A Woman's Place in Cyberspace: a critical analysis of discourse, purpose and practice with regard to women and new communication technologies.

by

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ABSTRACT

New information and communication technologies have excited considerable popular and expert attention over the last decades of the twentieth century. Predictions about their social effects range along a continuum from visions of heaven; where people slip the surly bonds of time and space, to glimpses of hell; where such slippage enables new manifestations of dominance and control. Along the continuum there is a basic determinist premise evident, that the technologies have developed in a marginal sphere, and will now bring a new way of life, or at least provide materials for a new way of life, whether this be for good or evil. The notion of cyberspace as a new communicative domain has in particular engaged this kind of attention.

This thesis is concerned with the ways in which the rhetoric of cyberspace sheds light on deeper social preoccupations and relations. It is an attempt to move beyond discussion of particular technologies and their possible effects to examine the ways in which habitual social intercourse is reconstructed in and around cyberspace. As a feminist scholar of communication I am particularly interested in the ways in which existing gender relations are maintained in discursive constructions of women in cyberspace, and the ways in which feminist theorists may respond to the new domain.

Because I seek to elude simple determinism, I have sought to contextualise the space by some focus on the known social needs, purposes and practices to which the development of cyberspace technologies has been central. Although I acknowledge the power of discourse to maintain extant social relations, I seek to elude discursive determinism by some focus on the ways in which women have creatively appropriated new technologies; on the disjunctions of discourse and practice.

ABBREVIATIONS AND ACRONYMS

AAUW	American Association of University Women
ARPA	Advanced Research Projects Agency
ARPANET	Advanced Research Projects Agency Network
CMC	Computer Mediated Communication
CSNET	Computer Science Network
DARPA	Defence Advanced Research Projects Agency
ENIAC	Electrical Numerical Integrator and Computer
HMD	Head Mounted Display
ICE	Intrusion Countermeasures Electronics
LADS	Lorel Advanced Distributed Simulation
MIT	Massachusetts Institute of Technology
NASA	National Aeronautics Space Administration
NSFNET	National Science Foundation Network
SF	Science Fiction
SIMNET	Distributed Simulation Networking Project
UCLA	University of California, Los Angeles
VCR	Video Cassette Recorder
VR	Virtual Reality

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CHAPTER 1. FOUNDATIONS

1.1 Introduction – 'the pearly gates of cyberspace'[1]

Cyberspace is a new communicative domain, enabled by the convergence and rapid development of telecommunications and computing. It is a polysemic term, in that it means different things to different people. The science fiction author William Gibson used it to describe a visual, spatial representation of global computer networks and data bases; as he put it, "Everyone I know who works with computers seems to develop a belief that there's some kind of *actual space* behind the screen, some place that you can't see but you know is there"[2] but it is also used to describe simulated environments generated on computer screens by graphics programs and to refer to the 'virtual space' inside the computer program or network.[3]

During the early 1980s this domain was often referred to as 'virtual reality' but 'cyberspace' has rapidly gained currency since Gibson coined the term in 1984[4]. The terms both refer to the new communicative domain but are not entirely interchangeable. For example, earlier discussions of 'virtual reality' (VR) tend to give more privilege to the enabling technologies than do later discussions of 'cyberspace'.

When I began to explore the notion of such a space in 1992, virtual reality was still the term with currency. In 1991 a subcommittee of the US Senate was

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[1] This heading appropriated from the title of Margaret Wertheim's treatise on the history of space: *The pearly gates of cyberspace: a history of space from Dante to the Internet*. Australia, Doubleday, 1999.
[2] W. Gibson, cited in L. McCaffrey (ed) *Storming the Reality Studio* London, Duke University Press, 1991, p272.
[3] Z. Sofia, 'Virtual Corporeality' in J. Wolmark (ed) *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace*, Edinburgh EUP, 1999, p66.
[4] Gibson describes it as a consensual hallucination and is cited by 'virtually' every discussion of the topic since.

conducting hearings on the potential uses of virtual reality .[5] In 1992 the science fiction film *The Lawnmower Man* explored the pitfalls of virtual reality technologies, and J. Steuer was writing in the American Journal of Communication about 'Defining Virtual Reality'[6]. The term was very much associated with particular collections of hardware; the most common a vision of head mounted displays (HMDs), optic fibre data suits and gloves, even treadmills. It was immersive, encumbering apparatus, which required the user to basically wear the computer and accept sensory immersion to the extent that auditory, visual and tactile stimuli were solely computer generated.[7] A second direction was towards the development of interactive environments in which the user could move unencumbered[8], and a third towards augmentative technologies, namely holograms.[9] Discourses about the phenomenon were very much concerned to delineate the relevant hardware. As Steuer commented in 1992, "the focus of virtual reality is ... technological rather than experiential; the locus of reality is a collection of machines."[10]

I would argue that this focus on the machines was a clear indication of the then preartefactual nature of cyberspace. The technologies were not in common use. Their possibilities had begun to engage a broad range of the theoretical imagination but their diffusion was minuscule in comparison to older technologies such as radio or television. VR was largely confined to highly specialised military and research sectors, its most accessible application was low end entertainment systems in games arcades and the 'new medium' was most commonly explored in the old. Its preartefactual nature can best be illustrated by

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[5] 'New Developments in Computer Technology: Virtual Reality' *Hearing Before the Subcommittee on Science, Technology and Space of the Committee on Commerce Science and Transportation.* United States Senate One Hundred Second Congress May 1991, Washington, US Govt Printing Office 1992.
[6] J. Steur, 'Defining Virtual Reality: Dimensions Determining Telepresence' in *Journal of Communication* Autumn, 1992.
[7] The vision was most engagingly rendered at the US Subcommittee Hearing. See Appendix A.
[8] See for example, Myron Krueger: 'Artificial Reality' in R Hartley, (ed) *New Media Technologies.* AFTR School 1993.
[9] E. Kac, 'On Holography' in Hartley, op cit p138.
[10] J. Steuer, op cit, pp73-74

the simple observation that no one who began to theorise about radio, television, or cinema in 1992 would have felt obliged to begin with a description of the technical apparatus of the medium.

But cyberspace is not preartefactual. Writing in the new millennium, I do not feel obliged to provide a long description of the intricacies of the technologies; nor do most current theorists on the subject. And although access to the domain is by no means universal, there has been an exponential increase in the size of the world wide web, for example, and in the numbers of people who use it. As Susan Hawthorne comments, at least in the Australian context, our lives are influenced by cyberculture. "You can go cybershopping and pay your bills through cyberbanking. Your car can be located by cyber-surveillance. You can log on and have cybersex. You can become a cyborg, get involved in cyber rights, cyberdemocracy, cyberpunk, cyberdrama, even cyberpsychology. An entire cyberworld. Women are portrayed as cyber barbies, cyber femmes fatale and cybersex objects."[11]

This quite rapid process of lexical invention and elaboration is a direct reflection of technological development and diffusion. The addition of the cyber prefix to a range of established words; the coining of new words such as 'netizen' or 'teledildonics' and phrases such as 'virtual community'; and the generalisation of terms such as 'surfing' to describe electronic activities, suggests that a whole semantic field of what Georges Matore would call 'witness words'[12] has developed in concert with or response to, profound material change. This semantic field attests not only to the realisation of cyberspace, but also to its grip upon the popular and theoretical imagination.

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[11] S. Hawthorne, interviewed by Robyn Williams on *Ockham's Razor* ABC Radio National 30/4/44. http://www.abc.net.au/rn/science/ockham/stories/s122405.htm

[12] G. Matore, cited by G. Hughes, *Words in Time. A Social History of the English Vocabulary.* Blackwell, Oxford, 1988, p24.

The fascination with cyberspace is evident in fictional and factual accounts which range across a broad spectrum of discourses and of textual communities; from science fiction to political enquiries, to pulp magazine confessions and the like. This spectrum is the theoretical imagination. Within these accounts there is a range of expectations aptly described by one pair of commentators as glimpses of heaven and visions of hell.[13] The glimpses of heaven are utopian visions of techno-futures and the visions of hell are dystopian.

[13] B. Sherman and P. Judkins, *Glimpses of Heaven, Visions of Hell. Virtual Reality and its Implications.* Hodder and Stoughton, London 1992.

1.2 Purpose and approach

Communication technologies and their effects have long been fodder for the field of communication scholarship. To one positioned as a masters candidate in the field[14], this alone is sufficient reason to embark upon a treatise on cyberspace. New communication technologies especially have inspired much of the academic enquiry which has come to characterise communication as a separate discipline, or field of study.[15] They have also more recently, been identified by a range of post modern theorists as integral to the collapsing boundaries that have undermined the meta-narratives of modernism. Computer mediated communicative domains have also attracted the attention of feminist theorists and analysis of their accounts of the phenomenon is a central concern of this paper.

As a feminist scholar of communication, I am particularly concerned with the relationship of women and new communication technologies; specifically the ways in which this relationship is discursively constructed in the theoretical imagination. I suggest that the rhetoric which accompanies the diffusion of computer mediated communication sheds considerable light on deeper social preoccupations and relations, and on their maintenance in discursive practices of representation. [16] To paraphrase Kirsten Drotner, the discourses of cyberspace may not tell us much specific about its eventual diffusion and effect, but as a cultural seismograph, they reveal much about broader issues.[17]

My primary purpose is not prediction, but to explore the parameters of the discourses of cyberspace and to tease out strands which illuminate the

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[14] that is, one expected to provide a series of appropriate utterances, which express the meanings and values of, in this case, the academic institution.
[15] J. Delia, 'Communication research: a history' in C. Berger & S. Chaffee (eds) *Handbook of Communication Science*, Sage, NY 1987 p47.
[16] ie ways of depicting phenomena.
[17] K. Drotner, 'Modernity and media panics' in M. Skovmand and K. Schroder (eds)*Media Cultures, Reappraising Transnational Media* Routledge, London, 1992, p60.

relationship between textual strategies and social structures; to seek patterns of discursive practice which locate cyberspace, and women in relation to it.

I have examined an eclectic selection of texts from a variety of reasonably easily accessed sources. The texts paid most specific attention to have not been selected for analytic merit or predictive plausibility so much as for their contribution to my purpose. Although I will refer to a variety of discourse samples through the thesis, I have chosen to concentrate on science fiction (SF), because new technologies are central to SF imaginings and also because there are at least some women there. There is commensurately less emphasis on highly expert discourse because women (certainly in the earlier discourses of cyberspace) are largely absent from it. I have also examined a number of feminist responses to cyberspace, particularly those of socialist, liberal, and postmodern feminist theorists. I should add here that feminist theory could be described as expert in a sociological way, but not in the sense of technological mastery.

The media which have prompted this exploration are heterogeneous and I have not attempted to sample them systematically. Along with Roland Barthes[18] I was 'of course' guided by my own interests. Along with Lazarsfeld I have followed a broad research policy of 'improvisation guided by available material and personal contacts'.[19] The texts examined cover a 15 year span, from 1986 to 2000. In them I have sought ways in which women and cyberspace are represented, or signified and in particular, any organic development of these representations. For insistence and repetition,[20] but also for change.

[18] R. Barthes, *Mythologies* Vintage, London, 1980, p11.
[19] cited by J. Delia, op cit, p50
[20] R. Barthes, op cit, p12

1.3 Structure

The remainder of this chapter sets a conceptual and theoretical framework for the analysis which follows in Chapter Three. The framework is informed by a range of theoretical perspectives, primarily incorporating (or perhaps appropriating) discourse and feminist theory. It is worth noting here that the field of communication studies is a very unstable terrain; drawing as it does from so many diverse disciplines one can adopt almost any investigative process under the broad rubric of communication, but is always open to criticism from another theoretical perspective.

Given my concern with the relationship between textual strategies and socio/political structures, I provide in Chapter Two a brief history of cyberspace as communicative domain; a summary of thematic unities in discussions of cyberspace (drugs, deus and eros) and some description of the common view in feminist theory of technology as masculine culture.

Chapter Three offers a close reading of a number of mainstream SF texts with specific reference to the role of female characters and their relationships to depicted technologies, in terms of power, access, ownership and expertise. Chapter Four analyses the discourses of feminism in response to new technologies and offers a discussion of the links and disjunctions between purpose, discourse and practice.

1.4 Technology and social relations

A useful point of departure for any close discussion of technological impact, is Raymond Williams' observation that:

> ... we often discuss with animation, this or that 'effect' of television, or the kinds of social behaviour, the cultural and psychological conditions which television has 'led to' without feeling ourselves obligated to ask whether it is reasonable to describe any technology as a cause, or if we think of it as a cause, as what kind of a cause, and in what relations with other kinds of causes. The most precise and discriminating local study of 'effects' can remain superficial if we have not looked into the notions of cause and effect, as between a technology and a society, a technology and a culture, a technology and a psychology, which underlie our questions and often determine our answers.[21]

Much the same may be said of the discourse on cyberspace. Discussion about what behaviour and conditions cyberspace has led or will lead to is often based on a premise of the technology itself as the driving force, with a concomitant lack of focus on the broader context in which the technology is located. An example of uncertain but curiously dogmatic prophetic oratory in full flight is appropriate here. This from Michael Krueger:

> In the world of the book, the truth is an immutable thing to be captured and recorded. But as the age of electronic information matures and the age of artificial experience commences, we recognise that we are on a journey and while we may question whether the next destination is better than the place we left, we realise that the journey is ours, for we must see what it is – that what we have made, makes us.[22]

Krueger's use of the universal 'we' is noteworthy. The artificial experience to which he refers is still very much the province of middle class, primarily male, members of post industrialist advanced capitalist societies. We may well be

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[21] R. Williams, *Television Technology and Cultural Form.* Fontana, London, 1975, p9.
[22] M. Krueger, in M. Heim, *The Metaphysics of Virtual Reality.* OUP, 1993 p ix

embarked upon a journey, in the sense of a linear or circular progression from birth to death, but whether we are all on the same trip, and to what extent it may be mediated by artificial experience, remains outside Krueger's terms of reference.

Indeed it is irony enough to delight the most playful postmodernist, that new communication technologies, so often described as transcending time and space, are still concentrated in and controlled by, quite specific areas of geography, class and gender. Krueger has been involved for many years in the construction of cyberspaces – they are arguably his life's work, and he may well be embarked upon the journey he describes; in a sense his reality has been constructed by that discursive structure. But what he and his contemporaries have made is less than relevant to much of the world population, where access to telephone lines, or even water is of more immediate concern.

Furthermore, Krueger privileges the technology (electronic and artificial) as an irresistible force (the journey is ours) with universal (ours and we) if undelineated, effects. "What we have made makes us" is eerily preminiscent of the premise of *The Matrix* a recent SF film discussed in Chapter Three, in which the near future is completely dominated by artificial intelligences (AIs), who create a simulated environment to control their human slaves. The technology itself (what we have made) determines the future (makes us). Krueger appears to view it as somehow autonomous, removed from the complexities of societies, cultures and psychologies.

In this regard he is part of what Williams describes as an immensely powerful and now largely orthodox view of the nature of social change, that can be broadly described as *technological determinism*. In this view;

> New technologies are discovered, by an essentially internal process of research and development, which then sets the conditions for social change and progress. Progress, in particular, is the history of these

> inventions, which 'created the modern world'. The effects of the technologies, whether direct or indirect, foreseen or unforeseen, are as it were the rest of history.[23]

Williams also describes a slightly different view to determinism, that of *symptomatic technology*; which emphasises causal factors other than technology in social change. A particular technology becomes available as an element or a medium in a process of change that is in any case occurring or about to occur and so the technology is a by-product of a social process that is already determined. Both however, assume that research and development of new technologies is self-generating. Both isolate technology as a self acting force; which either creates new ways of life, or provides the materials for new ways of life.[24]

He proposes a different kind of interpretation which in contrast to determinist views, would restore the notion of intention to processes of research, development and use:

> The technology would be seen ... as being looked and developed with certain purposes and practices already in mind. [This] would differ from symptomatic technology in that these purposes and practices would be seen as *direct:* as known social needs, purposes and practices to which the technology is not marginal but central.[25]

I have taken Williams' quite reasonable suggestion that research into new communication technologies is well served by some consideration of their purpose, as a foundation of my discussion. Further, I propose that these intentions, which relate so directly to the social needs, purposes and practices to which the technology of cyberspace is central, are illuminated in the discourses which surround it. Many of these discourses, particularly but not only, those of SF, belong to what Frank Biocca has described as a cult of forecasting and

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[23] R. Williams, op cit, p13.
[24] ibid, pp 13-14.
[25] ibid.

futurism that immediately offers various social scenarios for each new technology.[26] This tradition is particularly rich with regard to computer mediated communication. As James Carey observes, since the 1960s a series of prophetic voices have proclaimed a technological revolution premised on the convergence of computers and television, communications and information processing.[27]

Its relevance to this discussion lies in the notion of such discourses as a cultural seismograph. Marvin's description of the first intersection of the theoretical imagination with the physical reality of new technologies is apposite here;

> New technologies come to existing groups less as transformative agents than as opportunities or threats to be weighed and figured in the pursuit of ongoing social objectives ... They come as elements to be absorbed into existing rules and expectations about the structure of social relations. If we shift our conceptual emphasis in this way, we transfer the locus of communication phenomena from their artifacts to the groups talking around and through them, to whose array of communicative purposes particular artifacts may be relatively incidental ...
>
> The problem is not so much discerning the germ of a new society in an old one, a familiar allegory of collective redemption, but how habitual social intercourse is restructured in new media. When old rules of association are transferred directly from old modes to new, where different real and perceived social distances between groups obtain, underlying rules of communicative exchange are exposed as expressions of social relations, and in particular, of social location and distance. [28]

Such a shift, or in this case extension of focus, from the technologies to the groups talking around them, to the discourse about them, allows some clarification of the circumstances in which this new media has been developed and accommodated; or as Williams would describe it, of the relations between the

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[26] F. Biocca, 'Communication Within Virtual Reality' *Journal of Communication*, Autumn 1992, p 15.
[27] J. Carey, *Communication as Culture. Essays on Media and Society.* Unwin Hyman Inc, 1983, p137.

technology and the society. Such an approach is certainly just as useful, and arguably more useful, than speculation based solely on current and potential applications in enquiry into the meaning of cyberspace. More importantly, such an approach facilitates enquiry into the expression of social relations and location, in terms of women, and their relation to new communication technologies; and into the usefulness of feminist responses to new communication technologies.

[28] C. Marvin, 'Experts, Black Boxes and Artifacts: New Allegories for the History of Electric Media' in B. Dervine et al (eds) *Rethinking Communication. Volume 2. Paradigm Exemplars.* Sage, London, pp190-191.

1.5 Discourse and Critical Discourse Analysis

So far, I have used the term 'discourse' in a very broad sense, as meaning any significant unit or synthesis of verbal or visual utterance.[29] It is however, a multidimensional term, which requires some closer discussion largely because as Norman Fairclough, for instance, describes it, there are so many conflicting and overlapping definitions formulated from various theoretical and disciplinary standpoints.[30] The meaning of the term thus depends to a large extent on the purpose of the inquiry.

It has a linguistic base; a legacy of the textual scholarship that has characterised most Western philosophy, theology, and other humanistic research, and in very simple linguistic terms, a discourse is a verbal utterance longer than a sentence. But it may also be an extended sample of spoken dialogue, extended samples of either written or spoken language, or different types of language such as 'medical discourse' or 'advertising discourse'. [31] The term has been extended in structuralist and semiotic theory, to refer to any use of language, or other semiotic systems, in social context. Such attention to social context means the term is also widely used in social theory to refer to different ways of structuring areas of knowledge and social practice.[32]

Hartley suggests that this definitional shift occurred because the abstract concept of language is too 'flabby' and imprecise to account for the historical political and cultural 'fixing' of meanings and their constant reproduction and circulation

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[29] As Roland Barthes put it, "... a photograph will be a kind of speech for us in the same way as a newspaper article; even objects will become speech, if they mean something. This generic way of conceiving language is in fact justified by the very history of writing: long before the invention of our alphabet, objects like pictographs have been accepted as speech". op cit, pp 110-111.
[30] N. Fairclough, *Discourse and Social Change*. Polity Press Cambridge, 1995, p3.
[31] ibid.
[32] ibid.

via established kinds of speech, forms of representation and in particular, institutional settings.[33]

Gunter Kress's definition of discourse is appropriate here:

> Discourses are systematically organised sets of statements which give expression to the meanings and values of an institution ... A discourse provides a set of possible statements about a given area, and organises and gives structure to the manner in which a particular topic, object, process is to be talked about.[34]

This definition synthesises the linguistic and social-theory approaches and offers complementary perspectives on the same phenomena – discourse can be located as a site '... where social forms of organisation engage with systems of signs in the production of texts, thus reproducing or changing the sets of meanings and values which make up a culture.'[35]

In summary then, one could say that the things which speak to us do not all have tongues. Discourse cannot be extricated from language, but it is often extended to other codes, or signs, and it is crucial to the way in which we make sense of things. In this paper, I mean discourse as both a unit or synthesis of verbal or visual utterance, and a social process of making and reproducing sense(s). The complexity of discourse, and its analysis, lies not in the single elements themselves but in the way they combine to create meaning.

Discourse analysis

> Discourse is not simply that which translates struggles or systems of domination, but is the thing for which and by which there is a struggle, discourse is the power which is to be seized.[36]

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[33] J. Hartley, in T. O'Sullivan et al (eds)*Key Concepts in Communication and Cultural Studies. Second Edition*. Routledge, London, 1994, p92.
[34] G. Kress, (ed) *Communication and Culture*, UNSW Press, Sydney, 1985, pp5-6.
[35] R. Hodge & G. Kress, *Social Semiotics*, Polity Press, Cambridge, 1988, p6
[36] M. Foucault 'The order of discourse' in M. Shapiro (ed) *Language and Politics*, 'Oxford, 1984 p22.

Given the multidimensional nature of discourse, it is not surprising to find that discourse analyses do not appear to operate with an agreed set of concepts, terms or ambitions.

Wilson and Kitzinger suggest that it is difficult to identify foundational premises or techniques which are specific to discourse analysis not only because of the breadth and conceptual fuzziness of the term but also because of the common ground it shares with other critical approaches in social science. They cite social constructionism, the study of rhetoric, ideology, textuality, critical ethnography, and qualitative methods more generally.[37]

However, it is fairly easy to discern in discourse theory a quite foundational premise that discursive systems mediate linguistic and socio-cultural knowledge, and constitute a site for the construction of identities and subjectivities. According to Stuart Hall, in much communication theory the semantic structures and practices of different societies are assumed to reflect their differing ways of classifying the world. [38]

The characterisation of discourse as a primary medium of exchange between humans and reality, can and has been extrapolated to describe the idea of material reality itself as a social construct. Stuart Hall argues that "... things and events in the real world do not contain or propose their own integral, single and intrinsic meaning, which is then merely transferred through language." Meaning is thus seen as a social practice rather than a given, and language (or discourse) the site in which such meanings are produced.[39]

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[37] S. Wilkinson & C. Kitzinger (eds)*Feminism and Discourse: Psychological Perspectives.* Sage Publications, London, 1995, p7.
[38] S. Hall, 'The rediscovery of ideology: The return of the repressed in media studies' in M. Gurevitch et al (eds) *Culture Society and the Media,* Routledge, London, 1988, p6.
[39] ibid, p67.

In Foucault's terms,

> ... the history of a concept is ... that of its various fields of constitution and validity, that of its successive rules of use, that of the many theoretical contexts in which it developed and matured... The document, then, is no longer for history an inert material through which it tries to reconstitute what men have done or said, the events of which only the trace remains; history is now trying to define within the documentary material itself unities, totalities, series, relations.[40]

Foucault's work has been central to post structuralist theories of subjectivity, which suggest that individual consciousness of the world is comprehensible only as a product, rather than a source of discourse. Subjectivity in this view, is thus entirely constituted through discursive practice. As Clegg observes, such post-structuralist analysis has been particularly well received in feminist theory. If one's concern is with gendered subjectivity, a conception of such subjectivity as historically constituted and maintained has evident potential. [41]

Feminist discourse analysis

There is nothing distinctively feminist about the theory or methods of discourse analysis. Indeed, there is no one approach to data collection or analysis which is distinctively or inherently feminist. Nevertheless, as noted above, it has been well received in feminist, particularly post modern feminist, theory.

Post modern feminism prescribes a profound sense of gender scepticism; an acknowledgment that the idea of 'women' as a unified category is not tenable, given clear differences between '... different sorts of women, positioned in different relations of class ethnicity, generation, sexual orientation, regionality.'[42] Donna Haraway goes beyond this, in 'A Manifesto for Cyborgs' to argue that

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[40] M. Foucault, *The Archaeology of Knowledge*. Tavistock Publications, London, 1972, pp4-10.
[41] S. Clegg, *Frameworks of Power*. Sage, London, 1989, p152.
[42] I. Ang, & J. Hermes, 'Gender and/in media consumption' in J. Curran & M. Gurevitch (eds) *Mass Media & Society*, Edward Arnold, London, 1991, p323.

"There is not even such a state as 'being' female, itself a highly complex category constructed in contested sexual scientific discourses and other social practices."[43] Such wariness of binarisms and absolutes is perhaps best expressed by Ann Flax's summation of the post modernist feminist enterprise:

> if we do our work well, reality will appear even more unstable, complex and disorderly than it does now.[44]

This anarchic dissolution of all external points of reference in a discursively constituted subjectivity, is somewhat problematic. Wendy Holloway for example, argues that the dominance of discursive approaches has led to a remarkable avoidance of the extra-discursive. She contends that "... a recognition of the fact that all understanding of the world is mediated through language has been falsely reduced to a premise that the world can be understood as discursive."[45] This leads to the opinion of people such as Gill[46], that postmodernist discourse analysis is hopelessly relativistic.

