

THE MACHINE IS A WOMAN

AN ANALYSIS OF HOW TECHNOLOGY IS SEXED AND GENDERED IN SELECTED SOUTH AFRICAN ADVERTISEMENTS

TECHNOLOGY ALWAYS HAS TO DO WITH THE BODY AND THUS WITH GENDER AND WOMEN IN SOME FORM

(Jardine 1987:151).

In most feminist readings, including those of Mary Daly (1990) and Hilary Rose (1994), there is a tendency to homogenise technology or to provide somewhat generalised accounts of its reception. In such accounts, one technology becomes a synecdoche of technologies in general. Furthermore, they construct technology as inevitably phallic, masculine and, for that reason, as deadly and westernised *per se*. Accordingly, it is assumed that technology tends to exclude women' not only from participating in its development but also from using it. If, working with this model, one uses the critical category of gender to assess the relationship between 'women' and 'technology', the outcome is invariably going to be somewhat simplistic and predictable. It will be argued that women's relationship to technologies is informed by gender biases that are demeaning. Moreover, it will be assumed that women actually feel themselves degraded by such gender-biased imagery. Obviously, this is not necessarily true, and it does not accurately reflect all women's daily experiences with technologies.

I am more intrigued by another aspect of the relationship between women and technologies, namely that which materialises when the acrimony is transformed into collaboration. How is the machine-woman pairing re-configured when women and technologies form an alliance? What happens when women and technologies start to court one another and slip through the controlling vigilance of patriarchal

techno-institutions?² Such a subversive alliance may be very fruitful for a feminist argument, for it opens up alternative possibilities for viewing the flawed relationship between women and technology. This is where the fairly uncomplicated initial argument, namely of the animosity that exists between women and machines, bends and twists and hopefully provides results that are not anticipated. It may even open up different spaces for thinking about women and technology, for if woman and machine were to form a coalition, who and what would be at risk?

In order to prepare the ground for such a discussion, I will begin by discussing briefly what is meant by technology and will then explore the question whether technology does indeed have a gender. Thereafter, I investigate selected visual examples of the 'machine is a woman myth'. In addition to considering Fritz Lang's film *Metropolis* (1926), I look at more recent South African images, namely three adverts for Acer computers. Finally, another counter viewpoint in tackling the 'machine is a woman' myth is presented.

WHAT IS TECHNOLOGY?

Is technology a form of know-how, something people do, or is it just a set of physical tools such as spanners and computers? My use of the term technology allows for a more comprehensive human activity that is contextually bound and yet transcends an instrumentalist view of technology

as the mere tool for human use. With new technologies, the following are specifically noted: microelectronics, telecommunication networks, nano-technology, virtual reality, computer-mediated communications and other forms of computer technologies. These technological practices manifest in corporeal terms – in cosmetic and sexual re-assignment surgery, bioengineering (genetics, eugenics, cloning, implants and transplants) and new reproductive technologies (embryo transfer, artificial wombs and insemination), to name only a few.

Technology is, however, not restricted to machines and devices, but also includes social, economic and institutional forces. In *Technologies of gender*, Teresa de Lauretis (1987:2), extends technology's meaning to include 'various social technologies such as cinema, institutionalized discourses, epistemologies and critical practices, as well as practices of daily life'. When used within the parameters of this discussion, the meaning of technology is extended to include social and image technologies, such as film, advertising and multimedia art productions, with specific reference to how they pertain to the production of gender.

DOES TECHNOLOGY HAVE A GENDER?

The short answer to the question is 'yes', for if we take heed of Heidegger's warning in *The question concerning technology and other essays* (1977), namely not to regard technology as

a neutral endeavour, one may include sex-gender neutrality in the equation. Heidegger (1977:4; emphasis added) poses the question concerning the supposed neutrality of technology as follows:

Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it ... makes us utterly blind to the essence of technology.

Technologies are, therefore, neither neutral nor impersonal for they produce and privilege a certain sex and gender. As Sandra Harding (1986:57) asserts: 'If science [technology] is a totally social activity – it is structured by expressions of gender'. Although I am at risk of homogenising technologies at this point, I nevertheless want to suggest that the gender that is predominantly favoured by most technologies is the masculine. Furthermore, I want to add that most technologies also privilege a specific sex, namely the male. On an entry level, initial financial resources, skills and access are required not only to use technologies, but also to create them. The everyday realities of the labour market dictate that women are still paid less than men, and when it comes to 'know-how', women are less skilled in technologies for a variety of reasons. This produces a system of exclusion that has been perpetuated from context to context, and from society to society.

