seminar series

The ideological and cultural processes that represent *new communications technologies* as 'masculine'.

By Serge Walberg

"The enduring force of the identification between technology and manliness is not inherent in biological sex difference. It is rather the result of the historical and cultural construction of gender."

J. Wajcman (1991)[1]

INTRODUCTION

The widespread adoption of *New Technologies* as an intrinsic element of lifestyle in "white western" societies raises the question of their gender appropriation. This essay investigates the mechanisms, processes and objective social forces that are acting to define these technologies in essentially masculine terms. The prevailing conception of technology has always been heavily weighted against women, with only masculine machines (cars, industrial and construction machinery) being defined as technology, as Cynthia Cockburn[2] (1983) has argued convincingly. Technology that is employed by women (household appliances, cooking and childcare) has seen its significance diminished by a male-dominated technocracy. The advent of the information age however has brought the undisputed supremacy of *computer and information* technology over other existing technologies, and a hybridisation with them. This '*new'* technology spans a wide spectrum of activities that bridge gender lines, yet somehow it retains its masculinity. This essay will seek to discover both *how* and *why*.

The complexity of the issues concerned, coupled with the mountains of available data on the topic, pitch an exhaustive investigation beyond the scope of this essay, and research here has therefore been limited to 4 principal areas of inquiry:

1. an historical understanding of the development of technology and its relation to the social and political evolution of men
2. an analysis of the relationship between men and machines, including the impact of war technology, Virtual Reality and hacking on the masculine representation of technology
3. an examination of the influence of education (on women and on men) in consolidating the masculine bias of technology,
4. the effect of media stereotypes in reaffirming and perpetuating the male husbandry of new communications technologies

It is impossible to address the issue of the gender bias applied to technology without referring to the socio-economic and political environment in which this

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[1] Wajman, J. (1991). Feminism confronts Technology. Sydney: Allan and Unwin.
[2] Cockburn, C. (1983). Brothers: Male Dominance and Technological Change. London: Pluto Press

occurs. The ruling male-dominated capitalist technocracy benefits hugely from new communications technologies, which it has purposely spawned and developed to consolidate its control of the means of material production. We shall show below that this control, *ipso facto* presupposes the masculinity of technology, of capitalist power, and hence of the technocracy itself.

"*The intensified misery of billions of men and women"* writes Donna Harraway (1997)[3] *"seems organically rooted in the freedoms of transnational capital and technoscience."* I intend to demonstrate that the sharply gendered symbolic representation of technology is the inevitable result of applying *New Technologies* to achieving the objectives of '*new world order'* imperialism and its global markets.

TECHNOLOGY AND MEN

> *"The ruling ideas in every epoch are the ideas of the ruling class. The class which has the means of **material** production at its disposal, has control at the same time of the means of **mental** production."* Marx and Engels (1970)[4].

The "*means of mental production*" today far surpass anything Marx and Engels could have imagined in 1887. The advent of the information age and new technologies has turned information into not just a control tool and a weapon for the "bourgeoisie", but also a marketable commodity in itself. "*Far from a new world of free information"* writes Chris Crouch (1996)[5], we have a minority high technology culture "*still being used to perpetuate the ideas and social attitudes of a dominant capitalist class*".

Bourgeois ideology, based on early Judaeo-Christian concepts of family and social relations, perpetuates the subordination of women in a male-dominated hierarchy. Partly because of the vital role religion ("*the opium of the people",* according to Marx (1887)[6]) has played in the historical evolution of capitalism, the dominance of the male (culturally, socially, politically and economically) has been widely evangelised and accepted. The first act of a pious Muslim man every morning is to thank Allah for being born a male.

The masculinity endemic in the ideology of capitalist societies is reflected in the fact that the technocracy controlling and managing western capitalism is itself overwhelmingly masculine. Even in exceptional cases, (such as Margaret Thatcher's influence on English --and world-- capitalism for 2 decades), the *real* ruling class is not just the political puppets in office, but *the owners of the means of production*, big business and transnational corporations, whose interests politicians simply articulate. The moguls, tycoons and barons who effectively rule the planet's vast financial, communications and production empires are *all* men.