There are a number of other difficulties with post modern views of feminism, which are explored later in this discussion. But given that our understanding of the world is mediated through discourse, it does not necessarily follow that the world can only be understood as discursive.[47] Rather, the discursive location of the individual frames their personal experience of self and subjectivity. My use of discourse analysis is based upon the quite reasonable observation that upon a biological difference, of reproductive function, ie. sex, is balanced 'an enormously elaborate cultural structure of differences'[48] ie. gender.

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[43] D. Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature.*, Routledge, NY 1991, p155.
[44] A. Flax, cited by Ang & Hermes, op cit, pp323-4.
[45] W. Holloway, 'Feminist Discourses and Women's Heterosexual Desire' in Wilkinson & Kitzinger, op cit, p91.
[46] R. Gill, 'Relativism, reflexivity and politics' in Wilkinson & Kitzinger, op cit, pi82.
[47] W. Holloway, op cit, p91.
[48] J. Hartley in O'Sullivan et al, op cit, p127.

The difference is crucial. Sex (the shape and function of one's sexual organs) may well transcend discourse, but gender, as the cultural meaning ascribed to biological difference, is constituted by; and as I have noted, in some views cannot be constituted outside, discursive practices of 'talk, text, writing, cognition, argumentation and representation generally.' [49] This cultural structure of difference, reproduced in discursive practice, legitimates an imbalance of power between the two sexes, in which women's interests are subordinate to those of men. This imbalance is what feminist refer to when they speak of 'patriarchy'.

As Weedon describes it, in patriarchal discourse "the nature and social role of women are defined in relation to a norm which is male." She also observes that patriarchal relations are structural, in that "... they exist in the institutions and social practices of our society and cannot be explained by the intentions, good or bad, of individual women and men".[50] From this perspective, the ideology of patriarchy is firmly embedded in all levels of social structure, and continually re-enacted in discourse.[51]

The question then arises as to how these representations have gained such relative power, and Foucault offers a useful view on this point. He suggests that the relative power of representations is a function of discursive formations "... which all derive (in spite of their sometimes extreme diversity, and in spite of their dispersion in time) from the same set of relations."[52] Discursive practices, in Foucault's terms, delimitate fields of knowledge, and fix norms for the elaboration of concepts and theories. "Thus each discursive practice implies a play of prescriptions that designates its exclusions and choices. Subjectivity becomes constituted, through practices of knowledge and power. The 'knowledge' that is used to structure and fix representations in historical forms is

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[49] S. Clegg, op cit, p151.
[50] C. Weedon, *Feminist Practice and Poststructuralist Theory*. OUP, 1987, pp2-3.
[51] M. Lazar, 'Equalising gender relations' in *Discourse & Society* Vol4:2, 1993, p449.
[52] M. Foucault, *The History of Sexuality: An Introduction*. Peregrine 1984 p 68

the accomplishment of power."[53] In more prosaic terms, history is an interview with the winners. However;

> There is not, on the one side, a discourse of power, and opposite it another discourse that runs counter to it. Discourses are tactical elements or blocks operating in the field of force relations; there can run different and even contradictory discourses within the same strategy; they can, on the contrary, circulate without changing their form from one strategy to another, opposing strategy.[54]

Power thus cannot be understood as a single, all-encompassing strategy[55] it is instead "... a more or less stable or shifting network of alliances extended over a shifting terrain of practice and discursively constituted interests."[56] Dominant representations therefore do not represent a simple imposition of one framework of meaning, by overt force or ideological compulsion on a subordinate class.

Stuart Hall draws on the Gramscian concept of hegemony, to describe dominance as accomplished at the unconscious as well as the conscious level. It is a property of the systems involved, rather than the overt and intentional biases of individuals, and rests on the activity of regulation and exclusion which functions through discourse. Dominance may thus be secured by cultural leadership, rather than simple compulsion. Hegemony circumscribes those processes (including discourse) by means of which a dominant class alliance or ruling bloc, which has effectively secured mastery over the primary economic processes in society, extends and expands, or at least maintains, that dominance. It is accomplished "... not without due measure of legal and legitimate compulsion, but principally by means of winning the active consent of those classes and groups ... subordinated within it."[57]

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[53] S. Clegg, op cit p152
[54] M. Foucault, *The History of Sexuality*, op cit pp101-2
[55] ibid, p103
[56] ibid, p95
[57] S. Hall, op cit p50.

Patriarchy can be seen from this point of view, as a more stable network of interest, extended in this case over the shifting terrain of communication technologies, and the limited discursive construction of women in regard to those technologies, as a process by which male dominance of technology is reflected, extended, and maintained.

The limits of discourse analysis

The most problematic aspect of discourse analysis, certainly the grounds on which metatheoretical discourse analysis in particular is most open to criticism, is its reliance upon the insights of an individual reading. Discourse analysts too often ignore the very complex processes of textual interpretation and assume that their personal reading establishes a universal meaning from which they may then extrapolate ideological effects.

Sonia Livingstone has made much the same broad observation with regard to studies of media effects in general and television in particular. Researchers she says, "typically make implicit assumptions about the interpretations that viewers make of programs ... [assume] that viewers interpret programs in the same way as researchers, that meanings are obvious and given, and that prior social knowledge and experience are relatively unimportant."[58] She asserts that while orthodox effects researchers have paid little attention to the interpretive work required to make sense of television, critical textual analysts have not often considered whether viewers make the same textual interpretations as the analysts do, or indeed, as other people reading the same text do.[59]

As Catharine Lumby asserts in a brief critique of feminist theory, with specific reference to 'sexist imagery' in advertising, reading images is never simple.

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[58] S. Livingstone, 'The Resourceful Reader: Interpreting Television Characters and Narratives' in International Communication Association, *Communication Yearbook Vol 15*, Sage, California, p58.
[59] ibid.

"How we read an image ... depends largely on where we see it, when we see it, what preconceptions we bring to it and what we know about it in advance."[60] She queries the usefulness of teaching women to read such images in a way that makes them "feel bad about themselves" and suggests that they be "encouraged" to make creative readings of images, and to appropriate and reinvent female stereotypes to their own advantage.

Lumby's approach is what David Buckingham would describe as 'reader oriented' in that she proposes that meaning is not something contained within the text, but something which the reader is actively engaged in producing. Buckingham points out that readers are seen to have a certain degree of autonomy in this process, but notes that the text itself exerts a series of constraints – both insofar as it uses specific linguistic or symbolic codes, and thus implicitly presupposes certain competencies and understandings; and also insofar as it enables readers to develop new competencies and understandings in the process of reading itself. Texts may attempt to teach new ways of reading, but they also invite readers to read them in familiar ways.[61]

Thus, the text does not simply dissolve in a multiplicity of individual readings. Whilst readers may actively construct or negotiate meanings, they do so on the basis of prior social knowledge and experience. Furthermore, although an active reader may make entirely new meanings of the text, they may also simply fit the text into familiar frameworks or habits. As Livingstone suggests, much interpretive divergence will represent conventional positions. A number of normative meanings may be encoded in a text and different viewers may select different readings but still remain within a dominant framework of such conventional positions.[62] Therefore, whilst it is not necessarily feasible to reduce

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[60] C. Lumby, *Bad girls: the media sex and feminism in the 90s*, Allen & Unwin, Sydney, 1997, p8.
[61] D. Buckingham, *Public Secrets: Eastenders and its Audience*, BFI Books, London, 1987, p35.
[62] S. Livingstone: op cit pp86-87.

any discourse or text to a single 'meaning' it is certainly feasible, as Buckingham says, to specify the ways in which it invites its readers to produce meaning.[63]

A further limitation of much discourse analysis is pointed out by Fairclough, who asserts that discourse analysts can tend to place a one sided emphasis on the effects of discourse in the social reproduction of existing social relations and structures, and neglect both discourse as a domain in which social struggles take place, and change in discourse as a dimension of wider social and cultural change. There is, he says, a top down view of power and ideology in critical linguistics, an emphasis on social statis rather than social change, social structures rather than social action, and social reproduction rather than social transformation. Fairclough posits a need for a social theory of discourse based upon a revaluation of these dualisms as poles in relationships of tension, rather than opting for one member of each pair and rejecting the other as if they were mutually exclusive. A Foucauldian approach, as previously outlined, mitigates this difficulty. Because it views discourses as tactical elements; it allows for the examination of their force in both stasis and change; and for the examination of those hegemonic processes which operate to co-opt dissenting voices into dominant discourses, or ruling epistemes.

I accept that research is in itself a discursive practice. As Ien Ang has argued, any research constructs reality from a particular position, and thus can only ever hope to produce historically and culturally specific knowledges through equally specific discursive encounters between researcher and informants. This thesis is a critical enterprise and I will not pretend to have no point of view. I originally approached the discourses of cyberspace with a broadly semiotic curiosity, but what became very quickly evident was the absence and the silence of women. My subsequent investigation has been largely framed by this observation.

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[63] D. Buckingham, op cit p36.

CHAPTER 2: THEORISING CYBERSPACE

2.1 A brief history of cyberspace

Cyberspace technologies developed in a framework of corporate and military control. The more immersive VR technologies can be seen as a direct progression from the development of computers and flight simulators (to track ballistics and train pilots) in the US military sector. As Howard Rheingold describes it, the US military has always been the prime contractor for the most significant innovations in computer technology.[1] The cold war and subsequent space race between the US and the then USSR, provoked heavy government funding of the National Aeronautics Space Administration (NASA), the point of which was most aptly illustrated in President Ronald Reagen's "Star Wars" program. NASA has been a key organisation in development of telepresence technologies, specifically remote testing and manipulation robotics.[2]

Universities and computer science establishments have also benefited from military interest in and funding for increasingly interactive computer human interfaces. For example, the Advanced Research Projects Agency (ARPA)[3] was a financial backer for Ivan Sutherland's early work at the University of Utah on 'Sketchpad' a founding development in interactive computer graphics.[4] ARPA and the Office of Naval Research also sponsored Sutherland's work at the Massachusetts Institute of Technology (MIT) on head mounted displays

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[1] H. Rheingold, *Virtual Reality* , Summit Books, NY 1991, p60.
[2] R. Coyle, 'The Genesis of Virtual Reality' in P. Hayward and T. Wollen (eds) *Future Visions. New Technologies of the Screen.* BFI Publication, London, 1993, p54.
[3] Established by the US government in response to the USSR's launch of Sputnik.
[4] H. Rheingold (a) op cit p89

(HMDs).[5] Fred Brooks, another major developer of cyberspace technologies, cited the Defence Advanced Research Projects Agency (DARPA) as a significant funding agency for his work at the University of North Carolina.[6] And it was ARPA who funded the establishment of the world's first long-distance computer network, the ARPANET in 1969.[7] This first network connected computers at UCLA and the Stanford Research Institute. As Wertheim describes it, by the end of the year, the University of California at Santa Barbara and the University of Utah had connected to the nascent net, and by 1972 it contained twenty nine nodes located in research centres and universities across the USA. By 1979 there were sixty-one ARPANET sites[8]

Rheingold also observes that wide area CMC networks are a spinoff of American military research. As he describes it, ARPANET was established as a communication command and control network that could survive nuclear attack by having no central control. The intention was to be able to operate computers from a distance, and the intended content was computer data, not personal messages.[9]

In response to a perceived need for an equivalent civilian network in 1980 the National Science Foundation sponsored a network to link computer science departments around the USA – the CSNET. Although separate, the CSNET was also connected to ARPANET and during the 1980s other networks developed and connected to the ARPANET creating as Wertheim describes it, a global network of networks.[10] The success of CSNET encouraged the National Science Foundation to develop a national backbone network (the NSFNET) to form a foundation for a series of regional networks linking universities around the USA.

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[5] H. Rheingold (a) op cit p 105
[6] in testimony to the US Senate Hearing, op cit, p33.
[7] M. Wertheim, Wertheim, *The pearly gates of cyberspace: a history of space from Dante to the Internet.* Doubleday, Australia. 1999, p224.
[8] ibid pp224-225
[9] H. Rheingold, *The Virtual Community: finding connection in a computerized world.* Seeker & Warburg. London, 1994, p7.
[10] M. Wertheim, op cit, p226

Wertheim seems to suggest that NSFNET replaced ARPANET in 1985[11], although Rheingold comments that ARPANET was not decommissioned until 1990.[12] This discrepancy aside, both authors cite the development of NSFNET as the key impetus for cyberspatial inflation.

Corporate interest in computer mediated communication (CMC) soon followed, and is perhaps most succinctly expressed in the comment by Akio Morita, then chairman of Sony, that virtual reality would be the next big thing after Camcorders.[13] The shift in funding focus from government to the corporate sector moved first to 'work' applications such as medicine and architecture, then to entertainment. Partnerships developed between companies which had traditionally focused on military applications, and entertainment purveyors. For example, in Massachusetts, Loral Advanced Distributed Simulation (LADS) which was a principal developer of the ARPA Distributed Simulation Networking Project (SIMNET) developed a partnership with Entertainment Systems Corporation to develop product for amusement centres and domestic video games. In California, Silicon Graphics Inc, which was founded in 1982 with partial funding from DARPA, formed an agreement in 1994 with Nintendo of America Inc to develop 'Project Reality' a three-dimensional Nintendo machine to be marketed for home use.[14]

From entertainment to electronic commerce was a short step. As Wertheim describes it, seemingly every major corporation from IBM and Nike on down now sports a Web site packed with corporate public relations and product information, and included in an increasing number of sites is also the ability to purchase online. According to a recent Commerce Department report, ten million people in the United States and Canada had bought something online by the end

[11] ibid p226
[12] H. Rheingold 1994, op cit p13.
[13] quoted in B. Sherman & P. Judkins, op cit, p14.
[14] 'Firms Take Technology from Battle Simulator to TV Screen' *Signal*, U.S. Armed Forces Communications and Electronics Association, 1994.pp53-55.

of 1997. The report estimates that electronic commerce should reach $300 billion by 2002. The virtual mall, says Wertheim, has arrived.[15]

It appears that the mall has arrived in Australia as well. Recent Australian Bureau of Statistics figures on household use of information technologies show that some 480,000 adults used the Internet to purchase goods and services in the twelve months to February 1999. This comprises a mere four per cent of the adult population, but when online shoppers are expressed as a percentage of the 1.7 million adults accessing the Internet from home, the result jumps to 28 per cent. There also appears to be a clear increase in the number of online shoppers. Between February 1998 and February 1999 online shoppers as a percentage of all adults increased from 1.5% to 4%; online shoppers as a percentage of adults accessing the Internet from any site increased from seven per cent to eleven per cent; and online shoppers as a percentage of people accessing the Internet from home increased from 20% to 28%. Online shopping accounted for only 0.2% of retail turnover and only 35% of online shoppers reported spending more than $500.[16] However there is a limited range of items which form the bulk of online orders – books, magazines, computer equipment and software and music, and Adey notes that people will not necessarily entrust their credit card details to an Internet website.[17]

An interesting aspect of the ABS data is the predominance of males as online shoppers. Whilst adult males and females differ only slightly as far as accessing the Internet is concerned, more than twice as many males as females used the Internet to purchase goods or services for their own private use. In the age group 18-24, males were six times more likely than females to be Internet shoppers.[18] Given that shopping is generally seen as a female occupation one can only

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[15] M. Wertheim, op cit p227
[16] P. Adey, (Australian Bureau of Statistics) 'Profiling Private Use of E-Commerce in Australia. 'In Proceedings of 1999 Communications Research Forum. Dept of Comm Info Tech and Arts. September 1999 p64
[17] ibid p64
[18] ibid p65

speculate as to why this predominance occurs. It may well be to do with the limited range of products that have to date been available online. If, as is discussed later in this chapter, men are masters of the computer domain, they would be more likely to be the major purchasers of items such as computer equipment and software. However, this is indeed speculation; as yet there is no definitive explanation for the predominance.

It is fair to summarise here that military, computer science and corporate spheres of influence have been central to the development of cyberspace technologies. As Hayward noted in 1993, all the agencies involved in producing and promoting cyberspace are either commercial, government-military or otherwise academic institutions funded by industry or government bodies. It is also relevant to observe that women are scarce in the annals of cyberspace development.

2.2 Women as inventors of cyberspace technologies

Ada Byron, Lady Lovelace (1815-1852) receives most recognition; the feminist scholar Sadie Plant positions Lovelace as the point at which the histories of women's liberation and computing are first bound together. Lovelace is famous as a collaborator with Charles Babbage in the development of the Analytical Engine, the first calculating machine and the forerunner of current computer technologies. According to Betty Toole, Babbage first reported his work on the Analytical Engine at a seminar in Turin, Italy, in the autumn of 1841. An Italian called Menabrea wrote a summary article in French of what Babbage described and Lovelace translated this into English. When she showed Babbage her translation, he suggested that she add her own notes, which turned out to be three times the length of the original article.

"In her article, published in 1843, Lady Lovelace's prescient comments included her predictions that such a machine might be used to compose complex music, to produce graphics, and would be used for both practical and scientific use." She was comments Toole, correct.[19] Thus she anticipated current computing applications by more than a century.

Toole credits Lovelace with first suggesting to Babbage writing a plan for how the engine might calculate Bernoulli numbers, and notes that this plan is now regarded as the first computer program.[20] In recognition of her work, in 1979 the United State Defence Department named its primary programming language ADA. Plant comments that it really was her own name which survived in Ada's case, not the names of her dead husband or father. "It is ADA herself who lives

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[19] B. Toole, Toole, B. (ed). *Ada, the enchantress of numbers: a selection from the letters of Lord Byron's daughter and her description of the first computer.* California, Strawberry Press, 1992. http://www.cs.yale.edu/homes/tap/Files/ada-bio.html

[20] ibid

on, in her own name; her footnotes secreted in the software of the military machine."[21]

Lovelace also inspired a character in William Gibson and Bruce Sterling's Novel, *The Difference Engine* and her work is acknowledged in the title of a particularly useful web site for feminist scholars; The Ada Project.[22] This site, originally developed at Yale University, is designed to serve as a clearing house for information and resources related to women and computing. Given its aim and its authority, it is telling that the site lists precisely twelve women as 'pioneering women of computing'.[23]

After Lovelace, the woman who receives most attention in the annals of cyberspace development is Grace Hopper. Hopper was a mathematician who took a Ph.D from Yale University in 1934. She was an associate professor at Vassar when in 1943, she joined the United States Naval Reserve to help with the war effort. She was assigned in 1944 to the Bureau of Ordnance Computation Project where she worked on the Mark series of computers. She was only the third person to program the Mark 1 and received a Naval Ordnance Development Award for her pioneering applications programming work on the Mark I, II and III computers.[24] Hopper's work spanned programming languages, software development concepts, compiler verification and data processing across academia, industry, and the military.

According to Sadie Plant, Hopper is often described as the 'Ada Lovelace' of Mark 1 and its successors. "She wrote the first high-level language compiler, was

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[21] S. Plant, 'The Future Looms' in J. Wolmark (ed)*Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace.* Edinburgh University Press, 1999, p117.

[22] http://tap.mills.edu/

[23] They are, in order of appearance; Ada Byron King, Countess of Lovelace (1815-1852) Edith Clarke (1883-1959) Rósa Péter (1905-1977) Grace Murray Hopper (1906-1992) Alexandra Illmer Forsythe (1918-1980) Evelyn Boyd Granville, Margaret R. Fox, Erna Schneider Hoover, Kay McNulty Mauchly Antonelli, Alice Burks, Adele Goldstine, and Joan Margaret Winters.

instrumental in the development of the computer language COBOL, and even introduced the term 'bug' to describe soft or hard ware glitches after she found a dead moth interrupting the smooth circuits of Mark 1. Woman as the programmer again."[25]

In fact, it is possible to establish a case that women were the first programmers, the first computers, of all. During WW2 the US Army recruited approximately 80 female mathematicians as "computers" to program at machine level the first all electronic digital computer, the Electrical Numerical Integrator and Computer (ENIAC). ENIAC was 80 feet long, nine feet tall, operated through the use of 18,000 vacuum tubes and had no stored programs. Each task assigned to it had to be hand programmed. The women's function was to calculate the ballistics trajectories for army weaponry. One of the women, Kay McNulty Mauchly Antonelli recalls;

> We did have desk calculators at that time, mechanical and driven with electric motors, that could do simple arithmetic. You'd do a multiplication and when the answer appeared, you had to write it down to re-enter it into the machine to do the next calculation. We were preparing a firing table for each gun, with maybe 1,800 simple trajectories. To hand-compute just one of those trajectories took 30 or 40 hours of sitting at a desk with paper and a calculator. ... my working title for the ballistics project was 'computer.' The idea was that I not only did arithmetic but also made the decision on what to do next. ENIAC made me, one of the first 'computers' obsolete.[26]

It is relevant to note here, that the women were recruited because there was a shortage of male mathematicians available during the war. In this sense, the ENIAC women have been hailed as "the digital equivalents of Rosie the Riveter".[27]

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[24] Grace Hopper Celebration of Women in Computing 1994 Conference Proceedings. http://www.cs.yale.edu/homes/tap/Files/hopper-story.html
[25] S. Plant, op cit, p106.
[26] The ADA Project, http://tap.mills.edu/
[27] Women in Technology International Summit. Boston ,October 1998. http://www.witi.eom/center/conferences/#past

I do not propose to embark upon a lengthy history of women as cyberspace progenitors, but this brief review of the artefactual history suggests that the few women who figure in the histories are exceptions that prove the rule of absence and silence in discourses of cyberspace development. Where they do appear, they are the product of extraordinary circumstances, such as high privilege or states of war.[28] Thus I must disagree on this point with Plant, who argues that "women have not merely had a minor part to play in the emergence of the digital machines ... women have been the simulators, assemblers, and programmers of the digital machines."[29] Some women have made some major contributions to the invention of computers and particularly to the invention of computer programming, and doubtless many women are employed at assembly line level in putting these machines together. Nor should it be overlooked that many women are actively involved in work with the machines. But this does not mean that women have played more than a minor part in the overall development of computer mediated communication.

Computer driven technological change, specifically the development of computer networks and subsequently teleworking, has led to what Barney describes as a female dominated work ghetto.[30] Telework refers to work performed away from traditionally centralised workplaces, generally in the home of the worker, and which relies on the use of telecommunications and advanced information technologies. According to Barney, telework is a form of labour that is growing as networks proliferate and the cost of personal computers decreases. He notes that in Canada, the number of teleworkers more than doubled from 300,000 to 650,000 between 1995 and 1997, with another doubling anticipated by the year 2000.[31] Moreover, the majority of teleworkers performing low paid clerical and

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[28] It could be argued that in these circumstances they were subalterns of the ruling patriarchal order.
[29] S. Plant, *Zeros + Ones: Digital Women + the New Technocultures.* Doubleday, NY, 1997, p37.
[30] D. Barney, *Prometheus wired: the hope for democracy in the age of network technology .* UNSW Press, Sydney, 2000 p145.
[31] ibid

service work from home are women. It is not without reason he suggests, that teleworking has been suggested as a possible solution to the day care crisis.

> When performed at the same site where cooking, cleaning and diaper-changing waits to be done, network mediated telework enables women to exceed even Aristotle's designation of their utility: they can be, simultaneously, unpaid domestic managers as well as poorly paid but economically necessary wage slaves.[32]

Barney also describes a report from the Public Service Alliance of Canada which suggests that a number of eviscerated public services in Canada continue to exist simply because network technology allows them to be delivered by unpaid labour. Moreover, he stresses that many of these employees are women.

> For these workers, network technology means a paid eight hour shift in the workplace, followed by an unpaid five hour shift of cooking, laundry and child care at home, and a final, unpaid three hour shift of typing and logging reports at their personal computer. Despite the promised domestic benefits of working at home, for many female teleworkers, the double day becomes an endless day.[33]

As Faith Wilding asks:

> ...why are there so few women in visible positions of leadership in the electronic world? Why are women a tiny percentage of computer programmers, software designers, systems analysts and hackers, while they are the majority of tele-typers, chip assemblers and installers and lowskilled tele-operators that keep the global data and infobanks operating? Why is the popular perception still that women are technophobic?[34]

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[32] ibid p147
[33] ibid p148
[34] F. Wilding, 'Where is Feminism in Cyberfeminism?' http://www-art.cfa.cmu.edu/www-wilding/wherefem.html (p2)

Wilding's queries may be answered by the assertion made by a number of feminist scholars, that technology is constructed and perceived as a bastion of male culture, further entrenching existing imbalance in gender power relations.

2.3 Technology as masculine culture

> We will fly women into space and use them the same way we use them on earth – for the same purpose.

NASA astronaut James Loveil's succinct vision of women and space travel is an apposite summary of women's position in regard to new technologies in general. I have described a discursive and actual scarcity of women in the research and development of protean cyberspace technologies; this absence is also notable in regard to other new technologies and to new communication technologies in particular. Dot Griffiths argues that a combination of historical circumstances has led to this absence, or in her term, exclusion.

Griffith suggests that women are credited with a wide range of the earliest technical innovations, such as textiles and fire, which made a major contribution to the social evolution of humanity. She pinpoints the Industrial Revolution, and the consequent movement of manufacture out of the home as a major point of women's exclusion from technology.

> The Industrial Revolution and the rise of factory based manufacture resulted in a more rigid division of society along gender lines, and the women who became industrial labourers found themselves working in the least skilled jobs, for the least pay.[1]

She argues further that technological innovation and entrepeneurship were closely linked in the eighteenth century and that a general lack of capital meant that only in exceptional circumstances could women act as entrepreneurs in their own right. Women were also denied access to education, especially to the theoretical grounding in mathematics and mechanics upon which so many of the contemporary innovations were based. Ada Lovelace is one example of such

exceptional circumstances, coming as she did from a wealthy, privileged and progressive background.

