

Chapter Two

Cyberfeminism(s): Weaving world wide webs

It is about weaving women and cybernetics,
and is also weaving women and cybernetics together.
Sadie Plant (1999:100)



Fig.2.1 *Mouse Love*, Brillo (2), 31 October 1996

This chapter aims to weave together the loose strands and threads of late nineteenth-century hysterics, miming strategies, gendered new technologies and cyberfeminism in a virtual age. As the image above from the cyberfeminist e-zine *Brillo* [Fig. 2.1] indicates, although women have traditionally been barred from technology's inner sanctum, women do find ways of abrasively interacting and consorting with new technologies. The image of the woman seductively licking the computer mouse, instead of merely clicking it, testifies to cyberfeminism's playful yet, subversive interaction with new technologies. The closeness and connectivity that exist between "wayward" women¹ and new technologies are explored in this chapter by tracing the intellectual, etymological and embodied roots of cyberfeminism.

First, the intellectual roots of cyberfeminism are investigated by showing its links with posthumanism and other postmodern identity politics, followed by a discussion of how these are applied in the *Cyberfeminist manifesto for the twenty-first-century* (1992) created by the VNS Matrix art ensemble. Thereafter traces of the etymological roots of cyberfeminism are researched via terminology such as "web" and "weaving", and finally, the embodied history of cyberfeminism is explored as incarnated in the person of the early computer analyst, Ada Lovelace, also popularly referred to as the "enchantress of numbers". My explorations into the intellectual, etymological and embodied roots of cyberfeminism all contribute to establishing the specific position that this study takes in relation to the broader cyberfeminist movement.

2.1 Intellectual roots

When applying the term cyberfeminism, I do so conditionally and cautiously. Recent criticisms against cyberfeminism incriminate cyberfeminism as "distinctly apolitical" and "holding onto the comforting notion of essential femininity" (Squires 1996:208). If these are taken seriously, it becomes evident that this delicate debate, like the one on essentialism, should be entered with discretion. Furthermore, no definite and finalised definition of cyberfeminism is available yet: the term is still open to redefinition and reshaping. It is, however, safe to predict that at the core of cyberfeminism lies the problem of identity and the body and their relation to new technologies. Cyberfeminism occupies itself with bodies and technologies precisely because these two aspects have generated such contested and politicised (gendered) issues throughout technology's history, as I have shown in the previous chapter. Female bodies have been most likely to be excluded from the powerful inner circle of technology and also most likely to be objectified by technology's penetrating eyes. Cyberfeminism deals with the question of how and why technologies inscribe gender onto bodies and how these gendered identities are re-configured in a posthuman age.

2.1.1 Posthumanism

Cyberfeminism finds an opportune ally in its struggle to dismantle patriarchal and liberal meta-narratives about gendered embodiment and new technologies in another relatively new discourse, namely posthumanism. Both cyberfeminism and posthumanism challenge individualist and disembodied notions of what it means to be human in a virtual age. Broadly defined, posthumanism refers to the altering relations between self (subject) and others (object); cybernetic organisms (machines) and biological organisms (humans); and mind and body, as they appear in the expanding purviews opened by new technologies. Cyberfeminism correlates closely with posthumanism in this area and, therefore, I will plot this relation first, before elaborating on cyberfeminism's posthumanism.

In *How we became posthuman. Virtual bodies in cybernetics, literature, and informatics* Katherine Hayles (1999) very eloquently explains that humans are no longer human, but have indeed become **posthuman** (or have perhaps always been posthuman).² Posthumanism distinguishes itself from Enlightenment postulations of hu(man)ity³ by revealing hu(man)ity's hierarchical and individualist biases and preferences for a specific race, class, religion, ethnicity, sex and gender. Examples of Enlightenment hu(man)ism that operate from the basis of ideas

such as autonomy, freedom and emancipation would include Cartesianism, as inspired by René Descartes's isolated thinking subject (the I-think-therefore-I-am-syndrome); *Aufklärung* thinkers, such as Immanuel Kant, who are governed by the Idea of hu(man)ity; Marxist narratives of emancipation from labour exploitation; and, finally, Christian narratives concerning redemption from original sin (Lyotard 1992:24-5). All of these Enlightenment hu(man)isms presuppose (and manifest to varying degrees) a default hu(man)ity integrated with very specific race, sex, religion and gender.

Since Enlightenment hu(man)ism traditionally operated from a specific vantage point and has privileged a select few, posthumanism is received with both terror and excitement. The reaction clearly, depends on which side of the hu(man) divide one stands. Accordingly, some view posthumanism as the long-awaited end of hu(man) control, while others opportunistically transpose the "autonomous liberal subject" or traditional hu(man) subject, into the realm of supposedly disembodied virtuality. Posthumanism does, however, herald the end of Enlightenment conceptions of hu(man)ity as defined by those who had "the wealth, power, and leisure to conceptualise themselves as autonomous beings" (Hayles 1999:286). It does, therefore, proclaim a new dispensation for those who previously did not have sufficient money and resources, background and time, the correct sex and gender, class and race, wherein the hu(man) label could be dismantled.

The parallels between posthumanism's (non)subjectivity and postmodern deconstructions of subjectivity are numerous. Hayles's description of the posthuman subject as "an amalgam, a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction" (1999:3) corresponds flawlessly with most postmodern theories about the fragmented and dispersed nature of identity (see Derrida 1984, Lyotard 1992). The term "human" is therefore, discredited by both posthuman and postmodern discourses as a redundant construct that can no longer make truth claims – "truth" in itself being problematised and devalued – on behalf of anyone. Old privileges and inscribed hierarchies do not, however, subside easily or let go of their territory. As Hayles warns, "the erasure of embodiment" is a feature that both the liberal humanist subject and the cybernetic posthuman subject share. This means the liberal humanist subject has cleverly mutated (or morphed, in some cases) into the posthuman cyborg and continues to dream of a disembodied dystopia.⁴ Although this disembodied version of posthumanism is prevalent, it is only one version of posthumanism and other more "embodied" versions are fortunately also visual, especially from a cyberfeminist perspective.

