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**CLIMBING TOWARDS CONSTRUCTIVISM
WITH GENDER IN MY RUCKSACK**

**A Technogender Theoretical
Framework on Men, Masculinity
and domestic telephony**

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CLIMBING TOWARDS CONSTRUCTIVISM WITH GENDER IN MY RUCKSACK. A TECHNOGENDER THEORETICAL FRAMEWORK ON MEN, MASCULINITY AND THE DOMESTIC TELEPHONE*

1. Introduction: Blurred Knowledge

I now know why the telephone cord is so coiled, it is because it has done so many gender loops. My starting point in this story though was not with a sex-swapping telephone but rather with a feminine one, a curled and curvy one. That the telephone is feminised, I learned from others' studies of the telephone along with opening my eyes to its contemporary images in popular media, and my paper begins with some observations of this feminisation. After that, this paper does a few loops of its own for the purposes of looping the many different stories of the gendering of the telephone together with the wider field of contemporary sociology of technologies which altogether have formed the theoretical framework through which I interpret my collected data.

In particular for me, it was where my study began to meander into constructivist studies of technology that the story became very interesting. Here I found that much of the contemporary research on gender and technology begins with the problem of the implicit association of masculinity and technology, often at both a practical and symbolic level, yet here was a technology which was arguably feminised. How would the boys react?¹ It is within these studies I learned of how all technologies are not hard at all but rather that they are open to '*flexible interpretations*' (Bijker and Law, 1992) gendered raced, and many more which we have yet to discover (Law, 1991). At the same time within gender studies, particularly in the newer feminist men's studies, I found scholarship questioning the lists of characteristics that we normally associate with being masculine, and as constituting male, and found here too theories of interpretative flexibility. These studies encountered and tackled head on change and continuity in images of what it means to be a man in Western society.

The paper documents an almost historical chronology of my movement between theoretical schools, particularly constructivist theories of technology and constructivist theories of gender, whilst also forming an argument for the need for such movements. I sometimes fear my own analogy of this eclectic

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¹ Here I include the Science and Technology Studies (STS) boys.

approach of theory construction to a *pub crawl*, creating cocktails by which knowledge systems become blurred. I gain confidence, however, from Harding's (1986) writings in which she advocates an evolving and open-ended approach to theory construction tolerating the contradictions, to use them productively. Also, it might be likened to Fox-Keller's distinction between knowing in the tradition of Plato which seeks to 'approach and unite': 'Platonic knowing', as opposed to the Baconian tradition of knowing by taking dominion (Fox-Keller, 1985:95).

Outline of the Paper

I will begin by introducing the empirical focus. I shall then draw back from here to explain how, in exploring the techno-gender relation of men and domestic telephony, I moved from visions of gendered stereotypes in marketing images of the telephone through to media studies feminist/gender studies and eventually towards a branch of what could be referred to as feminist-constructivism. This theoretical framework emerges from opening spaces between gender studies and the sociology of science and technology and I will outline its background within these fields. My conclusions draw on why I feel it was necessary to move to this theoretical framework for understanding the interrelationships between, and paradoxes of change and continuity within, both gender and technology.

2. Empirical Focus: Male gazing

The main empirical focus of my work is on men, masculinity and the domestic telephone. I think this focus is worthwhile in many ways but I will break it down one step at a time through the following questions:

1. Why technology and gender?
2. Why masculinity?
3. Why masculinity and the domestic telephone?

Why technology and gender?

Technologies may be seen in respect to gender as they are cultural artefacts. As such, like all cultural artefacts and all natural phenomena, they are interwoven in our language and meaning systems, which is also a gendering process. What do I mean by a gendering process? By "gendering" I mean: a) the assignment of all artefacts and other meaningful phenomena to a sex linked symbolic system; b) the division of tasks and behaviours into a sex linked social structure; and c) the formation of sex linked individual identities through the selective and creative appropriation of those symbols, tasks and behaviours (Harding, 1986). These three aspects of gender engage in one another but do not necessarily coincide. This fluidity can cause tensions and hence potentials for change – making the gender process partly precarious and all the more enticing for sociology. Technology is a site of such gender negotiations. Through social relations it is assigned a gendered symbolic

value. By interpreting its usage in our lives, it becomes part of the gendered division of labour. Technologies are incorporated into our gender identities in the way we make or reject them as part of our own, "mine" or "not-mine", in my feminine or masculine identity. This I explore in greater detail in my later explication of feminist-constructivism.