But is the sex-gender and technology debate merely a question of access, resources and skills? What occurs on the meta-discursive level that makes the bond between masculinity/maleness and technology so potent? Judy Wajcman (1991:137) explains the resilient bond in *Feminism confronts technology*:

To emphasize ... the ways in which the symbolic representation of technology is sharply gendered is not to deny that real differences do exist between

women and men in relation to technology. Nor is it to imply that all men are technologically skilled or knowledgeable. Rather ... it is the ideology of masculinity that has this intimate bond with technology.

Wajcman is careful in her analysis not to reduce all technological dealings to gender differences by keeping open the possibility that 'real differences do exist between women and men in relation to technology'. In other words, sexual differences exist in tandem with gender differences. Neither does she present a sexist and reductive argument that men are technologically inclined *per se*, simply because they are men. On the contrary, women are definitely technologically capable, but, as Cynthia Cockburn (1985:12) notes, 'to feel technically competent' is traditionally 'to feel manly'. In other words, a woman has to cut across traditional gender roles in order to 'feel' technologically apt. What Cockburn is alluding to here is the way in which technology is inscribed into masculinity, and how technology is seamlessly aligned with power and masculinity. Technology is not *inherently* masculine, but it has been socially constructed as such. This signals that technology's relation to masculinity has a long and dynamic history, which may (from a gender-egalitarian perspective) change again in the near future, provided we are able to create different myths and spaces for women to interact with technologies.

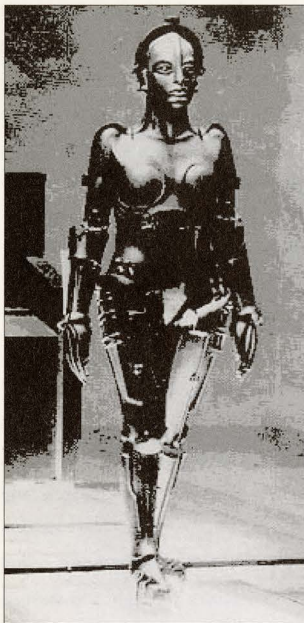
Because of their dispersed and decentred attributes, new technologies have created expectations for differently structured sex and gender relations and ratios. The masculine/male privilege resiliently prevails, however. In this regard it is valuable to briefly refer to research that has been completed on the different ways in which the different sexes and genders communicate online (see Turkle (1996) and Cherny & Reba Weise (1996)). In 'Gender differences in computer-mediated communication: bringing familiar baggage to the new frontier', Susan Herring (1994) argues that women and men have recognisably different communicative styles, and more

importantly, different communicative ethics when posting on the Internet. She sets out the differences in communicative styles as follows: the female-gendered style is typified by supportiveness and attenuation, while the male-gendered style is more authoritative and portrays a self-confident stance (Herring 1994:3). Herring (1994:1) attributes this difference to the fact that women and men have different communicative ethics, because they value different kinds of online interactions as appropriate and desirable.

In addition to the familiar gendered patterns of communication that are perpetuated online, occurrences of 'virtual rape' have also finally shattered the utopianism of virtual communities. It seems as if the virtual domain has lost its pristine innocence, especially after a much debated and publicised incident on *LambdaMOO* (Multi-user object-oriented domains). During this incident a character called Mr. Bungle coerced other characters through 'the curious notion of rape by voodoo doll' (Dibbell 1998). This entailed the use of a subprogram that attributed actions to other characters that their users did not actually write or type. The coerced characters' screens were infiltrated with deplorable actions, which they did not 'do' or write themselves. Their characters were thus temporarily possessed by Mr. Bungle's evil obsessions. The significant biological facts became apparent only later after the case was investigated: Mr. Bungle was male and the coerced characters were female. Although this fact may not necessarily be indicative of all encounters on the Internet, it does in my view signal a trend.

Therefore, while new technologies represent an opportunity for democratic change,³ they are still constrained and locked into pre-existing organisations of labour, expectations, limitations and accessibility. Given the perpetuation of gender discriminating practices in online communication practices (as referred to above), it is not surprising that the top positions in the information technology domain are also still created and secured by and for men.⁴ It is ironic, however,

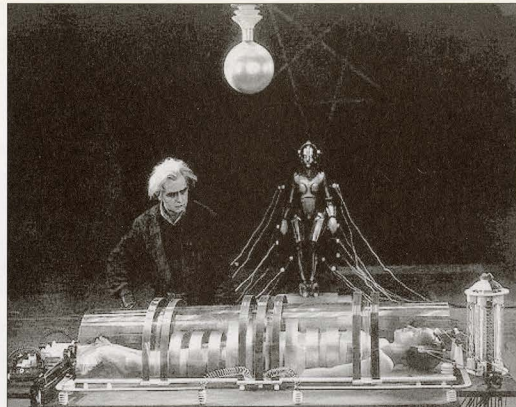
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1 Maria the fembot, Fritz Lang's film *Metropolis* (1926)

2 Rotwang the scientist creates Maria the fembot in the image of Maria the philanthropist, Fritz Lang's film *Metropolis* (1926)

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that 'the electronics industry is largely a women's industry, at least as far as production is concerned' (Wajcman 1991:149; emphasis added). It is female workers who assemble most electronic equipment, especially in Silicon Valley, where the majority of women workers are Afro-American, Hispanic, or Asian. These women are cheap labour for the 'boys' toys'. Paradoxically, it is also mostly women who assemble the electronics of modern naval warfare vessels and other military equipment. It seems as if men play with technology, while women assemble it neatly for them.