This exclusion has been maintained by the perception (and construction) in advanced industrial societies of technology as a masculine pursuit, and further, by its intrinsic association through research and development funding, with the military industrial complex. According to Griffith,

> War and industry institutionalise the masculine personality attributes of competition assertion, aggression and dominance... There is therefore, little for girls and women to identify with in any of these activities or their related technical inputs ... Passively, girls and women turn away from technology as a consequence of its sex-stereotyped definition as an activity appropriate for men. More actively they opt out of the technology because they reject its goals and values: the development for example, of weapons of destruction, of boring and dehumanising work processes and products designed with artificial obsolescence in mind.[2]

Griffith also suggests that technology has become symbolic of male domination because it is about control – the exploitation of natural resources and the harnessing of nature to serve man's needs.

The phallocentric nature of techno-culture has drawn the attention of many feminist theorists. Judith Wacjman for example, points out that women's absence from the design processes of technology has often been remarked, and suggests that this is because in our culture (Australia) many women feel estranged from, and lack confidence with technology. Technology is seen as an activity appropriate for men. She identifies different childhood exposure to technology, the prevalence of different role models, different forms of schooling and gender separation of the job market as factors in the construction of men as strong,

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[1] D. Griffith, 'The exclusion of women from technology' in W. Faulkner & E. Arnold (eds) *Smothered by Invention: Technology in Women's Lives,* Pluto Press, London, 1985, p54.
[2] ibid pp54-71. See also Margaret Alic's 'Women and Technology in Ancient Alexandria' in J. Rothschild (ed) *Women, Technology and Innovation*, Permagon Press, London, 1982, p305.

manually able and technologically endowed, and of women as physically and technologically incompetent.[3]

And she suggests that to understand this we need to see technology not just in terms of machines or artefacts but in terms of the physical and mental know how to make use of these machines.

> Technological know how is a resource that gives those who possess it a degree of power, and it is largely possessed by men. Indeed, it could be said that appropriating technical expertise is a defining characteristic of masculinity. Men affirm their masculinity through technical competence and post women by contrast, as technologically ignorant and incompetent."[4]

In tune with Griffith she suggests that this affinity of men with machines has like gender itself, been developed in a social process over a long historical period in conjunction with the growth of hierarchical systems of power. "Technology now enters into our social identity. Femininity is incompatible with technological competence; to feel technical competence is to feel manly."[5]

Wacjman also argues that men identify with technology and form bonds with each other through this identification. Women she says, rarely appear in stories about new technologies, except as wives at home providing the backdrop against which men pursue their great projects. The representation of women in stories about new technology is rather more complex than Wacjman describes, and this is explored in some detail in Chapter Three. I must agree however, that women in stories about new technology are generally represented within very limited frames.

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[3] J. Wajcman, 'Technological A/Gendas: Technology, Culture and Class' in L. Green & R. Guinery (eds) *Framing Technology: Society Choice and Change* Allen & Unwin. Sydney, 1994 p11.
[4] ibid.
[5] ibid.

Working through similar concerns, Dale Spender argues that computers have not always been the province of the male; that when computers first made their appearance in the business world, they were primarily used for word processing and hence it was considered appropriate to place them in female hands; and that when they first appeared in schools they had not been defined as exclusively male territory.[6] She contends however, that men of the electronic media generation have moved swiftly to claim the territory, and cites figures from the UK as evidence. In 1978, 28 per cent of the students enrolled in computer science courses were women, but by 1985-86 this figure had dropped to 13 per cent.[7] More recent figures from the US appear to support Spender's assertion. According to the American Association of University Women (AAUW) Educational Foundation, women in the US now receive less than 28 per cent of computer science bachelor's degrees, down from a high of 37 per cent in 1984. The Foundation claims that computer science is the only field in which women's participation has actually decreased over time.[8]

Spender identifies a number of aspects that have contributed to the construction of cyberspace as an arena hostile to women, including male domination of the co-educational classroom. In computerised classrooms she claims,

> ...it is not uncommon to see boys of all ages actively seizing the machines, and physically pushing the girls away. This violence can be accompanied by taunts about how girls can't 'do' computers and how screens and controls are a boy's game. And while some girls may be prepared to take on the boys who use force, the customary response of the girls is to simply stay away.[9]

Thus gender disadvantage is created in the schools, and is exacerbated in university computer science courses which she describes as "even more

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[6] D. Spender, *Nattering on the Net: Women, Power and Cyberspace.* Spinifex Press, Australia, 1995, p166,
[7] ibid
[8] *Tech-Savvy: Educating Girls in the New Computer Age*, published by the American Association of University Women Educational Foundation. http://www.aauw.org/home.html
[9] D. Spender, op cit, p177.

supportive of abuse and harassment of women." She relies here for support on Lynda Davies' paper, 'The Gendered Language of Technology' in which Davies, a professor of computer science, describes interaction amongst the students in the computer rooms at an Australian university:

> During the day, computer labs are filled with students shouting across the rooms at each other, goading each other with terms like "fuckwit" "wanker" "dickfor" being called out as terms of comradeship, seeming terms of endearment amongst the peer group. The student groups are almost exclusively male, with females tending to be either quiet and contemplative or chatty and smiling. The females do not use the same terms of comradeship for each other or for the males. They tend to use their personal names.[10]

The linguist Susan Herring's work, on gender differences in computer mediated communication also supports the notion that women are marginalised and or alienated in cyberspace.[11] Herring conducted an ethnographic study of various electronic discussion lists, downloading conversations and analysing the communicative behaviours of the participants. She has identified what she describes as a recognisable male style of posting, which is characterised by adversariality: put downs, strong, often contentious assertions, lengthy and/or frequent postings, self promotion, and sarcasm. Male postings she says, also more often adopt an authoritative self confident stance, and men are more likely to represent themselves as experts.

In contrast, the female gendered style is characterised by supportiveness (expressions of appreciation, thanking, and community building activities that make other people feel accepted and welcome) and 'attenuation' (hedging and expressing doubt, apologizing, asking questions, and contributing ideas in the form of suggestions). The female style takes into account the "face" wants of the

[10] L. Davies, cited by D. Spender, op cit, p179.
[11] S. Herring, 'Gender Differences in Computer Mediated Communication: Bringing Familiar Baggage to the New Frontier' http://www.cpsr.org/cpsr/gender/herring.txt 1994, p3

addressee – that is, the desire to feel ratified and liked and not to be imposed upon. Thus, contrary to the claim made by some that computer mediated communication neutralises distinctions of gender, Herring suggests that men and women effectively constitute different discourse communities in cyberspace, because they have different communicative ethics – that is they value different kinds of online interactions as appropriate and desirable.

Herring also contends that these cultures are not equal. Just as my curiosity about cyberspace was first piqued by the absence and silence of women, Herring became curious when she noticed the silence of female contributors to LINGUISTICS-L during a "flame war" on the list. Subsequent observations in other discussions and on other lists, led her to conclude that men seemed to be doing most of the talking;

> I started to hear stories about and witness men taking over and dominating discussions even of women-centred topics on women-centred lists... In contrast, on the few occasions when I observed women attempting to gain a hearing on male-dominated lists, they were ignored, trivialized or criticized by men for their tone or the inappropriateness of their topic.[12]

Herring contends that it was only when she started looking at lists devoted to women's issues, and to traditionally feminised disciplines such as women's studies and librarianship, that she found women contributing in amounts consistent with their numerical presence on the lists. Furthermore she says, on these lists there were different interactional norms; ie. little or no flaming[13] and polite, cooperative exchanges.

In sum, she suggests that women and men constitute different discursive communities in cyberspace, with different communicative rules and practices and that "... the norms and practices of male culture, codified in netiquette rules,

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[12] ibid p2.

[13] variously defined as "the expression of strong negative emotion, "use of derogatory, obscene or inappropriate language" and "personal insults"

conflict with those of the female culture in ways that render cyberspace - or at least many neighbourhoods in cyberspace - inhospitable to women."[14]

2.4 Drugs, deus and eros ex machina

drugs

> Well, they outlawed LSD. It'll be interesting to see what they do with this.

The above comes from Gerry Garcia, lead singer of 1960s rock group The Grateful Dead, after his first encounter with an immersive cyberspace.[15] Jaron Lanier, an early research and development guru of cyberspace technologies also made the comparison; " ... the idea of a technology coming along which has the fun of the sixties idea of what drugs were, along with the safety and insulation you have with computers is a very seductive combination."[16] The recruitment of the late Timothy Leary, described by Hayward as LSD's most successful publicist; as an advocate for VR technologies, served to strengthen the association of early cyberspaces with drug culture.

The theme is very evident in SF treatments of cyberspace. William Gibson's console cowboys (and gals) ingest quantities of mind altering substances in his cyberpunk fiction. Jobe, the protagonist in *The Lawnmower Man*, has his intelligence enhanced by VR technology in concert with psychotropic drugs, and more recently Neo, hero of *The Matrix*, is offered a choice of the red or the blue pill which will irrevocably determine his path as 'the One' the potential saviour of the embattled human race.

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[14] S. Herring, op cit, p5.
[15] quoted by P. Hayward and T. Wollen, op cit, p194.
[16] quoted by S. Levy, in 'Brave New World' *Rolling Stone*, Sept 1993, pp90-95.

What the above suggests is that a prime attraction of these technologies is the path they offer to the alternate realities and other worlds which have always been part of the theoretical imagination. Supernatural explanations and descriptions of other worlds are strong evidence of this older interest, which has a broad spatial and temporal base. Attempts to persuade generations of Roman Catholic children that they have consumed the actual flesh and blood of Jesus Christ; religious and supernatural rites of all descriptions, are evidence of this. So too are philosophical enquiries on the nature of reality and the well documented use of natural and chemical substances to seek transcendent states.

Aldous Huxley asserted that

> The urge to transcend self conscious selfhood is ... a principle appetite of the soul. When, for whatever reason, men and women fail to transcend themselves by means of worship, good works, and spiritual exercises, they are apt to resort to religion's chemical surrogates...[17]

He noted the widespread use of these surrogates across a range of cultures, and stressed the immemorial connection between religion and the taking of drugs.

> The employment for religious purposes of toxic substances is extraordinarily widespread ... [and] ... can be observed in every region of the earth, among primitives no less than among those who have reached a high pitch of civilization. We are therefore dealing not with exceptional facts, which might justifiably be overlooked, but with a general and in the widest sense of the word, a human phenomenon, and the kind of phenomenon which cannot be overlooked by anyone who is trying to discover what religion is, and what are the deep needs it must satisfy.'[18]

Nor can it be disregarded by anyone who is trying to contextualise the pentecostal tone of cyberspace discourse and or, its common association with hallucinogenics. Brenda Laurel traces the notion of VR from enactments around prehistoric campfires to theatre and performance rituals the world over. All, she

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[17] A. Huxley, *The Doors of Perception and Heaven and Hell* Penguin Books, London, 1959, p55
[18] ibid

argues have been aimed at a similar goal of heightened experience through immersive, multi-sensory representations.[19]

Neil Postman puts an interesting if lengthy argument which is relevant here. In sum, he links a decline in belief in the supernatural – in this case the Christian God, with a rise in belief in the virtues of science and scientific method. In the course of this, Postman describes one of Sigmund Freud's last pieces of work, *The Future of an Illusion*, in which Freud considered whether humankind would fare better psychologically, culturally and morally without the illusive belief in a supranatural and suprahuman source of being, knowledge and moral authority, ie. God. Freud concluded that humankind may fare no better, but that it must do without the illusion of God. Postman asserts that the illusion has shifted, from God to science.[20] If this is so, it is feasible to suggest that the older employment of toxic substances for religious purposes would shift with relative ease to the use of such substances for equally transcendent purposes, relying upon the vehicle of technology, rather than spirit.

deus

As previously stated, there is a strongly pentecostal thread in much of the discourse on cyberspace. For example,

> Empowered by the personal computer, liberated by virtual reality, the individual becomes the God of his or her own universe. [21]
>
> ... computers have changed our lives; virtual reality will change our very experience of life, in an image of our choosing. [22]

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[19] B. Laurel, cited by Coyle, op cit, p150.
[20] N. Postman, *Technopoly: the surrender of culture to technology.* Vintage Books, NY, 1993, pp 162-63
[21] B. Wooley,Virtual Worlds. *A Journey in Hype and Hyperreality.* Penguin Books 1993 p9
[22] sci.virtual worlds newsgroup http://www.landfield.com/faqs/by-newsgroup/sci/sci.virtual-worlds.html 15/8/94

If there is not a specific reference to Godhead, as in the first sample cited above, there is a suitably awesome tone; as in the second. Examples such as these abound. Nor, as Carey has observed, is such rhetoric a recent phenomenon. Consider Marshall McLuhan, in 1964:

> The computer, in short, promises by technology a Pentecostal condition of universal understanding and unity. [23]

Or Joseph Hart, in 1924:

> Electricity is a decentralizing form of power: it runs over distributing lines and subdivides to all the minute of life and need. Working with it, men may feel the thrill of control and freedom once again. [24]

This thematic unity contracts the notion of transcendence to one specifically connected to the apparatus. The apparatus does not so much enable, as determine, man as master through the power of calculation, of the universe. Antecedent to this theme is Rene Descartes' ambition "... to accept nothing as truth that did not appear clearer and more certain than the demonstrations of geometers formerly did...

> I saw that one may reach conclusions of great usefulness in life, and discover a practical philosophy in the place of the speculative philosophy taught by the Schoolmen; one which would show us the energy and action of fire, air, and stars, the heavens, and all other bodies in our environment ... *and thus make ourselves masters and owners of nature.*"[25] (my italics)

It is well expressed in *The Lawnmower Man*, where the simpleton Jobe merges with the computer network and recreates himself, by the power of the calculating machine, as divinity; manifest in his ability to make every telephone in the world

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[23] M. McLuhan, cited by J. Carey, op cit, p i 16.
[24] cited by S. Augarten, *Bit by Bit: An Illustrated History of Computers.* Ticknor and Fields, NY 1984 pp284-285.
[25] R. Descartes, *Philosophical Writings.* Thomas Nelson, Sydney, 1970, pp38-46.

ring at the same time. I must add, that *The Lawnmower Man* is rather a silly movie, but it expresses very well the lingering influence of a Cartesian world view, of the universe as a binary construct which can be mathematically described and manipulated.

The view of material reality as a mechanical system has held great influence in much Western philosophic tradition. It is manifestly appropriate for computer mediated environments, where each object has been predefined and described by calculation in terms of position, orientation, shape, colour and behaviour.[26] Control of the mechanics of material reality begins to equate to mastery of nature, to the perceived transcendence of spatial and temporal boundaries It has arguably contributed to what Postman describes, in terms of computer technology in general, as an amplified metaphor of machines as humans and humans as machines.

> This metaphor depends upon our believing that we are at our best when acting like machines, and that in significant ways, machines may be trusted to act as our surrogates. Among the implications of these beliefs is a loss of confidence in human judgement and subjectivity. We have developed the singular human capacity to see things whole in all their psychic, emotional and moral dimensions, and we have replaced this with faith in the powers of technical calculation.[27]

A striking example of this metaphor in the discourse of cyberspace is Michael Heim's description of 'Our Marriage to Technology':

> We love the simple clear-cut linear surfaces that computers generate. We love the way that computers reduce complexity and ambiguity, capturing things in a digital network, clothing them in beaming colours, and girding them with precises geometrical structures ... [however] ... The computer's allure is more than utilitarian or aesthetic; it is erotic ... The world rendered as pure information not only fascinates our eyes and

[26] S. Pryor & J. Scott'Virtual Reality. Beyond Cartesian Space' in Hayward & Wollen, op cit, p171.
[27] N. Postman, op cit pp116-118.

> minds, but also captures our hearts. We feel augmented and empowered. Our hearts beat in the machines. This is Eros.[28]

eros

It seems that it is not only man's heart which beats within the machine. A primary vision of eventual cyberspace activity is perhaps best expressed in Howard Rheingold's anticipation of the year 2013, and is worth quoting at length here.

> Picture yourself a couple of decades hence, dressing for a hot night in the virtual village. Before you climb into a suitably padded chamber and put on your 3D glasses, you slip into a lightweight (eventually, one would hope, diaphanous) bodysuit, something like a body stocking but with the innate snugness of a condom. Embedded in the inner surface of the suit, using a technology that does not yet exist, is an array of intelligent sensor-effectors – a mesh of tiny tactile detectors coupled to vibrators of varying degrees of hardness, hundreds of them per square inch, that can receive and transmit a realistic sense of tactile presence, the way the visual and audio displays transmit a realistic sense of visual and auditory presence.
>
> You can reach out your hand ... You can run your cheek over (virtual) satin, and feel the difference when you encounter (virtual) flesh. Or you can gently squeeze something soft and pliable and feel it stiffen under your touch.
>
> Now, imagine plugging your whole sight-sound-touch telepresence system into the telephone network ... you can find one partner, a dozen, a thousand, in various cyberspaces that are no further than a phone number. Your partner(s) can move independently in the cyberspace, and your representations are able to touch each other, even though your physical bodies might be continents apart.[29]

Such descriptions of or allusions to sexual activities facilitated by computer communication are, one could say rampant, across the discourse. The padded chamber is an interesting accoutrement to Rheingold's vision. Presumably he fears self injury whilst he thrashes about, blind to any extra discursive realities, deep in the throes of his own sexual fantasy. He clearly presumes a male

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[28] M. Heim,*The Metaphysics of Virtual Reality* OUP 1993, p84.
[29] H. Rheingold, 1991, op cit p346

audience; the innate snugness of a condom is outside a female reader's experience, and it is not unreasonable to suggest that the prospect of reaching a thousand sexual partners, even or especially if, they are all clad in diaphanous body suits, would leave a great many women unmoved.[30]

In much the same vein, Stephen Levy fantasised in 1993:

> Why bother about phone sex, or an inflatable rubber doll, if you could interface with a hot digital partner, wearing a full-body Data-Suit with strategically located tactile feedback? The safest sex imaginable![31]

It seems reasonable to suggest that sex with an inflatable rubber doll is more of a male than a female recreation. Thus Levy too appears to presume a male reader. This frame is however also evident in texts produced and consumed by women.

The magazine article 'High Tech Sex' printed in *New Woman* magazine in June 1993, features a most imaginative illustration of an imagined apparatus in active use. A young blonde female model is clad in a hard pink plastic bikini, attached by a cable to a black box. She stands, with back arched and legs apart; she claws at her plastic top with a pair of robotic claws which bear a strong resemblance to chicken feet. From her bikini bottom, over the site of her mons pubis, juts a large pink plastic phallus. The outfit is manifestly physiologically challenging to the female anatomy, but the model appears ecstatic. The photographer is not cited, and may have been male, but the accompanying text was penned by a woman and *New Woman* is of course, a magazine which targets female readership.

Another example of virtual sex for a presumably female audience reinforces this point.

> The idea is that a complex fabric of electronic sensors could be worn over the sex organs – a washable or disposable 'dick sleeve' for Him perhaps a 'data bikini' for Her – and used to digitise sensual touching.[32]

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[30] When I first read this passage I was distracted by concern as to who would clean the data suits.
[31] S. Levy, 'Brave New World' *Rolling Stone* Sept 1993 p95

This sample was extracted from *Marie Claire*, another women's magazine. Once again, the apparatus is envisaged from a primarily male point of view. He shall have a dick sleeve, she 'perhaps' a data bikini.

When a man has intercourse with a blow up doll, his activity would be more accurately described as masturbation, rather than sex. Virtual sex, net-sex or teledildonics, however the phenomenon is described, it equates to masturbation in that the user enacts sexual activity, but the images seen are not directly connected to the object providing the physiological stimulation. It is however almost never described as such.

Timothy Leary is a rare exception:

> That is jerk off talk. If you want to talk about virtual sex look at the ads in the LA Weekly where there are 20 ads with pictures of boys and girls and they offer moist, wet, juicy ... and it's all electronic, over the phone and we know that the ladies that do this are 65 y.o. grandmothers knitting, while they're talking dirty while people are paying them two dollars a minute. Whatever the technology that comes along, horny insecure males will sex it up. There's no such thing as virtual reality sex.[33]

Pryor and Scott describe a series of assumptions which underlie the excitement about virtual sex: the equivalence of a 'sensitive' interactive system with a living partner or partners, the importance of the penis in sexual pleasure, the notion that women would find virtual sex as pleasurable as men would, that virtual sex represents a sensible solution to loneliness, the threat of AIDs and so on. The examples given above suggest that much of the discourse is indeed colonised by such assumptions. Images of women, electronically generated by men, are fairly often described; for example the 'amazon earth goddess ... quite hot and a hundred feet tall' which was conjured by VR supremo Jaron Lanier for a visiting

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[32] *Marie Claire*. April 1993 cited by L. Grant,'The Millennium; sex in the time of virtual reality' in *Sexing the Millenium*. Harper Collins, London, 1994, p235.
[33] T. Leary, cited in 'Doctor Tim' in *Revelation* No8 July/August 1994 p29.

Hollywood film director is mentioned by several texts.[34] Virtual Valerie and Maxie MacPlaymate are almost standard references. These 'women' have a consistent one dimensionality that is striking in such a multi dimensional medium. They are young, well formed, sexually subordinate and largely or completely undressed. In this they bear a remarkable resemblance to the houris of Islamic paradise – those comely wide eyed maidens with swelling breasts, cloistered in cool pavilions, to whom the righteous shall be espoused, as recompense for their labours.[35]

Pryor and Scott suggest that the excitement about virtual sex in general perpetuates the well documented objectification of women's bodies in pornography. VR they assert, is a particularly appropriate medium for this; requiring as it does the 'de-naturing' of the organic body and its extension and remapping in 3-D space.[36] This may well be so, however it is important to stress that this is a perpetuation rather than a technologically determined innovation.

Depictions and descriptions of sexual activity have occurred across all media. The objectification and one dimensional representation of women in many of these depictions and descriptions has long been considered an issue.[37] All media, certainly at least the electronic media of the twentieth century, have been developed in traditionally male spheres of interest; primarily for military or industrial purposes, and have been dominated in their initial stages by male technicians and practitioners. It is worth noting here that in 1995 the Internet was dominated, according to some reports, by male users at a ration of ten to one.[38]

Hence the one dimensional houris who inhabit the discourse of cyberspace can be seen as discursive constructs which express much older social preoccupations –

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[34] For example, Levy, Pryor & Scott.
[35] A. Arberry, *The Koran Interpreted* Oxford University Press 1983 pp559-627.
[36] S. Pryor and J. Scott, op cit, p173.
[37] see for example, Beatric Faust's treatise. *Women Sex and Pornography* Penguin Books, Victoria 1981.
[38] D. Higgins, 'Women take the feminist flame into cyberspace' *The Australian* 14/3/95 p38.

with sexual experience; and discursive formations – of technology as a domain of male power and of women as subordinate beings. The link is most obvious in the sexual fantasies described before, but the power relation is also expressed in other ways. Often, for example, women are victims.

This following sample is a passage of writing by Damien Hirst, featured in the Australian National Gallery's Virtual Reality Exhibition in 1993.

> 'You're driving like an idiot.' He wobbled the steering wheel a little, slowed down a touch then speeded up, he got very close to the car in front, dangerously close, flashed his lights. He looked at his partner. 'Keep your eyes on the road' she screamed. The car in front hesitated for a while to make a point, then indicated and moved into the slower lane. (They ploughed into the back of the car in front and span out of control, the bonnet clicked off its hinges and ploughed through the windscreen and into the passengers. She moved towards the steel as fast, as it moved into her, it was as simple as cutting white paper with scissors, blood spewed and pissed and spattered everywhere, flesh ripped. The dashboard cracked and scraped away her flesh exposing perfect shiny redness, glass shattered. Everything exploded, it was timeless, it had a perfection, no time to feel horror or pain, no time to hear sounds, simple precise clear, it was so clear.) He accelerated again and lit a cigarette, smoked with one hand and drove with the other, he kept looking at her teasingly, taking his eyes off the road. She closed her eyes and leaned far back into the seat and said, "okay then, kill me'.

This feature was one of the very few in the exhibition which made any reference to women at all. It is described in the catalogue[39] as a fiction within a fiction, which suggests that we manufacture situations in order to experience what our lives mean. It may also be noted as a fine example of a woman constructed as absolute victim, within both parts of the fiction. This woman may not be a houri, but her subordination to the male is total.

Another example of this construction of women as victims, even prey, is a newspaper report by Julian Dibell in 1994, of two women participating in a multi user computer game. Their characters, Starsinger and legba, encountered a most

unpleasant response from a fellow participant, whose character, Mr Bumble, was described as a 'fat, oleaginous, biscuit faced clown, dressed in semen stained harlequin garb and girdled with a mistletoe-and-hemlock belt whose buckle bore the inscription, "Kiss me under this, bitch!"' Mr Bumble textually perpetrated a variety of indignities upon legba, a character of indeterminate gender, and Starsinger, a female character; including for example, this one:

> As if against her will, Starsinger jabs a steak knife up her ass, causing immense joy. You hear Mr Bumble laughing evilly in the distance.[40]

To my knowledge, this is the first documented case of what Dibell referred to as 'data rape' but it is by no means the last. Another example, a young American (male) student was reported to have posted on the Usenet a pornographic fantasy involving the rape torture and murder of a female classmate. Interestingly, the man apparently incurred official censure for naming the victim, rather than for describing the fantasy.[41]

Some representations are both houri and victim, as was the unfortunate Marnie Burke in *The Lawnmower Man*, (discussed in detail in Chapter Three) but the position of objectification and subordination may be discursively maintained by other references – women for example are often represented as extraneous to technologies and lacking competence in their use. The United States Senate Hearing offers a good example of this kind of discursive construction.[42]

The inventor Thomas Furness elucidates the potential of VR as an accelerated learning tool by describing the ease with which his young daughters flew simulated missions in 3-D flight simulators.[43] Senator Larry Pressler from South

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[39] D. Hirst, 'Love will tear us apart' *Flash Art* Arpeto, Sydney 1993.
[40] 'Data Rape. A Tale of Torture and Terrorism On-Line' in Good Weekend Magazine, *Sydney Morning Herald* 119/2/94 pp30-38.
[41] 'US Decency Act aims to clean up sex talk on the Internet' *Canberra Times* 4/4/95 p8.
[42] New Developments in Computer Technology: Virtual Reality' op cit.
[43] ibid, p26.