Why masculinity?

In this paper I also outline how earlier studies of telephony together with cultural symbolisms of the telephone taken from the media, privileged sex differences. In particular, it is women's greater usage of the domestic telephone which has thus far captured the sociological imagination. The juxtaposition of men as gendered remains an uneasy association.² Studies of masculinity thus confront patriarchy in that they shift the camera angles onto men's lived experiences. Men are no longer understood to be the powerful subjects of sociological enquiry but also its objects. In studies of masculinity, a mirror is being placed before the male gaze. The reflection reveals not the lives of generic human beings or a singular masculinity, but as others have now come to argue, a complex of masculinities (Brittan, 1989; Connell, 1987; Hearn and Morgan 1990; Brod and Kaufmann, 1994).

Why masculinity and technology?

As I mentioned in the introduction, researchers of technology (for example, Wajcman, 1991; Cockburn and Ormrod, 1993; Berg and Lie, 1994; Sørensen, 1992; Lie 1996), have noted that men and technology are so often placed together that some of the defining characteristics of masculine culture are welded together with technology in terms of male technological competence and interest/fetish. Such images (for example, men and heavy machinery: bulldozers; men and sophisticated technology: computers) prevail in such a cosy complementarity in the everyday, that they are worth disturbing. Feminist research has also shown occupational and educational segregation in regard to men, women and technology and sought to explain women's exclusion from these fields. (For example, Cockburn, 1985; Webster, J 1989). However, here we have a technology, a domestic technology, which has arguably been feminised (Martin, 1991; Fischer, 1991; Frissen, 1994; Lohan, 1996). This is potentially a technology which highlights the tensions between the levels of gender which I have outlined above. How might men be making/breaking the implicit relationship between masculinity and machine in regard to the domestic telephone? Is it gender or technology that falsifies the equation here? The gendering of men's relationship to the telephone and the gendering of the telephone in relation to men became the central question in my thesis.

² Ann R. Sætnan greatly contributed to this section and called my attention to Fox-Keller's example: 'a former professor of mine, having heard of my work on gender and science, asked him to tell him just what it was I have learned about women' (Fox-Keller, 1985:3).

3. The Telephone as Feminine? Starting in the Everyday

I began in making observations in everyday life. In British and Irish culture, at least, and from studies in other countries which I explore below, the domestic telephone is feminised in that it is most clearly associated with women and the *small world*. What's worse, it is associated with chit chat, rhubarb rhubarb, gossip and certainly not men and *Big Talk* which is said to be performed on the office telephone.

Get those Stereotypes out of my Empirical Garden!

For many social scientists, (and initially myself included) stereotypes are the worst weeds in their landscaped gardens of carefully cultivated empiricism. Their common sense variety is enough to send any good sociologist out to re-dig around their pedigrees facts again. Digging up these wild and loose stereotypes and merely throwing them away though is perhaps a loss of what our gardens are all about. At the very least, before we discard them, it might be worth asking where they come from, how they have changed and why they niggle at us long after they have settled on the compost heap. This I believe because stereotypes are cultural constructs of what has become popularly recognised as typical (or once typical) behaviour in given contexts. They can be constructed and deconstructed over time. They need a level of cultural consensus within a society in order to work, and as I will argue in this paper, they need to be integrated into our theoretical framework for understanding both gender and technology.

For example, the following is a script of a 1996 BT advertisement that examines stereotypical domestic telephony entitled: *Why Can't Men be More Like Women?*

Men and women communicate differently. Have you noticed? Women like to sit down to make phone calls. They know that getting in touch is much more important than what you say. Men adopt another position. They stand up. Their body language says this message will be short, sharp and to the point. "Meet you down at the pub all right? See you there" That's a man's call. Women can't understand why men are so abrupt. Why can't they share the simple joys of talking as other men have: W. Somerset Maugham, for example: "Conversation is one of the greatest pleasures of life. But it wants leisure." Or, as another writer said: "The talk of women is like the straw around china. It doesn't add up to much, but without it everything would be broken." Even Winston Churchill believed "Jaw, Jaw is better than war, war." The difference between the sexes becomes somewhat more than academic when the phone bill hits the mat. Some men have a way of making women feel guilty about it. Would it help gentlemen, if you new the true costs? That half hour chat at local cheap rates

costs less than half a pint, for example? Or that a five minute call at daytime rates costs about the price of a small bar of chocolate? Not so much when you think about it. Particularly compared with the cost of not talking at all. *It's good to talk.*