If technologies favour a specific gender and sex, why and how is the machine in some cases constructed as being feminine and female? I will attempt to answer the question by first exploring one of the most significant visual pointers created in the image technology of cinema, namely the fembot (female robot) as she appears in *Metropolis* (1926) by Fritz Lang (1890-1976).

MARIA – THE INDUSTRIAL FEMBOT

Patriarchy's simultaneous fascination and fear of technology and unleashed industrialisation are fittingly embodied in the manifestation of a female robot⁵ named Maria (figures 1, 2). It is no coincidence that one of the first cinematic cyborgs

was a woman, for how could the ambiguous and yet coinciding male attraction and repulsion be most fittingly portrayed visually, except by means of a highly sexualised female robot? The sexed female in many of her other guises has simultaneously seduced and threatened men for centuries. For example, the *femme fatale* dominated in the *oeuvre* of many artists during the late nineteenth and early twentieth centuries: Gustave Moreau's repeated depiction of Salomé and Gustav Klimt's preoccupation with Judith are just two instances of this trend. The construction of Maria the fembot therefore corresponds with sister images of the *femme fatale* in paintings of the period. Fritz Lang's fembot is thus not a novel rendition of women but rather one that affirms and reinstates existing prejudices and fears about the feminine psyche and female sexuality.

The construction of the Maria fembot also correlates with the Pygmalion myth, in which a female entity is created under male supervision. In Lang's cinematic version, the reclusive scientist Rotwang creates a robot in the image of his lost love, Hel.⁶ The Master of Metropolis, Joh Fredersen, instructs him to give the robot the likeness of Maria, the daughter of a worker and spiritual leader of the masses, in order to fool the masses. In other words, Maria the robot is both a tribute – a reminder of a lost love – and simultaneously a trickster. Not only does she trick the masses into believing that she is Maria, but she also deceives her creators when she disobeys their commands. As befits a *femme fatale*, the Maria-robot is depicted as sexually devious. This is emphasised when, in the manner of a Salomé, she dances to enchant and deceive her male audience at a party. She becomes an agent provocateur who runs amuck and literally leads the city to destruction. Posing as the true Maria, she preaches to the masses and advises them to pursue violence rather than peace. This results in the workers' destruction of the machines, which in turn leads to the flooding of the city. She is, however, punished for her evil deeds by being burned at the stake – the fate of many a witch. Subsequently,

the female robot is punished not only for her deviancy, but also for daring to overturn the patriarchal capitalist powers. The message is evident: Give women power and they misuse it.

In sharp contrast, the 'true' and philanthropic Maria escapes the power of the Fredersen family who rules over the city by operating as a free agent, and in the end she actually saves the city from flooding. She functions as mediator between the rich and the poor, the city above and the work pits below, as she prophesises the coming of a messiah. The messiah finally comes in the form of the 'correct' gender, namely as Freder Fredersen, the privileged son of Joh Fredersen. Tellingly, Maria is allowed to preach about the coming of the saviour, but she is not allowed to be the saviour as well.

The double construction of femininity as both angelic and evil, virgin and vamp, false Maria (figure 3) and true Maria (figure 4), is indeed significant in this early visual twinning of women and technology.⁷ It connotes the simultaneous attraction to and repulsion from technology and the female, for both are apparently in need of (male) control and supervision. The two domains, women and technology, are not traditionally associated with one another. However, as Andreas Huyssen (1981-2:221) indicates, they became interlinked in contexts where machines started to threaten traditional roles of production and labour. In the weaving industry, for example, many workers lost their jobs as a result of the invention of the Jacquard loom (Dunne 2000:s.p.).

Furthermore, this pairing of woman and machine was more or less simultaneous with a challenge to traditional gender roles by suffragettes who lobbied for the vote as well as for equity in education and work. The dangerous woman-machine combined the threat of an upcoming female consciousness with the fear of increasing industrialisation – apprehensions that were strongly felt in the socio-political context that provided a framework for Lang's film. His

3 & 4 The 'true' Maria to the left and the 'false' Maria to the right, Fritz Lang's film *Metropolis* (1926)

5 Poster for *I love Maria*, (1988, director: David Chung)

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fembot can thus be described as an angst-filled patriarchal version of the machine-woman myth.