In the cyberfeminist appropriation of posthumanism, it is argued that hu(man)ists' notions of an autonomous, rational and universal subject as purported by Enlightenment thought structures has in fact never been in control of its own destiny as once believed. The

cyberfeminist version of posthumanism (or posthumanism) undermines any notion of a universal subject in control of its own destiny, but rather reveals the **emergent processes** by which consciousness, embodiment, the environment and the subject itself are constituted. Hayles explains:

In this account, emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject's manifest destiny to dominate and control nature. (1999:288)

The dominant role played by the hu(man) subject is thrown into turmoil, as it becomes one emergent process among others. Therefore, even though women and machines have previously been appropriated and modelled to fit into the hu(man) version of existence, things have changed in the posthuman age. Now the so-called natural clay of “femininity” is starting to mould itself in its own image with the help of new technologies. It is this so-called “unholy” alliance between women and new technologies that forms the focus of my study. As in the case of the autographical skins of hysteria, the (female) meat is becoming increasingly clever and self-sufficient. Donna Haraway explicates the complexity of the posthuman and cyberfeminist position: “It is not clear who makes and who is made in the relations between humans and machines” (1990:219) as the boundaries between human and machine are increasingly blurred.



Fig.2.2 Sadie Plant, *Fusion Anomaly*, 2001

In a similar vein to Haraway and Hayles, Sadie Plant [Fig. 2.2], the author of *Zeros and ones. Digital women and the new technoculture* (1997), argues that both machines and women **mime** their humanity – they never simply become it or they have never simply been it. Does this mean women have never been hu(man) in the “true” sense of the word? Possibly, for patriarchy has

declared woman sub-human and inhuman and now cyberfeminism is hinting at her posthumanism. Plant explicates: "It takes an irresponsible feminism – which may not be a feminism at all – to trace the **inhuman** paths on which woman begins to assemble herself as the cracks and crazes now emerging across the once smooth surfaces of patriarchal order" (2000:274). Cyberfeminism positions itself precisely as such an irresponsible feminism that resurrects its own posthumanism in the daunting face of a declining hu(man)ity.

2.1.2 *Cyberfeminism's feminism*

At the intellectual roots of cyberfeminism lies Donna Haraway's germinal "A manifesto for cyborgs: Science, technology, and socialist feminism in the 1980s" (1990)⁵, French differential feminism and poststructuralist theory – specifically Luce Irigaray's and Julia Kristeva's renditions. Other theorists who have been loosely and more closely associated with cyberfeminism are Sadie Plant, Allucqère Rosanne (Sandy) Stone, Sherry Turkle, Rosi Braidotti, Anne Balsamo, Katherine Hayles, Zoë Sofoulis, Cornelia Sollfrank and Marina Griznic, to name only a few.

On the artistic front cyberfeminist impulses are portrayed (amongst others) in the cyberpunk novels of Pat Cadigan, particularly *MindPlayers* (1987) and *Synners* (1991); it is visualised in the multimedia work of the Australian foursome VNS Matrix (Josephine Starrs, Julianne Pierce, Francesca da Rimini and Virginia Barratt) [Fig. 2.3]. Similarly, Australian artist Linda Dement's highly interactive CD-Rom art pieces and e-zines such as *geekgirl*, [Fig. 2.4] *Brillo* and *Digitarts' grrrowl* provide provocative and subversive accounts of alternative relations to new technologies.



Fig.2.3 VNS Matrix, *Brave New Girls*, 1993

The concept of cyberfeminism emerged simultaneously in the northern and southern hemispheres during the early nineties when the four Australian artists of VNS Matrix started to

use the term almost like “a spontaneous meme” (Julianne Pierce quoted in Galloway: 2000). This occurred at more or less the same time as Sadie Plant coined the term in the United Kingdom. In his “report” on cyberfeminism, Alex Galloway states that the movement has since developed in two main directions, namely the more radical political league as represented by Sadie Plant and VNS Matrix on the one hand, and the “more mainstream work” (Galloway 2000) done by the Old Boys Network (OBN)⁶ – a mostly European consortium – on the other hand.

Despite the lack of clear definition and cohesion, the Old Boys Network does provide a list of things which cyberfeminism pertains **not** to be, as listed on their website entitled 100-anti-thesis [Fig. 2.5]. The 100-anti-thesis defines cyberfeminism in the negative with short binary digits like: “1. Cyberfeminism is not a fragrance. 2. Cyberfeminism is not a fashion statement” (*Old Boys Network* 1997). In other words, it is made clear what cyberfeminism is not, whereas what it positively pertains to be is only suggested through the inversion of the negative. The media release from the *First Cyberfeminist International* (21-28 September 1997) confirms this attempt to define cyberfeminism in the negative: “The 1st CYBERFEMINIST INTERNATIONAL slips through the traps of definition with different attitudes towards art, culture, theory, politics, communication and technology – the terrain of the Internet is no institution and will transform every infected institution into a cyberfeminist interface”. Instead of formalising a cohesive political movement, cyberfeminism has opted to raise consciousness on different levels and frontiers. According to Alex Galloway (2000), “Cyberfeminism in its very nature necessitates a decentred, multiple, participatory practice in which many lines of flight coexist”. The fact that cyberfeminism has failed to define itself in terms of a cohesive political project may serve it well, for cybernetic viral attacks may prove more successful in the information era than total onslaughts, although there are limitations to these evading tactics, as will be discussed shortly.



Fig.2.4 *Grrrls need modems*, Sticker by *geekgirl*

What is the effect of cyberfeminism’s reluctance to organise itself into a cohesive political unity on the efficacy of the movement? Cyber-artist Faith Wilding urges that cyberfeminism needs to reassess itself in political terms in an attempt to move beyond the impasse of essentialism and identity formation that paralyses the movement at this stage.⁷ She argues that: “Cyberfeminists

must resist utopic and mythic constructions of the Net, and strive to work in activist coalitions with other resistant netgroups"(Old Boys Network 1997). Arguably, by providing cyberfeminism with a clearly delineated definition it does not necessarily imply that the movement will be limited or essentialised, but it may assist in consolidating desires, strategies, actions and goals. As Wilding appropriately adds: "If I'd rather be a cyberfeminist than a goddess. I'd damned well better know why, and be willing to say so" (Old Boys Network 1997). Clearly Wilding is referring to Donna Haraway's notable slogan, "I will rather be a cyborg than a goddess" (1990: 225) with which she ends her "Cyborg manifesto". Wilding does, however, add a political dimension in her version of Haraway's slogan by asking pertinent political questions such as why she is a cyberfeminist and also by declaring a willingness to take a definite stand for her position. Cyberfeminism's overall reluctance to take on a specific form, although attractive in an amorphous sense, means that most women's exclusion from technology's powerful centre goes unchecked.