Stereotypical male domestic telephony is most clearly defined by what it is not, the more popularly used and derided notion of female domestic telephony. However, there is an interesting change here in that the overall tone is more mocking or at least disapproving of men's (lack of) usage of the phone. In order to work (from a marketing perspective, at least) it needs some kind of acknowledgement by both men and women in society that a feminisation of the phone space is positive or desirable. Previous portrayals of the phone space were much less favourable towards a feminisation and usually involved allegations or negative implications of gossip and idleness. Compare the above advertisement to a telephone etiquette book where the fear is the undermining of male control of the telephone:

The telephone gives the flapper courage - and more it permits a girl to lie in her bed and to talk with a man lying in his bed; it permits her half-clothed, to talk a moment after its ring had made him hop nude out of his bath tub. Its delicate suggestiveness is not lost in these instances. The most modest girls in America, the girl who blushes even at a man's allusion to his chilblains, once she gets her nose in a telephone mouth piece acquires a sudden and surprising self-assurance and wheeze (Bell Canada Archives, 1922 in Martin, 1991:164).

4. Moving to Social Science: Media Studies

So what has empirical social science had to say on this matter? This was my second starting point in opening up this field of interest for me. I began with media studies of the telephone developed through the 'Uses and Gratification's Approach' of Media Studies of Telephony. In particular, a collection of studies was assembled by the Telephone Research Group at the Free University of Berlin which brought together much of the literature available on the telephone with some recent empirical studies about how people used the telephone in their homes (Lange et al (eds.), 1989). These and other studies, I found, also suggest that the domestic telephone, in terms of usage, has become a feminised medium of communication in that women use the telephone to a greater extent than men (Perin, 1994; Schabedoth et al 1989; Lange, 1993; Dordick and La Rose 1992). A French study reported that women use the telephone up to twice as much as men (Claisse, 1989) whilst Lange concluded

that the telephone was emphatically 'feminine' (Lange, 1993:210).³ Other studies have spoken of a 'pervasive feminine culture of the telephone' (Moyal, 1989).

Furthermore, particular types of telephony are regarded as more feminine than others. Recent studies have classified calls in terms of their purpose into categories such as: Instrumental vs. intrinsic (Ball, 1968; Moyal, 1989; Noble, 1987a); person oriented vs. object oriented (Claisse, 1989); or functional vs. socio-affective/relational (Perin, 1994): broadly speaking into calls which are person-oriented or task-oriented. In common with traditional functionalist ideology, women have become to be associated with expressive person-oriented calls and men with instrumental or business calls and this in turn is borne out as an experiential reality in the data: women make and receive more of these types of calls although the majority of calls for both men and women remain instrumental (Perin, 1994; Schabedoth et al 1989; Lange, 1993; Dordick and La Rose 1992, Lohan, 1997).⁴ In fact, sex remains the most significant variable in distinguishing consumers or users both in terms of numbers of calls and types of calls.⁵ Explanations of sex differences in telephony are sought in concepts of sex roles, though where women take on men's roles or men take on women's, the sex differences are not largely rolled over (Schabedoth et al, 1989).

It has been argued elsewhere too, that the hard data of telephony studies may be softer than we think, given that respondents/interviewees might exaggerate/lie about their calls (Haddon, 1992; Noble, 1987). Arguably the richness of this methodology, in seeking out people's assessment of how they use the telephone, presents a problem for the researcher. Post-assessments of calls are likely to be subject to people reproducing class, age and gender assumptions extant in society within those responses. In other words, in challenging the stereotypes of telephone usage, we must not ignore them but rather analyse how they are negotiated by people in everyday life. Lange touches on this within his research but it is not integrated in to the analysis largely because the uses and gratification's model starts and finishes with the individual.

Men appear to have a different concept of communication. In the Berlin study we can already prove that men judge their last call differently to women. In contrast to women, they give an "objective reason" for the "usefulness" of their call. Men maintain

³ This is because in a German national study women participated in 70.4% of all calls made leaving a measly 29.6% of calls to men. And of those respondents who could be classified as 'extremely frequent callers, 89.2% were women. Lange concludes that sex is the best indicator for the amount of calls followed by number of persons in the household.

⁴ Domestic calls are overwhelmingly made to friends and family and this is sometimes used to refer to the overall sociable nature of the telephone (Frissen, 1994; Wajcman 1995).