The machinist-industrialised society has since dissipated into the post-industrial and late capitalist age in which there is an emphasis on information and digitisation, and the image of the cyborg is informed by these changes. As electronic technologies develop, so too is there an increasing unease with the apparent 'femininity' and 'passivity' required when interacting with computers. This discomfort might be understood to have underpinned a backlash of masculinity in films such as *Terminator* (director James Cameron, 1984) and *Terminator 2: Judgement day* (director James Cameron, 1991). In films such as these, a 'hypermasculine cyborg' (Bukatman 1993:306) who is heavily armed, muscular and almost invincible is reinvented to fortify masculine superiority.⁸

Nevertheless, despite the threat of feminisation posed by electronic technologies, the machine is still on certain occasions depicted as a woman. It may even be argued that in some cases the sexualised image of the machine-woman pairing as portrayed in *Metropolis* has morphed into the digital domain. The visual trace of the fembot resurfaces in, for example, *I love Maria* (1988, director David Chung) (figure

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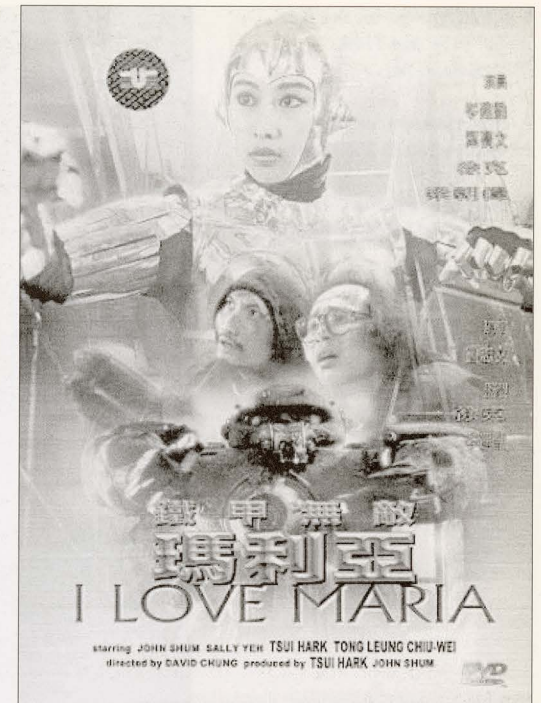
5) starring an evil fembot who terrorises Hong Kong until she is re-programmed. Virtual heroines such as the inimitable Lara Croft of *Tomb raider* fame can in some way also be said to perpetuate the machine-woman myth, but they do not form part of the scope of my exploration here. My focus is on three advertisements by the Acer Company in which the machine-woman cluster is revitalised in order to advertise computers.

THE ACER POST-INDUSTRIAL FEMBOTS

The following three advertisements are relevant for my discussion:

1. Advert for the *Acer Veriton 7100 and 5100*, © 2000 Acer, inc. with the accompanying copy: 'The same, only different ...'. The rest of the copy reads: 'The Acer Veriton will always perform for you' (figure 6).
2. Advert for the *Travelmate 350*, © 2000 Acer, inc. with accompanying text: 'Travelmate. Playmate' and 'Meet your perfect match in the Acer TravelMate 350. Sexy, attractive and more than a little willing to perform ... the Acer Travelmate 350 can sense your needs, even across a crowded room' (figure 7).
3. Advert for the *Travelmate 603*, © 2000 Acer, inc. entitled 'Intelligently balanced' with accompanying copy: 'A sensa-

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tional memory in a healthy body ... the Acer Travelmate 603 combines form and function in perfect proportion' (figure 8).

In all three of these advertisements, the hardware's promised performance is simulated and correlated to the image of a highly seductive female robot, explicitly reminiscent of Maria the fembot. In contrast with Maria, however, the Acer female robots are faceless and robotically anonymous. As in the case of pornography, their anonymity suits them well. They do not resemble a specific person (such as a mother or a wife) in the manner in which the evil robot resembled the altruistic Maria in *Metropolis*, for that would make them 'real' embodied beings. If the Acer robots resemble anything at all, it is the hardware's convenience, reliability and endurance. 'She' is accordingly appropriately described

6 Advertisement for the Acer Veriton 7100 and 5100, © 2000 Acer, inc.

7 Advertisement for the Travelmate 350, © 2000 Acer, inc.

8 Advertisement for the Travelmate 603, © 2000 Acer, inc.

6

The same, only different.

THE ACER VERITON WILL ALWAYS PERFORM. PC, VGA.

Whichever configuration suits your business requirements best, the Acer Veriton 5100 desktop or the Veriton 7100 tower, you can be equally sure of a professional system.

High performance graphics and audio, generous storage capacity and lower security features for the networked company environment characterize the 5100 and 7100 series with productivity enhancing features beyond the needs of an average business.

Memory is expandable to 512MB and embedded VGA and LAN and sound add to the user friendly interface.