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[3] Harraway, Donna, (1997). Syntactics: The Grammar of Feminism and Technoscience. Modest Witness@Second Millenium. Female Man©_Meets_Oncomouse™. London:Routledge.

[4] Marx, K. & Engels, F. (1976). Origins of the Family, Private Property and the State. Harmondsworth: Penguin.

[5] Crouch, C. (1996). The Internet; where the centre could be the edge, and where the margins may be in focus. Periphery. Issue 27.

[6] Marx, K. (1974). Capital, Vol.1. London: Hammond Press.

Given therefore that *men* essentially own the wealth and control the system, and given that the system spawns the technologies it requires *to maintain* that control, it follows logically that the technologies are conceived, designed and produced to be *used* by *men*. The first steam locomotives could never have been operated by women (several strong men were required), nor was the issue of accessibility to women even considered. War technology provides even more striking examples, with some artillery and even some hand weapons too difficult for women to use because of their lower physical strength. "*The advent of microchip technology does not, as some believed it might, break the technical sexual division of labour,*" says Cynthia Cockburn (1992)[7].

However, as technologies and their products became *marketable consumer commodities*, the imperatives of the market place forced producers to adapt some products to target the 50% female portion of the market. Cars are now designed so that they can more easily be operated and maintained by women, but this in no way diminishes the technologies being represented as masculine.

The historical evolution of technology has paralleled the evolution of a male-dominated political system, and has reflected the needs of a newly capitalist Europe through the industrial revolution. This has resulted in a strong gender bias being applied to concepts and representations of *New Technologies*, which, by expressing and globalising relations between men (social, economic, political, etc.,) still conspires to perpetuate the exclusion of women.

MEN'S RELATIONSHIPS WITH MACHINES

> *"Men 'give birth' to science and weapons to compensate for their lack of the 'magical power' of giving birth to babies. This is demonstrated by their pervasive use of aggressive sexual and birth metaphors.*
> Brian Easlea, (1987).

The popular representation of technology as *masculine* assumes that "*the domestic sphere is technology free, yet it is packed with technology*"[8] from washing machines to fridges. Only those machines however, that have an intimate relationship with the interests and ambitions of men are characterised as 'technology'. We shall examine below three case studies: war machines, Virtual Reality, and hacking.

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[7] Cockburn, C. (1992). The Circuit of Technology: Gender, Identity and Power. <u>Consuming Technologies: Media and Information in Domestic Spaces.</u> London: Routledge.
[8] Wajman, J. (1991). <u>Feminism confronts Technology</u>. Sydney: Allan and Unwin.

Masculinity and War Technology

Radical feminists have defined men's relationship with machines in terms of an intrinsic, subconscious, bio-psychological desire to compensate for their inability to bear children[9], and Easlea extrapolates this definition to explain the creation of nuclear weapons in terms of the masculinity of science. "*The nuclear arms race*" he argues, is in large part underwritten by the "*masculine pursuit and application of scientific enquiry*".

It is well beyond the scope of this essay to debate Easlea's feminist, Freudian interpretation of men's fascination with war as a subconscious desire for motherhood ("*womb-envy*"); or to respond to the equally unsubstantiated assumption that war, in the same way as rape, is a result of men's inherently aggressive nature. However, Easlea's observations in relation to the metaphors and symbolism used by the (almost entirely male) developers of instruments of mass destruction are pertinent to our analysis of the masculinity of war technology. Atomic bombs were nicknamed "*Little Boy*", etc. by their *doting* designers, their development attended by *mothering* engineers and scientists in *maternal adoration*, completely oblivious of the untold deaths and devastation their "*baby*" was about to deliver.

The development of war technology by capitalist economies is driven by forces of historic inevitability. That these economies are all male-dominated technocracies helps explain the masculine representation of war technology, and its association with virility.