⁵ I use the word sex, and not gender, here deliberately since most of the above studies are based on inserting the variable 'm' or 'f' to distinguish the results.

that they mainly arrange appointments, exchange short snippets of news or information and discuss defined questions or problems. Women admit to calling "for the sake of it", to speak with one another and to exchange general news. The shorter duration of men's calls seems to be connected with their different understanding of communication and its embodiment in the telephone (Lange, 1993:213, author's translation).

In other words, the telephone and communication in general are gender symbolised and these symbols or stereotypes are reproduced in the ways people present themselves post facto, though not necessarily in their behaviour. Thus, in researching gender and technology, we must sensitise ourselves to exploring how gender might be created in the way we describe ourselves in relation to the technology or the way we constitute the functions of the technology in relation to our genders.

5. Movements towards my choice of Theoretical Framework

5.1 First Movement into Feminist Media Studies of telephony

My first movement then was provoked by a lack of theorising of gender in mainstream studies of the telephone. Rakow's feminist study of the telephone opened up the door for me to viewing gender at least as something which is not ready-made but rather as something actively constructed on an on-going basis. She grasps gender as something which is *tentative*, something which needs to be accomplished. Gender is work, a set of beliefs and practices derived from the gender order. Telephony is therefore *gender work and gendered work* (Rakow, 1992: 58). A further feminist study that has been important to framing my research has been Moyal's study of women and the telephone in Australia (Moyal, 1989). Moyal's study is important from a methodological perspective, in that it moves away from studies which essentially look for difference in men and women's telephony. In this study, women speak about their communication in ways which are important to them and located in the context of their very varied lives, however private or removed from the world of Telecoms' profit. This study moves away from the presumption of woman as different, man as norm, which can stigmatise those who are labelled different (Fox-Genovese, 1994: 233). Both studies contextualise women's usage of the telephone within their overall communication culture. Both, however, are lacking in their attention to masculinity as a relational construction and, in fact, retreat to quasi-essentialist claims on the ways men relate to the telephone as a technology.⁶

⁶Moyal suggested male reticence on the telephone might be to do with the medium itself and the essential intimacy involved in the close relationship of the voice to the ear implicit in telephony. Though this would then have to go beyond domestic telephony. Rakow speculates for an explanation within discourse analysis of women's talk which suggests that in general, women have greater conversational skills and that women exercise more co-operative forms of talk, which can contribute to longer telephony (Rakow, 1992:43).

5.2 2nd Movement Feminist/Gender studies

In seeking a better understanding of the construction of masculinity, I turned to Gender Studies and especially the more recent Men's Studies.⁷ Within this field of scholarship, I have chosen to summarise four important points which have informed my study of masculinities and technology and in the way I interpret a constructivist approach to gender and technology. Though I separate them out below, in the hope of making their analytical basis clearer, they are notably interlinked.

* Firstly within these studies there is a focusing on *men's lived experiences* and an opening up of 'contradictions, disjunctures and ambivalances in men's lives' (Hearn and Morgan, 1990: 15). The argument here is that to open up the way men create and sustain gendered selves is an important way of examining how gender is implicated in power relationships. It is to theorise men's lives in a way, which does not re-exclude women and femininities (Hearn and Collinson, 1994).

* *Masculinities are described in terms of their dialectical construction (in relation to femininities) and as being historically reactive.* The newer Men's Studies favours a more constructivist approach to gender in ways similar to what was happening in studies of technology looking at gender in the *context of balances* which are salient at any one time, in which as Brittan has said, there are notable 'local victories for women' (Brittan, 1989: 195/196). It opens up the possibility of seeing Feminism as a catalyst for change in men's lives too since male intentionality is always linked to female intentionality (ibid). In fact, some have argued that the rise of Feminism has shifted the balance between men's power and men's pain: 'in societies where men's power so outweighed their pain, men's pain, could remain buried or even non-existent' (Kaufmann, 1994:153). I have taken this as a point to raise within my interviews questioning my narrators about their attitudes to Feminisms and their experiences of the changing nature of what it is to be a man within their own context.