Acer Veriton 7100 or 5100
 • Intel® Pentium® 4 processor 733MHz / 1GHz
 • Intel® Celeron® processor 600MHz - 700MHz

Acer PCs use genuine Microsoft® Windows®.
www.microsoft.com/privacy/choice
 Sales Line 0861 004484 www.acerfranca.com

acer
we hear you.

7

TravelMate. PlayMate.

Meet your perfect match in the Acer TravelMate 350. Sexy, attractive and more than a little willing to perform. With wireless LAN and Bluetooth access, the Acer TravelMate 350 can sense your needs, even in a crowded room.

And with this unique ability to communicate you'll enjoy the safety of transcending everyday computer relationships.

Just 21 mm thin, ultra-light 1.8kg, with a sleek 13.3" TFT LCD display.

Including an integrated smart card reader for added security and many intelligent extras, like the convenient port replicator and FireWire option.

Work hard, play hard. With the Acer TravelMate 350 you can share your inner drives as you've never done before.

Acer TravelMate 350
 Mobile Intel® Pentium® M processor 650 MHz
 from R19 999 incl. VAT

Acer PCs use genuine Microsoft® Windows®.
www.microsoft.com/privacy/choice
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we hear you.

8

Intelligently balanced.

A sensational memory and battery body. Inspired by the great thinkers who brought about a new speed of motion, the Acer TravelMate 603 combines form and function in perfect proportion.

So while it's going to be a little slower than the Acer TravelMate 603, you know your TravelMate 603 compromise storage capacity or quick data access due to the internal CD burner. One CD stores the same amount of data as 440 softies.

Set in an ergonomically designed magnesium alloy casing makes the Acer TravelMate 603 ideal for even the most mobile visionary professionals.

Power and portability are matched in the spirit of a new age.

- Mobile Intel® Pentium® M processor 700 MHz
- 128MB SDRAM (upgradable to 512MB)
- 13.3" TFT colour LCD XGA
- 12GB HDD
- 4x4x20 CD RW
- 2.14 kg
- 10/100 Mbps LAN + 56K V.90 international modem
- Optional USB video capture kit
- from R24 999 incl. VAT

Acer PCs use genuine Microsoft® Windows®.
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as sleek and eager to meet the user's needs. Attaching an appropriate gender to the user as male and the robot as female seems plausible in the context of these advertisements. The availability and handiness of these computers intersect with the traditional connection made between women and household appliances that also supposedly operate on the same level. Furthermore, it is clearly stated in the text that the robots are 'willing to perform' and 'sense your needs', in other words, they are steadfast and dependable, which forms a sharp contrast with the traditional construction of women as 'fickle', 'changeable', 'unpredictable' and 'unreliable'. These Acer-fembots are represented as patriarchy's technological handmaidens: they are ever attentive to his needs and com-

forts, and remain on standby twenty-four hours a day.

In the same vein, the reference made to 'travel mate' invokes reference to the 'Playmate' in *Playboy* magazine. It may also suggest that the *TravelMate* is the perfect travel companion away from 'home' and all that such adventures may entail. The link between technology and sexuality is, nevertheless, not a new code transmitted by the Acer advertisements: as Springer (1996:51) observes, 'thrusting and pumping industrial machines have long evoked sexual imagery for human observers'. In a sense the Acer female robot is the supposed perfectly proportioned female, not only in her voluptuous form but also in her readiness and availability to 'perform' and to sense the user's needs 'even across a crowded room'.⁹ Man and his machine are now telepathically interlinked. They

apparently understand one another 'instinctively', whereas traditionally the conversation between male and female is represented as debilitated and defective.

Looked at in terms of the 'culture' and 'nature' opposition, the translation of man's handmaiden into a congenial machine implies that disorderly 'natural' has been satisfactory tamed. 'Culture', of which technology is a supreme example, has apparently finally conquered 'nature', which women have almost invariably been seen to represent. 'Nature' has been technologised and in the process harnessed and made controllable. In her willingness to perform, the Acer fembot embodies a patriarchal ambition to control disobedient and unruly females (as exemplified by witches, evil fembots, hysterics and lesbians), and to turn them instead into con-

venient appliances. The post-industrial fembot represented here is the techno-patriarchal version of 'the machine is a woman' complex.

ALTERNATIVE CYBERFEMINIST COALITIONS

The 'the machine is a woman' complex can, however, be assembled from another viewpoint, one that invests it with completely different implications. What would be the outcome if women were to seem to fill this demeaning place appointed to them by the 'masters' of technology, but in fact began to 'perform' in ways that ultimately defied the prescriptions and anticipations of their technological supervisors? If women are suspected of operating on the same level as household appliances, what would happen if they and household appliances were to form a coalition? What might be gained if 'the machine is a woman' myth were indeed to be realised?

