terms of the time dedicated to paid work as well as personal time. According to Castells (2000), in modern societies, paid work time structures social time. In this respect, the author points out that despite the fact that technology enables us to work less for the same production unit, the impact of this technological phenomenon on time and work schedules remains undetermined. What is being determined however is the trend, in the cutting-edge sectors of the most advanced societies, towards a widespread diversification of work time depending on the companies, networks, job posts, occupations and workers' characteristics.

In our interviews of men who make intensive use of ICT they were the ones who to a greater extent had been affected by this technological phenomenon. On the whole, the middle classes, ICT related occupations and workers in sectors where there have been more technology innovations such as for example this interviewed journalist.

"I began working as a journalist with a typing machine and ruled paper... In the space of a few years, especially for writing, the computer has changed everything. The computer is a revolution for people who write. I used to report news stories over the phone and someone copied them out on a typing machine." (P15)

The transformation brought about by the growth of ICT in economic activities has led to substantial changes in the way companies work, both in their main production resources, capital and work as well as in entire sets of organisational and production practices (Fidapal & Torrent, 2007). This fact is corroborated by the way this interviewed engineer and building constructor sees things.

"Yes, absolutely. Obviously it is impossible to conceive of my work today without all the technology behind it. It's inconceivable. This company if the technology weren't there would be something else and it would be another size, have other departments. The fact that we have these technologies directly influences the company's day to day operations. (...)16 years ago all this didn't exist. Now we have an office in Barcelona, one in Madrid, and we have associates in Santiago de Chile. I can control...with my work as coordinator and organiser I can know each person's work, where they are, what documents they are working on, what they are doing, if they are doing it properly or not. (...) We have all the information on the computer and it's all shared, there are no paper files.. This is a radical change. I am able to do this because the technology is there." (P17)

The consequences of ICT on an organisational level are more flexibility, decentralisation and autonomy. New flexible work models are appearing such as part time work, flexitime, online work or freelance work. These changes according to our interviewees, have taken place in certain occupations such as office work and positions of responsibility that make intensive use of ICT, as this company manager pointed out for whom technology brought savings on trips to deal with customers.

"Now I solve all the problems from home. I don't need to physically travel to where the customer is, practically all of them are abroad, in Belgium, in Holland. If I have to travel to Holland to solve a problem I'll be really surprised. And thanks to e-mail you can solve everything from here. Or by phone of course." (P7)

In other occupations such as liberal and freelance professions, ICT also play an important role. They have enabled more effective management of work time, speeding up procedures, cutting costs and making work faster in general, as is the case of this freelance worker.

"Yes, I do a lot of work from here [from his home], today I received a call from a theatre in Murcia, where I have to go at the end of the month.. They asked me four initial questions and now they'll send me the information and I can take a look at it without rushing from here, floor plans of the theatre and all. Can you imagine, I couldn't go there. Years ago this would have been done by fax and the budget would have doubled if I had to go there in person, whereas now I'm here at home." (P13)

However, ICT have penetrated little into the work processes and the management of time in Spain. In Catalan companies, according to the "Proyecto Internet Catalunya" (PIC 2002-2007), in the chapter on online companies: The research project found that 90.6% of workers are on a full-time schedule and that 9.5% are on a part time schedule. The trend towards more flexible organisations is more visible in companies which make intensive use of ICT than it is in the rest. In the information industry for example, part time workers account for 13.7% of staff, in intensive knowledge services the figure is 12.9%, in the high technology industry it is 10.7%. However, in low technology industries part time workers account for just 6.6% of staff.

Online work is also insignificant. For example, only 1.3% of Catalan companies have workers who work online. The percentage of online work is highest in service companies that are less knowledge intensive, 2%. In the information industry this is 1.8% whereas in the high technology industry it is 0.7%. It is practically negligible in the middle technology industry, 0.04%, and in low technology companies, 0.09% (Torrent, et al., 2008)

The blurring of work, family and personal boundaries

As Castells (2000) & Carnoy (2000) point out the standard employment model is in decline worldwide, in favour of flexible work which is based on a working day that does not fit into the traditional 35-40 hour model. This flexible work is task oriented and therefore does not entail a commitment to future employment. It often includes delocalisation of the work space and changes in the social contract between employer and employee.