Fig.2.5 100-anti-theses, Old Boys Network, 1997

Another problem that plagues cyberfeminism can best be described as "Internet utopianism". According to Internet utopianism, new technologies provide women with opportunities to start completely anew (almost innocently) in terms of new technologies – as if new technologies are not always already situated and deployed in specific contexts that tend to perpetuate gendered hierarchies and privileges. Therefore, even though new technologies do open new possibilities, cyber-women should not be seduced by the novelty value of new technologies so that they forget that technologies always involve and constitute politics.

Despite the lack of "solidarity" and a clearly defined political strategy, there are a fair number of cyberfeminists who have succeeded in consolidating their energies by keeping a critical distance from the "hype" that surrounds new technologies. In this regard cyberfeminism follows a strategy of creatively appropriating new technologies "for purposes, projects and meanings quite other than those for which they are designed" (Sofoulis 1995). Therefore,

cyberfeminism – in all its variations – attempts simultaneously to comment critically on new technologies and to extend the limits of these new media in creative ways.

In this critical, yet close relationship with technologies, cyberfeminism links closely with what Michael Heim has termed **virtual realism**. Virtual realism, as explained by Heim (1998:ix), is an art form or a sensibility – a way of living critically with (not without or beyond) new technologies. Heim elaborates:

Virtual realism walks a tight rope. The delicate balancing act sways between the idealism of unstoppable Progress and the Luddite resistance to virtual life. [...] The challenge is not to end the oscillation between idealism and realism but to find the path that goes through them. It is not a synthesis in the Hegelian sense of a result achieved through logic. Rather, virtual realism is an existential process of criticism, practice, and conscious communication. (1998:43-4)

Cyberfeminism approaches new technologies in a similarly critical but pragmatic manner. Like virtual realism, cyberfeminism can be described as a critical strategy that tries to cross "the fissures of a culture in transition" (Heim 1998:46) without opting for either techno-transcendence or techno-refusal. Heim also notes that "Virtual realism meets destiny without being blind to the losses of progress" (1998:46). Cyberfeminism also meets new technologies with a distinctly iconoclastic, yet techno-literate *modus operandi*.

2.1.3 *Emerging alliances and vanishing technophobias*

As part of a virtual realist – a critical, yet creative – appropriation of technologies, the relation between women and technology is revealed by cyberfeminism as an **alliance**, rather than enmity. Plant explains this relation as follows: "Cyberfeminism to me implies an alliance is being developed between women, machinery and the new technology that women are using. [...] In a sense, women have always been the machine parts for a very much male culture"" (Interview with Rosie X of *geekgirl*). The intimate alliance that women apparently share with technologies has been concealed from them and, consequently, only once women start to use technologies can they realise the reciprocity between themselves and technologies. Once women make the link, it is argued, they become more comfortable with technologies.

This, nonetheless, may be an over-optimistic portrayal of women's future alliances with technologies. Even though many girls and young women are currently growing up with technologies as a part of their everyday reality and although they are building healthy connections with technologies, this is far from representative of the majority of women's experiences and expectations of technologies. Plant is unmistakably correct in resisting earlier

feminisms' technophobia, but is her resistance to technophobia appropriate for women in Southern nations (for instance)? Like Plant, I also regard women's relation to technologies as being masked behind notions of incompetence and technophobia, but can one remedy the situation simply by negating technophobia, while assuming that women have unhindered access to technologies, as in affluent western societies? When Plant contends: "Women are accessing the circuits on which they were once exchanged" (2000:265), one must ask who the "women" are? Previously, I have mentioned Dale Spender's research in classrooms of Australia – an affluent society by most standards – where the system is seemingly open to everyone. Nevertheless, Spender's research showed that the "boys" claim the technology. If this happens in an Australian classroom on an everyday basis, what happens in the Indian or African continents? How does Plant's prediction of the disappearance of mythological technophobia fit into these not-so-affluent societies? Mythological technophobia is based not only on recurring archetypes, but also on everyday experiences that constantly reaffirm those archetypes. It is, therefore, rather a case of not only winning the mythical battle, but also the "real" battle where girls physically draw back from overtly aggressive boys. Accordingly, women's access to technologies needs to be addressed, as well as the access that women gain to the mythical inner sanctum of technological power. Plant's criticism of technophobia does indeed challenge the problematic epistemological premises on which technologies are largely based, but she does not convincingly address the issue of most women's **real** position in relation to new technologies.



**Fig. 2.6 U.S. Army photo of two women wiring the ENIAC with a new program
(Mike Muus's Historic Computer Images site)**

Having raised these points of criticism of Plant's optimism about dispelling technophobia, it should, nevertheless, be noted that Plant's viewpoints are invaluable in developing a cyberfeminist position. Her work subverts and displaces the myth that technologies are masculine in nature, by exactly re-affirming the intimate relationship that exists between women and technologies. This is not to argue that men do not conduct their own intimate relations with technologies (as is evident by now), but rather to show women's differing and distinctive relations with technologies. As Plant asserts: "As media, tools and goods mutate, so the women

begin to **change**, escaping their isolation and becoming increasingly inter-linked” (2000:265-6, original emphasis). The era of new technologies sees entities that used to be inert, unspeakable and unspoken, becoming increasingly lifelike. Women and machines, specifically, are becoming increasingly independent from the “master creator”. Everyday “objects”, such as refrigerators and women in kitchens, are growing apart from the “human subjects” that used to determine and define them.



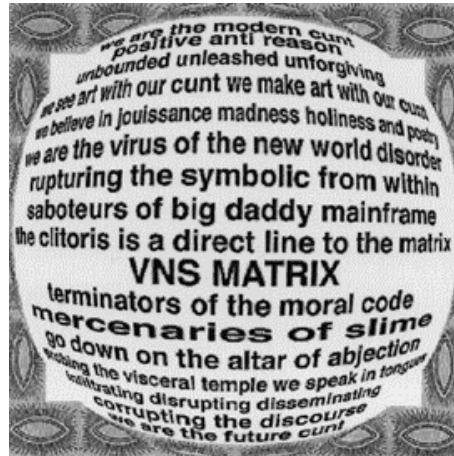
Fig. 2.7 U.S. Army Photo, number 163-12-62. Left: Patsy Simmers, holding ENIAC board. Next: Mrs. Gail Taylor, holding EDVAC board. Next: Mrs. Milly Beck, holding ORDVAC board. Right: Mrs. Norma Stec (Gladys Rugh?), holding BRLESC I board (Mike Muus's Historic Computer Images site)

Just as the hysterical female patients at Salpêtrière were initially mirrored and petrified through patriarchal scientific medical discourses, it was, nevertheless, through miming that they distinguished themselves as being inconclusively different. Similarly, women have made links and close connections with computers, even in the early stages and history of computing. The close bond that existed for instance between women and the Electronic Numerical Integrator and Computer (ENIAC) (the first electronic digital computer developed by the University of Pennsylvania) is an excellent example of this. ENIAC was utilised by the U.S. Army during World War II to speed up the calculations and accuracy of firing and bombing tables used in ballistics trajectories. As was customary during war times, women replaced the absent men on the war front and, therefore, the first programme operators of ENIAC were six female college students.