Dakota, remarks that his young daughter can tune a video (VCR) but he cannot.[44] Furness responds that his wife has to set the VCR which Pressler describes as 'the most reassuring thing I have heard today".[45] Laughter accompanies this statement – the only laughter recorded in the whole proceedings. Pressler's reassurance apparently stems from his interpretation of the way Furness positions his own wife in relation to the technology. Pressler suggests; "what you are saying then, is that it almost allows a person to get back to the basics in terms of the direction or the understanding".[46] To me this reads clearly as 'so any fool can do it'. Furness does not respond.

There are also women represented in two of the five slides viewed at the hearing, but increased inclusion does not correlate to increased status with regard to the apparatus. The first slide presents a pregnant woman, clad in a bustier, flat on her back on an examining table.[47] Her face (the only face not covered by a HMD) is averted, legs apart with one knee up. A male physician is foregrounded, applying a 'portable personal visualiser' to the woman's stomach in order to observe the foetus. The woman appears relaxed; her arms lie flat, palms down on the table. She watches her baby on a 'conventional ultrasound' screen. She is evidently not in the throes of childbirth, and there is no apparent reason for her supine position and scanty attire. Various feminist scholars, as discussed in Chapter Four, have described in the past the medicalisation of childbirth as part of a patriarchal power process. This slide captures their vision well; the woman is a powerless subordinate object of the technology and the male who operates it.

The second slide[48] could be read as something of an improvement in status. A woman, described as a 'designer' is actually operating a 'virtual pointing device'. She is however doing it in the background, under the apparent supervision of a

[44] ibid, p39.
[45] ibid, p40.
[46] ibid
[47] See Appendix B.
[48] See Appendix C.

foregrounded male. The female designer looks attractive in conventional American style, with upthrust bust, long blonde hair and tight pants.

Thus, where they do appear in relation to the technologies, women are represented; verbally, as a gauge of technological stupidity, and visually; as biologically determined objects of technological mastery, or as background assistants, as subalterns[49] to the masters. Such representations can be seen to discursively maintain and legitimate a patriarchal assumption of women as subordinate and inferior to the new medium and its inventors, as much as the less opaque representation of women as electronically generated masturbatory aids, and perhaps even more so, given the highly formal and political nature of the Senate Enquiry.

To summarise here, cyberspace as communicative domain is enabled by sets of technologies that developed in a framework of corporate and military, essentially masculine, control. Women are scarce in the annals of cyberspace development and scarce in positions of electronic leadership.[50] This scarcity is one of the factors that have led many feminist theorists to argue that technology is a male culture and that cyberspace conforms in many ways to male norms which serve to obstruct the participation of women in its development and use. I should note here that other feminist theorists dispute the characterisation, particularly of cyberspace itself, as somehow intrinsically male. And there is some argument to be made that regular description of the space as male dominated to some extent contributes to the discursive construction of women as outsiders. These are matters which are taken up in Chapter Four.

A preliminary analysis of the discourses of cyberspace supports the idea that the theoretical imagination envisages the space in the light of existing social needs,

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[49] for a detailed discussion of the subaltern, see Chela Sandoval: 'New Sciences: Cyborg Feminism and the Methodology of the Oppressed' in J. Wolmark, op cit, p247.
[50] It could be ventured here that where they do proliferate is as commentators on the sociological aspects of the space.

purposes and practices. The concentration on transcendence, drugs and sex within the discourse reflects ongoing preoccupations and in Raymond William's terms, the technology is not marginal but central to these preoccupations, needs and practices.

To conclude this chapter, Valerie Frissen's observations about thematic unities in general literature on gender and new technologies provides a useful summary of concerns: women lack equal access to technology creation, design and production; technology is constructed, socially and culturally, as a male practice in male institutions; women are excluded from decision making, and technology is used as a patriarchal means of controlling women as well as nature.[51]

[51] V. Frissen, 'Trapped in electronic cages? Gender and new information technologies in the public and private domain: an overview of research' in *Media Culture and Society* 14:1 1992 pp33-35

CHAPTER 3. HOURIS AND RAZORGIRLS. WOMEN AS CYBERSUBJECTS IN SCIENCE FICTION.

3.1 Science fiction and techno-prediction.

Science fiction is the theoretical imagination writ large. For scholars of new communication technologies, it provides a rich discursive field of prediction. It is a necessary source for anyone concerned with the forecasting associated with new technologies and its overtly speculative nature does not detract from this; the discursive maintenance of broader social power is as evident in fictional texts as it is in more 'factual' reports about cyberspace. In addition it is as I have previously remarked, one of the few textual communities specifically concerned with new technologies that also creates depictions of females in relation to those technologies.

Perhaps because of its predictive function, reference to a set of SF authors and texts seems almost de rigueur in discussions of cyberspace. William Gibson's work in particular, sets the parameters of speculation with as much authority as any actual inventors, partly because there is a remarkably prescient quality to his work. For example, he was writing in 1984 about global computer networks (with direct neural feedback) – when there were only 1,000 hosts on the World Wide Web, the Joint Academic Network in the UK had just been established, moderated newsgroups had only just been introduced and Canada[1] was about to embark on the networking of its universities.[2]

[1] Gibson's country of residence since the age of nineteen.
[2] R. Zakon, 'Hobbes' Internet Timeline',
http://www.isoc.org/guest/zakon/Internet/History/HIT.html accessed May 2000

He is a standard reference in discourses on cyberspace, widely credited with coining the term and much quoted in defining the domain. Attention to his work from techno-theorists generally centres on his cyberpunk, or 'sprawl' trilogy; *Neuromancer.* (1984) *Count Zero* (1986) and *Mona Lisa Overdrive* (1988).[3] *Neuromancer,* his debut novel, gets most attention because it was here that Gibson presented the idea of a global information network (the matrix) and debuted his famous description of cyberspace:

> Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation . ... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data.[4]

Neuromancer won the Hugo, the Nebula and the Philip K Dick awards for science fiction, and has remained as Allucquere Rosanne Stone describes it, "a massive intertextual presence not only in other literary productions of the 1980s, but in technical publications, conference topics, hardware design, and scientific and technical discourses in the large."[5] 1 should add that it continues to make its textual presence felt; witness the recent release of *The Matrix,* which draws on Gibson's conceptual vocabulary not only for its title but for much of its setting and characterisation.

Stone considers that the novel crystallised a new community:

> "*Neuromancer* reached the hackers ... and it reached the technologically literate and socially disaffected who were searching for social forms that could transform the fragmented anomie that that characterised life in Silicon Valley and all electronic industrial ghettos. In a single stroke Gibson's powerful vision provided for them the imaginal public sphere and refigured discursive community that established the grounding for a new kind of social interaction.[6]

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[3] He has considerable body of work, listed in detail at http://www.slip.net/~spage/gibson/biblio.htm

[4] W. Gibson,*Neuromancer* , Ace Science Fiction, NY 1984, p51

[5] A. R. Stone, 'Will the real body please stand up?' in J. Wolmark, op cit, p80.

[6] ibid.

It is pertinent here to recall that these communities were, as has been discussed in Sections 2.2 and 2.3 comprised largely of men, and hence reasonable to assume that the crystallised community would have resonated with a male perspective on the potential uses of the new domain. Gibson's novels, as I will illustrate, do demonstrate a set of relatively simple assumptions about gender relations in for example here; that male characters are always the leaders in feats of derring-do, the goodies are heterosexual and the baddies often homosexual, the sexually active women are overwhelmingly, regardless of their sexuality, young slender and conventionally attractive. The female characters electronically mapped by his male protagonists are always so.[7] To be fair to Gibson, a close analysis of gender relations was clearly not his main intention. Nevertheless, the feminist theorist Jenny Wolmark's description of *Neuromancer* as seminal[8] is perhaps more apt than she intended.

However Wolmark is not primarily interested in Gibson's grasp of gender relationships. She is more concerned with his incontestable ability to deploy metaphors that accurately and imaginatively embody the actual experience of living in an information saturated environment. She notes that interest in and awareness of new computer mediated communication technologies had been developing rapidly up to the point that Gibson published *Neuromancer* , but there was an "..absence of any shared or even appropriate conceptual vocabulary that could ... allow the new places and spaces of information technology to be redefined to encompass difference." She also suggests that Gibson's metaphor of cyberspace (and Donna Haraway's of the cyborg, discussed in Chapter Four) offered a means of reconceptualising that experience in potentially non-hierarchical and non-binary terms.[9]

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[7] I should note here that in his latest novel, *Idoru*, Gibson has also created a number of young attractive female characters who are not sexually active and often technologically comptetent, if not innovative.

[8] J. Wolmark, *Cybersexualities* op cit p3

Whether such potential reconceptualisation is likely to be realised by dint of new technologies is another matter, discussed in Chapter One and taken up again in Chapter Four. Because this chapter is primarily concerned with the conceptualisations of women contained in the discourses of cyberspace it is also pertinent to observe here that despite his status as reference de rigueur, Gibson has attracted remarkably little sustained attention from feminist theorists to the female characters he creates, and the way he locates them in relation to new communication technologies. With some exceptions such as Nicola Nixon, feminist theorists are, it seems, often more concerned to conduct such close analysis on science fiction texts by feminist writers.[10] This next section then, examines in some detail the female characters in *Neuromancer.*

3.2 *Neuromancer*

Neuromancer is set in a technologically saturated future where the main protagonist, Case, a console 'cowboy hotshot' has fallen upon hard times.

> 'Case was twenty-four. At twenty two he'd been a cowboy, a rustler, one of the best in the Sprawl ... He'd operated on an almost permanent adrenalin high, a byproduct of youth and proficiency, jacked into a custom cyberspace deck that projected his disembodied consciousness in to the consensual hallucination that was the matrix. A thief, he'd worked for other, wealthier thieves, employers who provided the exotic software required to penetrate the tight walls of corporate systems, opening windows into rich fields of data.(p5)

He has stolen from his employers, who have responded by damaging his nervous system with a 'wartime Russian mycotoxin' which effectively destroys his console ability. The theme of deux ex machina is evident very early in the story as Gibson describes Case's reaction to this.

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[9] ibid

> For Case, who'd lived for the bodiless exultation of cyberspace. It was the Fall. In the bars he'd frequented as a cowboy hotshot, the elite stance involved a certain relaxed contempt for the flesh. The body was meat. Case fell into the prison of his own flesh.(p8)

The novel unfolds around Case's efforts to regain and keep his previous exalted status, by doing cyberspace runs into secure databases for a shadowy employer. His neural damage is repaired so that he can do so, and his loyalty ensured by toxin sacs patched onto his pancreas which his employer can activate if they choose to. For much of the novel it is not at all clear who is employed by whom, but as events transpire it becomes apparent that Case's runs are part of an attempt by two AIs, Wintermute and Neuromancer, to merge. Wintermute is described as hive mind, decision maker, effecting change in the world outside; Neuromancer as personality, and immortality. (p269)

The first woman the reader encounters is a nameless whore, 'one of Lonny Zone's' with a two octave range giggle, who Case dismisses in the novel's first scene, telling her to vanish because Zone is a close personal friend of his.

> She looked Case in the eye and made the softest possible spitting sound, her lips barely moving. But she left... From a distance the whore's giggle rang out, tinged with a certain hysteria. (p4)

The second is Linda Lee, Case's romantic interest; needy, deceitful and dispatched in short order. Case picks her up in a games arcade.

> He'd come in out of the warm rain that sizzled across the Ninsei pavement and somehow she'd been singled out for him ... he saw her glance up. Gray eyes rimmed with smudged black paintstick. Eyes of some animal pinned in the headlights of an oncoming vehicle.(p8)

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[10] For example, Zoe Sofia's discussion of Anne McCaffrey, Vonda McIntyre and Alice Sheldon in J. Wolmark op cit , p60. See also Veronica Hollinger, and Jenny Wolmark's discussions of SF literature, also in Wolmark.

Their night together stretches into morning, the rain beads on her plastic jacket, she holds his hand 'like a child'. And it takes a month for Case to watch her personality fragment and finally see 'the raw need, the hungry armature of addiction'.(p8) Their liaison is apparently already over when Case runs into Linda and she warns him that a drug supplier whose payment has been delayed wants to put 'a hole in his face'.

Gibson locates Linda in the realm of the Fall, and very much linked to the 'meat'.

> ... a tangible wave of longing hit him, lust and loneliness riding in on the wavelength of amphetamine. He remembered the smell of her skin in the overheated darkness of a coffin near the port, her fingers locked across the small of his back.
>
> All the meat, he thought, and all it wants. (p9)

She has 'new lines of pain' starting to etch themselves permanently at the corners of her mouth. She shivers and hunches, her face is filmed with sweat. Case gives her money he can ill afford, then finds out that she had been lying to him so that she could gain access to his quarters and steal his Hitachi RAM from him. She is killed soon after, apparently whilst trying to fence the equipment. Case happens to be nearby at the time. She brushes past him, 'gray eyes blind with fear' and he runs after her. Someone trips and tries to kill him but he is saved by his minder, Molly. Linda is not so fortunate.

> He found her. She was thrown down at the end of a concrete pillar, eyes closed. There was a smell of cooked meat ... One white sneaker had come off, somehow, and lay beside her head. (p38)

"Friends of your tight friend. Killed you girl for you." Molly tells him.(p39)

Linda reappears several times as a computer generated ghost. When Case has an encounter with Intrusion Countermeasures Electronics (ICE) of the Wintermute

AI and 'flatlines' he arrives in a construction of Ninsei, and finds a simstim ghost of Linda Lee. She is pleased to see him and invites him back to her place.

> She was playing Wizard's Castle, lost in it, her gray eyes rimmed with smudged black paint stick.
>
> She looked up as he put his arm around her, smiled. "Hey, how you doin'? Look wet. We'll get you a coffee and something to eat. Take you home. It's good to see you man." She squeezed his hand.
>
> He smiled.
>
> Something cracked... She was gone. The weight of memory came down, an entire body of knowledge driven into his head like a microsoft into a socket. Gone. He smelled burning meat. (p i 17)

Later still, an agent of the AI, Wintermute, tells Case "...quit kidding yourself. I know your Linda, man. I know all the Lindas. Lindas are a generic product in my line of work. Know why she decided to rip you off? Love. So you'd give a shit. Love? Wanna talk love? She loved you. I know that. For the little she was worth, she loved you. You couldn't handle it. She's dead." (p144)

During another flatline episode towards the end of the novel, Case finds Linda Lee again, in a virtual reality, a beach, created by Neuromancer. He realises that she isn't real, and curses the AI. "Mean motherfucker...Don't take a chance do you? Wouldn't give me any junkie huh?...Now you got me flatlined, you got me here. Nowhere. With a ghost..."(p236)

Nevertheless they are reconciled, she apologises for stealing his RAM, says it was "just the shit" and "I just needed the money". She explains that she took the RAM to another male friend to access it for her, a series of graphic images of her childhood appeared on the monitor and that the next thing she was aware of was the beach. Eros has returned via the machine, but even as a complete computer construct, Linda is still a creature of the flesh.

> ...it no longer mattered, what he knew, tasting the salt of her mouth where tears had dried ... It was a place he'd known before ... It belonged, he knew – he remembered – as she pulled him down, to the meat, the flesh the cowboys mocked. It was a vast thing, beyond knowing, a sea of information coded in spiral and pheromone, infinite intricacy that only the body, in its strong blind way, could ever read... Here, even here, in a place he knew for what it was, a coded model of some stranger's memory, the drive held. (pp239-240)

Linda is firmly placed as irrational and technologically incompetent. Her interest in Case's Hitachi RAM is only to sell it and she needs the help of a male companion in order to access it. Although she is serially reconstructed in cyberspace after her physical demise, there is no element of personal agency suggested; she is merely a creature of the AIs. Unlike Case, she shows no interest in how the virtual environment in which she finally exists has been constructed, nor in how she came to be there.

Molly is the major female character, first introduced when Case becomes aware that he is being shadowed by someone, with 'dark hair, mirrored glasses, dark clothing, slender...'(pi4). Molly is distinguished by surgically inset silver lenses which allow night vision and increased peripheral vision, retractable scalpel blades under her fingernails, and a hardboiled verbal style. She is waiting for Case when he returns to his quarters to find that Linda has robbed him.

> "Molly, Case. My name's Molly. I'm collecting you for the man I work for. Just wants to talk is all. Nobody wants to hurt you."
>
> "That's good."
>
> '"Cept I do hurt people sometimes, Case. I guess it's just the way I'm wired." She wore tight black gloveleather jeans and a bulky black jacket cut from some matte fabric that seemed to absorb light. "If I put this dartgun away, will you be easy Case? You look like you like to take stupid chances."
>
> "Hey, I'm very easy. I'm a pushover, no problem."

> "That's fine, man." The fletcher vanished into the black jacket. "Because you try to fuck around with me, you'll be taking one of the stupidest chances of your whole life."
>
> She held out her hands, palms up, the white fingers slightly spread, and with a barely audible click, ten double-edged, four-centimetre scalpel blades slid from their housings beneath the burgundy nails.
>
> She smiled. The blades slowly withdrew.(p25)

Molly has been hired by Case's new employers as minder for Case. She is 'street samurai' (p30) and 'Steppin' Razor' (p109). As she puts it to Case, "Anybody good at what they do, that's what they *are*, right? You gotta jack, I gotta tussle." (p50) As minder, she comforts, cajoles and physically protects the hero. She makes him drink his coffee (p27) brings eggs and orange juice (p44) even buys him a souvenir to commemorate his re-entry to cyberspace (pp44-45). She very early demonstrates allegiance to Case rather than to her employer (p88), and when she has sex with him it is not descent to the meat, as it was with Linda Lee, but ascent to the matrix:

> As she began to lower herself, the images came pulsing back, the faces, fragments of neon arriving and receding. She slid down around him and his back arched convulsively. She rode him that way, impaling herself, slipping down on him again and again, until they had both come, his orgasm flaring in a timeless space, a vastness like the matrix, where the faces were shredded and blown away down hurricane corridors, and her inner thighs were strong and wet against his hips. (p33)

Throughout the novel she demonstrates extraordinary self confidence and physical stamina, and kills a variety of foes with dispassionate ease. When she is warned by an Armenian affiliate, Terzibashjian, that in Turkey there is disapproval of women who sport modifications such as hers she tells him "It's my show Jack" then threatens him with her fletcher "Maybe you get the explosives, lots of them, or maybe you get a cancer. One dart shitface. You won't feel it for months." (p90) When he later gets in her way she tells him "You're an asshole.

You shoulda hung back, I had him in my sights as soon as he stepped out. So we're through with you anyway. Run into you again and I'll kill you." (p94)

This however is not a great departure from her usual conversational style. She appears to be really moved by only two characters; Case, who reminds her of her dead lover, (pi77) and another co-opted colleague, Peter Riviera. The reason for Riviera's recruitment is not clarified, but Molly's feelings about his unsavoury nature are clear..

> She spat into the pond. "God knows. I'd as soon kill him as look at him. I saw his profile. He's a kind of compulsive Judas. Can't get off sexually unless he knows he's betraying the object of desire. .. And they have to love him first ... he's been here for three years, shopping politicals to the secret police. Probably Terzi let him watch, when the cattle prods came out. He's done eighteen in three years. All women age twenty to twenty-five. .. The profile said it was a very rare type... Which anyway says something good about human nature, I guess." She stared at the white flowers and sluggish fish, her face sour. "I think I'm going to have to buy myself some special insurance on that Peter." Then she turned and smiled, and it was very cold.(p96)

Riviera incurs further enmity when he creates a holographic display of Molly as a 'dreaming real' performance in a Freeside restaurant and couples with her image. At the finale, the image rakes its scalpel blades down Riviera's back, exposing the spine, and Molly retreats because she wants to kill him. She tells Case that the performance upset her because she got the funds for her various enhancements by working as a 'meat puppet' a sex worker with an implanted cut out chip. "Renting the goods, is all. You aren't in, when it's all happening. House has software for whatever the customer wants to pay for..."(p147) She tells Case that her augmentative surgery eventually interfered with the cut out chip function and she 'came up' to discover that she was functioning in a piece of custom 'snuff' hardware.

> "I was into this routine with a customer..." She dug her fingers deep in the foam. "Senator, he was. Knew his fat face right away. We were both covered with blood. We weren't alone. She was all..." She tugged at the

> temperfoam. "Dead. And that fat prick, he was saying, 'What's wrong. What's wrong?' 'Cause we weren't *finished* yet..."
>
> She began to shake.
>
> "So I guess I gave the Senator what he really wanted, you know?... So Riviera hit a nerve last night.(pp148-149)

In the final stages of the novel she gets her revenge on Riviera by lacing his drugs with poison. Case she leaves, explaining in a note.

> HEY, IT'S OKAY BUT ITS TAKING THE EDGE OFF MY GAME, I PAID THE BILL ALREADY. ITS THE WAY IM WIRED I GUESS, WATCH YOUR ASS OK? XXX MOLLY (p267)

Despite her physical prowess Molly fails in the final stages of the confrontation with the AIs . As Gibson writes it,

> She missed it by a fraction. She nearly cut it, but not quite. She went in just right, Case thought. The right attitude; it was something he could sense, something he could have seen in the posture of another cowboy leaning into a deck...
>
> It was performance. It was like the culmination of a lifetime's observation of martial arts tapes, cheap ones, the kind Case had grown up on. For a few seconds, he knew, she was every bad ass hero, Sony Mao in the old Shaw videos, Mickey Chiba, the whole lineage back to Lee and Eastwood. She was walking it the way she talked it. (p214)

In a scene reminiscent of so many heroines who sprain their ankle at just the wrong moment, an old leg injury renders her vulnerable and she is captured. Case and a male Rastafarian ally have to retrieve her in order to finish their business with the AIs. As one Wintermute's constructs puts it, "Molly's leg's falling off...How it was supposed to go down, she'd walk in, get Peter out of the way, talk the magic word outa 3Jane, get up to the head, and say it. Now she's blown it. So I want you two to go in after her." (p216)

Molly is drawn as a rational, and somewhat technologically competent character. Aside from her surgical enhancements, the scalpels and mirror shades, she is fitted at various stages with a broadcast rig so that Case can 'access her sensorium' while he operates in cyberspace and she in 'real' space.(p53) But she is no console cowboy. Case remains the undisputed maestro of cyberspace; indeed, all the characters who operate in that space with facility are male.

The 3Jane who Molly is supposed to talk the magic word from, is Lady 3Jane Marie-France Tessier-Ashpool. Her family is, according to one of Case's informants, "a very quiet, very eccentric, first-generation, high orbit family, run like a corporation. Big money, very shy of media. Lot of cloning...with their own cryogenic setup – no body's seen the founding father in about thirty years. Founding momma, she dies in some lab accident (pp75-76). 3Jane first appears in Freeside, at Riviera's performance of the Molly image. She is the only member of the family currently awake in the Villa Straylight, the high orbital palace that is the family's seat.

> The girl's face appeared as abruptly as one of Riviera's projections, her small hands on the polished wood of the balustrade; she leaned forward, face rapt, it seemed to him, her dark eyes intent on something beyond. The stage. It was a striking face, but not beautiful. Triangular, the cheekbones high yet strangely fragile looking, mouth wide and firm, balanced oddly by a narrow, avian nose with flaring nostrils. And then she was gone, back into private laughter and the dance of the candles. (p142)

3Jane is so impressed by Riviera's performance that she invites him to the Villa, and this is where Molly 'misses by a fraction' and is held captive by 3Jane and Riviera. While Riviera is one dimensionally awful, 3Jane is rather more complex; a "strange little creature" as the Finn describes her.(p230) She instructs her staff to give Molly painkillers, comments on how striking she is, and asks whether the inset lenses are a fashion. When Riviera smashes one of Molly's insets, 3Jane tells him that she is very unhappy with this and that it isn't 'fun' but that now they might be able to see what colour her eyes are.(p221) She thinks it would be

fun to nurse Molly, and to play with her, her fingers brush the skin above the waistband of Molly's leather jeans. In the course of their conversation she tells Molly how she effectively murdered her father, by manipulating his cryogenics program with the help of Wintermute.

> "His suicide was the result of my having manipulated the safety margins of his freeze. I'd never actually met him, you know. I was decanted after he last went down to sleep. But I did know him *very* well. The cores know everything. I watched him kill my mother. I'll show you that, when you're better. He strangles her in bed.
>
> "Why did he kill her?" Her unbandaged eye focused on the girl.
>
> "He couldn't accept the direction she intended for our family. She commissioned the construction of our artificial intelligences. She was quite a visionary. She imagined us in a symbiotic relationship with the AIs, our corporate decisions made for us. Our conscious decisions I should say. Tessier-Ashpool would be immortal, a hive, each of us units of a larger entity...with her death, her direction was lost. All direction was lost, and we began to burrow into ourselves. Now we seldom come out. I'm the exception there." (pp 228-229)

3Jane has the code word that needs to be spoken to a particular computer terminal to merge the two AIs, and Molly eventually tries to choke it out of her. Case flips into Molly's sensorium, into her "tension, her back like rock, her hands around 3Jane's throat. " 3Jane's eyes are wide with terror and lust, she shivers with fear and longing, but she will not give the code word until Case intervenes.