Developing and exploring this coalition between women and machines is the key focus area of the loosely associated grouping referred to as cyberfeminists. Sadie Plant (2000:265), a leading figure in the cyberfeminist debate, muses that 'there is more to cyberspace than meets the male gaze', and it is precisely this 'more' than anticipated or asked for that opens up a new space for women to interact with new technologies. In a process of producing and delivering qualities that are expected or anticipated such as technological ineptitude, laziness, dumbness and deviance in over-compliance, the system of expectation is upset. In other words, by producing an image of woman that apparently adheres to techno-patriarchal expectations, but which in fact does not simply fit the image but also produces it through an oversupply of the image, means that the initial image is disrupted and another erupts. It is this alternating erupting image that promises political intervention and action. Through a strategy of mimetic imitation, the initial position appointed to women in relation to technologies is

doubled and, through this process of mirroring or twinning, the initial position is changed and displaced. This opens up the possibility for relating differently to new technologies and changing initially limited expectations. Re-enacting 'the machine is a woman' myth in over-compliance means that alternating myths regarding women and technologies can be unlocked.

Cyberfeminism suggests that women and technologies, although displaced by patriarchal schemes, share the same intimate history and are in fact in a perverse alliance. They have both been constructed as man's handmaidens and as that which differs from or is 'other' to man's identity – considered the norm or standard. This means that the relationship between women and technologies that is constructed by patriarchy is not only based on false assumptions, but also that the possibility to forge another kind of association is obscured from women themselves. In other words, the fact that most women have internalised a technological ineptitude and have come to believe themselves to be incompatible with technologies, has to be transformed into another realisation, namely that they already share a relation with technologies. Women and technologies are not 'natural' enemies as women are led to believe. In fact, women have also created technologies and they have throughout history maintained different relationships with them. Therefore, women need to rekindle their alliances with technologies and start to fashion their own relationships with them. This would mean that women's relationships with new technologies might in some cases overlap with the type of relationships that men establish, but it may also mean that women bring into being alternative and different relationships with these technologies.

One of the obvious differences may be in how bodies are accommodated in the interaction between women and technologies and it may be in this regard specifically that women differ from men. If women and men can be said to

embody different positions in terms of technologies, it may also be argued that they proceed from different situated positions when they use them. Accordingly, these differences in embodiment and situatedness can lead to diverging ways of using technologies.

One of the central issues that cyberfeminism seeks to address is the problem of gendered identity and the female body specifically, and how they relate to new technologies. The reason why cyberfeminism adopts this focus is that these two categories, bodies and technologies, have been hierarchically dichotomised as exclusive and opposing categories. The body was traditionally associated with the organic, the material, the natural and the temporal, whereas technology (in its alliance with science) was associated with the inorganic, the immaterial, the cultural and the immortal. These two categories have also been invested with specifically gendered associations: the body has been related to the female/feminine complex and technology to the male/masculine complex. Searching for an alternative position would imply that this gendered opposition would need to be revised and reconfigured by showing their similarities and common characteristics rather than focussing on absolute differences.

There are several possibilities for reconfiguring bodies' interactions with new technologies, some of which are more workable than others. For example, it would be ludicrous to advocate – as older feminisms did – that bodies are technologically innocent. Bodies are in fact not only touched by new technologies, but are also invaded, penetrated and permeated by them. New technologies have indeed become so pervasive that distinguishing between the so-called 'original' (technologically uninfected) organism and extreme new technologies, such as invasive neuro-transplants and infectious nano-robots, has become well nigh impossible. In the exchanges between bodies and new technologies, bodies cannot be viewed as static given entities (not that they ever

could): instead, they are constantly changing, regenerating and in flux. As Michel Feher (1987:159) explains in 'Of bodies and technologies', there is a continuous process of transference: 'the body is ... a reality constantly produced, an effect of techniques promoting specific gestures and postures, sensations and feelings'. Clearly it is no longer a question of technologies existing solely outside bodies, but more a case of technologies – specifically nano-technologies – infiltrating and infecting bodies. As Donna Haraway (1990:222) observes: 'The machine is us, our processes, an aspect of our embodiment'. What this means is that distinguishing between an organic 'self' and mechanised 'other' is no longer possible, without the risk of being literally deconstructed from the inside out. Humans are embodying machines, just as machines embody them.

On the other hand, to argue, as techno-optimists do, that bodies have come to their evolutionary grand finale and that humans can sustain a technologically-enhanced life without embodiment of some sort, is just as ludicrous as conjuring a concept of the technologically innocent body. The dream of disembodied techno-existence ironically 'embodies' a misguided trip to a paradise of self-annihilation. Cyberfeminism's skilful and embodied espousing of new technologies, without necessarily signing up for permanent virtual existence (disembodiment), appears to steer clear of the hidden ontological and epistemological landmines on our screens. Cyberfeminists realise that embodiment, although changing and shifting, is a prerequisite for existence. As Katherine Hayles (1996:3; emphasis added) reiterates: 'At the end of the twentieth century, it is evidently still necessary to insist on the obvious: we are embodied creatures'. In fact, it will probably only be through the embodied stance that the future of human interaction with new technologies unfolds.