At the time, the term "computer" referred to a person who calculated artillery firing tables using a desk calculator (Moye 1996). These six young women or "computers" [Figs. 2.6 & 2.7] served as ENIAC's original programming group. Although most of them were college graduates, and, therefore, more than adequately qualified to do their jobs, they were informed that only "men" could apply for professional ratings. In November 1946 most of the six did, however, receive professional ratings. These six young women have shown that they were not only capable of standing in for the “boys”, but also that they were able to excel in their partnership with technologies. They have shown, as Plant predicts, that once women break through the social barriers, they can form lasting relations with technologies. In conclusion, it is important to

investigate VNS Matrix's *Cyberfeminist manifesto for the twenty-first century*, for it sets the tone and intellectual pitch for a cyberfeminist future.

2.1.4 *Cyberfeminist manifesto for the twenty-first-century: miming differences*



We are the modern cunt
positive anti reason
unbounded unleashed unforgiving
we see art with our cunt we make art with our cunt
we believe in *jouissance* madness holiness and poetry
we are the virus of the new world disorder
rupturing the symbolic from within
saboteurs of big daddy mainframe
the clitoris is a direct line to the matrix
VNS MATRIX
terminators of the moral code
mercenaries of slime
go down on the altar of abjection
probing the visceral temple we speak in tongues
infiltrating disrupting disseminating
corrupting the discourse
we are the future cunt

Fig. 2.8 VNS MATRIX, *Cyber Feminist Manifesto for the 21st Century*, 1992

In 1992, the Australian foursome VNS Matrix presented their *Cyberfeminist manifesto for the twenty-first-century* [Fig. 2.8], in the form of a digitised billboard, which brought “their infectious message” (Flynn 1994:421) to all those who passed by. The name VNS Matrix, obviously, bows to the Greek deity Venus (Aphrodite) and the planet with the same name, while “matrix” playfully meshes matter, mother, *wombs*, female embodiment and information webs into one contradictory whole. It is not surprising then that one of the main objectives of VNS Matrix is to:

[...] talk about technology and the body, putting some sort of **guts** and **viscera** into the clean and sterile environment and talking about sex. That's so

antithetical to the sterile computer environment android, without **flesh**, without **biological fluids**. (Flynn 1994:422, emphasis added)

Clearly VNS Matrix wants to do the inconceivable, namely to infiltrate and pollute men's clean machines with bodily slime and fluids. Consequently, they refer to themselves as "**mercenaries of slime**" on a crusade of contaminating sleek silicon with vile substances. They also aim to counter cyberpunk's pre-pubescent dreams⁸ of disembodiment as portrayed mainly by "keyboard cowboys jack[ing] in and jerk[ing] off" (Flynn 1994:426). VNS Matrix proposes to disrupt this schizophrenic mind-body split, by sabotaging "**big daddy mainframe**" in an "**infiltrating disrupting disseminating**" viral fashion, and by corrupting the discourses of the symbolic order with "**positive anti-reason**". VNS Matrix not only infects men's clean machines with subversive guts and viscera, but also sets out to corrupt the broader code, namely the symbolic order and textual parameters that have frozen women, into techno-illiteracy and incompatibility.

By unashamedly returning to the contested site of the female body, VNS Matrix effectively puts miming strategies to use. Similar to Rosi Braidotti's endorsement of a "politics of parody or parodic repetition" (1996:13-14), which makes dynamic re-embodiment possible, VNS Matrix also mimes a parody of female embodiment. It is through the bodily practices of "as if" and successive repetitions thereof that spaces can be opened to engender preliminary feminist and differently sexed and gendered agencies. The subject that is reaffirmed in the process is both a non-essential subject and yet one that remains capable of ethical and moral agency. VNS Matrix's project is an attempt to rethink a non-essentialised embodied self, which simultaneously allows for multiple bodies or sets of embodied positions. Hence, the contested sign "woman" is both affirmed and deconstructed. Braidotti's notion of "a new embodied becoming" is superbly complemented by VNS Matrix's provocative mimicry of female embodiment in the virtual domain.

Furthermore, VNS Matrix explicitly embraces embodiment in a virtual age by claiming, "**we are the future cunt**" and "**the clitoris is the direct line to the matrix**". The impulse to localise women's supposed deviance and volatility in their bodies is cleverly challenged in VNS Matrix's doubled body sense. By creating and miming bodies that are both real and virtual they confuse simplistic designs about (female) embodiment. In fact, when VNS Matrix declares: "**we go down on the altar of abjection, probing the visceral temple, we speak in tongues**" they reclaim the degraded female body (reminiscent of the concept of the abject as outlined in Julia Kristeva's *Powers of horror: an essay on abjection* 1982) as a place of enunciation. They do not attempt to speak from One (phallic) tongue, but from bountiful tongues and lips (reminiscent again of Luce Irigaray's (1985b) *This sex which is not one*). Irigaray phrases this multiplicity as follows: "Between our lips, yours and mine, several voices, several ways of speaking resound

endlessly, back and forth. One is never separable from the other" (1985b:209). Similarly, VNS Matrix revels in the body as a visceral temple, breaking moral codes and at the same time stubbornly situating themselves in the body. However, the body reconfigured by VNS Matrix is not the technologically innocent or naturally pure body to which previous feminisms such as goddess worshipping and other essentialists wanted to return, but rather a body that mates and consorts explosively and intimately with new technologies.⁹

The immediate danger of such an overtly body-conscious approach obviously remains one of bio-determinism and other essentialisms. The challenge is to construct the female body as a useful metaphor for women and technology without falling into the pitfalls of again equating women with hormones, madness, sameness, and motherhood. In Anne Balsamo's words, the challenge is "how to recuperate a notion of the body that does not imply an unchanging, essentialist identity for sexed bodies" (1996:157). In my view, VNS Matrix cleverly succeeds in sidestepping the obvious essentialist trappings, by miming embodied differences instead of completely becoming them. In what follows, I will extrapolate on this statement.