"Give us the fucking code ... If you don't what'll ever fucking change for you?" he exhorts, and 3Jane is evidently persuaded by this.

> "The Ducal Palace at Mantua...contains a series of increasingly smaller rooms. They twine around the grand apartments, beyond beautifully carved doorframes one stoops to enter. They housed the court dwarfs." She smiled wanly. "I might aspire to that, I suppose, but in a sense my family has already accomplished a grander version of the same scheme. Her eyes were calm now, distant. Then she gazed down at Case. "Take your word, thief." (p261)

3Jane has perhaps the most controlling relationship with technology of any of the living female characters in *Neuromancer*. She talks to the AI, Wintermute, and she is aware that there is another AI, she is able to manipulate programs, at least with the help of Wintermute, and she holds the code word that will allow the AIs to merge. But this control appears to rest not so much on her own innovation or skill as it does on her privileged position as daughter of a wealthy, degenerate family, and in particular, as daughter of Marie France. Marie-France, it is clear, was a competent and innovative programmer and cyberspace operative, but she is dead. It is interesting to note that in a novel where dead people such as Linda Lee and Dixie Flatline continue to exist in cyberspace, Marie-France does not. The only truly technologically adept female in the whole cast of characters is silent.

There are a number of other female characters in *Neuromancer*; mostly written in as background colour. Shortly after his encounter with the nameless whore, Case buys a gun from a very old Japanese woman. At one stage he passes "... a trio of young office techs who wore idealized holographic vaginas on their wrists, wet pink glittering under the harsh lighting." They lick their perfect lips nervously, and look like "tall, exotic grazing animals, swaying gracefully and unconsciously with the movement of the train, their high heels like polished hooves against the gray metal of the car's floor." (p77) He buys drugs from a woman called Cath in Freeside, and when he refuses her sexual advances she abuses him (p155).

One minor female character, a Turing Registry agent sent with two male colleagues to arrest Case, provides a homily on the dangers of AIs, then demonstrates a lack of technological understanding that contributes directly to her death.

> "You are worse than a fool," Michele said, getting to her feet, the pistol in her hand. "You have no care for your species. For thousands of years men dreamed of pacts with demons. Only now are such things possible. And what would you be paid with? What would your price be, for aiding this thing to free itself and grow?" There was a knowing weariness in her voice that no nineteen-year-old could have mustered. "You will dress

> now. You will come with us... you will return with us to Geneva and give testimony in the trial of this intelligence. Otherwise we will kill you. Now." She raised the pistol, a smooth black Walther with a silencer.(p163)

On the next page, all three agents are killed, by the power of Wintermute, before they can take Case away from Freelight.

> They were a little over a quarter of the way across when the microlight struck, its electric engine silent until the carbon fiber prop chopped away the top of Pierre's skull.
>
> They were in the thing's shadow for an instant; Case felt the hot blood spray across the back of his neck, and then someone tripped him. He rolled, seeing Michele on her back, knees up, aiming the Walther with both hands. *That's a waste of effort*, he thought, with the strange lucidity of shock. He saw the fragile biplane strike the iron railing of the bridge, crumple, cartwheel, sweeping the girl with it down into Desiderata.(p164)

Michele is thus brought quickly undone by Case's 'pact with demons' but also because although as an agent she has presumably had some training, she does not know how to deal with the microlight, the demon's agent. She meddles with technology and is destroyed by it. Michele, I should add is, in common with all Gibson's major female characters in *Neuromancer*, young, slender and attractive.

As I have mentioned previously, *Neuromancer* was Gibson's first published novel. He writes in an action adventure style which does not necessarily encourage the development of complex characters, and cannot be reasonably criticised for failing to explore the complexities of gender relations in regard to new technologies. Indeed his Molly character could well be seen as an advance on previous depictions of women in relation to new technologies, and to represent liberal feminist aspirations of the 1980s to play the boy's games on equal terms. The undeveloped character of Marie-France could also be seen an advance, in that masculine as the AIs may be, they were nevertheless configured by a woman.

The feminist theorist Nicola Nixon offers some intriguing views on Gibson's trilogy in general and on the notion of cyberspace as gendered space. She dismisses the claims of the many critics who describe Gibson's work as countercultural or revolutionary, instead positioning cyberpunk in general and Gibson's work in particular, in a framework of American xenophobia and isolationism. She describes a number of political trends which surfaced in the 1980s: the rise of the moral majority to unprecedented heights, the revocation of many of the feminist advances of the '70s, and the curtailing of most forms of social assistance; which rearticulated an ideal of the nuclear family and the simple rural life.[11]

Nixon argues that Gibson's male heroes uncritically rearticulate a paradigmatic American heroism in a relentlessly capitalist future where they are entirely part of the corporate system and profit by their mastery within it "regardless of their ostensible marginalisation and their posturings about constituting some form of counterculture."[12] I should add that it is not just the male heroes. Molly is most certainly seeking capital, she too is paradigmatically heroic, even if she does at crucial times, need to be rescued by the male heroes.

Somewhat more problematically Nixon conceptualises cyberpunk depictions of cyberspace as a feminine space. She points out that the console cowboy heroes of cyberpunk may 'jack in' but they are in constant danger of hitting intrusion countermeasure electronics (ICE) which Nixon describes as a sort of metaphoric hymeneal membrane "which can kill them if they don't successfully 'eat through it' ... in order to 'penetrate' various data systems."[13]

She also maintains that not only the data constructs are feminised; so too are the interspatial zones in the matrix. Nixon draws this analogy because, she argues,

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[11] N. Nixon, 'Cyberpunk: Preparing the Ground for Revolution or Keeping the Boys Satisfied?' in J Wolmark, op cit, p199.
[12] ibid p203.
[13] ibid p198.

any (masculine) scientific and technological purity the computer matrix may once have had has been violated: virus software programs have infected the matrix, and developed a generational life of their own, configured by various female constructs such as 3Jane in *Neuromancer* . Even the quasi masculine AIs in *Neuromancer* who eventually fuse and spread into the matrix do so Nixon notes, because Marie-France Tessier, matriarch of the Tessier-Ashpool clan had configured them to do so.[14]

Furthermore Nixon asserts, just as the matrix itself is feminised, so are the means of entering it, because in *Count Zero*, (the second book in the sprawl trilogy) certain women such as the voodoo priestess, Jackie, function as metaphorical cyberspace decks, and the character Angie Mitchell, who figures in *Mona Lisa Overdrive* (the third book) can "dream cyberspace, as though the neon gridlines of the matrix waited for her behind her eyelids."[15]

On this evidence, Nixon asserts that the (feminine) matrix is "effectively the 'soft' ware, the fantasy (and world) that exists beyond the 'hard' ware of the actual technological achievements realised in the silicone chip."[16]

This imaginative argument illustrates one of the dilemmas of discourse analysis such as this. That is, although I find Nixon's analysis engaging and useful, I have interpreted many of these points in a different way. My reading of 3Jane for example, indicates that she is a clone. There are data constructs aplenty in *Neuromancer*, but 3Jane is not one of them. Post demise, Linda Lee is, but although it may be possible to describe her as some kind of virus software program infecting the matrix, she gives no sign of having developed any generational life of her own. She is instead, generated by others. I must also quibble that cyberspace decks are mere channels to the matrix. In Nixon's terms, they are 'hardware' akin to the silicone chip. They are not in themselves

[14] ibid, p199.
[15] ibid p201.

powerful; it is the cowboys, the programmers, and the AIs in cyberspace who hold that power. The metaphor of ICE as hymeneal membrane could be as easily extended to a fence, a wall, indeed any perimeter that must be penetrated to gain access to a space within. Thus we could say that a prison wall is hymeneal and the space within is therefore feminine and the door to the compound a metaphorical vagina. There is, one could argue, an element of vagina dentata contained in the metaphor but I am not aware of hymens that can kill, nor of hymens that must be 'eaten through'.

Nor am I sure that imaginative metaphorical reconceptualisations of cyberspace as feminine are of any more use than relentless characterisations of technology as male culture. However Nixon's analysis is useful. For one thing, it highlights the somewhat nebulous and contestable nature of current conceptions of cyberspace; a nebulous nature which makes understanding cyberspace more likely to be mediated through discourse; thus illustrating Foucault's proposition (discussed in Chapter One) that the history of a concept is that of its various fields of constitution and validity. For another, the points of difference between Nixon's reading and my own demonstrate that Gibson's work has sufficient complexity and depth to allow a variety of readings. In Buckingham's terms, the reader has some autonomy, within the constraints of Gibson's text, to develop new understandings. Filmic representations of women in cyberspace are in general much less amenable to this; encoding a dominant framework of conventionally patriarchal gender relations, as I will demonstrate in the following section.

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[16] ibid p199.

3.3 Science fiction film

The Lawnmower Man (1992)

There are three women in *The Lawnmower Man.* One leaves, one is destroyed and one gets the hero. In the film the hero, Dr Larry Angelo, seeks to bring the human being up to the next stage of evolution via a combination of 'mutropic' drugs and immersive computer human interfaces. He conducts his research under the auspices of a sinister but unspecified military interest; the 'Virtual Space Program'. Director Brett Leonard's vision of the apparatus is fully immersive. To enter cyberspace the characters don head mounted displays (HMDs) and full body cybersuits which 'tap into the endocrine system to stimulate the pituary, adrenal and thyroid glands so they work in sync with the audiovisual simulation.'

The female characters are largely incidental to the plot. Angelo's partner Caroline, expresses jealousy (because Angelo spends too much time on his work) and overt hostility to the technology. 'Flying, falling, floating!' she snorts, 'What's next, fucking?'. She departs the scene soon after, telling him as she leaves, that 'this technology might be the future to you, but it's the same old shit to me.' (Caroline's view has some credence.) She is thus discursively positioned as an outsider to the technology, through her expressed hostility and abrupt exit. I should note here that she is a slender young brunette.

Sexual interest appears to be the function of the next female character, Marnie Burke. She is a slender young blonde, who 'ever since her old man died [has been] kicking up her heels with every stud in town'. Marnie is presented in short tight low cut dresses, scanty lingerie, or nothing at all. She makes one appearance in a cybersuit, in the scene of her undoing. She seduces Jobe soon after his intelligence quota begins to rise, and instructs him enthusiastically in carnal pleasure. Marnie speaks in a breathy little voice, is always sexually amenable and bears a distinct resemblance to the houris mentioned earlier. She is not, however,

electronically generated, until Jobe decides to remap her in cyberspace and have sex with her there.

Her initial pleasure turns to alarm when Jobe mires her in sticky stuff 'from our primal mind' and manifests as a devouring many branched monster. He ignores her pleas to stop, until the computer announces 'Brain pattern abnormal. System shutdown.' He expresses remorse (I'm sorry, I couldn't stop') as he removes her HMD and discovers that the experience has sent her blank staring mad. Soon after, Jobe develops a supernatural ability to read and influence other people's minds, but it apparently doesn't occur to him to fix Marnie. In the last shot of the character, she lies on her back on her bed, laughing and twittering incoherently. She still wears the blank mad stare, but is clad once more in brief lingerie. The final reference to her in the film is a comment that 'Marnie Burke was found wandering around the street stark naked laughing her ass off.'

Mamie's relation to VR is clearly that of a victim; her sole encounter with the machine destroys her. Her fate seems somewhat inconsistent. Jobe destroys a variety of characters but they are all hostile to him, whereas Marnie is not. It may well be that she is simply expendable, or that as a promiscuous woman, trespassing in the male technological domain, she deserves her destruction.

The third female character, Carla Parkette, is the one who gets the man. She is a notably passive and incompetent character; submitting meekly to her husband's violence against both herself and Peter, and falling asleep in a car as the film reaches climax and her son is in great danger. This last action allows the opportunity for Angelo to rescue Peter and Carla to fling herself gratefully into Angelo's open arms. As the film closes, Carla, Peter and Angelo depart as a trio into figurative sunset. Carla has no relationship at all to the technology which is such a central feature of the film. She expresses no opinion of and has no interaction with any apparatus. She too is discursively positioned as an outsider to

the technology, through her complete disinterest and lack of interaction. I should note here that she is young, slender and blonde, but modestly dressed.

In sum, the women are hostile or indifferent to the technology, or in Mamie's case, hapless victims of it. None display any trace of technical expertise – the technology is presented as a singularly male domain, and in this sense they are all excluded. They are relevant only as consorts of the male experts; as sexual playmate, as past or potential partner. All are young, slender and physically attractive. Mamie Bourke is the quintessential houri in cyberspace.

Kathleen Woodward offers a brief critique of *The Lawnmower man* focussing on Jobe, and suggesting that what Freud referred to as a 'prosthetic God' is figured in *The Lawnmower Man* in terms of overpowering evil. "We are given to understand that the mind of Joe[sic] is now omnipresent, permutated around the globe, that he will exert dictatorial control through telecommunications technology."[17] Deus ex machina, as I have said. Unfortunately she refers to him as Joe, which somewhat detracts from the perceived credibility of her analysis. I would quibble that Jobe only kills baddies, that he still shows affection for the young Peter because at one stage he frees Angelo so that he can rescue the boy, and he allows the new nuclear blended family to depart in peace. Overpowering, probably; evil, perhaps in parts; but male, most definitely.

Wild Palms (1993)

Wild Palms was first screened as a television mini-series in 1993, then released on video in the same year. It was written and co-produced (with Oliver Stone) by Bruce Wagner.[18]

[17] K. Woodward, 'Virtual Cyborgs to Biological Time Bombs' in J. Wolmark, op cit p284.
[18] The Internet Movie Database, http://us.imdb.com/

The treatment of cyberspace is rather more complex than Leonard's version in *The Lawnmower Man*, and incorporates different apparatus. HMDs are worn as simple glasses, cybersuits and cables to the computer are absent, and holographic images are a major feature. Their featured application is as a putative entertainment medium with a sub agenda of mind control. In common with *The Lawnmower Man*, the cyberspace technologies are pharmaceutically augmented, in this case by a drug called mimozine, for maximum effect.

The plot is as follows. Harry Wykoff, a patents attorney, is enticed by an old flame, Paige Catz, to work for one Senator Tony Creighton, a powerful media magnate and politician. Creighton is an arch villain; head of a sinister organisation called the 'Fathers' who are in conflict with another group, the 'Friends', apparently over the hearts and minds of the American populace. Like Jobe, Creighton aspires to be a fully electronic entity, to gain immortality and ultimate power by merging with the computer network. To do this, he must obtain and be implanted with a nano chip held by some rivals in Japan.

Creighton's interest in Harry Wykoff is appropriately sinister. As the plot unfolds, Harry's wife Grace is revealed as the daughter of Eli Levitt, a founder of the Friends, who has been confined for many years in an asylum for the insane. Harry and Graces's son Coty is not their child – he is the son of Creighton and Page. The children were switched at birth and the true son has been raised in secret by the Friends. Grace's mother Josie Ito, is Creighton's sister and a major power in the Fathers. Harry himself is eventually revealed to be Creighton's son. Much of the film is devoted to revealing this labyrinthine deception against a backdrop of murder (including those of Grace, Eli and Josie) and general mayhem.

Eventually Creighton is thwarted. The nano chip is obtained and implanted, but has been tampered with by Peter, Harry's real son. Creighton disintegrates, the

power of the Fathers is broken and Harry Page and Peter drive off into a literal sunset.

There are a great many characters, including William Gibson, who makes a cameo appearance as himself. The range of female characters is broader than that of *The Lawnmower Man* and they are considerably more necessary to the plot, but their relationship to cyberspace technologies has only marginally more depth. In general they are represented as extraneous to the technologies and I will review here only those who are at some stage presented in juxtaposition to the technologies.

There is Grace Wykoff, young, pretty, slender, and the utter victim in this tale. When she begins to doubt that Coty is her real son, and to suspect that Harry is involved with Page, she becomes alcohol dependent and attempts suicide. Towards the end of the film she is lured to her death by a holographic image of her kidnapped infant daughter Deidre. In 'reality' Deidre is mute, but her holographic image continually pleads "Mommy, why won't you come?" Grace knows it's a holograph but she follows anyway, into the clutches of her own mother Josie, who promptly murders her. Grace's juxtaposition with the technology thus results in her own demise. Woman as the victim once again.

Josie Ito on the other hand, is evil manifest. In one scene she gouges out a pinioned rival's eyes. In another she has her ex husband Eli Levitt drowned, in another she strangles her daughter Grace, cursing her for a 'weak dog' as she does so. Josie is at least a departure from the standard representations described thus far. She is older, a grandmother, but inclined to regular facelifts and still in conventional terms 'attractive'. She is presents as powerful woman, but the source of her power is her brother Tony Creighton and on his downfall she is killed. As she faces her death she pleads "don't kill me ... tell me what you want. I can give you things with new technology, beyond seeing." Josie thus appears

powerful in relation to cyberspace technology, but in terms of ownership rather than expertise.

Several female characters; Deidre, Grace, Josie and an actress called Tabba Schwartz, are at various stages presented as holographic images. In this regard they are juxtaposed to the technology, but it should be noted that there is no power or expertise associated with these representations. As with Linda Lee in *Neuromancer*, there is no element of personal agency suggested; the women are objects of the technology much as a photographic subject is object of the camera's gaze.

In sum, the women in *Wild Palms* are largely extraneous to technology. All the characters who display expertise are male; as in *The Lawnmower Man* the technology is presented as a singularly male domain. The single exception is the evil Josie Ito, but even her technological clout is one of association with a powerful male, rather than personal expertise.

Ghost in The Machine (1993)

This SF horror movie concerns the attempts of a serial killer to claim as his next victims the heroine Terry, a single mother, and her young teenage son Josh. The killer, Karl, works as a technician in a computer shop and obtains their address when Terry allows a salesman in the shop to use her address book to demonstrate a hand held scanner. That night Karl is driving to Terry's house with murder in mind when he crashes his car during a storm, is taken to a hospital and dies during a brain scan. At the same time the storm causes a power surge and Karl is remapped in cyberspace although he is physically dead. As with Jobe in *The Lawnmower Man* Karl becomes technologically omnipresent, permutated around the globe and able to exercise control through the electrical grid and computer networks. Unlike Jobe however, Karl is indeed completely evil. He demonstrates

this when he kills his ex boss by boiling him with microwaves, and attempts to kill young Josh by trapping him under a swimming pool cover.

The heroine Terry, displays a predictable lack of interest in computer technology. In the first scene in which she appears, in the computer shop where Karl gains access to her address book, she comments to the shop assistant "I work around computers all day, but I'll never understand them". It is her son Josh, who displays technological know how, engaging with the killer in a VR game, and through an e-mail system. He also advises his mother, who is having trouble with a computer disc to never put computer discs near a magnet.

The male lead, a computer expert called Bram is told by Terry "I hate computers" She then expresses a level of technophobia "You give us ticketron and bank machines, but then we get some sort of big brother who keeps a record every time we sneeze". It is Bram, described by Josh as "the biggest toughest hacker alive" who works out how Karl got into the network, and who gives useful advice about unplugging all electrical equipment so Karl cannot come in through the electrical grid. Terry does display an idiot savant sensibility when Bram is explaining to her how Karl got into the datanet. "Why can't we just delete him" she asks and is told by Josh that when you delete something it doesn't go away. She then suggests using magnets, an idea taken up with gusto by Bram and Josh.

The trio journey to a handy particle accelerator, with the idea that if they can shoot or attract Karl into it, they'll be able to "blow him into a million bits of data". The technicalities of this process are explained by Bram. Karl however, materialises and shuts down the system, forcing Bram to rewire it. While Bram is doing this, Karl chases Terry, and Josh is sent to look after her. In a fairly confusing denouement, Karl continues to materialise and dematerialise, overload magnetic fields and attack Terry Josh and Bram at various times, while Bram and Josh both try whilst not being attacked, to fix the accelerator so that it will literally, blow Karl away. Terry resorts to an older technology, shooting the

computer construct and when that doesn't work, shooting the computer. Her efforts are to no avail, but the day is saved in the end by Bram's superior technological knowledge, manifest in his finally hitting a particular switch that disintegrates Karl.

In the final scene, Bram is propped up in a hospital bed, wired to a monitor, while Terry soothes his brow. "Do me a favour Terry" he says, "turn off that damn machine." Overall the movie expresses considerable technoanxiety and once again, computer expertise is represented as a peculiarly male quality.

Hard Drive (1994)

This movie does not require lengthy description. It is included here because it depicts a woman actually using computer mediated communication for what appears at first to be her own (evil) purpose. *Hard Drive* revolves around the misadventures of a disaffected and alienated young man, Will Donovan, who spends, according to his wife, far too much time on the computer. In the opening scenes, Will meets a woman called Delilah in a computer chat room. Eros ex machina is soon rampant as the pair engage in textual cybersex. Delilah would like Will to "explore every inch of her body" and the movie diverts to a number of Will's sexual fantasies, such as being made to act as a naked table by a dominatrix. Delilah then expresses a wish for a real time sexual fantasy encounter. She persuades Will to break into her house, rape and then shoot her. She assures him that it will be pretence – the gun will be loaded with blanks and she will of course enjoy being raped, but Will hesitates. "I can't" he tells her and she responds, "I didn't think so, I didn't think you were man enough."

Thus goaded Will goes through with the fantasy, and becomes the victim of an elaborate hoax which has been orchestrated by his wife, her lover, and the Delilah character. The technology theme is soon abandoned. Will could well have been drawn into the hoax by some other means, but the initial chat room encounters

depict cyberspace as a perilous place where young men can be lured by unsavoury sirens down dangerous paths.

Because the technological aspect is rather extraneous, it is not surprising that technical expertise is not an issue, or a characteristic of any of the characters. Nevertheless it is Will who is presented as most involved with computer mediated communication. Aside from her initial solicitation of Will, Delilah does not engage with any computer technology and nor do any of the other female characters. I should add that in the denouement it transpires that Delilah has been manipulated by a man. The evil ends to which she has used the technology are not in fact, her own.

The Matrix (1999)

There are a considerable number of female characters in *The Matrix*, although only a few have major roles. One of them has a close relationship to the depicted apparatus and is quite central to the action. The story is a basic quest narrative. A group of humans in a close future blasted by artificial intelligences (AIs) seek The One who can lead them to victory against the machines. The hero Neo is indeed the one, but he must seek the knowledge of that during the film. Initially only one character, Morpheus, is sure about Neo. The characters jack into cyberspace via large plugs conveniently inserted in the bases of their skulls. The premise of the plot is that humanity has been trapped by the machines inside a false reality; that the material reality in which they think they live is nought but a computer construct controlled by agents of the AIs. Given the interest of postmodern theorists in collapsed categories and boundaries, I predict that the movie will soon attract their active attention.

The female lead is Trinity, a young woman who appears to be second in command to Morpheus, the guerrilla leader. Trinity displays considerable

technological expertise. In her first scene she kills five police officers with the aid of what appear to be razor implants under her fingernails, superhuman kung fu skills and a variety of large guns. Neo is impressed by her technological knowledge: "*The* Trinity? The one that cracked the IRS base? I thought you were a guy." "Most guys" do she tells him. Trinity can swear and she rides a motorcycle. Neo is literally bugged by the agents, but it is Trinity who operates the mechanical device which extracts the bug. It is Trinity who inserts the neural feedback plugs which are apparently necessary for Neo to experience the matrix for himself. She consistently explains things to Neo, helps him with his coat, brings him food on a tray and jacks into cyberspace with him when he goes to meet The Oracle. Their party is trapped in there, Morpheus is captured by AI agents and all their physical bodies are at the mercy of the traitor Cypher, who fondles Trinity's (material) breast as he expresses regret that things have to be the way they are. From cyberspace she tries to dissuade him, but he kills their two companions, Apoc and Switch, before he too is killed, and Trinity and Neo conveniently rescued, by their comrade Tank.

When Neo must return to cyberspace to rescue Morpheus Trinity insists on going too. "I believe Morpheus means more to me than he does to you" she tells him. "I believe if you're serious about saving him you're going to need my help. And since I am the ranking officer on this ship, if you don't like it I believe you can go to hell, because you aren't going anywhere else." This display of authority and devotion gets her what she wants.

In a series of lovingly choreographed action scenes, Trinity and Neo rescue Morpheus. They are dressed for the fray in matching trench coats and boots, although Trinity's boots have a fetching heel and her coat a higher sheen than Neo's. Both employ a great deal of fire power, although Trinity is not festooned with guns as Neo is. She saves Neo at one stage on the roof of a building and the camera lingers on her silhouette as she points her gun in the air, legs spread, tight leather garb hugging every curve of her frame. By this point she has shed her coat

to reveal a leather singlet with plunging neckline. Trinity pilots the helicopter they use to escape and the camera returns several times to a shot of her finely muscled forearm, hand in leather glove, as she controls the craft.

Neo must stay in cyberspace to confront the evil agents. Trinity fusses over his material body in the guerrilla ship. He is defeated and appears to die, because he has still not come to realise that he is The One. Trinity saves him, and thus humanity, by the power of love. "Neo" she tells him " the Oracle told me I would fall in love and that man would be The One, so you see you can't be dead because I love you. You hear me? I love you". She kisses him and Neo miraculously returns to life and defeats the agents.