According to Torrent et al (2008) the introduction of ICT inside the company brings about changes in work relations. These two authors state among other things that a new type of relationship is being established between the worker and the boss in the sense that workers are expected to be more flexible and to work more intensively. This raises questions as regards the reconciliation of work and family life of workers.

Some of the consequences of these new labour relations which are made possible thanks to ICT have been analysed by Aragón et al (2005). One of the aspects they highlighted was the increase in work days, which in many cases are transferred to the private sphere, making workers more vulnerable. Another aspect is the blurring of the boundaries between work and personal life.

In this respect, various authors have pointed out that the blurring of this boundary has repercussions on equality between men and women. Men tend to resort to ICT in order to stay apart from the family while they are at home. Women on the other hand combine ICT with their domestic chores or taking care of dependent family members. In this sense, ICT are becoming a mechanism which reproduces traditional gender roles (Hochschild, 1997; Tremblay, 2002; Aragón et al, 2005 and Pérez & Gálvez, 2009)

However, despite the fact that the social costs of flexibility may be high, a line of research has highlighted the transformational value of new labour agreements, of the internal flexibility of companies and the introduction of ICT for social life, for improving family relationships and the presence of certain more egalitarian patterns among genders (Bielenski, 1994; Castells, 2000; Puchert, Gärtner & Höyng, 2005; Abril & Romero, 2005; 2008a)

Our data points to two trends concerning the effect that ICT have on the work, family and personal sphere of men. On the one hand, the men we interviewed, who make intensive use of ICT because of their professions, point to the fact that these technologies enable them to be "connected" Monday to Sunday. This is the case of the marketing manager of an advertising firm who since he started using the Iphone can go on working from anywhere such as from a taxi or the subway. Hence, in the majority of discourses of these men, who generally hold positions of responsibility, ICT have conquered their family and personal spheres and they basically use them for work purposes.

In none of the discourses of this profile of men did we find references to the fact that ICT make it easier for them to reconcile work with their family or private life. For example, for another executive working in a Human Resources department, the computer at home has extended his working day although he perceived it as saving time (the time he spends in the company).

"For me, they save time. Take the laptop for example. You go home. You weren't able to finish off something and you finish it off there in a jiffy. Or you get up at six in the morning before everyone else and you finish it off. This wasn't there before and you had to go into the company to do it." (P19)

The other trend is that of men who for various reasons have a greater presence in the reproductive sphere. They point out that these technologies help negotiating between the work, family and private sphere. In the majority of cases these are men who have adopted flexitime or have shorter working hours in order to look after their children. In this case, ICT facilitate negotiation between these two spheres. In their discourses they talk about reconciliation between their work, family and private life, as is the case of this theatre coordinator.

"I save time. I can work on a split time basis, for example, while my daughter is sleeping I can check and answer my emails and get some work done " (P13)

In this other case of a freelance journalist who works from home, it enables him to combine work with family needs, giving priority to the latter.

“I combine my work with my family life. I haven't had problems. When there are family matters to deal with I put work aside. Well, if there's something really urgent, I can find someone to look after the children but that seldom happens. (P15)

The social and cultural bonding of men's discourse and masculinities with remunerated work still persists. Studies on gender and work highlight that this association is frequently present in discourses around fatherhood, which focus on the role of the breadwinner: fathers work to provide for the family and their children (Wacjman, 1998; Cooper, 2000; Kugelberg, 2006).