VNS Matrix pleurably "speaks" from multiple erogenous zones such as *cunts*, *clitorises*, *tongues*, *matrices* and *body slimes*, in accordance with Luce Irigaray's concept that "woman has sex organs more or less everywhere. She finds pleasure almost anywhere" (1985b:28). The multiplicities of women's (and men's) erogenous zones have, however, been denied by psychoanalysis and symbolic structures, and have instead been dichotomously fixed into opposition to the One libidinous standard or the phallus. Women's pleasures are restricted to the shadow, the lack, the absence, and the ghost of men's phallic presence. This is ubiquitous, despite the fact that the phallus itself manifests as a mere semblance of presence and thus as an absence.¹⁰

VNS Matrix's cyberfeminist manifesto should be analysed against this conceptual background. In this way their different appropriations and deconstructions of male oneness and heterosexual hegemony take on a specific meaning. In the blatant statement, **"the clitoris is the direct line to the matrix"**, VNS Matrix is plainly forging an alliance between clitoris and matrix, bodies and technologies. The purpose is presumably to achieve *jouissance*,¹¹ for, as they state: **"we believe in jouissance madness holiness and poetry"**. Obviously, the *clitoris* and the *matrix* as explored in VNS Matrix's manifesto are both material and discursive, and yet, always more than the organic or the textual. VNS Matrix is not oblivious to the fact that the body is an "extra-discursive object" (Butler 1993:33), which cannot be completely "spoken" in language: nonetheless, by "speaking" these almost unnameable parts of the female anatomy they are re-incarnating them in discourse. VNS Matrix mimes the unspoken and unspeakable female body. In this regard, I will specifically explore the miming possibilities of the *clitoris* as a newly reconfigured "speaking" position for women and technology.

It is resourcefully argued by Jyanni Steffensen that the *clitoris* re-signifies "a leading metaphor for technocultural production and as a signifier of sexual desire" (1998). This re-signification is especially conspicuous in the work of VNS Matrix. Traditionally, the *clitoris* has been repressed in most symbolic orders of sexuality and has vicariously been constructed as a "little penis", a mock penis; it is not only lacking in size, but also (apparently) in potency. In other words, the *clitoris* has been construed almost as a penis, but not quite – it is virtually a penis. Most dictionaries confirm the "second-rate" status: "**Clitoris**: A **homologue** of the male penis, present in the females of many of the higher vertebrata" (*The Shorter Oxford English Dictionary*, 1990:350, emphasis added). But the *clitoris*, although corresponding with the penis, also digresses importantly from it.

In the construction of the penis as the biological standard, "the logic of the same" that lurks behind most patriarchal dichotomies becomes evident. As a result, women's sexual organs are related and equated to the one male standard and subsequently, are found to be sub-standard and lacking. The *clitoris* does not exist within symbolic structures as an organ unto itself: it is always inevitably equated to the penis and it is only in its comparison to the penis that it is granted existence. In cases where women do not accept the rule of the male standard as figured in their supposedly lacking state or so-called penis-envy, they are diagnosed as suffering from a "change of character in the sense of a masculinity complex" (1973:126), according to Freud. Women who suffer from a "masculinity complex" think of themselves as male, whilst they are in fact so-called castrated beings. Freud cannot perceive of women in any other way than in terms of the one and only libidinal standard: "There is **only one libido**, which serves both the masculine and the feminine sexual functions" (ca 1931, 1953-74:131, emphasis added).

In the symbolic realm as set out by Freud, women have three choices: they may become sexually inhibited (neurotic) beings; or they may quietly develop into "normal femininity" by accepting their penis-envy and forgetting their *clitorises*; or if they deny their penis-envy, they will cling "immaturely" to the pleasures of the *clitoris*. In no sense is the *clitoris* measured against itself and enjoyed for itself: it is always inescapably a second-rate penis. Freud does, nonetheless, admit that there exists some correlation between the boy's "small penis" and the girl's "still smaller clitoris" during the phallic developmental phase of both sexes. He does not, however, allow the *clitoris* to develop beyond that or in its own right. The comparison between the two is explained as follows:

With their entry into the phallic phase the differences between the sexes are completely eclipsed by their agreements. We are now obliged to recognize that **the little girl is a little man**. In boys [...] they have learnt how to derive pleasurable sensations from their small penis [...]. **Little girls do the same thing with their still smaller clitoris**. It seems that with them all their

masturbatory acts are carried out on this **penis-equivalent**, and that **the true feminine vagina** is still undiscovered by both sexes. [...] We are entitled to keep to our view that in the phallic phase of girls the clitoris is the leading erotogenic zone. But it is not, of course, going to remain so. With the change to femininity **the clitoris should wholly or in part hand over its sensitivity**, and at the same time its importance, to the vagina. This would be one of the two tasks, which a woman has to perform in the course of her development [...]. (ca 1931, 1953-74:118, emphasis added)

According to Freud the once-dominant erogenous zone of the girl, namely the *clitoris*, has to be superseded by the "true" female sexual organ, namely the *vagina*. If women do not abdicate control and power over their *clitorises*, they cannot truly become female, according to Freud's theory of femininity. Women who suffer from the "masculinity complex", by not accepting the negation of the *clitoris*, are plainly not normal in Freud's view. In this sense VNS Matrix does not qualify for inclusion in Freud's category of "normal femininity", for they refuse to let go, so to speak, of the *clitoris* as a meaningful site (both real and virtual) in the representation of female sexual identity.

Furthermore, VNS Matrix confuses the sameness logic of choosing between either the *clitoris* or the *vagina*, by not only keeping the *clitoris* as a "speaking" position, but also referring to themselves as **"the future cunt"**. This means that VNS Matrix does not only accept their supposed "normal femininity" (*vagina/cunt*), but also cling to the "masculinity complex" (*clitoris*). They are rudely and intentionally obstructing Freud's either/or classification of femininity by not making a choice for one or the other, but by choosing both.