Trinity is leggy, buxom, young and wears her dark hair in a fetching crop. In the guerrilla ship she wears baggy, nondescript post-holocaust attire. In cyberspace she dress in tight black leather.

Another warrior woman, Switch, is a minor character. She is handy with a gun, but apart from jacking into cyberspace to fight beside the others shows no particular relationship with the technology. She is young, blonde cropped, and wears white leather in cyberspace. She is killed by the traitor Cypher.

The Oracle is a major departure from the cyberwoman norm. She is quite old, a woman of colour, who chainsmokes, bakes biscuits and wears matronly attire. She is described as a guide who can help Neo 'find the path' and her age and colour serve to emphasise her enigmatic quality. She gives Neo cryptic advice and tells him that being The One is just like being in love. "No one can tell you you're in love, you just know it. Through and through, balls to bones. " Despite the female speaker, once again the male terms of reference are clear.

Other female characters are generally backgrounded in crowd scenes. One deserves mention; a nameless very curvaceous blonde in a tight red dress who is a

computer construct put together by Mouse, the nerdiest of the guerillas. "She doesn't talk very much" Mouse tells Neo, "but if you'd like to meet her ... I can arrange something much more personal." The houris are still out there in the matrix.

Even more than Molly in *Neuromancer*, the character of Trinity could be read as an advance in the representation of women in cyberspace. She presents as competent, courageous and technically skilled. She fights with the men, on their terms and at times; when she insists on accompanying Neo, when she brings him back to life by acknowledging her love for him, appears to even influence those terms. Although she is as a matter of course, physically attractive, she is framed in the Gibsonesque role of strong tough razor girl.

3.4 Old games in the new domain

Overall, the female characters discussed in this chapter occupy a limited range of positions in relation to computer mediated communication. Most have minimal involvement or expertise, and none are portrayed as innovative in their use of the technology. The maestros are always male. Arguably, this limited range is evidence of a hegemonic process in the discourses of cyberspace. To briefly reprise Stuart Hall, hegemony circumscribes those processes (including discourse) by means of which a dominant class alliance or ruling bloc, which has effectively secured mastery over the primary economic processes in society, extends and expands, or at least maintains, that dominance. It is accomplished "... not without due measure of legal and legitimate compulsion, but principally by means of winning the active consent of those classes and groups ... subordinated within it."[19]

[19] S. Hall, 'The rediscovery of ideology: The return of the repressed in media studies' in M. Gurevitch et al (eds) *Culture Society and the Media*, London, Routledge, 1988, p85.

Both Trinity and Molly, the two characters who appear most au fait with technology, actively consent to the ruling patriarchal order and Molly also consents to the ruling capitalist ethos. Both play boy's games on boy's terms; Trinity with more success than Molly. However, Trinity more than Molly maintains the vision of the woman with swelling breasts, to whom the righteous, in this case Neo, shall be espoused. Whatever boundaries are collapsed by these characters, the patriarchal order holds firm. Trinity, Molly, and Marnie Burke all play old games in the new domain. Where Marnie is victim, Trinity and Molly are subalterns of the established patriarchal order.

It has become apparent from this analysis that feminists need to think closely about the future visions of new technologies, because on close inspection the visions of future heavens or hells bear considerable resemblance to the past. Accordingly, the next chapter discusses the usefulness or otherwise of a variety of feminist responses to new communication technologies, and offers a comparison of the links and discontinuities of purpose, practice and outcomes with regard to cyberspace and its earliest incarnation, the telephone.

CHAPTER FOUR: PURPOSE, DISCOURSE AND PRACTICE.

4.1 A critique of feminist responses to cyberspace

> We shall not cease from exploration
> And the end of all our exploring
> Will be to arrive where we started
> And know the place for the first time.[1]

In this chapter, I explore the thematic unities and disjunctions in feminist discourses of cyberspace, and consider the relations of purpose, discourse and practice. As part of this process, I will delineate four broad categories of feminist theory; the radical, socialist, liberal, and postmodern feminisms and their various, arguably characteristic, responses to new communication technologies. As has been the case in other areas of this thesis, I do not propose these categories as watertight. Nor do I propose them as the only useful analytical categories for the various feminist assumptions and concerns. Carol Stabile, for example has conducted a very interesting analysis of much the same area of concern, using the categories of technomanic and technophobic feminists.[2]

If nothing else, the paragraph above illustrates what has been described as the increasingly fragmented nature of the feminist enterprise, due largely to the rise of a politics of difference. There is broad agreement, among post modern and socialist feminists at least, that the 'second wave' of North American liberal feminism in the 1960s took insufficient account of the complexity of female experience, in particular the very different circumstances and concerns of women of different class and colour. Their concerns and priorities were subsumed in

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[1] TS Eliot "Four Quartets"

[2] C. Stabile, *Feminism and the technological fix.* MUP, Manchester, 1994, pi. Stabile argues that struggles over definitions of femaleness, impelled largely by technological advances in reproductive technologies and genetic engineering have drawn reactionary essentialist formulations characterised by technophobia or fragmented and destabilised theories of identity characterised by technomania.

what Chela Sandoval describes as "versions of Euro-American feminist humanisms" which rested on "devastating assumptions of master narratives deeply indebted to racism and colonialism." [3]

From the post modern perspective of theorists such as Donna Haraway, the second wave of feminism was mere hegemony because of its "unreflective participation in the logics, languages and practices of white humanism".[4] Marxist and socialist feminists have been similarly criticised by postmodern feminists for subscribing to an economic reductionism that; "used the generalizing categories of production and class to delegitimize demands of women, black people, gays, lesbians and others whose oppression cannot be reduced to economics".[5] The concern with such politics of difference means that under the broad rubric of feminism, one may now find liberal feminists and libertarian feminists, as well as the aforementioned socialist, post modern and radical feminists. Again, a notable incidence of lexical elaboration. One may find women of colour, US third world feminists, lipstick feminists, cyberfeminists and (in Australia) Do-It –Yourself feminists. In short, being a feminist now means very little in terms of specific political positions without protracted specifications. Stabile suggests that the word has to be filled in by some other *politicised* term , in order for it to signify.[6]

Given all of the above, it is not surprising that responses to new communication technologies, and to the communicative domain of cyberspace, vary somewhat according to the particular feminist approach. In 1991 Liesbet van Zoonen delineated a typology of feminist perspectives on the media in the hope of establishing a framework general enough in which to understand historical developments and recent trends in feminist media studies.[7] She offered the framework with a caveat similar to my own; that few feminist studies can be

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[3] C. Sandoval, 'New Sciences' in J. Wolmark, op cit p251.
[4] cited by Sandoval, ibid, p252.
[5] Nicholson, (1990:11) cited by Stabile, op cit, p9.
[6] Stabile op cit p8.
[7] L. Van Zoonen, 'Feminist theory and information technology' in J. Curran and M. Gurevitch (eds) *Mass Media and Society.* Edward Arnold, London, 1991, p35.

unequivocally categorised, but she suggested that viewed as ideal types, they are indicative of the various ways in which feminists perceive the media, and that they still underlie many feminist self perceptions and analyses. Her categories are liberal, radical, and socialist feminisms and her concern is largely with older mass media such as television and film, but her typology can be usefully appropriated and extended to include postmodern feminism and to consider feminist responses to newer, computer mediated communication technologies.

Before doing this however, I would briefly suggest that feminism is not necessarily such fragmented a body as many describe. Feminism may well encompass sets of ideas and discourses rather than one unifying theory or voice, but these ideas and discourses still rest on a unitary category of woman; of female experience, however diverse that may be. Just as discourse is multidimensional, so too is feminism.

Just as discourse analysis does not appear to operate with an agreed set of concepts, terms or ambitions feminist analysis also appears to differ on concepts, terms and ambitions. Feminism is, it seems as conceptually a fuzzy term as discourse analysis. However, just as one can discern in discourse theory a quite foundational premise that discursive systems mediate linguistic and socio-cultural knowledge and constitute a site for the construction of identities and subjectivities, one can discern in feminist theory an equally foundational premise; that to be female is to be prone to disadvantage. Thus, apart from the more extreme post modern manifestations, feminist theories as a whole still attempt to hold together the differences between women, whether that be in terms of age race or class, with what they have in common in terms of their bodily experiences and identities.

Liberal feminism

"Playing with high technology means playing with guns, not butter." [8]

Van Zoonen suggests that in liberal feminist discourse, irrational prejudice and stereotypes about the supposedly natural role of women as wives and mothers are held to account for the unequal position of women in society. This is linked to an appreciation of gender as an inevitable consequence of sex differences; what is at issue is the extent to which this difference does, and should, mark gendered practices. Liberal feminism thus incorporates binarisms of woman, nature, and irrationality as opposed to man, culture, and rationality. As Van Zoonen puts it, liberal feminists assume that the canons of femininity such as emotionality and cooperation; and the canons of masculinity such as rationality and competition; are accepted as normal through women's mothering role and through agents of socialisation such as the media.[9]

Thus, liberal feminist discourse would hold that the media perpetuate sex role stereotypes because they reflect dominant social values, and also because predominantly male media producers are influenced by these stereotypes. There is considerable evidence to support the observation of stereotyping. As Van Zoonen observes, "numerous quantitative content analyses have shown that women hardly appear in the mass media, be it depicted as wife, mother, daughter, girlfriend; as working in traditionally female jobs (secretary, nurse, receptionist); or as sex object. Moreover they are usually young and beautiful, but not very well educated."[10] Perhaps the most "well-educated" women who appear regularly on television screens are television newsreaders – still, in the year 2000 – beautiful to the last woman. Certainly my analysis of the discourses of cyberspace supports

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[8] J. Zimmerman. *Once upon the future: a woman's guide to tomorrow's technology.* New York, Pandora, 1986. p355. Personally I don't view games with guns as a socially constructive venture... but Trinity in the Matrix obviously does.
[9] L. Van Zoonen, op cit, p39.
[10] ibid p35.

Van Zoonen's remarks about stereotyping. Where women do appear, they are young (Angie Dickinson in *Wild Palms* and the Oracle in *The Matrix* being the exceptions that prove the rule) and beautiful of course, as few woman featured in the mainstream visual media are not. Within mass media depictions of cyberspace women can be one dimensional sex objects, as was Marnie Burke in *The Lawnmower Man*, or subalterns, as was Trinity in *The Matrix* and the various incarnations of Molly in Gibson's sprawl trilogy. They are as I have noted, rarely depicted in any relationship of agency with the technology. When they are, they use the technology to further male ends.

According to Van Zoonen, a liberal feminist response would suggest that in amelioration, women should obtain more equal positions in society, enter male dominated fields, and acquire power. Mass media would then presumably in time reflect this structural change. Meanwhile these principles "find their political translation in attempts to change legislation, in affirmative action programs, in stimulating women to take up non-traditional roles and occupations and to develop masculine qualities to acquire power."[11]

A classic example of the liberal argument that 'to avoid the struggle with new technology is to condemn women to their history' is voiced by Jan Zimmerman. Women, she says, should engage in this struggle by educating themselves in maths and science, and by chipping off projects which use and control technologies to their own ends. New technologies she argues, can improve women's lives only if we gain political and financial control over their development and implementation. This subversion of technological development goals is a necessary path to survival in late capitalist societies.[12] Hence Zimmerman's exhortation to play with guns, not butter.

[11] L. Van Zoonen, op cit, p35.
[12] J Zimmerman, op cit, p355.

Whilst not suggesting that we play with guns – which I suspect that feminists of many stripes would not view as a socially constructive venture, Dale Spender does make broadly similar recommendations.

> Given that I have to learn to live with the cyberworld, I want the best possible outcome that can be realised. This means that I want to be involved – along with countless others – in the decision-making process of shaping the information infrastructure. I want national forums set up, public discussions organised, working parties created to determine priorities. I want some indication that there are plans to use the technology to improve the quality of life for all human beings; I don't want to see it used (or mis-used) to enhance the lives of the few at the expense of the many.[13]

We see in these two samples of liberal feminist views, what Raymond Williams would call a technologically determined approach. Zimmerman's caution against avoiding the new technologies, and Spender's assertion that she has to 'learn to live with the cyberworld' both imply that the technology has somehow developed in an independent sphere and has created a new way of life, or at least provided material for a new way of life. In Stabile's terms the liberal feminist approach could also be described as technomanic, in that the technology is seen as something to be embraced to further the feminist cause.

Radical feminism

> Technology is powerful, remote, incomprehensible, inhuman, scientific and – above all – male. What does it have to do with women?[14]

'Radical' is claimed as a fill in term by a confusing range of feminist thinkers. Franklin et al identify a confusion between radical feminist and cultural feminist work, particularly in the description of some American radical feminist work as

[13] D. Spender, op cit, p249.
[14] V. Frissen, op cit, p34.

cultural feminism[15]. They note that the range of what they call American radical feminist work includes attempts to regain a 'woman-centred' culture, as well as critiques of patriarchal knowledge and culture such as those developed by Mary Daly. [16]

According to Van Zoonen, radical feminism (which she also refers to as ecofeminism) shares with its liberal counterparts a concern with gender as an inevitable consequence of sex difference. In addition, it holds as central the premise of a patriarchal social system in which all men are assumed to dominate and oppress all women.

> Patriarchy is conceived to be the result of men's innately wicked inclination to dominate women, a genetically determined need which they can fulfil – in the last instance – by exercising their physical strength.[17]

Thus, radical feminist discourses would hold that media perpetuate sex role stereotypes because mass media are in the hands of male owners and producers and will operate to the benefit of a patriarchal society. Van Zoonen also asserts that in radical feminist media analyses, the power of media to affect men's behaviour and women's perception of themselves is beyond discussion and this is perhaps one of the reasons why, as she observes, few media studies have been conducted from a radical feminist perspective. Another reason may be the view described by Valerie Frissen at the start of this section, that technology is remote, inhuman, scientific and above all male.

Carol Stabile, in her discussion of radical feminism, suggests that this view was originally not confined to the radical feminists alone:

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[15] S. Franklin, et al, *Off-Centre. Feminism and cultural studies.* Harper Collins Academic UK. 1991, p13.
[16] ibid, p19.
[17] D. Spender, op cit, p36.

> In the humanities, as in popular culture, feminist approaches to technoscience have been profoundly informed by technophobia, or an anti-modern attitude that rejects the present in favour of a temporally distant (ie. non-existent) and holistic natural world. As the essentially villainous agent of the patriarchy, technology ... is the bane of human existence, or that which threatens to destroy all things natural. The technophobic approach endorsed by so many feminists thus proposes that a rejection of technology is functionally identical to a rejection of patriarchy and that this strategy represents humankind's (or frequently only womankind's) sole chance for survival.[18]

Stabile suggests that the second wave of feminism inherited a sense of technological disenfranchisement and hopelessness, partly as a legacy of Hiroshima and the Vietnam war. Technoscience was in the first linked inextricably to destruction and devastation and in the second shown on television as well.[19] The equation of technoscience with "the war machine and a death drive also served to consolidate a feminist opposition equated with nature and life"[20] Thus, the majority of feminists dismissed technology as inherently patriarchal and malignant.

This sense of technological disenfranchisement may also be due to another major concern of second wave feminism, ie. the recognition of medical power and knowledge, in particular the medicalisation of women's reproductive capacity, as a key source of patriarchal control over women. As McNeil and Franklin describe it, this recognition was exemplified by the publication in 1973 of *Our Bodies, Ourselves* by the Boston Women's Health Collective. They suggest that the recognition of the "entrenched misogyny of the male 'conquest' of women's reproductive capacity" illuminated the power of scientific ideas in defining women's sense of bodily awareness, sense of self and sense of reality in concert with a predominantly masculine worldview.[21]

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[18] C. Stabile, op cit, pp4-5.
[19] ibid, p3.
[20] ibid, p4.
[21] M. McNeil & S. Franklin 'Science and technology: questions for cultural studies and feminism.' in Franklin et al, op cit, p134.

Radical feminism then can be described as characterised by the view of science and technology as a masculine culture which should be challenged or actively avoided, rather than cooperated with. To some extent, my reading of the discourses of cyberspace supports this view, in that as I have noted in Chapter Two, women are rarely cited in any way as progenitors of cyberspace and where they do appear they are the product of unusual circumstances such as high privilege (Ada Lovelace) or war (Grace Hopper). There are very few women in visible positions of leadership in the electronic world, and as I have previously mentioned, where women are depicted in mainstream media in a relationship of agency to the technologies, it is to further male ends. Whether this suggests that the most appropriate media strategy is avoidance, is another matter.

According to Van Zoonen, the media strategies of feminism are straightforward, in that women should create their own means of communication. She then notes that 'technological developments' in print and audiovisual media have made possible a proliferation of feminist writing, newsletters, magazines and radio programs, video and film groups, generally produced by collective groups of volunteers. She suggests however, that this strategy is not particularly useful, because women are not immune from differences of power, opinion and interest, and because there is a "waning enthusiasm for collective expressions of feminism" which results in an inability to attract audiences beyond the feminist parish.[22]

Van Zoonen suggests that the radical approach is problematic because the only option it seems to allow for 'aware feminists' is a separatist policy of withdrawal, from technology and from society. In this she says, it produces gender prescriptions that are as restrictive and oppressing as any patriarchal discourse.

> ...by defining technology as essentially male, by defining men as essentially different from and oppressive towards women, by defining

[22] L. Van Zoonen, op cit, p37.

> culture statically as a representation of maleness and femaleness – which has resulted in the existence of a dominant male culture and a silenced and undervalued women's culture ... ecofeminists can do little other than reject technology altogether.[23]

I must quibble here, that utilising technological developments in print and audiovisual media to produce newsletters, magazines, films and videos indicates an appropriation rather than a rejection of communication technology. What's more the grande dame of radical, or ecofeminism, Mary Daly, has a home page on the world wide web[24] and ecofeminism in general also has a not inconsiderable presence in cyberspace[25].

The problematic seems to be less a case of rejection of communication technologies per se, than the premise that the changes brought about by technology in general have resulted in an equivalent domination of both women and nature.[26] As Stabile observes, this positions women as a uniform category who, across race class and national lines, have a more intimate and stable relationship with nature. Hence it relies on a reductive model of social relations which cannot adequately account for intersecting yet structurally different forms of oppression.[27] The complexity of female circumstance is subsumed in essentialism and radical feminism is hoist upon Sandoval's petard of Euro-American feminist humanism.

In concert with liberal feminism, radical feminism thus incorporates woman/nature/ man/culture/ binarisms, and sees gender as an inevitable consequence of sex differences. It differs in terms of the extent to which this difference is seen to mark gendered practices. It also differs somewhat in its perspectives on technology. Although, as I have noted, radical feminists certainly do make use of communication technologies, radical feminism still equates

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[23] ibid.
[24] at http://www.womanandmoney.com/mary_daly/index.html
[25] See for example, http://www.dhushara.com/book/renewal/voices.htm
[26] C. Stabile, op cit, p51.
[27] ibid, p52.

technology as a concept with a masculine, destructive culture; as "the essentially villainous agent of the patriarchy"[28] and could thus be described in Williams' terms as symptomatic deterministic in its approach to communication technologies, and technology in general. In Stabile's view, radical feminism is characterised by technophobia.

Socialist feminism

Socialist feminism is distinguished in Van Zoonen's typology by a conceptualisation of power located in socio-economic structures which are mediated through a relatively autonomous level of ideology. Thus socialist feminism does not focus exclusively on gender to account for women's position but attempts to incorporate an analysis of class and the economic conditions of women as well. Central concepts she says, are 'the reproduction of labour' and 'the economic value of domestic labour'. The nurturing, moral educational and domestic work that women do in the family is seen to be indispensable to the maintenance of capitalism.[29] Thus socialist feminism includes patriarchy as one of a set of exploitative systems that include class and more recently, race. From a socialist feminist perspective, it is of course clear that women are very much concentrated in positions of disadvantage but it is also clear that as Stabile points out, it is primarily class position which structures and limits the choices available to people.

> To imply that the oppression one experiences as a white, middle-class woman with a university education is equivalent to the oppression one confronts as a poor white woman is to empty the concept of liberation of any significance.[30]

As previously noted, socialist feminism has more recently tried to incorporate other social divisions along the lines of ethnicity, sexual preference and the like.

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[28] ibid, p5.
[29] L. Van Zoonen, op cit, p38.

Van Zoonen claims that these incorporations have resulted in an increasingly complicated and incoherent theoretical project which has not as yet produced a satisfactory account of the way in which material and cultural conditions interact.[31] However, whatever the complications involved, it is still necessary and useful to at least attempt such incorporations. Rather than hindering the theoretical project, this approach allows for a more multidimensional understanding of how social, political and economic structures affect power relations, than do the more essentialist liberal and radical approaches. As Stabile asks, are we to assume "that women African-Americans, lesbians and gay men have no class position?"[32] And, she notes, many of the most powerful and important demands made by oppressed peoples have been based on demands for economic access and equality in areas such as employment, housing, health care and education[33].

With regard to specific media strategies, Van Zoonen suggests that socialist feminism shares with liberal feminism an emphasis on the need for women to take up paid labour. However, it also recognises that the labour market needs to be restructured so that domestic and nurturing responsibilities can be adequately allowed for. Usually she says, a double strategy is advocated; reforming the mainstream media as well as producing separate feminist media. What distinguishes the socialist call for female media producers is an awareness of the middle class bias of that strategy. Hence the acknowledgment that structural changes in the organisation of media labour are necessary.[34]

Van Zoonen also suggests that ideology in itself has become the main object of socialist feminist study.[35] Thus, she argues, much socialist feminist research

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[30] C. Stabile, op cit, p10.
[31] L. Van Zoonen, op cit, p38.
[32] C. Stabile, op cit, p10.
[33] ibid
[34] L. Van Zoonen, op cit, p39
[35] To some extent this aligns it with the burgeoning field of cultural studies, in that both are reluctant to focus on gender exclusively, and both try to incorporate material conditions in their accounts of women's place in society.

consists of analysis of media texts concerned with the way in which ideologies of femininity are constructed in the media, and to whose avail.[36] I must quibble again, that this rather contradicts her description of socialist feminist media strategies – it is difficult to reconcile her description of specific campaigns for workplace reform[37] with her assertion that ideology is the main object of socialist feminist study. Nor, of course does the very obvious assertion that women are constructed in limited ways, in media in general and with regard to new communication technologies in particular, preclude attention to their socio-economic circumstances, and their material relationship to media and new technologies. Instead it offers the opportunity to consider the relations between textual strategies and socio/political circumstances; a balance between the discursive and extra-discursive aspects of female disadvantage. Given its concern with material relations, I would not agree with Van Zoonen that ideology is the main focus of socialist feminist study. Nevertheless, socialist feminism does not ignore ideology and nor should it do so, given that part of the operations of power and oppression is, as discussed in Chapter One, the production of knowledge itself.[38]

In short, socialist feminism is concerned with analysing broad forms and operations of power and inequality. Because it does not privilege gender as the primary or only cause of oppression it avoids the essentialism of both radical and liberal feminisms. Because it does not reduce complicated combinations of historical and political circumstances to the results of technological advances,[39] it avoids a naively determinist view of communication technologies. Nevertheless it does still view new communication technologies as having developed in a separate (patriarchal capitalist) sphere, whether or not they may offer materials for a new way of life. In this, it contains elements of what Williams has described

[36] L. Van Zoonen op cit p39
[37] Van Zoonen describes a Dutch pressure group of female journalists campaigning for affirmative action policies, increased part time job opportunities, childcare, and parental leave in journalism.
[38] S. Franklin et al, op cit, p7.
[39] C. Stabile, op cit, p71.

as symptomatic determinism, but manages to elude Stabile's categories of technophobia or mania.

Postmodern feminism

> It is not clear what is mind and what is body in machines that resolve into coding practices. In so far as we know ourselves in both formal discourse (for example, biology) and in daily practice (for example the homework economy in the integrated circuit), we find ourselves to be cyborgs, hybrids, mosaics, chimeras. Biological organisms have become biotic systems, communication devices like others. There is no fundamental ontological separation in our formal knowledge of machine and organism, of technical and organic.[40]

Zygmut Baumen has suggested succinctly that, "Incoherence is the most distinctive feature among the attributes of postmodernity (arguably its most defining feature)".[41] As I mentioned in my introductory comments, it is largely characterised as a process of collapsing boundaries that have undermined the meta-narratives of modernism, but it is a phenomenon which is very hard to define in few words. Stabile however, offers a description of its central precepts which can be summarised as follows. History no longer exists or doesn't matter; capitalism has shifted to a post-Fordist mode of production, thus transforming and diffusing power and power relations beyond recognition; all preceding systemic critiques of such power are therefore obsolete and indeterminacy is the only possible form of resistance.[42] Hence Donna Haraway's response to the 'homework economy' (a phenomenon described in Chapter Two) is a discursive reconstruction of the women involved in such activity as cyborgs and hybrids, a discursive collapse of the boundaries between the woman and the machine.

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[40] D. Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature.* Routledge, NY, 1991, p178.
[41] Z. Bauman cited by C. Stabile, op cit p15.
[42] C. Stabile, op cit, pp16-18.