Seeing masculinities as relative and historically constructed is helpful as a critique of the use of the concept of sex roles, which had remained unproblematised in mainstream media studies of the telephone. Kimmel usefully brings together criticisms of this popularised way of explaining sameness and difference amongst men and women in our society. Sex roles,

⁷ At the risk of oversimplification, there are two conflicting styles of men writing about masculinity: One celebrates male bonding and tells men they are OK, (*Iron John* tradition closely associated with the poet Robert Bly) and the other focuses on issues of power using academic feminist frameworks (Coltrane, 1994:42) (See Carrigan, Connell and Lee 1987: 152/153) for a more detailed categorisation of studies of masculinities).

he claims are firstly *overly static* or do not allow sufficiently for change. They are secondly *normative*, often being what people should do rather than reflecting actual behaviour and thirdly, *minimalist on power*, ignoring the implicit asymmetry between male and female roles or masculinity and femininity (Kimmel, 1987:12). Simply looking at roles, therefore, does not explicate the gender process. As Lorber has argued: *Roles women and men play don't explain society any more than the jobs men and women have explain economy* (Lorber 1994: 2).

* Thirdly there is a *pluralising of masculinities*, an opening up of *diversity in men's lives* and a breaking down of binary oppositions between male and female, on which patriarchy relies (Brittan, 1989; Connell, 1995). Again, I sort of took this seriously and integrated into my interviews variability not only in traditional "background variables" such as age, class etc. but also in the narrators' approaches to masculinity. Thus, I interviewed priests, transvestites, "New Men" as well as elderly bachelor farmers, family patriarchs etc.

* The final point of *power* is connected to this pluralising too. Kimmel, drawing on the philosophy of Hannah Arendt (1970), points out the contradictions between the experience of social power that men might hold as a group and individual power (1994: 136). That is to say, not all men link to this power equally, but instead, there are hierarchies of power subject to a form of *hegemonic masculinity* (Connell, 1987), which itself exists in a set of changing inter-relationships. Within this body of studies, in general, there was a call for research which could lead to a better understanding of the contextual bases of masculinities and to further study how masculinities are constructed in relation to constructions of femininities. Learning about gender and masculinities in these ways facilitated a move for me into studies which looked at the construction of gender in a particular context – technology – and explored how gender and technology were constructed in relation to one another.⁸ Such an approach, though, not only owes its origin to feminist social theory, but also to the newer studies of science and technology. Below is my version of the story of science and technology studies:

5.3 3rd Movement Constructivist Studies of technology: SST and SCOT

What is different about a Social Shaping or Constructivist approach to technology?

A social shaping or constructivist approach⁹ to technology means locating technology as being thoroughly social, a product of social interaction. This differs substantially from mainstream understanding of technology, which

⁸ And so, I climbed the hill to Trondheim, Centre for Technology and Society, NTNU to learn about constructivist studies of gender and technology.

⁹ Here, I conflate them in their similarities, and below, I distinguish them in their differences.

perceives technology as being distinct from social life, but as something which can radically change our lives in a utopian or dystopian manner. This latter (technological determinist) standpoint remains a powerful and prevalent way of thinking about technologies. Essentially, according to this view, the potential for change lies in the invention of the technology, the technical breakthrough. The same theorising of technology, in terms of impacts only, has predominated in academic research too. Technology was seen to determine or even cause the development of social structures. According to Winner (1977) and Sørensen (1994), the Frankfurt school of technology and the diverse philosophies of Mumford, Gehlen and Ellul all produced pessimistic views of technology and in so doing, lost some of the ambiguity of technology, which Marx had earlier outlined. This Marxian ambiguity was rooted in the short-term use of technology by the bourgeoisie to exploit the workers but which, through its appropriation by the working classes, would, in the long term, be progressive (Sørensen, 1994; Lie and Sørensen 1996).

A social shaping perspective on technology, in particular and by contrast, radically turns the mind set of linear deterministic technological forces around to say that technologies are embedded in the social. 'By stressing how technology is shaped by social forces, such as economics and gender, an attempt was made to ground the technical in the social. Thus technology was to be thought of through and through as a social phenomenon' (Button, 1993:1) and secondly, according to Button, the social shaping perspective sought to develop an interest in the organisation of the technology itself. This movement was influenced (especially in the UK) by the Labour Process Theorists and Feminisms from which it developed and is generally identified with the publication of *The Social Shaping of Technology*, Mackenzie and Wajcman (1985), according to Williams and Edge (1996). One of the criticisms of this approach though, is that it replaced one kind of determinism (technological) with another (social) (Button, 1993; Grint and Woolgar, 1995). This challenge has been taken on more substantively by SCOT or the Social Construction of Technology model forwarded by Bijker and Pinch (1987) and later expanded upon by Bijker and Law (eds.) (1992). This model of social theory was an outgrowth of the empirical programme of relativism in the study of scientific knowledge. According to Sørensen, both approaches see controversies and conflicts as central. However, the labour process theorists, conflict was a constitutive force in industrial relations, whereas constructivism, based on SSK, emphasised controversy as a methodology – a means of analysing the hidden social construction of the anatomy of science and technology (Sørensen 1997: 12).