Symbolic clitoridectomy (the negation of the *clitoris*) as prescribed by Freud can, however, transpire in the most unexpected places. As Jyanni Steffensen explicates, Melanie Klein's femininity complex (discussed earlier) does, in fact, accomplish the same effect as Freud's masculinity complex. Freud's masculinity complex (castration complex/penis-envy) is the inverse of Melanie Klein's femininity complex (womb-envy), as both complexes are based on lack and unsatisfactory compensation for lack. Steffensen suggests that by simply countering penis-envy with womb-envy the heterosexual bias is uncritically perpetuated. She explains:

[...] the womb/penis dichotomy might work as a paradigm for heterosexual procreative sexuality [as] it simply reproduces (in reverse) the ubiquitous understanding of heterosexual procreative sexuality per se rather than as one minor form of sexual organisation [...] among many. (Steffensen 1998)

According to Steffensen, the womb/penis dichotomy commits the same symbolic clitorectomy as do most mainstream psychoanalytic discourses. Instead, she favours a re-appropriation of the *clitoris* as a mythical phallus. I understand Steffensen's re-appropriation of the *clitoris* to be a

miming strategy in which a part of the body that has been silenced by psychoanalytic and patriarchal schemes now finds a way of speaking "as if" it were a mythical phallus. The *clitoris* is a powerful "place" from which to speak, given the historical denial of its existence. But giving preference to the *clitoris* as the only "true" speaking position for women could also generate the same problems as Steffensen identified with the womb/penis dichotomy: it has the potential to become a newly appropriated phallus. In other words, the *clitoris* as a speaking position must be carefully negotiated, no less than the *womb* or the *cunt*, in order not to fall into the sameness trap that plagues most patriarchal discourses.

The *clitoris* can, further, not afford to become a new law or site of legitimacy, for then the difference between the phallic One and the new One would be insignificant and indeed penis-envy will triumph. Does this indicate that a castrating *clitoris* accomplishes penis-envy perfectly? Is castration not the ultimate affirmation of penis-envy? If the *clitoris* is a substitute penis, which castrates all others, it may justly be measured as **too** small and lacking. If the *clitoris* does, however, mime the phallus in its speaking, does not become the phallus completely and neither aspires to do so, it may, on the other hand, open new vistas of sexual pleasures and simultaneously create a virtual speaking position for women.

Moreover, do women all have to speak from the same "place"? When Irigaray states that women have sexual organs more or less everywhere and that women's sexual organs are multiple, should we not take her seriously in an attempt to rectify the sameness tyranny of the symbolic order? However, the fact that VNS Matrix speaks mainly from the female body may annoy some, but, as Anne Balsamo maintains, the female body plays a vital role in recreating, our perceptions about bodies in new technologies. According to Balsamo the struggle between technologies and nature will be witnessed in the female body in particular (1996:39). VNS Matrix's *Cyberfeminist manifesto* is an attempt to witness the invasion and expansion of new technologies through the nexus of the female body.

2.1.5 Weaving women and technologies together

"[...] it is hard to decide who is weaving the web of illusion and who is caught in it"
(Irigaray 1985a:264)

I have shown how miming strategies are instigated in the *Cyberfeminist manifesto* to open up, amongst other things, a possible place of enunciation for women in relation to new technologies. Continuing along those lines, I will pursue my exploration of, Freud and specifically his analysis of femininity, as it transpires in the relation between women and technologies. In 1933 Freud makes a final attempt to unravel and unveil femininity in his lecture "On femininity" by unexpectedly referring to the relation between women and weaving, which I will reconfigure for

my purposes here as the relation between women and technologies. Freud describes the relation as follows:

It seems that women have made few contributions to the discoveries and inventions in the history of civilization, **there is, however, one technique which they have invented – that of plaiting and weaving.** If that is so, we should be tempted to guess the unconscious motive for the achievement. Nature herself would seem to have given the model, which this achievement imitates by causing the growth at maturity of the pubic hair that conceals the genitals. The step that remained to be taken lay in making the threads adhere to one another, while on the body they stick into the skin and are only matted together. If you reject this idea as fantastic and regard my belief in the influence of a lack of a penis on the configuration of femininity as an *idée fixe*, I am of course defenceless. (ca 1933, 1985:166-7, emphasis added)

I do not want to reject Freud's ideas outright as fantastic and thus, as unbelievable and indefensible. Instead, I will play with his metaphors of weaving and veiling and mime his text in order to find a "voice" or "place" for women there. According to Freud, women weave to conceal their lack, to cover the *womb*, to veil "the horror of nothing to be seen" (Plant 1999:114). In so doing women are apparently merely imitating nature, for nature has already suggested to them to veil their supposed lack. As Sadie Plant writes:

Weaving is an automatic imitation of some bodily function already beyond the weaver's control. She is bound to weave a costume for the masquerade: **she is an actress, a mimic, an impersonator, with no authenticity underneath it all.** She has nothing to reveal, no soul to bare, not even a sex or a self to please. (1997: 24-5, emphasis added)

Similarly, the late nineteenth-century hysterics, with their antics and masquerades had no "true" essence, no deeper inner metaphysical voice trapped inside waiting to emerge and no pure body to which to return. What they were was autographically written onto their skins and mimed in (dis)ease. They had no basic nature or essence; they were scenes, images, appearances, contrivances and simulations of "master" science's voice. Freud similarly advises in his lecture: "If you want to know more about femininity, inquire from your own experiences of life, [...] **or wait until science can give you deeper and more coherent information**" (ca 1933, 1985:134, emphasis added).

In the construction of hysteria, women have indeed reciprocated the so-called coherent scientific account about themselves, which they have then accurately mirrored without becoming it entirely. Applying a simple cause-and-effect analysis proves useless when dealing with miming hysterics, as Charcot's diagnoses clearly showed. Women are therefore veiling "nothing to be seen", ironically, with "nothing to be seen". That which the hysteric veils is virtual – real in effect,

but not quite real – just as the veil itself is virtual. Women's "virtuality" refers to the fact that, as man's Other, they can apparently only be described in terms of the One male standard. It also refers to the non-place that has been awarded to women throughout most histories. Women's "virtuality", should not be confused with techno-optimistic illusions of disembodiment, for, by affirming their so-called "virtuality" women are not denying their embodied nature. Instead they are miming their always already mediated nature from a specific embodied position. In my view, it is the reconfiguration of this "virtuality" that forms the centre of cyberfeminist explorations. As Plant explains:

Woman cannot *be* anything, but she can imitate anything valued by man: intelligence, autonomy, beauty [...]. Indeed, if woman is anything, she is the very possibility of mimesis, the one who weaves her own disguises. The veil is her oppression, but "she may still draw from it what she needs to mark the folds, seams, and dress making of her garments and dissimulations". (1999:112, original emphasis)