However, nowadays there are a considerable number of different ways of conceiving the relationship between men, their work and their life, and this makes it possible to form constructive alliances towards a greater degree of gender equality. Flexitime at work, equality and family policies in companies and ICT enable masculinities to emerge that are not exclusively focused on remunerated work. They can set the scene for men to share reproductive work. The pressure brought about by these changes is cultural in nature, with respect to new visions of gender and inside organisations, in relation to demands for flexibility. Furthermore, male discourses, above all those that are focused on immobility and non flexibility, are exposed to a certain degree of erosion, especially when political legislation and feminist power promote initiatives in gender relationships. For example, legislation makes it easier for men (and obliges them) to take time off to participate in looking after their children (Eriksson & Knights 2004; Abril & Romero 2005; 2008)

Cooper (2000), in his study on changes in masculinity in the *High-tech* industry, based on in-depth interviews of male workers in Silicon Valley, argues that a new masculinity is emerging coinciding with the new forms of work in the new economy. Given that hegemonic masculinity depends on the social and historical context within which it operates, the author argues that the *Silicon Valley* environment is shaping a type of masculinity based on the *high-tech* world and the new economy. The type of organisation of high-tech companies, less hierarchical, more creative and at the same time ideologically egalitarian or the biographical factors of their employees could explain this trend towards another type of masculinities. Cooper points out that in the interviews the fathers, despite the fact that they spent less time with their children than their spouses, felt the sincere desire to be caring and active fathers. In this sense, she points out that this new masculinity contains an internal contradiction: How can you possibly be at work and at home at the same time?

CONCLUSIONS

This article has presented an exploratory analysis on the impact of ICT in men's lives, in terms of the changes brought about in the management of work, family and personal time. We have found two strategies which define two models of masculinity: one that reaffirms their gender roles and hegemonic masculinity, and one that negotiates them and shows a trend from this type of masculinity towards more egalitarian positions in gender relationships.

However, our data is not conclusive and a more in-depth analysis is needed. Along these lines, more work needs to be done in empirical research into masculinities and ICT. To undertake an in-depth analysis for example of how ICT are affecting men who make intensive use of ICT. Together with an analysis of the role these technologies play in the construction of the hegemonic transpatriarchy referred to by Hearn (2009) and of Connell's (2001) globalised hegemonic masculinity.

In recent years research has been undertaken on the effects of productive changes, the internal flexibility of companies and gender equality policies (Holter, 2003; Puchert, et Al, 2005; Abril & Romero, 2005, 2007, 2008a). However, more empirical research is needed into the effects, and more specifically he changes that ICT bring about in the productive-reproductive sphere and in masculinities. For example the case of online workers and semi-online workers.

Finally, another line of research that has been explored very little are the effects of ICT in highly masculinised environments where new forms of production, ethics and relationships are evolving. More specifically we are referring to digital production technology environments such as the non-profit making collaboration work that we find in free software environments.

BIBLIOGRAPHY

Abril, P; Romero, A. Borràs,V. (2009) *Los hombres y sus tiempos: Hegemonía, negociación y resistencia*. Barcelona: Ajuntament de Barcelona. Regidoria Usos del Temps <www.bcn.cat/nust>

Abril, P. y Romero, A. (2005) Masculinidad y trabajo. Las empresas con políticas de género y sus consecuencias sobre la masculinidad. En *Sociología del Trabajo*, nº 55. Siglo XXI

_____ (2007) Men's Opportunities for balancing work, family and personal life through organisational measures in Spanish companies. In Gaborit, P. (dir). *Les Hommes entre travail et famille*. Paris: Harmattan.

_____ (2008a) Medidas para incorporar a los hombres en las políticas de conciliación. In *Sociología del Trabajo*, nº 64. Siglo XXI

_____ (2008b) Entreprises et temps de travail In Gaborit, P. (dir.) *Genres, temps sociaux et parentés*, Paris: Harmattan.

_____ (2008c) Including men into work-life Balance In *Qualitative Methods in Psychology Section*. Issue 5.London: The British Psychology Society

Adès, J. y Lejoyeux, M. (2003) *Las nuevas adicciones Internet, sexo, juego, deporte compras trabajo dinero*. Barcelona: Kairós.

Aragón, J. et al. (2005) *La relaciones laborales y la innovación tecnológica en España*. Madrid: Catarata.