Technological change is contingent and should be understood in non-reductionist terms. There is no internal logic that can explain how technologies develop but that cannot be done by reference to any simple external logic either. Technology, the social world and of course the history should be analysed as rather messy contingencies (Sørensen 1997: 2).

Earlier studies within the SCOT tradition concentrated on innovation and design often located in the laboratories but with the intention of interrupting the taken for granted linear trajectory from research to design to product. SCOT studies have also more recently shown how technologies are actively created/recreated in the diffusion and consumption stages, opening up analytical tools of 'interpretative flexibility' of technologies and their unintended consequences (Pinch and Bijker, 1987; Cowan, 1987; Bijker, 1992). This brings SCOT closer to Cultural and Consumer Studies, and is in part due to a response from criticisms from these schools (see MacKay and Gillespie, 1992) which were also studying less what media does to people but more how consumers/people actively appropriate, and thereby change, products and services through their kinds of integration in daily life. Theories of semiological encoding and decoding (Hall, 1980 and Morley 1980) and theories of domestication, especially those of the Sussex school (Silverstone and Hirsch (eds.) (1992), therefore, can be combined with SCOT, as has been a research orientation of the Centre for Technology and Society at Trondheim (see for example Berg, 1996, Sørensen, Aune and Hatling, 1996; Lie and Sørensen, 1996).

As researchers, with the resource of the above constructivist approaches, we are equipped with a way of studying both society and technology together and as mutually shaping forces. Such a theoretical framework directs us in our data collection towards asking questions about the technology and about the complex and varied use to which technologies are put – in sum about 'sociotechnical ensembles' (Bijker, 1995).

6. Going up a Hill and Coming down a Mountain: Arriving at Feminist-constructivism

Contemporary studies of gender and technology, therefore, have a breathtaking expanse of social theory from Gender studies and Social Shaping Studies of Technology on which they might draw. The challenge of intersecting these formerly mutually exclusive fields of research has been taken up (for example, by Cockburn and Ormrod, 1993; Cockburn, and Fürst-Dilic, 1994; Berg and Lie, 1994; Sætnan, 1996; Berg, 1996) and has been most successfully anchored I feel by the concept of *mutual shaping or co-construction of gender and technology*. Berg has defined this as being neither solely a gender lens nor a technological lens but rather how gender and technology are '*intertwined phenomenon*' that are 'woven together in everyday life and action and are simultaneously constructed and reconstructed' (Berg, 1996:2/3). This understanding develops, and allows for, gendered spiders in the metaphor of the 'seamless web' of socio-technical relations from earlier constructivist studies of technology (Bijker, et al, 1987). In my own study, I have found many ways through which we can empirically locate the mutual shaping of gender and domestic telephony which I map out in [Figure 1](#). To remain here with the theoretical framework though, for me three broad principles unite

feminism and constructivism into a firm theoretical framework from which we can study gender and technology:

1. Feminist-constructivism inherits from other constructivist studies of technology a passion for on-the-ground thick descriptions of the phenomena, in this case of both gender and technology.

Thick descriptions of gender means looking closely at the way sameness and difference emerges between men and women and within the genders. It also means *from within* for me in seeking out men and women's own conceptions of what social changes (such as Feminisms, New Men's Movements or generational differences) mean in their daily lives. Gender is not simply a sociological category and I have found that men's reflexivity on what it means to be a man in everyday lives to be a rich source in adding to the thickness and in connecting the material and symbolic levels of gender. Thick description of technology is in my case largely analysed within the consuming of the technology, and here a constructivist analysis demands a thorough insight into the nuances of uses and non-uses of the technology as well as the location of the domestication. In my case, I have investigated especially the role and meaning of the telephone in the ways in which men construct and maintain links to their friends and families.

2. Secondly within feminist-constructivism, there is a focus on how both gender and technology can be shaped and re-shaped in new and unpredictable ways but in particular in relation to each other.

This is linked to the last point. One could say the telephone is an instrument which in terms of usage is open to a wide degree of 'interpretative flexibility' (Pinch and Bijker, 1987) and indeed the expanse of usage is enormous. Yet we can only talk about this interpretative flexibility in relation to the

Figure1. *The Mutual Shaping of Gender and Telephony*

(Some examples)

- **Technology is shaped by Gender (symbolically)**

Technologies can have gendered identities- the domestic telephone is 'feminine' (Lange, 1993) or there is a pervasive *feminine culture of the telephone* (Moyal, 1989).