If women are the precondition for their own mimesis, it means they fit any proposition, but in doing so, they are also already more than that which they imitate. Most scientific discourses and theoretical analysis "on femininity" is therefore doomed to be no "true" meeting between men and their female counterparts or Others, but, in fact, only men meeting themselves incessantly – the same constantly meeting the same. If women put on the "face" that is expected of them every time, and that may even be the disobedient face of hysteria, they are playing along "as if" they are knowable and known. They are miming what is expected of them, namely, tantrums and obstinate silences and, if mystery is called for they can mime that too, without becoming it. In this sense women's identities have always been posthuman, postmodern and liminal. They wear "different veils according to the historic period" (Irigaray 1991:118). Women have no essence in the metaphysical sense and, as this essenceless essence, they form the perfect partner for contriving virtual technologies. Technologies have been constructed as master science's handmaiden, women have been construed as man's lacking other, and now they are virtually woven together.

2.2 Etymological roots

I want to pursue another trace, namely a whole cluster of terminology that could assist in a cyberfeminist pursuit of creating different relations with technologies and also embodying technologies differently. In the digital context, where terms such as "web", "webbing" and "webster" have specific slants, an etymological research reveals pertinent meanings. In this novice etymological enquiry, I do not pretend to unveil the "true" origins and meanings of these

terms, but rather to weave and unravel a web of meanings, which may enrich their readings in a virtual age, particularly in a cyberfeminist strategy.

The two words “weaver” and “webster”, interestingly enough, both refer to the activity of weaving. Moreover, the term “webster” was first applied as a female designation, before it was later extended to include male weavers as well (*The Shorter Oxford English Dictionary* 1990: 2521). Since 1657 the word “webbing” was also associated with the action or process of weaving. I find this information a remarkable coincidence in a virtual age, during which surfing the World Wide Web (or webbing), has become more than just a fashion statement, but a necessity for surviving digital citizenship. In this regard science fiction author, Samuel Delany’s embellishment on the link between “text” and “web” is also significant:

Text and *textus*? Text, of course, comes from the Latin *textus*, which means “web”. [...] All the uses of the words “web,” “weave,” “net,” “matrix” and more, by this circular “etymology” become entrance points into a *textus*, which is ordered from all language and language-functions, and upon which the text itself is embedded. (1976:33, original emphasis)

Delany explores the circularity and relatedness of terms such as “web” and “text” as woven fabrications. The term “web”, which has now become shorthand for the World Wide Web, did originally refer to a woven fabric. Women as weavers of fabrics can be traced back to a web and the Web, as it is known today. Since 1864 the term has also been associated with entanglement or enveloping something, as in a spider’s web. Likewise the term “cobweb”, used figuratively, refers to a subtle woven snare or entanglement. The relationship between women and cobwebs as snare deepens: women have been typified for centuries as tricksters who weave traps for unsuspecting men. The term “cobweb”, furthermore, refers to something flimsy and unsubstantial, which immediately recalls Sadie Plant’s statement (quoted earlier) in which she suggests that woman “is bound to weave a costume for the masquerade: **she is an actress, a mimic, an impersonator, with no authenticity underneath it all**” (1999:24-5). In an interview with Jamie Lee Curtis (who is renowned for her roles in psycho-thrillers) the interviewer asks if Curtis always wanted to be an actress, upon which she answered: “I’ve *always* been an actress” (1998:14, original emphasis). Curtis’s answer is representative of women’s seeming ability to enact or mime a lack of agency.

Further explorations into the origins of the word “weave” also open possibilities for interpretation and speculation and these link strongly with the notion of a lack of authenticity or true essence. On a denotative level, weaving means to **fabricate** material by interlacing yarns or other filaments of a particular substance into a continuous web (*The Shorter Oxford English Dictionary* 1990:2521). On a figurative level it means to **contrive**, **fabricate** or **construct** a

mental product with elaborate care; and, in addition, weaving is likened to moving in a **devious** course or directing one's steps in a **devious** or **intricate** course, as in dancing. All these comparisons of weaving with fabrications, contrivances, deviousness and dangerous constructions, make their alliance with women as supposedly sinful weavers who entangle men in their underhanded ways all the more plausible. As Salomé once wove her seductive dance with intricate veils around Herod to ensnare him in her web of mimicry, so all women are suspected of being sheer fabrications and ghosts. In her online artwork, entitled *Doll Yoko* (1998) [Fig. 2.9], Francesca da Rimini, former member of VNS Matrix, comments explicitly on women's ghostly state of misrecognition and misrepresentation, with the words "All women are ghost and should rightly be feared". *Doll Yoko* deals with the issue of femicide in China, where parents, in anticipation of having boys, murder thousands of little girls. This gives a haunting, spectral quality to the face of the woman appearing in the background. In another online hypertext piece entitled *Fleshmeat* (1998), Da Rimini reiterates the ghostly (im)position of the (mad)woman reminiscent of hysteria: "I am Gash Girl.../Puppet Mistress.../Voice Idol.../Doll Yoko./Exquisite Aberrant/Intelligence. Ghost AI./These are my stories. /I will not remain silent. /They are all true. /I am not mad. /I have wept enough./(Lies. Lies.)." The comparison to Da Rimini's online presence as a ghostlike Artificial Intelligence contributes to the suspicion that women are shimmering spectres on computer screens whose intelligence is derived from the machine's. In this way, Da Rimini's works playfully engage with the construction of women's virtuality.



Fig.2.9 Francesca da Rimini, "Women are ghosts" from *Doll Yoko*, 1998

How does this probing into the origins of weaving and webbing contribute to the debate on women and technology? A further layer of meaning is added by excavating the etymological roots of the term "technology", namely the Greek *technē*. Heidegger gives an analysis of the roots of the term in "The question concerning technology" and indicates that *technē* originally had the same meaning as art, skill or craft: "[...] and art was simply called *technē*" (1977:34).

Heidegger speculates that art could perhaps provide us, due to the fact that it is akin and yet fundamentally different from *technē*, with the shining light of a "saving power" from the dangers of *technē*. He argues that the closer one comes to the dangers of *technē*, the closer one moves to the saving grace of art: "[...] the more questioningly we ponder the essence of technology, the more mysterious the essence of art becomes" (1977:35). The meanings of *technē* and art are closely intertwined, and Heidegger implies that art may just have the magical poetical (*poiēsis*) power ("that which shines forth most purely" (1977:34)) to save us from the bleak unfolding of a world where everything is subsumed into a standing reserve (*Bestand*) that attentively waits to be consumed.