WHOSE TECHNOLOGY?

If technology is not inherently masculine or male but is constructed as such, other constructions of technology

should be and are indeed possible. In the current context it is, however, not merely a case of women gaining access to technologies; it is also important that we create new myths about women and machines. The Alternative Information and Development Centre in Cape Town is a local institution that offers training courses for women focusing on the development of basic Internet skills, and this is one way of tackling the access problem. On another level, Haraway's (1991:149) construction of the cyborg as 'matter of fiction and lived experience that changes what counts as women's experience in the late twentieth century' is a useful way of creating new myths, both fictional and factual, for women's alignment with new technologies.

In the final analysis, 'the who' question remains pertinent. In other words, political agency matters (quite literally), even in a virtual age of fragmented and interspersed identities. The following are pertinent questions: Whose technology is it? Who makes it? Who uses it? How is it used? Put differently: technologies are always embodiments in specifically situated socio-political contexts and are positioned very pertinently in terms of sex and gender. Subsequently, a collaboration between the domains of woman and machine may prove useful in the politics of gendered technologies. However, as the visual examples of fembots show clearly, it depends ultimately on who the 'woman' is.

notes

1 Realising that the category 'women' is a highly contentious and problematic construction dispersed by race, class, religion and access to technology – to name only the obvious ones – yet, I venture to use the preliminary grouping 'women' within the parameters of this article. Strengthened by feminist theorists such as Elizabeth Grosz and Rosi Braidotti who both argue that within politics (and I am busying myself with the politics of women and technology) the category women is indispensable. Women need a site to operate from, no matter how temporary and provisional that site's definition may be. Elizabeth Grosz (1990:341) elaborates on this seeming

paradox of naming a political speaking position for feminism by arguing, 'if women cannot be characterized in any general way ... then how can feminism be taken seriously? ... If we are not justified in taking women as a category, then what political grounding does feminism have?'. The construction 'women' as applied in this article is therefore a highly temporal, yet politicised identity from where political actions can be launched, and in this case to construct a site from where women's relation to technologies can be reassessed.

- 2 The different ways in which different genders use technologies are probably best illustrated by women's creative 'misuses' of the telephone (Terry & Calvert 1997:5). Apparently, the telephone was originally designed to assist business transactions between men, but was used more often by bored and isolated housewives as a means of making and keeping social contact with other women. The inventors of the telephone did not anticipate these subversive uses of the telephone, but neither could they control the different ways in which it is used.
- 3 See in this regard Mark Poster (1995) for an analysis of the Internet's failed attempt at democracy.
- 4 The political agenda hidden behind the development of the Q-W-E-R-T-Y keyboard is one of the best examples of the gendering of technology and how technology is developed with specific gendered job incumbents in mind. Q-W-E-R-T-Y are the characters on the second row left-hand side of a conventional typewriter. The Q-W-E-R-T-Y keyboard is now the standard keyboard incorporated into computers. It has an interesting history though, for it was chosen instead of another keyboard layout, namely the Linotype keyboard. The Linotype keyboard favoured highly paid male operators. When management chose to dispense with the Linotype and phase in the QWERTY keyboard, it favoured traditional typists, thus females. The reason for phasing in a keyboard that favours women typists is that they are cheaper labour. As Judy Wajcman (1991:50) asserts: 'The QWERTY technique was designed with an eye to using the relatively cheap and abundant labour of female typists'.
- 5 It is important to note that Fritz Lang's Maria is a robot and therefore, not technically speaking a cyborg. Claudia Springer (1993:87) distinguishes between cyborgs and robots, and between cyborgs and androids as follows: 'Robots are completely mechanical figures of any shape or size. Androids are human-shaped robots or genetically engineered synthetic humanoid organisms, but they do not combine organic with technological parts. Androids look like, and sometimes are indistinguishable from humans'.

However, it is only the cyborg that represents the fusion of particular human beings with technologies (Springer 1993:20). In my analysis I am therefore stretching the meaning, technically speaking, of the cyborg in order to also include Maria in that category.