Van Zoonen does not include post modern feminism in her typology; perhaps an understandable omission, given that according to Haraway, who can well be read as the archetypical postmodern feminist,

> There is not even such a state as 'being' female, itself a highly complex category constructed in contested sexual scientific discourses and other social practices.[43]

Postmodern theory is however, quite pertinent to this discussion, given its preoccupation with new communication technologies as prime causes of the postmodern condition. As Jenny Wolmark describes it,

> The instantaneous transmission of information made possible by the new technologies destabilised spatial and temporal relations, and undercut the linear logic of time. As signifiers increasingly came adrift from that which they signified, the boundaries between self and other, human and machine, nature and culture, elite art and popular culture, become increasingly hard to sustain. The fragmented subject was seen as having to operate within a temporal discontinuity leading to a subjective and cultural schizophrenia; depth of meaning is replaced by a fascination with surface, and as all sense of critical and historical distance is lost, pastiche and parody become the dominant characteristics of a culture immersed in simulation.[44]

The destabilisation of the subject as unified and coherent has, Wolmark argues, enabled the complexity of the cultural construction of gender, and the discontinuities inherent in gender identity, to become more apparent.[45] However, attention to these discontinuities tends, as I have noted, to preclude attention to the commonalities of women's experience. In its more extreme manifestations, it leads to the anarchic dissolution of all points of reference beyond the discursive. Hence Haraway's assertion that there is not even such a state as 'being' female, moves beyond the idea that bodily identity is shaped by social norms of how men

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[43] D. Haraway, 1991, op cit, p155.
[44] J. Wolmark, op cit, p5.
[45] ibid

and women should be, to a notion that biological sex is itself a social idea rather than a given bodily reality.

I should note here that part of Haraway's project also involves the collapse of theoretical boundaries, but insofar as it is possible to tease any particular theoretical orientation from her writing, she herself appears to identify more with socialist feminism.[46] Although she describes as a major difficulty socialist feminism's "faithful filiation" with a basic analytic inheritance of "Marxian humanism with its pre-eminently Western self, [and thus an] emphasis on the daily responsibility of real women to build unities, rather than to naturalize them" [47] she still describes her 'Cyborg Manifesto' as, "an effort to build an ironic political myth faithful to feminism, socialism and materialism". (Irony, she asserts, is about humour and serious play. It is also a rhetorical strategy and a political method, which she would like to see more honoured in socialist feminism).[48]

In 'The Promises of Monsters' she suggests that,

> ...sight can be remade for the activists and advocates engaged in fitting political filters to see the world in hues of red, green and ultraviolet, ie. from the perspectives of a still possible socialism, feminism and anti-racist environmentalism and science for the people.[49]

Nor would she necessarily accept the description of post modernist, arguing, in a spirit of identification with an "inappropriate/d other" that it is to be "neither modern nor post modern, but to insist on the amodern.[50] She is however as de rigueur as Gibson when post modernism and new communication technologies

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[46] McNeil and Franklin, op cit, p145, also observe that despite her questioning of 'foundationalist categories and assumptions, Haraway hangs on to the socialist feminist label.
[47] D. Haraway, 1991, op cit, p158.
[48] ibid, p149.
[49] D. Haraway, 'The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others' in L. Grossberg et al (eds) *Cultural Studies*' Routledge, NY, 1992, p296.
[50] ibid, p299.

are discussed.[51] Haraway is perhaps most renowned for her appropriation of the cyborg as a metaphor in an attempt to challenge and subvert the binarisms which so engage the attentions of feminist theory, such as those between human and machine, self and other, nature and culture. In her 'Cyborg Manifesto' she contends:

> Cyborg imagery can help express two crucial arguments ... first the production of universal, totalizing theory is a mistake that misses most of reality ... and second, taking responsibility for the social relations of science means refusing an anti-science metaphysics, a demonolgy of technology, and so means embracing the skilful task of reconstructing the boundaries of daily life... Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves ... It means both building and destroying machines, identities, categories, relationships, space stories. Though both are bound in the spiral dance, I would rather be a cyborg than a goddess.[52]

Various scholars, including Wolmark, consider the pervasiveness and force of the manifesto's utopian vision undeniable,[53] but Haraway has been criticised on a number of grounds.

Anne Balsamo suggests that the metaphor of the cyborg fails to consider how it has already been fashioned in our cultural imagination.[54] Balsamo conducts a close reading of cyborg images in popular culture and suggests that these show the reproduction of limiting, not liberating, gender stereotypes. What is more she asserts, focussing on the cyborg image in hopes of unearthing an icon of utopian thought does a great disservice to feminism. Feminism doesn't need another utopian vision and its radical potential will not be realised through the appropriation of technological and scientific discourses to a feminist or female agenda.[55]

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[51] See for example, T. Foster, J. Gonzalez, D. Morton, and K. Woodward in J. Wolmark, op cit.
[52] D. Haraway, op cit, 1991, p181.
[53] J. Wolmark, op cit, p5.
[54] A. Balsamo, 'Reading Cyborgs Writing Feminism' in J. Wolmark, op cit, p153.
[55] ibid.

Balsamo finds it difficult to determine if Haraway chooses the cyborg image because she believes that women are inherently cyborgian, or because the image is useful and potentially liberating. Perhaps it is both, but whatever Haraway's motivations; the difficulty I find with her utopia is that the cyborg/goddess could just as well be read as an appropriation of feminist discourses to a technological, scientific, and thus inherently patriarchal, capitalist agenda. Stabile too, challenges Haraway's assumption that discourse can be somehow wrenched free of its historical resonances and, thus purged, filled with counter-hegemonic interests.[56]

In the Manifesto, Haraway describes irony as a political method. The practise of this method, (in Van Zoonen's terms, the media strategy) consists largely of reading texts out of context, and rearticulating the discourses in playful parodic ironic metaphoric ways. This strategy of imaginative reconceptualisation not without merit. For one thing, much of the prose produced by postmodern feminist theorists has a beguiling internal coherence and intriguing play of metaphor and irony which demonstrates great facility and pleasure in playing with words. More importantly, it recognises the power of discourse to mediate linguistic and socio-cultural knowledge; the nuances of social construction.

Although Haraway describes Foucault's biopolitics as a mere flaccid precursor to her own ironic political myth making,[57] she clearly agrees with his contention that discourse is the power which is to be seized. In the course of that seizure she contends;

> There is much room for radical political people to contest the meanings of the breached boundary. The cyborg appears in myth precisely where the boundary between human and animal is transgressed. Far from signalling a walling off of people from other living beings, cyborgs signal

[56] C. Stabile, op cit, p143.
[57] D. Haraway, op cit, 1991, p150.

> disturbingly and pleasurably tight coupling. Bestiality has a new status in this cycle of marriage exchange. [58]

Her vision of disturbingly pleasurable and tight cyborg coupling, her enthusiasm for the possibilities of bestial marriage exchange, reflect an older preoccupation of the theoretical imagination with eros. Cyborg coupling in particular resonates with the same aspirations as Stephen Levy's 'hot digital partner' and Jaron Lanier's also 'hot' amazon earth goddess, described in Chapter Two. The goddess and cyborg locked in a spiral dance, reflect an older preoccupation with god in the machine; and resonate with the binaries that Haraway seeks to undermine. Her necessary association of new technologies with the boundaries she maintains have been breached, reflects the naïve technological determinism described by Williams; a view of new technologies as a selfacting force which sets conditions for social progress and change. Rather than wrenching free of historical resonance, Haraway's subversive ironic challenge is still complicit with an older set of hegemonic interests. As Rosemary Hennessy puts it, what needs to be considered is the extent to which theorists such as Haraway participate in a general containment of the crisis of western subjectivities by helping to produce a subject which is "new" – that is re-formed and updated – but nonetheless supportive of existing hegemonic interests.[59]

This may well be because there is a central paradox embedded in post modern theories. Stabile argues that:

> On the one hand, they accept the systemic nature of capitalism, as made visible in its consolidation of power and its global expansion in the eighties. Capitalism's power as *a system* is therefore identified and named as a totality. On the other hand, theorists celebrate local, fragmented, or partial forms of knowledge as the only forms of knowledge available. ... In other words, we are encouraged to understand

[58] ibid, p152.
[59] cited by C. Stabile, op cit, p135.

capitalism's centrality through fragmented and supposedly decentralized practices."[60]

Given all of the above, it is not surprising that the connection between Haraway's deconstructionist goals and specific concrete political goals is, as McNeil and Franklin politely describe it, difficult to fathom.[61] In effect, as Stabile observes, post modern feminist media strategy narrows and isolates political struggle to a form of discursive engagement specific to privileged Western intellectuals. It is clear that at the very least, engagement with this form of theorising requires a modem, as well as a room of one's own.

To conclude this section, a brief summary of the assumptions, responses and strategies contained in feminist discourse about communication technologies is appropriate. Van Zoonen offers a useful general framework of radical, socialist, and liberal responses to new communication technologies, which I have extended to also discuss post modern responses. Radical liberal and socialist feminist theories hold to a unitary category, in that they attempt to hold together the differences between women, whether that be in terms of age race or class, with what they have in common in terms of their bodily experiences and identities. Post modern feminism elegantly disputes the validity of the category.

All the strands of theory I have examined display identifiable elements of technological determinism: radical feminism sees technology as remote, hostile and life changing; post modern feminism sees it as intimate, subversive, and life changing. Liberal and socialist feminisms tend to a more symptomatic determinism, locating technology as something which has developed in a separate sphere and which now offers material for a new way of life. Liberal feminism advocates control and use of technology to advance women within current social structures. Apart from its concern with gender and relative disadvantage, liberal feminism does not seek to change those structures.

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[60] C. Stabile, op cit, pp146-147.
[61] M. McNeil & S. Franklin in S Franklin et al, op cit, p45.

Socialist feminism shares with liberal feminism an emphasis on the need for women to develop technological skills and agency. However, it also recognises the centrality of class in positions of relative power, and seeks broad reforms of current economic and social structures. Because it situates new communication technologies in a more complex framework of historical and political circumstances it offers greater potential to consider, in Williams' terms, the direct intent; the known social purposes and practices behind its development to which the technology is central. Nevertheless it sees these intentions and purposes as having ocurred in a separate sphere of influence.

It is however, important to remember, that with a few notable exceptions, the invention, research, and development of new communication technologies has been a male province, outside the realm of women's control or expertise. Given this historical absence, it is not surprising that representations of women in regard to these technologies reflect and perhaps maintain, considerable continued distance. Nor, given such historical and cultural distance, is it surprising that feminist theorists tend to a deterministic view of new communication technologies; whether this be a view of the technologies as creating new ways of life, or as providing the materials for new ways of life.

Williams' analysis of technological form did not consider sex or gender. Had he done so, he may well have allowed, that to a very significant extent new communication technologies (and if we are to believe Griffith, [62] all technologies since the industrial revolution) actually *have* been developed in what was essentially a separate, male, sphere. From the point of view of those who seek to redress gender imbalance in social, cultural, and economic power; the intent, the known social needs, purposes and practices for which the technologies were developed, was not necessarily at all direct or central.

Thus paradoxically, the notion of intention in purposes of research and development which Williams prescribed as an antidote to determinism leads, in the case of feminist theory, to a deterministic view of new communication technologies, and to a somewhat limited view of the intentions associated with their use. The theoretical focus is largely on areas of tension and exclusion. In T. S. Eliot's terms, although we have not ceased from exploration, the end of all our exploring has been to arrive where we started. Perhaps we would be better served to know the place in which we find ourselves.

To that end, I would suggest that feminist theory should look beyond discursive constructions, and beyond the processes of design and development. Given how few women have been previously or are currently involved in the development and implementation of new communication technologies, calls for their inclusion, even discursive reconstructions of their roles, do not provide immediate or credible solutions. Calls for economic and political control in particular, continue to construct women as extraneous, and tend to discredit any power that women may have already found in their roles as users of these technologies.

To illustrate this point, the next section offers a brief comparison of cyberspace and telephone space with particular regard to the intentions and eventual practices of telephonic communication.

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[62] D. Griffith, op cit, p54.

4:2 A brief comparison of cyberspace and telephone space.

In 1991 Jaron Lanier commented in testimony to the US Senate;

> I like to characterise this technology primarily as a communications technology over anything else. And in fact, I also like to characterise it as the telephone of the future. And I believe its most common use will be exactly that kind of collaborative interchange where in the future folks will be able to call up perhaps from their homes to share virtual worlds.[63]

William Gibson too has made the comparison;

> ...I think in a very real sense cyberspace is the place where a long distance phone call takes place. Actually it's the place where any phone call takes place and we take that very much for granted.[64]

In many ways this analogy is very apt. For one thing, cyberspace has been largely enabled by the convergence of computing and telecommunications; without telephony, cyberspace as a communicative domain would not exist. For another, the telephone arguably created the first virtual reality, in that it was the first interactive communication medium which enabled common access to instant simultaneous transmission across barriers of space and time.[65] For yet another, women are scarce in the annals of cyberspace development, and they are completely absent from accounts of the invention of the telephone.

As Crowley and Heyther describe it, the telephone and the telegraph were the first wave of a new communication revolution, in which communication over distance was no longer tied to the available means of transportation. Unlike the telegraph

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[63] J. Lanier, testimony to US Senate Subcommittee on Science, Technology and Space, op cit, p11.

[64] William Gibson, interviewed by Dan Josefsson http://www.josefsson.net/gibson/index.html 12/5/2000

[65] Telephony developed largely from telegraphy, which had certainly permeated these boundaries. But it was asynchronous.

however, the telephone enabled voice transmission and required no literacy in Morse code, hence it spread quite rapidly into private homes.[66] Voice transmission aside, more and more, computer mediated communication requires no literacy; more and more, access to cyberspace occurs from private homes.

It is not surprising then, that the telephone analogy resonates across much of the discourse about, and the actual application of, computer mediated communication; whether it be Rheingold's fantasies of technologically enhanced phone sex or the exponential increase in e-mail use, chat rooms and the like.

There are also quite striking similarities between the concentration of women in low paid and low status areas of computerised employment, (see the discussion in Chapter Two) and the proliferation of female switchboard operators during the early days of the telephone. As Moyal describes the Australian experience, the trend to employ women in telephone exchanges was set in the USA, and transferred with some degree of cultural resistance, to Australia. Women were considered to be gentler and more biddable than men[67] and taken on as cheap and docile labour.[68] Their employment she suggests, was clearly an economy measure. The job was seen as a dead end for male employees, the salary (in NSW in 1896) could not exceed one hundred pounds a year, and women were expected to resign before marriage.[69] In this regard one could argue that nineteenth century telephonists were somewhat better off than their twentieth century teleworking counterparts in that they could choose to be unpaid domestic mangers or poorly paid wage slaves, but were not expected to be both.

The cultural resistance to which Moyal refers was evident in both Australia and the USA. Moyal describes the efforts of Edward Cracknell, supervisor of NSW telegraphs to bar the route to the telephone switchboard for women.

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[66] D. Crowley and P. Heyther *Communication History: Technology, Culture, Society.* Longman, NY, 1991. pp124-125.
[67] A. Moyal, *Clear Across Australia* Nelson, Melbourne, 1984, p80.
[68] ibid, p82.

> 'The experiment' (of employing women) he wrote, early and inaccurately in December 1878 'has been tried ... in other parts of the world and has proved an utter failure'. Women, he sensed, were incompetent at fixing mechanical problems.[70]

By 1986 Cracknell had left his position, but the subsequent employment of female telephonists was still viewed with disfavour by the Sydney press.

> 'The telephone girl has arrived and the telephone man is ordered to move on', declared the *Telegraph*. 'Her voice is said to be better adapted to the instrument, just as it is to a knot-hole in the back fence through which the female conversation is known to excel.' At the *Star* another journalist fumed at the thought of the 'frizzy haired houris of other colonies who attend upon your telephone and answer your ring when they do not happen to be reading the latest novelette or conversing with their best boy'. The female operator, he found, had a fatal habit of saying 'beg pardon' and switching you off without further notice if your voice was elderly.[71]

A similar construction is described by Carolyn Marvin with regard to telephonists in the USA.

> "A gentleman of fine ear, who uses the telephone frequently, suggests to us that it would be a good thing to give the exchange operators a few lessons in elocution, so that they might reply to calls with less shrillness, sharpness and snappiness of utterance," cautioned *Electrical World* in 1885, doubting that the class of women employed could speak correctly, or up to the standards of middle class subscribers. Such lessons might have the additionally desirable moral effect of enticing vulnerable operators from that "special detestation ... the attractive skating rink."[72]

Marvin argues that telephone operators in particular were depicted as women of ambiguous social status, that women entered the technical world at the sufferance of men and that over and over, it was made clear that they were not the help they should have been. She cites numerous examples of discourse in which women

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[69] ibid.
[70] ibid.
[71] ibid, pp82-83.
[72] C. Marvin, op cit p26.

were constructed as transferring inappropriate oral models to electrical communication or making ignorant or careless mistakes as telephone operators.[73]

Although as the above demonstrates, there are many useful comparisons to be drawn between telephony and computer mediated communication, there is one important point of difference. Telephony was well established before the development of communication as a field of study, and before the development of feminism as a distinct theoretical field. Hence, although the telephone has attracted the attention of communication historians such as Marvin and Stephen Kern and quite recently the attention of theorists such as Moyal with her work on gendered uses of the telephone, and although, as this section indicates, it engaged the theoretical imagination just as much as new communication technologies have in the present, it did not, as a new communication technology, incite the attention of communication or feminist theorists in the same way that cyberspace has.

In particular, telephony was not constructed by such theorists as a male culture hostile to women. There were no radical feminists to suggest that the telephone should be eschewed, no socialist feminists to suggest that telephony was part of patriarchal capitalist systems of exploitation, no liberal feminists to demand that women must have an integral role in its development, and no postmodern feminists claiming that the telephone would lead to fragmented subjects operating within temporal discontinuities. Although it is clear that women were described in relation to the telephone in quite limited ways, and were concentrated with regard to telephone work in areas of low paid and low status employment, this construction and concentration did not result in a self conscious focus on areas of exclusion and tension, on a perception of the telephone as a hostile male domain. Even after the rise of such theoretical avenues, the social location of the telephone was ignored by communication and feminist scholars.

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[73] ibid, p29.

As Moyal points out, until relatively recently the telephone - the ubiquitous, taken-for-granted medium for two-way human communication - has remained largely invisible to scholars despite its central and far reaching influence on our daily lives.[74] As a corrective, in a period of major telecommunication policy change, Moyal conducted a 'deep slice' ethnographic study designed to gather the experience, attitudes and voices of Australian women with regard to their use of the telephone. The study involved a national survey of 200 women across metropolitan and country sites, using a 40 question questionnaire distributed in person to respondents and followed up by in-depth interviews. The results showed that women's telephone communication has moved a long way from its originally major instrumental use to a notable concentration on protracted intrinsic calling. The role of the telephone she says, has changed from an important facility for expediting daily life to an arena where the claims of feeling are acknowledged and to a key site for the execution of women's care-giving gendered work. Moyal notes that although there are also men who use the telephone as women do, women and men in general inhabit different (if intersecting) telephone and network worlds.

Thus, despite or perhaps because of, a long period of scholarly neglect, a deeply entrenched, caring, feminine culture of the telephone developed, which according to Moyal, underlies Australian family, community and national development. Clearly, undeterred by conceptualisations of the telephone as part of a technical world which women could enter only at the sufference of men, women simply used the telephone. And clearly, they used it for their own purposes. This unselfconscious use has arguably had a more profound effect on the theoretical imagination than any construction of the telephone as hostile male domain, any calls for political and economic control, could have done.

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[74] A. Moyal , 'The Feminine Culture of the Telephone. People, Patterns and Policy' in *Prometheus* Vol 7, No 1, June 1989, p6.

4:3 Future directions

I have suggested that that feminist theory is best served in looking beyond discursive constructions and beyond the current processes of design and development. This is a point that has also been made by Elizabeth Lane Lawley, who suggests that a useful research option may be to rethink the role of the *user* in shaping and reshaping cyberspace. Lawley argues for a shift of focus from tension and exclusion to helping women become more comfortable users of computer mediated communication technologies. She predicts that once women are better represented in the user community, it will be possible for them to exert substantially greater influence in the larger spheres of design and implementation.[75]

To do this, it would be necessary first to pay more attention to the ways in which women do actually use these technologies. To be sure there is documented evidence of women's use in the very limited framework of ghettoised telework, but this is a focus more on instrumental use, on the ways in which women have become appendages of the machines. Such a focus is necessary and important in understanding how communication systems maintain existing economic disadvantage, but does not consider whether there are other aspects of women's use which fall outside this instrumental ambit. That is, it does not consider intrinsic use. Lawley's proscription may well be usefully extended by considering such use.

There is little research as yet in this area. However, I am aware of one study which does consider women's intrinsic use of new communication technologies,

[75] E. Lane Lawley 'Computers and the Communication of Gender' April 1993 p3. http://www.itcs.com/elawley/gender.html

undertaken by Nancy Kaplan and Eva Farrell in an effort to situate women's participation in electronic communication within the framework of their lives.[76]

Kaplan and Farrell note that studies of cyberspace generally highlight the hostile masculinity of the domain, but do not ask why some women persist in this apparently hostile culture despite the barriers to entry and the problems they find, nor ask how those women who participate despite male dominance understand their own activities. They make the very pertinent observation that such studies also tend to overlook generational issues that may become increasingly important as a cohort of young women for whom computers have been everyday objects since childhood begins to reach maturity.

> Focusing primarily on communications practices in two sites – among professional women or in school settings, both elementary and secondary – most studies have yet to take into account the entrance of young women into electronic discourse especially when their participation occurs outside of formal educational settings. In other words, we have been so busy noticing what hinders and repels us that we have failed to ask what draws some of us (but not others). We need to know more about what attracts women to electronic environments and what features of the activities we engage in sustain us in these new spaces.[77]

In work reminiscent of Moyal's, Kaplan and Farrell conducted an ethnographic study of a small community of young women who chose to spend some of their leisure time participating in the local electronic culture in their town. All the subjects had above average school grades, planned to go on to tertiary education, and were studying in an alternative school where the educational agenda included "fostering independent thinking and creativity". All had taken a computer literacy course. Information sources for the study consisted of questionnaires, interviews, journal entries and direct observation of messaging behaviours on the electronic bulletin boards used by the subjects.

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[76] N. Kaplan and E. Farrell, 'Weavers of Webs: A Portrait of Young Women on the Net' http://raven.ubalt.edu/staff/kaplan/weavers/weavers.html
[77] ibid, p2.

Responses suggested that the young women were aware of the gendering of typical adolescent activities (including the perception of technology as a male domain) but still felt comfortable identifying themselves with some activities and preferences they associate with maleness. One informant commented:

> I have noticed that girls tend to less hard-core [users of computer technologies], usually not being programmers and the like, and not dedicating *all* their time to the boards like some guys do. For most females it's a hobby, not a lifestyle.[78]

All of the young women were introduced to electronic conversations by one or more friends. Kaplan and Farrell note that the personal connection to people who were already engaged in the local bulletin board scene seemed vital to the story of the subjects' use of the medium. Thus responses seemed to indicate that young women may enter network culture because of and by means of their immediate social worlds. Young women they say, may join these activities precisely because they see them as an extension of, rather than escape from, those immediate social worlds.

Their results, although more tentative, are also reminiscent of Moyal's conclusions about women's intrinsic use of the telephone. Extension of the immediate social world to cyberspace repositions it as an arena where the claims of feeling are acknowledged, and the development of a different (if intersecting) network world.

I should note that there are methodological difficulties with Kaplan and Farrell's study. If Moyal's ethnography was 'deep slice' Kaplan and Farrell's could be described as 'thin sliver'. The sample group consisted of only five subjects and of those subjects only two participated fully. In addition the subjects were limited in location and class. They were clearly in a position of economic advantage, given their attendance at a private school, plans for tertiary education, facility with and easy access to computer mediated communication technologies. As Kaplan and

Farrell acknowledge, the size and nature of the sample group make it impossible to generalise from this study to other settings or groups of adolescents.

Nevertheless, insubstantial and localised as the study may be, it is profoundly important in conceptual terms; in the shift of focus from what hinders and repels to what *draws* women to cyberspace, and in its attention to the generational aspects of women's use of communication technologies, an area which has been too long ignored. Thus Kaplan and Farrell's concentration on women's participatory practice offers a significant contribution in terms of directions for future research.

[78] ibid, p3.

4:4 Conclusion

This treatise has enquired into the expression of social relations and location, in terms of women and their relation to new communication technologies; and into the usefulness of feminist responses to new communication technologies.

I have taken Raymond Williams' suggestion that research into new communication technologies is well served by some consideration of their intended purpose, as a foundation of my discussion. Further, I have proposed that these intentions, which relate so directly to the social needs, purposes and practices to which the technology of cyberspace is central, are illuminated in the discourses which surround it. I have therefore drawn upon a variety of texts, most particularly those of science fiction and feminist theory.

I have used these discourses as a cultural seismograph, thus extending my focus from the technologies to the groups talking around them, in an attempt to clarify the circumstances in which this new media has been developed and accommodated; and the ways in which habitual social intercourse has been restructured in the new medium. As Williams would describe it, I have explored the relations between the technology and the society.

I have relied heavily upon discourse analysis theory, locating discourse as a site where social forms of organisation engage with systems of signs in the production of texts, thus reproducing or changing the sets of meanings and values which make up a culture. I do not however, contend that the world can only be understood as a discursive construct and do not therefore avoid the extra-discursive aspects of women's relationship to cyberspace. What I have sought to do is examine the ways in which the discourses of cyberspace reflect the specific historical and social circumstances in which it developed.

Nor do I contend that my personal reading isolates a uniform meaning. Readers have a certain degree of autonomy in the complex process of textual interpretation, and others may not tease out the same meanings that I have. Nevertheless, texts themselves exert a series of constraints in their use of specific linguistic or symbolic codes, and in their implicit presupposition of certain competencies and understandings in the reader. As David Buckingham puts it, texts may attempt to teach new ways of reading, but they also invite readers to read them in familiar ways.[79]

Thus, I do not suggest that discourses may simply dissolve in a multiplicity of individual readings. Whilst readers may actively construct or negotiate meanings, they do so on the basis of prior social knowledge and experience. Much interpretive divergence still remains within a dominant framework of such conventional positions. Therefore, whilst it is not necessarily feasible to reduce any discourse or text to a single 'meaning' it is certainly feasible, as I have done, to specify the ways in which it invites its readers to produce meaning.