Berrios, L. y Buxarrais, M. (2005) Las tecnologías de la información y la comunicación (TIC) y los adolescentes. Some data. In *online Monographs: Ciudadanía, democracia y valores en sociedades plurales*, nº5. Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura <<http://www.oei.es/valores2/monografias/monografia05/reflexion05.htm>>

Bielenski, H. (Ed) (1994) *New forms of work and Activity: Survey of experience at establishment level in eight European countries*. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Bijker, W.; Law, J. (Eds.) (1992) *Shaping technology/building society*. Cambridge, MA: MIT Press

Butler, J. (1990) *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge

Callon, M. (1986). The Sociology of an Actor-Network: The case of the Electric Vehicle. In Callon, Law and Arie Rip (eds.). *Mapping the Dynamics of Science and Technology*. Basingstoke, Hants.: Macmillan

Carnoy, M. (2000) *Sustaining flexibility: Nork, Family and Community in the Information Age*. Cambridge, Mas: Harvard University Press

Castaño, C. (2008). *La segunda brecha digital*. Madrid: Ediciones Cátedra. Colección feminismos

Castells, M. (2000) *La era de la información. Vol.1. la sociedad red*. Madrid: Alianza editorial

Cockburn, C. (1983). *Brothers: Male dominance and technological change*. London: Pluto

_____ (1985) *Machinery of dominance: Women, men and technical know-how*. London: Pluto

Cockburn, C.; Dilic, R.F., (Eds.) (1994) *Bringing technology home: Gender and technology in a changing Europe*. Buckingham, UK: Open University Press

Connell, R.W. (1995) *Masculinities*. Oxford, UK: Polity Press

_____ (2001) The social organization of masculinity. In Whitehead; Barret (Eds.) *The masculinities reader*. Cambridge: Polity Press

Cooper, M. (2000). Being the “Go-To-Guy”: Fatherhood, Masculinity, and the Organisation of Work in Silicon Valley. In *Qualitative Sociology*, nº23

Eriksson-Zetterquist, U.; Knights, D. (2004) Stories about men implementing and resisting new technologies. In *New Technology, Work and Employment*, 19:3 Oxford, UK: Blackwell Publishing.

Faulkner, W. (2000). Dualisms, hierarchies and gender in engineering. In *Social Studies of Science*. Nº 30 (5)

_____ (2001) The technology question in feminism: A view from feminist technology studies. In *Women's Studies International Forum*. Nº 24 (1)

Fidapal, P. i Torrent, J. (2007) Els recursos humans a l'empresa xarxa . A Vilaseca i Torrent (dir.) *L'empresa xarxa a Catalunya. Tic, productivitat, competitivitat, salaris i rendiment a les empreses de Catalunya*. Barcelona: UOC < http://www.uoc.edu/in3/pic/esp/empresa_red.html >

Goodman, L.A. (1961) Snowball sampling. In *Annals of Mathematical Statistics*

Hacker, S. (1989) *Pleasure, power and technology: Some tales of gender, engineering, and the cooperative workplace*. Boston: Unwin Hyman

Haraway, D. (1991) *Simians, Cyborgs, and Women: The Reinvention of Nature*. London: Association Books.

Hearn, J. (2009) Hegemony, transnationalisation and virtualisation: MCCs and ICTs In *Changing Men and Masculinities in Gender Equal Societies Conference. January 2009*. Roskilde University, Denmark. Work in progress

Hochschild, A. (1997) *The Time Bind: When Work Becomes Home and Home Becomes Work*. New York: Henry Holt & Company, Inc.

_____ (2003). *The Managed Heart*. London: University of California Press.

Holter, Oystein (2003) *Can men do it?. Men and gender equality- The Nordic experience*. Copenhagen: Nordic Council of Ministers.

Hughes, T. (1986) The seamless web: Technology, science, etcetera, etcetera. In *Social Studies of Science*, nº16.