Imperialism, or *capitalism in its final, global phase* (Lenin, 1927[10]), today depends on war technology, (and it's resultant multi-billion dollar international trade in weapons) on an unprecedented scale. As I have said elsewhere[11], imperialist interventionist forces, led by the USA are regularly engaged in military conflict around the planet; Bosnia, Iraq, Ethiopia, East Timor, Palestine, Afghanistan, Kosovo, etc, costing thousands of lives and billions of dollars annually. To a large extent, concepts of masculinity and virility contribute to the general acceptance of these economically motivated, interventionist wars.

The media images circulated of these wars, particularly the Gulf War, highlighted the sinister desensitising effect of weapons simulators, and computer warfare. Young male pilots were '*zapping*' scores of sleeping women and children right in their own homes, by a click of the joystick, with as little concern or remorse as for any of the thousands of identical computer war games and simulations they had previously played.

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[9] Easlea, B. (1983). Fathering the Unthinkable: Masculinity, Scientists and the Nuclear Arms Race. London: Pluto Press.

[10] Lenin, V. (1927). What is be done? (N.V.Volsky, English language edition, 1968). London: Fontana

[11] Walberg, S., (1998, February 28). Keeping the Imperialist Peace. Iskra: Organ of The Anti-Liberal Forum. Vol.24, p 3.

Robert Connell (1985)[12], distinguishes between "*hegemonic masculinity*" and "*subordinated*" or "*marginalised masculinity*" to investigate the disparate versions of masculinity reflected in class, ethnic and generational differences. Recently 'mediatised' individual killing rampages, in schools and places of work (all *men*), strongly associate hegemonic masculinity with aggressiveness and the capacity for violence. While it is important to resist the simplistic and defunct *technological determinist* argument that '*media creates crime*' (i.e. that technology is *external* to society), very little distinguishes the alienated American adolescent who 'lives out' his computer shooting game by mowing down his schoolmates, from the slightly older GI, using identical controls and screen displays, to bomb Baghdad or Belgrade.

The Virility of Virtual Reality, or the Reality of Virtual Virility

"Virtual worlds are almost exclusively created by white, middle-class males, whether the venue is virtual sex or virtual cooking."
David McKie [13](1994).

David McKie, quoted above, believes that despite the marketing rhetoric of future potential for all, traditional economic, race and gender lines restrict access to Virtual Reality technology. From engineering technocrats to cyberspace visionaries (and probably vice versa) leading players are all white, male, and middle class. Consequentially, more resources are devoted to constructing retinal imaging lenses for *mind sex*, military hardware and shooting games, than to developing childcare or domestic applications.

Virtual Reality, or *interactive graphical simulations*, has been clearly demarcated by the owners of the means of production as an almost exclusively masculine enclave. Almost all applications (at least those that are marketable) respond to specifically male needs, be they physical, emotional, recreational, technical, military or sexual. As with most current Internet commercial activity, female-exploitative, male-targeting pornography ("*phallocratic*"[14] applications) will dwarf other applications by the sheer volume of activity. "*Teledildonics*" (from *dildo*: artificial penis) will provide unimagined, unlimited and customisable sexual services to male clients, who will be able to:

"*wriggle into a condom-tight body suit embedded with thousands of miniature electronic sensors, computer controlled to simulate the feel of any object from rubber to skin. Suitably protected participants could then interface sexually with any partner, real, imaginary, or re-created.*" David McKie, [15](1994).

Indiscriminate sexual gratification, unsupported by an emotional interpersonal relationship, is unlikely to appeal to a large number of women, yet is clearly the media-enforced fantasy of most males, and is the most hyped-up aspect of Virtual

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[12] Connell, R. (1985). Masculinity, Violence and War. War/Masculinity. Sydney: Intervention Publications

[13] McKie, D. (1994). Cybersex, Lies and Computer Games. In Framing Technology: Society, Choice and Change. NSW: Allen & Unwin.

[14] No author can be referenced for much of the internet colloquialism that sporadically appears and evolves on the World Wide Web.

[15] McKie, D. (1994). In Framing Technology, by Green, L. NSW: Allen & Unwin.

Reality presented. Enormous financial resources are thus channelled into developing technologies hardly any women will use.