- **Technology is shaped by gender (materially)**

In my case, I found this less so in the material design of the phone, but very clearly in the material shape of the *telephone service* and the *prescribed uses* in-built in the phone service:

The domestic phone is firstly filtered through a *head of household*.

It's tariff system is based on a division of the public and private. In particular, the European-wide standardisation of tariffs has meant in Ireland a rise in the price of day-time and local calls & a reduction in national and international calls. This disproportionately benefits those outside the home during the day, whose leisure time is in the evening; those less involved in their local communities and day-time activities and those who have their own business. Men qualify a great deal more than women.

The Transvestite Phone

In Ireland, this questions the 'feminine phone' and makes it more like a transvestite: a male model dressed up in women's clothes.

- **Gender is shaped by Technology (symbolically)**

Cosy complementarity of Masculinity and Technology (but of course with the *right* technologies and getting this right is as much dependent upon class, ethnicity and age, for example, skate boards are important for male teenagers in some cultures).

Masculinity is culturally defined as being part of non use of this technology(?) and especially *not* chatting on the home phone.

- **Gender is shaped by technology materially**

In terms of **Employment**: There is substantial job segregation- female receptionists, secretaries, operators (Maddox, 1977, Martin, 1991, Rakow, 1992).

Education: Women are more likely to be taught courtesy and personable skills, which are associated with good telephony (ibid).

Access: In my study, I found it was primarily men who had unlimited access to a phone at work. In addition, from an earlier study, I found that women felt their usage of the domestic phone constrained. I have grouped these constraints in terms of economic and cultural barriers. This also, to some extent, refutes the claim of the 'feminine phone' (Lohan, 1996; Lohan, 1997).

(sometimes elusive) prescribed usages of the technology.¹⁰ Of particular relevance to me, is the historical symbolic relationship of women chatting on the phone (Martin, 1991; Fischer, 1991, Frissen, 1994, Lohan, 1996) and the less researched but implied stereotypically male reticence on the phone. Taking on board this principle, I also have a means of integrating the marketing industry as shapers of technology, as shown by my reference to the recent advertising campaign by British Telecom on British television channels (also widely viewed in Ireland) entitled *It's Good to Talk*. As I have shown above, this campaign acknowledges one historical gender symbolism of the telephone, whilst trying to subvert it. Thus when researching gender and telephony, one keeps an eye on how there are extant 'scripts' (Akrich, 1992) about the ways technologies *ought* to be interpreted within cultures and users reactions to these kind of messages. Likewise, when we talk about the way gender is shaped and being re-shaped in our daily lives it means looking for the processes through which gender is achieved. Perhaps you could describe it as being more sensitive to change rather than continuity (Cockburn, 1992) and sometimes it results in new stories of gender.

3. The third aspect of feminist-constructivism, for me, means not looking for a reductionist view of gender or technology in a specific cause either internal (e.g. biological/technical) or external (e.g. capitalism/patriarchy).

This is to avoid what Ormrod (1995) might call 'a flattening of the plot' where 'gender relations are always seen to be reproduced ... (and) male use of technology communicates power and control' (Gill and Grint, 1995:19). It is not to dismiss the relevance of identified gendered patterns. Paradoxically, 'this view of gender relations being maintained by a limited number of already familiar practices may actually lead to underestimating the significance and persuasiveness of gender as a relation of dominance (ibid). Avoiding such set preconceptions though should not stop us exploring the *how* and *why* questions of techno-gender relations. Most recently, studies of gender and technology using a constructivist framework have turned to Harding (1986) to encompass some of the intricate interconnectedness of gender. For example, Berg in her varied studies of gender and technology

searched for analytical conceptions that keep variations in meanings and framings in sight yet hold onto a core of stability. This means conceptions of gender that do not close off for the study of change but allow for conceptualising gender as dualistic and simultaneously challenge the gender dichotomy when it is not relevant (Berg, 1996: 27).

¹⁰ For example, until the more recent diffusion of telephone answering machines, most of us felt compelled to answer a ringing phone. Also in Ireland, the service is metered tightly during the day making it more economical to phone during the evening when the telephone company perceives people will make their leisurely calls (See Lohan, 1995; 1997 for discussion).