Kimmel, M.; Messner, M. (1997) *Men's Lives*. New Jersey: Prentice Hall

Kennedy, T. & Wellman, B. (2008) El hogar en red. En *Redes*. Vol. 15 Barcelona: Departamento de Antropología Social y Cultural (UAB) < http://revista-redes.rediris.es/pdf-vol15/revista_redes_vol15_2008.pdf >

Kugelberg, C. (2006). Constructing the Deviant Other: mothering and fathering at the workplace. In *Gender, Work and Organization*, 13, 2.

Latour, B. (1987). *Science in Action*. Milton Keynes, Bucks: Open University Press

_____ (1988) The prince of machines as well as for machinations. In B. Elliot (ed.) *Technology and social process*. Edinburgh, UK: Edinburgh University Press

Lie, M. (1995). Technology and masculinity: The case of computer. In *The European Journal of Women's Studies*. Nº 2 (3)

Lie, M.; Sørensen, K.H., (Eds.) (1996) *Making technology our own?. Domesticating technology into everyday life*. Oslo, Norway: Scandinavian University Press

Lohan, M. (2001). Men, masculinities and “mundane” technologies: The domestic telephone. In A. Adam; E. Green (eds.) *Virtual Gender*. London: Routledge

Lohan, M.; Faulkner, W. (2004) Masculinities and Technologies: Some Introductory Remarks. In *Men and Masculinities, Special Edition on Masculinities and Technologies* Vol. 6, (4), pp 319-329. Thousand Oaks: Sage publications.

Mellström, U. (1995) *Engineering lives: Technology, time and space in a male-centred world*. Linköping, Sweden: Department of Technology and Social Change.

_____ (2004) Machines and Masculine Subjectivity: Technology as an Integral Part of Men’s Life Experiences. In *Men and Masculinities, Special Edition on Masculinities and Technologies* Vol. 6, (4), pp 368-382. Thousand Oaks: Sage publications.

Pérez, C. y Gálvez (2009). Teletrabajo y vida cotidiana: ventajas y dificultades para la conciliación de la vida laboral, personal y familiar. In *Athenea Digital*, nº 15 <
<http://psicologiasocial.uab.es/athenea/index.php/atheneaDigital/article/viewFile/597/461> >

Pinch, T.; Bijker, W. (1984) The social construction of facts and artifacts: Or how the sociology of science and the sociology of technology might benefit each other. In *Social Studies of Science*. Nº 14

Plant, S. (1997) *Zeros+ Ones: Digital Women and the New Technoculture*. London: Fourth Estate.

Puchert, R.; Gärtner, M. y Höyng, S. (Eds) (2005) *Work Changes Gender. Men and Equality in the transition of labour forms*. Bloomfield Hills, MI: Barbara Budrich Publishers.

Silverstone, R.; Hirsch, E. (Eds.) (1992) *Consuming technologies: Media and information in domestic spaces*. London: Routledge

Scambor, C.; Schwerma; K and Abril, P. (2005) Towards a New Positioning of Men. In Puchert, R.; Gärtner, M. y Höyng, S. (Eds). *Work Changes Gender. Men and Equality in the transition of labour forms*. Bloomfield Hills, MI: Barbara Budrich Publishers.

Sklair, L. (2001) *The transnational capitalist class*. Oxford: Blackwell

Strauss, A.; J. Corbin (1994). Grounded Theory Methodology, An overview. In Denzil, N.K. y Lincoln, Y.S. (Eds) *Handbook of Qualitative Research*. New York: Sage Publications.

Torrent, J. et al. (2008). *La Empresa Red. Tecnologías de la Información y la Comunicación, Productividad y Competitividad*. Barcelona: Ariel; Editorial UOC.

Tremblay, DG. (2002) Balancing Work and Family with Telework? Organizational Issues and Challenges for Women and Managers In *Women in Management*, vol. 17, 3/4,

Wajcman, J. (1991). *Feminist confronts technology*. Cambridge, UK: Polity

_____ (1998). *Managing Like a Man: Women and Men in Corporate Management*. Oxford: Blackwell Publishers.

_____ (2000) Reflections on Gender and Technology Studies: In What State is the Art?. In *Social Studies of Science*, Vol.30.