More sinister than teledildonics however, is the drive towards more frightening games and "*bigger toys (smart bombs) for big boys. The discourse is masculine*," says McKie "*and neurotically concerned to avoid consideration of emotional implications.*" Just as the developers of "Little Boy" (which killed tens of thousands of people in Hiroshima) experienced no remorse, but only "*overriding pleasure and sheer joy in achieving technological perfection*" *Wajcman*, (1991)[16], so are the developers of Virtual Realities' military applications unconcerned with ethical or moral considerations.

Like most other technologies that preceded it, Virtual Reality will be developed for males, and exploited by them. However, also like other technologies, it will eventually become commoditised, and as such will need to be marketed to women, who after all represent half of all consumers. When this happens, as in the past, the technology will not lose its 'masculinity', only the commodity will be adapted. Virtual Reality, perhaps more than any other feature of the new communication age, is very deliberately constructed as masculine, almost to the acknowledged exclusion of women.

The Machismo of Hacking

> "*Men affirm their masculinity through technical competence, and posit women, by contrast, as technologically ignorant and incompetent.*"
>
> Lelia Green, [17](1994).

Hackerz, Crackerz, Wizardz, WarezDealerz. These are part of the fauna of hyperspace, occupying a no-man's-land in the twilight zone of legality, yet commanding perhaps the greatest respect and admiration of any of the hazily defined groups that populate the hierarchical structures of internet users. From the very top rungs of the World Wide Web's technical elite, hackers watch out for new challenges, new security codes to crack, new programs to reverse-engineer, new naïve amateurs to fleece, abuse or seduce, new viruses to develop and propagate; in a word, more *power*.

Sherry Turkle (1984)[18], describes hackers, based on ethnographic research at MIT, as "*the epitome of the male culture of 'mastery, individualism, and nonsensuality*." Though hackers would deny that theirs is a macho culture, the preoccupation with winning, and of subjecting oneself to increasingly violent tests makes their world "*peculiarly male in spirit, peculiarly unfriendly to women*" says Turkle. These young men have an intense need to master things. Their addiction is not to computers, she argues, but to control; and control over technology is a core element of masculinity.

As the issue of control of the Internet raises legal, political and scientific questions, hackers as yet enjoy a (relatively) free hand over Internet traffic. This creates a

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[16] Wajman, J. (1991). Feminism confronts Technology. Sydney: Allan and Unwin.

[17] Green, L. (1994). Framing Technology. NSW: Allen & Unwin.
[18] Turkle, S. (1984). The Second Self: Computers and the Human Spirit. London: Granada.

climate of spiralling desirability of acquiring or retaining control over technology, and hence the increasing "*sexiness*" and masculinity of hacking. Men are obsessed with gaining power and glory, and always have been, according to Simone de Beauvoir, who claims that "*male accomplishments in the field of science and technology*" serve to bestow a virile status on the respective male achievers, and thereby *"underwrite a claim to masculinity".* Men identify with technology, and through that identification form bonds. Women are often absent from these relations, except as wives at home.

While the hackers' form of masculinity may seem to represent the professionalised, calculative rationality of the expert technician, they mythologise their role in terms of the traditional 'warrior ethic'[19] of heroic masculinity, a construction more appropriate to combat and violence between men. These typically white, middle class males describe their roles by drawing on the culturally dominant form of masculinity for their notions of virility. Technical competence has become central to the dominant cultural ideal of masculinity, and its absence a key feature of stereotyped femininity.

This correspondence between men and machines is neither essential nor immutable, but is the product of the complex socio-economic structure of modern techno-capitalism. Its total transformation cannot be achieved, in the final analysis, independently from the transformation of capitalism.

EDUCATION

Children at a very early age are cast into pre-defined, socially acceptable gender stereotypes. Little boys are given *Leggo* construction sets for Christmas, and grow up to be engineers and architects. Little girls get *Barbie* dolls and grow up to be mothers, models and prostitutes. These stereotypical behaviour traits are re-enforced right through the child's life by parents, schools, churches, sports associations and peer acceptance norms. Girls are often still discouraged from selecting "un-ladylike" career options, and the only technology acceptable for most women is still word-processing their *male* boss's correspondence.