In general terms of meaning, three major thematic unities are evident in the discourses of cyberspace. There is a concentration on transcendence, drugs and sex, which supports the idea that the theoretical imagination envisages the space in the light of existing social needs, purposes and practices.

The dominant ideas about women and communication technologies expressed in the discourse position them in a limited range. Most are portrayed as having minimal involvement or expertise, and apart from Ada Lovelace and Grace Hopper, none are portrayed as innovative in their use of the technology. In particular the one dimensional houris who inhabit much of the discourse of cyberspace can be seen as discursive constructs which express older social preoccupations – with sexual experience; and discursive formations – of technology as a domain of male power and of women as subordinate beings.

What may be read as more egalitarian depictions, such as the 'razor girls' who fight along with their menfolk, display on close examination a secondary subaltern positioning. I have suggested that this limited range is evidence of a hegemonic process in the discourses of cyberspace by which a dominant (patriarchal) ruling bloc maintains that dominance by means of winning the active consent of those classes and groups subordinated within it.

The genesis of this particular hegemonic process can be illuminated by examination of the framework of corporate and military, essentially masculine, control in which cyberspace developed. All the agencies involved in producing and promoting cyberspace have been either commercial, government-military or otherwise academic institutions funded by industry or government bodies. All these institutions have been historically and are currently dominated by men. Hence the scarcity of women in the annals of cyberspace development and in positions of electronic leadership is not surprising. Given this, nor is the limited range in which women are depicted.

This scarcity of women, and the very limited ways in which they are constructed in relation to new communication technologies, has led many feminist theorists to argue that technology is a male culture, and that cyberspace conforms in many ways to male norms which serve to obstruct the participation of women in its development and use. Feminist concerns about gender and new technologies may be summarised as follows: women lack equal access to technology creation, design and production; technology is constructed, socially and culturally, as a male practice in male institutions; women are excluded from decision making, and technology is used as a patriarchal means of controlling women as well as nature.

I have described four broad strands of feminist theory and argued that specific responses to these concerns vary according to the theoretical orientation of the

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[79] D. Buckingham, op cit, p35.

feminism concerned. All strands of feminist response however, rest upon an element of technological determinism; in that they see the technology as having developed in an independent sphere, whether it is to then be eschewed, seized or reconceptualised. This is not an unreasonable view when one considers that to a very significant extent these new communication technologies actually *have* been developed in what was essentially a separate, male, sphere.

Nevertheless, such determinism has limited feminist responses to new technologies, in that a focus on marginality and limitation, or even on playful reconceptualisation, has considerably precluded attention to the various ways in which women may actually use new communication technologies, and tended to discredit any power that they may have already found in such use. A brief comparison of cyberspace and telephone space illustrates this.

Because telephony developed prior to the rise of communication or feminist theory, for many years no theoretical attention was paid to the social relationships of women and the telephone. Although Anne Moyal and Carolyn Marvin's social histories of the telephone clearly demonstrate that women were discursively constructed in relation to the telephone in quite limited ways, and were also concentrated with regard to telephone work in areas of low paid and low status employment, this construction and concentration did not result in a self conscious focus on areas of exclusion and tension, or on a perception of the telephone as a hostile male domain. Moyal has since described an entrenched feminine culture of the telephone which is differs considerably in its intrinsic nature of nurturing social and familial relationships, from the instrumental purposes for which the telephone was first envisaged.

Whilst I would not venture to suggest that deterministic theoretical attention to cyberspace has necessarily hindered the development of a feminine cyberculture, it does seem that the intensity of focus on cyberspace as a masculine domain has limited attention to the ways in which women may use the new communication

technologies; the ways in which they may be appropriating them for purposes somewhat different to those for which the technologies were designed. Kaplan and Farrell's study is a good example of this shift in focus to investigate such unforeseen appropriations. Their work flags a useful direction for future research.

In all, this treatise proposes that neither uncritical embrace nor outright rejection are useful responses to new communication technologies. Zoe Sofoulis suggests that we should aim for some critical distance which may allow new technologies to be creatively appropriated for purposes, projects and meanings quite other than those for which they were designed.[80] This is rather different to creatively reconceptualising them as postmodern feminism might recommend. To achieve this critical distance feminists would perhaps do well to remember the way in which women appropriated the telephone to their own ends and to focus on the ways in which women actually use new communication technologies, in order to allow the idea of a participatory practice of technology. As Arnold Pacey puts it, rather than a technology centred approach to people, we need a people centred approach to technology.[81] In feminist terms then, we need a woman centred approach to technology.

[80] Z. Sofoulis, 'Cyberfeminism. The world, the flesh and the woman-machine relationship' http://geekgirl.com.au/geekgirl/003broad/zoe.html pi.
[81] A. Pacey, *Meaning in Technology* MIT Press, 1999, p214.

Bibliography

The ADA Project. http://tap.mills.edu/

Adey, P. Australian Bureau of Statistics. 'Profiling Private Use of E-Commerce in Australia' in *Proceedings of 1999 Communications Research Forum.* Canberra, Department of Communication, Information and the Arts, 1999.

American Association of University Women Educational Foundation. *Tech-Savvy: Educating Girls in the New Computer Age.* http://www.aauw.org/home.html

Ang, I., and J. Hermes. 'Gender and/in Media Consumption', in J. Curran and M. Gurevitch (eds). *Mass Media and Society.* London, Edward Arnold, 1991.

Arberry, A. *The Koran Interpreted.* Oxford University Press, 1983.

Augarten, S. *Bit by Bit: An Illustrated History of Computers.* New York, Ticknor and Fields, 1984.

Barney, D. *Prometheus wired: the hope for democracy in the age of network technology* . University of New South Wales Press, 2000.

Barthes, R. *Mythologies.* London, Vintage, 1980.

Biocca, F. 'Communication Within Virtual Reality'. *Journal of Communication* 42(4), Autumn, 1992, pp4-14.

Buckingham, D. *Public Secrets: Eastenders and its Audience.* London, BFI Books, 1987.

Carey, J. *Communication as Culture. Essays on Media and Society.* London, Unwin Hyman, 1989.

Clegg, S. *Frameworks of Power.* London, Sage, 1989.

Coyle, R. 'The Genesis of Virtual Reality' in P. Hayward & T. Wollen (eds). *Future Visions: New Technologies of the Screen.* London, BFI Publications, 1993.

Cranny-Francis, A. *The Body in the Text.* Melbourne University Press, 1995.

Crowley, D., and P. Heyther. *Communication History: Technology, Culture, Society.* New York, Longman, 1991.

Delia, J. 'Communication research: a history' in C. Berger & S. Chaffee (eds). *Handbook of Communication Science.* New York, Sage, 1987.

Descartes, R. *Philosophical Writings.* London, Thomas Nelson, 1970.

Deutscher, P. *Yielding gender: feminism, deconstruction and the history of philosophy.* London, Routledge, 1997.

Dibell, J. 'Data Rape. A Tale of Torture and Terrorism On-Line', *Sydney Morning Herald.* 12 February 1994.

Dijk, T.van.*Text and Context: Explorations in the Semantics and Pragmatics of Discourse.* London, Longman, 1977.

Drotner, K. 'Modernity and Media Panics' in M. Skovmand & K. Schroder (eds). *Media Cultures: Reappraising Transnational Media.* London, Routledge, 1992.

Eichler, M., and H. Scott (eds). *Women in Futures Research.* Australia, Pergamon Press, 1982.

Eliot, T.S. 'Little Gidding: Four Quartets' in *The Complete Poems and Plays of T.S. Eliot.* London, Faber, 1969.

Fairclough, N. *Discourse and Social Change.* Cambridge, Polity Press, 1995.

'Firms Take Technology from Battle Simulator to TV Screen' *Signal.* U.S. Armed Forces Communications and Electronics Association. 1994.

Foucault, M. *The Archaeology of Knowledge.* London, Tavistock Publications, 1972.

— *The History of Sexuality: An Introduction.* London, Peregrine Press, 1984.

— 'The Order of Discourse' in M. Shapiro (ed). *Language and Politics.* Oxford University Press, 1984.

Franklin, S., C. Lury, and J. Stacey. *Off-Centre. Feminism and cultural studies.* Lancaster University, Harper Collins Academic, 1991.

Frissen, V. 'Trapped in electronic cages? Gender and new information technologies in the public and private domain: an overview of research' in *Media Culture and Society* 14:1 1992.

Ghost in the Machine (film). USA, 20th Century Fox, 1993.

Gibson, W. *Neuromancer.* New York, Ace Science Fiction, 1984.

__ *Mona Lisa Overdrive.* London, Grafton Books, 1989.

__ *Virtual Light.* London, Penguin Books, 1993.

__ *Idoru.* New York, Berkley Books, 1996.

Gill, R. 'Relativism, reflexivity and politics' in S. Wilkinson and C. Kitzinger (eds). *Feminism and Discourse: Psychological Perspectives.* London, Sage, 1995.

Grace Hopper Celebration of Women in Computing. 1994 Conference Proceedings. http://www.cs.yale.edu/homes/tap/Files/hopper-story.html

Grant, L. *Sexing the Millennium. A Political History of the Sexual Revolution.* London, Harper Collins, 1994.

Griffith, D. 'The Exclusion of Women from Technology' in W. Faulkner & E. Arnold (eds). *Smothered by Invention: Technology in Women's Lives.* London, Pluto Press, 1985.

Hakken, D. *Cyborgs@cyberspace? An Ethnographer Looks to the Future.* New York, Routledge, 1999.

Hall, S. 'The rediscovery of ideology: The return of the repressed in media studies' in M. Gurevitch, T. Bennet, J. Curran, and J. Woollacott, (eds).*Culture, Society and the Media.* London, Routledge, 1988.

Haraway, D. *Simians, Cyborgs and Women: The Reinvention of Nature.* New York, Routledge, 1991.

__ 'The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others' in L. Grossberg, C. Nelson & P. Treichler (eds). *Cultural Studies.* New York, Routledge, 1992.

Hard Drive (film). Desiree Film Corporation, USA, 1994.

Hawthorne, Susan: 4/5/2000 . Interviewed by Robyn Williams on *Ockham's Razor* .
http://www.abc.net.au/rn/science/ockham/stories/122405.htm

Heim, M. *The Metaphysics of Virtual Reality.* Oxford University Press, 1993.

Herring, S. 'Gender Differences in Computer Mediated Communication: Bringing Familiar Baggage to the New Frontier'
http://www.cpsr.org/cpsr/gender/herring.txt 1994.

Higgins, D. 'Women take the feminist flame into cyberspace' *The Australian*, 14 March 1995.

Hirst, *D.* 'Love will tear us apart' *Flash Art.* Sydney, Arpeto, 1993.

Hodge, R., and G. Kress. *Social Semiotics.* Cambridge, Polity Press. 1988.

Holloway, W. 'Feminist *D*iscourses and Women's' Heterosexual Desire' in S. Wilkinson and C. Kitzinger (eds). *Feminism and Discourse: Psychological Perspectives.* London, Sage, 1995.

Hughes, G. *Words in Time. A Social History of the English Vocabulary.* Oxford, Blackwell, 1988.

Huxley, A. *The Doors of Perception and Heaven and Hell.* London, Penguin Books, 1959.

The Internet Movie Database. http://us.imdb.com/

Josefsson, D. Interview with William Gibson. http://www.josefsson.net/gibson/index.html

Kaplan, N., & E. Farrell. 'Weavers of Webs: A Portrait of Young Women on the Net'. http://raven.ubalt.edu/staff/kaplan/weavers/weavers.html

Kress, G. (ed). *Communication and Culture.* University of NSW Press, 1985.

Krueger, M. 'Artificial Reality' in Hartley, R. (ed). *New Media Technologies.* Sydney, AFTR School, 1993.

Lane Lawley, E. 'Computers and the Communication of Gender' http://www.itcs.com/elawley/gender/html April 1993.

The Lawnmower Man (film). USA, New Line Cinema, 1992.

Lazar, M. 'Equalising gender relations' in *Discourse and Society* 4:2, 1993.

Levy, S. 'Brave New World' *Rolling Stone*, Sept 1993.

Livingstone, S. 'The Resourceful Reader: Interpreting Television Characters and Narratives' in International Communication Association. *Communication Yearbook Volume 15.* California, Sage, 1988.

Lumby, C. *Bad girls: the media, sex and feminism in the 90s.* Sydney, Allen & Unwin, 1997.

Marvin, C. *When Old Technologies Were New. Thinking About Electric Communication in the Late Nineteenth Century.* Oxford University Press, 1988.

— 'Experts, Black Boxes and Artifacts: New Allegories for the History of Electric Media' in B. Dervine, I. Grossberg, B. O'Keefe, & E. Wartella (eds). *Rethinking Communication. Volume 2: Paradigm Exemplars.* London, Sage, 1989.

The Matrix (film). USA, Village Roadshow Productions, 1999.

McCaffrey, L. (ed). *Storming the Reality Studio.* London, Duke University Press, 1991.

Moyal, A. *Clear across Australia. A history of Telecommunications.* Globe Press. Australia, 1984.

— 'The Feminine Culture of the Telephone. People, Patterns and Policy' in *Prometheus.* Vol 7:1, June 1989. pp1-16

— 'The gendered use of the telephone: an Australian case study.' in *Media, Culture and Society.* Vol 14, 1992. pp51-72

O'Neil, E., R. McLain and B. Lavoie. 'A Methodology for Sampling the World Wide Web'. http://www.oclc.org/oclc/research/projects/webstats/statistics.htm

Pacey, A. *Meaning in Technology.* Massachusetts Institute of Technology Press, 1999.

Page, S. 'William Gibson Bibliography/Mediagraphy' http://www.slip.net/~spage/gibson/biblio.htm

Plant, S. *Zeros + Ones: Digital Women + the New Technocultures.* New York, Doubleday, 1997.

— 'The Future Looms' in Wolmark, J. (ed). *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace.* Edinburgh University Press 1999.

— 'Cyberfeminism' 1999. http://www.206.251.6.116/geekgirl/001stick/sadie/sadie.htm

Postman, N. *Technopoly: the surrender of culture to technology.* New York, Vintage Books, 1993.

'Doctor Tim' *Revelation.* No. 8 July/August 1994.

Rheingold, H. *Virtual Reality.* New York, Summit Books, 1991.

— *The Virtual Community: finding connection in a computerized world.* London, Seeker & Warburg, 1994.

Rothschild, J. (ed). *Women, Technology and Innovation.* London, Permagon Press, 1982.

sci.virtual worlds newsgroup. http://www.newsgroup/sci/sci/virtual-worlds.html

Sherman, B. and Judkins, P. *Glimpses of Heaven, Visions of Hell. Virtual Reality and its Implications.* London, Hodder & Stoughton, 1992.

Slouka, M. *War of the Worlds: the assault on reality* . London, Abacus Books, 1996.

Sofia, Z. 'Virtual Corporeality' in Wolmark, J. (ed). *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace.* Edinburgh University Press 1999.

Sofoulis, Z. 'Cyberfeminism. The world, the flesh and the woman-machine relationship' http://geekgirl.com.au/geekgirl/003broad/zoe.html

Spender, D. *Nattering on the Net: Women, Power and Cyberspace.* Australia, Spinifex Press, 1995.

Stabile, C. A. *Feminism and the technological fix.* Manchester University Press, 1994.

Steur, J. 'Defining Virtual Reality: Dimensions Determining Telepresence' in *Journal of Communication.* Autumn, 1992.

Toole, B. (ed). *Ada, the enchantress of numbers: a selection from the letters of Lord Byron's daughter and her description of the first computer.* California, Strawberry Press, 1992.

United States one Hundred Second Congress May 1991. 'New Developments in Computer Technology: Virtual Reality' *Hearing Before the Subcommittee on Science, Technology and Space of the Committee on Commerce Science and Transportation.* Washington, US Government Printing Office, 1992.

'US Decency Act aims to clean up sex talk on the Internet' *Canberra Times.* 4 April 1995.

Van Zoonen, L. 'Feminist theory and information technology' in J. Curran & M. Gurevitch (eds). *Mass Media and Society.* London, Edward Arnold, 1991.

Wajcman, J. 'Technological A/Gendas: Technology, Culture and Class' in L. Green & R. Guinery (eds). *Framing Technology: Society Choice and Change.* Sydney, Allen & Unwin, 1994.

Weedon, C. *Feminist Practice and Poststructuralist Theory.* Oxford University Press, 1987.

Wertheim, M. *The pearly gates of cyberspace: a history of space from Dante to the Internet.* Australia, Doubleday, 1999.

Wild Palms (mini-series). USA, American Broadcasting Company, 1993.

Wilding, F. 'Where is Feminism in Cyberfeminism?' http://www-art.cfa.cmu.edu/www-wilding/wherefem.html

Wilkinson, S., and C. Kitzinger, (eds). *Feminism and Discourse: Psychological Perspectives.* London, Sage, 1995.

Wolmark, J. (ed). *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace.* Edinburgh University Press 1999.

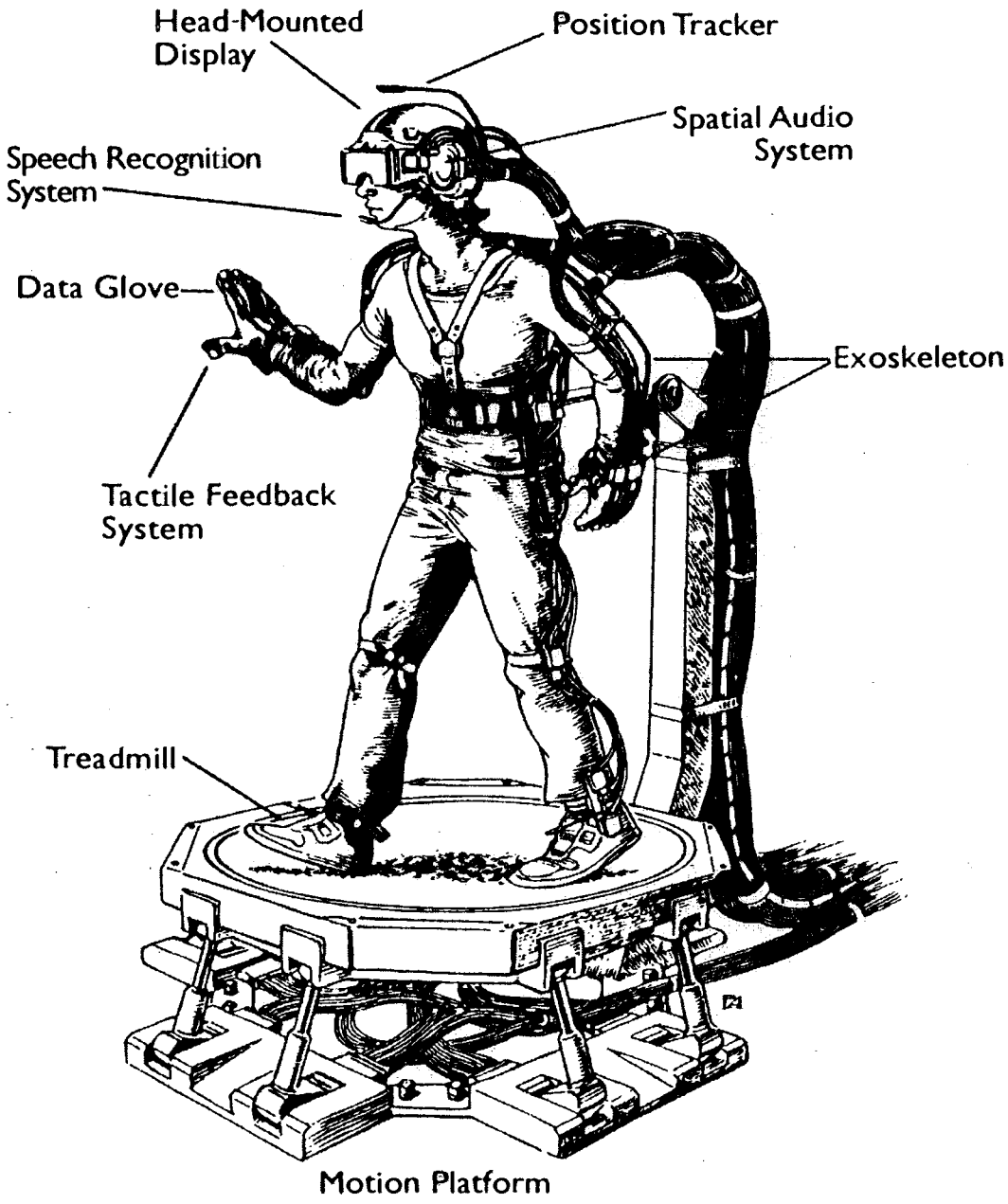
Women in Technology International Summit. Boston. http://www.witi.eom/center/conferences/#past October 1998.

Wooley, B. *Virtual Worlds, A Journey in Hype and Hyperreality.* London, Penguin Books, 1993.

Zakon, R. *Hobbes' Internet Timeline.*1999. http://www.isoc.org/guest/zakon/Intemet/History/HIT.html

Zimmerman, J. *Once upon the future: a woman's guide to tomorrow's technology.* New York, Pandora, 1986.

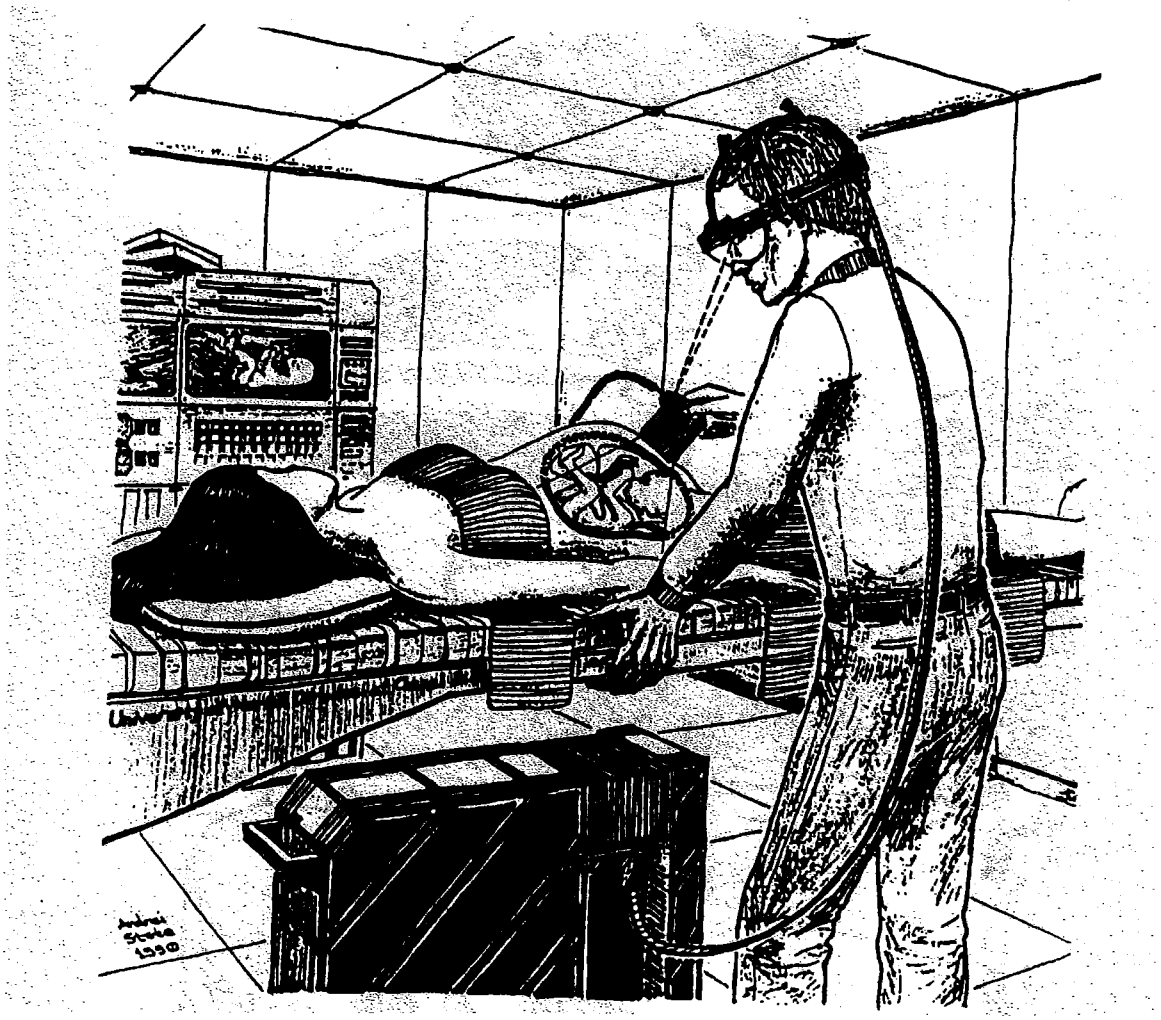
APPENDIX A



Artist's rendition of a highly immersive virtual reality system.

Slide shown by Dr Fred Brooks in testimony to US Senate Hearing on Virtual Reality, op cit, p36.

APPENDIX B



Ultrasound Examination.

Slide shown by Dr Fred Brooks, in testimony to US Senate Hearing on Virtual Reality, op cit, p38.

APPENDIX C

Building design.

Slide shown by Dr Fred Brooks in testimony to the US Senate Hearing on Virtual Reality, op cit, p39.