- 6 The fact that the robot resembles Rotwang's lost love inverts the Pygmalion myth in an interesting manner; for in the Pygmalion myth lifeless matter, as granted by the goddess Aphrodite, transforms into living flesh in the person of Galatea.
- 7 See Peter Ruppert (2000) for a thorough analysis of the causality created between gender and technology in *Metropolis*.
- 8 These hyper masculine cyborgs contrast precipitously with Lang's seductive fembot who does not use brute power but sexual and oratory persuasion to capture her audience. The Schwarzeneggerian-model of the cyborg as embodied in the *T-100* model in *Terminator* (director James Cameron, 1984) has become the most recognisable and popularised image of the hyper-masculine cyborg. Although the supposedly indestructible masculinity of the Schwarzeneggerian-model is challenged by the amorphic, shape shifting and feminised *T-1000* model as featured in *Terminator 2: Judgement day* (director James Cameron, 1991), the image of the hyper-masculine cyborg nevertheless prevails.
- 9 This is rather ironic for a machine given the debate and developments in Artificial Intelligence and the precise problems experienced in the field with computers lack of 'sensing'.

REFERENCES

- Braidotti, R. 2002. *Metamorphoses. Towards a materialist theory of becoming*. Cambridge: Polity.
- Bukatman, S. 1993. *Terminal identities. The virtual subject in*

postmodern science fiction. Durham/London: Duke University Press.

- Cherry, L & Reba Weise, E (eds). 1996. *Wired_women: gender and new realities in cyberspace*. Seattle: Seal.
- Cockburn, C. 1985. *Machinery of dominance: women, men and technical know-how*. London: Pluto.
- Daly, M. 1990. *Gyn/ecology, the metaethics of radical feminism*. Boston: Beacon.
- De Lauretis, T. 1987. *Technologies of gender. Essays on theory, film, and fiction*. London: Macmillan.
- Dibbell, J. 1998. A rape in cyberspace. (Or TINY SOCIETY, and how to make one). [O]. Available: <http://www.levity.com/julian/bungle.htm> Accessed 9 June 1999.
- Dunne, P. 2000. Mechanical aids to computation and the development of algorithms, Part of Course at Department of Computer Science, University of Liverpool. [O]. Available: <http://www.csc.liv.ac.uk/~ped/teachadmin/histsci/htmlform/lect4.html> Accessed 5 June 1999.
- Feher, M. 1987. Of bodies and technologies, in *Discussions in contemporary culture*, edited by H Foster. Seattle: Bay Press: 159-69.
- Grosz, EA. 1990. A note on essentialism and difference, in *Feminist knowledge: critique and construct*, edited by S Gunew. London: Routledge: 332-44.
- Harding, S. 1986. *The science question in feminism*. Ithaca/London: Cornell University Press.
- Hayles, NK. 1996. Embodied virtuality: or how to put the bodies back into the picture, in *Immersed in technology. Art and virtual environments*, edited by MA Moser & D MacLeod. Cambridge, Massachusetts: MIT Press: 1-28.
- Heidegger, M. 1977 *The question concerning technology and other essays*. Translated by W Lovitt. New York: Harper.
- Herring, S. 1993. Gender and democracy in computer-mediated communication. *EJC/REC* 3(2). [O]. Available: <http://dc.smu.edu/dc/classroom/Gender.txt>

Accessed 7 April 1999.

- Herring, S. 1994. Gender difference in computer-mediated communication: Bringing familiar baggage to the new frontier. Keynote talk at *Making the Net*Work*: Is there a z39.50 in gender communication?* American Library Association Annual Convention, Miami, June 27.
- Huyssen, A. 1981-2. The vamp and the machine: technology and sexuality in Fritz Lang's *Metropolis*. *German Critique* 24-25: 221-237.
- Jardine, A. 1987. Of bodies and technologies, in *Discussions in contemporary culture*, edited by H Foster. Seattle: Bay Press: 151-58.
- Plant, S. 2000. On the matrix: cyberfeminist simulations, in *The gendered cyborg: A reader*, edited by G Kirkup, L Janes, K Woodward & F Hovenden. London & New York: Routledge: 265-275.
- Poster, M. 1995. Postmodern virtualities, in *Cyberspace/Cyberbodies/Cyberpunk. Cultures of technological embodiment*, edited by M Featherstone & R Burrows. London: Sage: 79-97.
- Rose, H. 1994. *Love, power and knowledge. Towards a feminist transformation of the sciences*. Bloomington: Indiana University Press.
- Rupperts, P. 2000. Technology and the construction of gender in Fritz Lang's *Metropolis*. *Genders* 32. [O]. Available: <http://www.genders.org> Accessed 2 March 2002.
- Springer, C. 1993. Muscular circuitry: the invincible armored cyborg in cinema. *Genders* 18: 87-101.
- Springer, C. 1996. *Electronic eros. Bodies and desire in the postindustrial age*. Austin: University of Texas Press.
- Terry, J & Calvert, M (eds). 1997. *Processed lives: gender and technology in everyday life*. London/New York: Routledge.
- Turkle, S. 1996. *Life on the screen: identity in the age of the Internet*. London: Weidenfeld & Nicholson.
- Wajcman, J. 1991. *Feminism confronts technology*. Cambridge: Polity.