She turns to Harding (1986) for her concept of gender as *relative* (non-essentialist) in the sense that the contingent content of gender may vary according to cultural context and *relational*, in the sense that the socially constructed patterns of dualism between man/woman and masculine/feminine is defined in terms of one another (ibid). I have taken these two concepts in my research to explore men's relationship to the telephone. Within my data, men's relationship to the telephone becomes relative through the deconstruction of the stereotypically male instrumental and reticent towards use of the telephone, resulting in a multiplicity of uses and user-types. In addition, the relational construction of masculinity has been a useful concept. Again with my data, I explore evidence to suggest that though men's descriptions of their usage is quite similar to that of women's, at the same time, their descriptions *re-construct* their usage as being nonetheless *different* from women's. Their usage is clearly constructed in relation to a known other – women. Furthermore, men construct their usage of the telephone as being different in relation to other technologies.

According to Berg, Harding (1986) combines the concepts of the relative and relational with a focus on where to look in the construction process. Harding 'points to identifiable analytical places meaning the interdependent symbolic, structural and individual aspects of gender' (Berg: 1996: 28) and it is this understanding of gender which I referred to in outlining my empirical focus.. Cockburn and Ormrod have further developed this exploratory system of the gender process in relation to studies of gender and technology. They describe gender structure in terms of: 'a gendered pattern of location, but in the sense that 'structures are continually being remantled, reconstructed, adapted and renewed, through individual and collective action' (Cockburn and Ormrod, 1993: 6).

They also further distinguish Harding's (1986) use of gender identity into projected identity and subjective identity. By projected identity, they mean actual or desired identities, as others perceive and portray them. By the subjective identity, they mean, the sense of self, the identity created and experienced by the individual (ibid). This use of gender identity, projected and made subjective, I find helpful in tackling the structure/agency dilemma which role theory evades. Here I also have a means of integrating the symbolic value of projected stereotypes of usage of the phone and how we as individuals negotiate these gendered messages.

Finally, in adopting the notion of gender symbolism, they develop it 'in terms of representations and meanings, looking in particular for ways in which gender gains expression in technology relations and technology acquires its meaning in gender relations' (Cockburn and Ormrod, 1993:7). These three principles, as I have outlined above in integrating feminism and constructivism creates a *feminist-constructivism* which I have found useful in exploring and integrating the material and meaning of, not only gender, but technology as well.

7. Conclusion. He ain't (too) heavy ...Carrying Masculinity into Constructivism

The purpose of this paper has been to explain the process of my choosing a theoretical framework for studying gender and technology and thereby draw a (telephone) cord through the dimensions of that framework. Like some of you, I suspect, I began by being fascinated by a particular technology and wondered about its potential, about how I and others used it and about who had access to it. In particular though, I was interested in why it was so commonly thought that men and women used the telephone so differently. How could this be, considering men and women talk to each other via the telephone all the time?

As I have outlined above, I did not start answering these questions through a constructivist theoretical framework but graduated towards here as a means of explaining the more general relationships of gender and technology which I felt were going on 'behind the scenes' in studies of telephony. In particular, I wanted to look towards an understanding of what the telephone means to men in their everyday lives. I wanted to look for explanations of the statistics of difference which went beyond sex roles. I wanted to be able to draw relationships between culturally generated stereotypes, media inscribed messages, and the ways in which people perform usage (or perform descriptions of their usage) of the telephone and, thereby, also of gender. In other words, I wanted to explore how we gender machines and gender ourselves simultaneously. It was the contradictions of looking at men and masculinity with an apparently 'feminised' technology which became my interest. I needed a theoretical framework which could make sense of people's relationship to this technology whilst retaining these contradictions. Feminist-constructivism provides a framework for encompassing such questions.

Feminist-constructivism blends streams of Gender Studies and Social Shaping Studies of Technology studies together, and sees both technology and gender as being embedded in the processes of everyday life. It keeps its eye on how both gender, and in particular for me, masculinity and technology are constructed and re-constructed in the material of the everyday and especially in relation to each other. The more enduring symbolic aspects of gender and technology which are also constructed, overhang this process. But both the material and symbolic relations are open to change. In summary, this theoretical framework demands three principles of research: thick descriptions of the phenomena under question; to be uncompromising in the search for ambiguities and change and, finally, non-reductionist thought in terms of looking for inter-relationships rather than singular causes. The results of my

engagement between my empirical data and feminist-constructivism are another day's work ...¹¹

¹¹ Here I stand accused of being an incurable optimist – a day is a euphemism for another two year's work!

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