The capitalist system in place has already created the necessary educational and propaganda infrastructure to mould ideology in accordance with its political objectives, as we have seen above. Women's secondary importance to the development of technology had already been presupposed in relation to early technologies, such as the car and locomotive, and only needed reaffirming with respect to the new technologies.

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[19] Turkle, S. (1984). <u>The Second Self: Computers and the Human Spirit.</u> London: Granada.

Conditioning starts at birth, in the heart of the bourgeois nuclear family[20], when gender roles and attitudes (and even colours, boys: blue, girls: pink) are inculcated to infants. Girls are told so many times they "*can't*" be good at technology, that they grow up believing it, and *becoming* technologically incompetent. By the time a girl is old enough to throw away her dolls and buy her own *Leggo* set, her brother is already years ahead of her in engineering and construction skills. Technology has entered young girls' sexual identities. Femininity is perceived to be incompatible with technological competence, to feel technical competence is to feel manly and unsexy.

Different childhood exposure to technology, the prevalence of different role models, different forms of schooling, and the extreme gender segregation of the job market all lead to what Cynthia Cockburn (1983)[21] describes as "*the construction of men as strong, manually able and technologically endowed, and women as physically and technically incompetent.*"

Further, the development of children cannot be understood outside of its social context. Social relations, customs, metaphors and practices play a constitutive role in the elaboration of the child's conceptual knowledge. These will already have been affected by the application of a male bias to technology, and will therefore be reflected in both boys' and girls' conception of their relation with technology.

There is nothing 'natural' about the affinity of men for technology. It has, like gender difference itself, been developed in a social process over a long period with the growth of the capitalist hierarchical system of power. This system has extremely effective social conditioning mechanisms in place that act on individuals to encourage conformity, and the acceptance of a hegemonic "normality".

MEDIA STEREOTYPES

Another set of mechanisms acting to homogenise cultural norms is the media. Increasingly this is monopolistically owned by mogul-barons, vanguard knights of the capitalist system (all of them male), no longer attached to any national border, but economically motivated towards global control of media and information, hegemony and cultural imperialism.

The role of the media in producing and affirming gender stereotypes is growing faster than ever with the increased accessibility of media to younger and younger people. Advertising and marketing make exaggerated use of women's sexual and aesthetic features, while downplaying their other faculties. Conversely, media stereotypes portray men as strong, dominant, wealthy, and technologically competent.

While concurring with most analysts quoted here that education and media stereotypes are determining factors in the gender representation of technologies,

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[20] Marx, K. & Engels, F. (1976). Origins of the Family, Private Property and the State. Harmondsworth: Penguin.
[21] Cockburn, C. (1983). Brothers: Male dominance and technological change. London: Pluto Press.

as well as contributing to the social conditioning of children towards stereotypical attitudes (and aptitudes) in relation to technology, we must be wary of any reformist "band-aid" solutions to what is essentially a fundamental political problem. Instead we should approach the causality of social aberrations dialectically, in relation to the socio-economic structure of society as whole.

CONCLUSION

New Technologies are represented as overwhelmingly masculine, and we have shown above that this is the natural historical progression from the masculine representation of earlier technologies, dating back to the Industrial Revolution. An analysis of the relation between the gendered structure of capitalism and the development of new technologies explained the masculine bias to social conceptions of technology.

We demonstrated the complexity of men's relationship with machines by assessing the masculinity of war games and war technologies, as well as the virility inherent in Virtual Reality, and the barely concealed machismo endemic in the cyberworld's elite hackers community.

Finally having evaluated the evidence of the effects of education, and of media stereotyping on gender representations of technology, it has become apparent that piecemeal repairs to the problem can never be effective in the long term. The gender bias exists, as we have shown, because of the inevitable contradictions created by the capitalist system, affecting not only gender, but also class, race and the environment. Solutions that do not include the transformation of the capitalist system (or its replacement by an egalitarian, environmentally conscious, community based socialised system), will only address symptoms.

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The Anti-Liberal Forum. p 3.