Similarly, RL Rutsky (1999) in *High technē. Art and technology from the machine aesthetic to the posthuman* elaborates on the significant alliance between art and technology: "high tech, with its emphasis on issues of representation, style, design, seems to signal a re-emergence of this repressed aesthetic aspect within the conception of technology" (1999:4). High tech plays with representation itself, in other words, with appearances, simulations, and contrivances. It creates a "representation and style [that] have always been technological, supplementary, simulacral", according to Rutsky (1999:5). What is also useful for my breakdown is that in "high tech" and, by extension, in the virtual age, the simulacrum (Baudrillard 1983:100-1) becomes an end in itself and no longer refers back to an original. High *technē*, like women, therefore has no essence or authentic origin. In high tech mime is developed into an art form. Thus, following the etymological traces of technology, it can be suggested that in "high tech" technology has made a turn away from the dooming instrumentalist *Gestell* (enframing). Instead, "high tech", with its emphasis on reproducibility and imagery, is no longer governed by an instrumentalist rationality, but only by its own reproductive logic and aesthetic laws.

A fruitful connection can be perceived between hysterical women with their artful semblances and high *technē*. I indicated in the introduction that the hysterics not only caused scenes in the halls of asylums, they literally embodied dramatic scenes themselves. In other words, they were governed, like "high tech", by their own aesthetic laws, reproduced appearances, simulations and images. Similarly, cyberfeminists find their focal point in the creation of art. It is by means of the arts, combined with technology, that they are attempting playfully to open the dreaded inevitability of the *Gestell*. Can specific combinations of madness, holiness and poetry break open the brutal instrumentalism of the *Gestell* and generate a more creative poetic space? Is this the point where dangerous *technē* moves so closely to its once lost companion (art) that it again playfully reunites with her? Can high *technē* become *poiēsis* again?

Perhaps this is the state the early computer programmer, Ada Lovelace anticipated when she wrote to her mother, Lady Byron,¹² "if you can't give me poetry, can't you give me **poetical**

science?" (Toole 1995:200). Ada sensed magic hidden behind numbers ("high tech") and as her biographer, Betty Toole, remarks: "Her understanding of mathematics was laced with imagination and described in metaphors" (1995:200) – indeed, a poetic science.



Fig.2.10 Josephine Starrs & Francesca da Rimini, Images from *White*, 1998

Similarly, a cyberfeminist reading of *technê* and *poiçsis* succeeds in cracking the codes of scientific certainty and inevitability. For in cyberfeminist artists' skilful combination of art and technology, *poiçsis* comes to light again. The experimental and multi-language (Spanish and English) video entitled *White* (1998) [Fig. 2.10], produced by two members of VNS Matrix, Josephine Starrs and Francesca da Rimini, ingeniously combines new technologies with poetics. According to the artists, the piece "focuses on a woman's inner experience of madness, exploring the language of madness to create a hyperreal vision of alienation, psychic disturbance and transcendence. [It is] a self-reflective text, meditating, fantasising, exorcising, all from the space of a white room which is at once confining and vast" (*White* 1998). *White* comments clearly on the stereotypical depiction of women as mad and hysterical, and explores this position by making use of new technologies. The piece is divided into different scenes such as "The white room", "Silence" and "The white shoe", all providing a specifically female entry into technoscience's treatment of women as deviant. In this regard the narrator informs the audience that the doctors, psychiatrists, mothers, fathers and husbands are all conspirators, conspiring in diagnosing women as mad.

Some of the narrated text deals with an alternative perspective on the relation between medical discourses and madness, for example when the narrator explains her relation with the female nurse: "She takes my temperature. I give it to her freely". If one compares this to

Charcot's failed ventures into diagnosing the symptoms of hysteria, the relation between doctor and patient unfolded in a dreadfully different manner. In *White* the relationship between female patient and female nurse is comforting, even sexualised when the female narrator comments on the nurse's breasts. This stands in stark contrast to Charcot's interrogating and disempowering interviewing style. Translated into more political terms: it is by miming the "master's" voice closely and, at the same time, making alterations to the relation, that a woman artist may open up another plane onto herself; a poetic plane where she has perhaps always been – a "white room" where poetics and technology can meet.

2.3 Embodied roots



Fig. 2.11 Portrait of Ada Augusta Lovelace, (1815-52)

One of the enchanting veils worn by women in the interwoven history shared by women and technologies is curiously embodied in the person of Countess Ada Augusta Lovelace (1815-52) [Fig. 2.11]. My analysis is guided by Ada Lovelace's personal history and how it is intimately intertwined with the earliest development of "computer programmes". Although Ada Lovelace also forms a central part of Sadie Plant's discussion in *Zeroes + Ones* (2000), my discussion, though interlocking with Plant, deviates by focussing on specific material and embodied clues from Ada's life. These embedded clues, such as Ada's passionate desire to flourish in a "man's world," her battles with drug addiction, her wild gambling sprees both in love and money, chronic sicknesses, as well as her failed efforts as mother and wife, are placed in a broader matrix of embodied and cyberfeminist values. It is against a cyberfeminist backdrop that the sad events of Lovelace's life are interpreted in conjunction with the primitive developments of computer technology. I interpret Ada Lovelace as a prototype of cyberfeminist ambitions, as a cyborg of sorts, and her ambivalent relation with technology is echoed in this study's aim of addressing the awkward relation women have with technologies.



Fig. 2.12 Portrait of Charles Babbage (1791-1871)

Ada Byron King,¹³ who later became Countess Lovelace, encountered the engineer Charles Babbage's (1791-1871) [Fig. 2.12] *Difference Engine* (a basic adding machine based on the method of finite differences) for the first time as a teenage girl in 1833. She astonished all the spectators because of her immediate understanding of the machine's principles and the instant rapport that she had with the machine. In fact Ada's mother, Lady Byron (a mathematician who played no small part in Ada's interest in mathematics), commented that Ada considered the machine to be "a friend" (Mattis 1999). Ada started to work closely with Babbage in 1843 after translating and publishing a paper on Babbage's work.¹⁴ Babbage was so impressed with Ada's translation and interpretation of his work that he did not hesitate to invite her to join him in the development of his next project, namely the development of the *Analytical Engine*. The traditional role occupied by women as mere translators or interpreters of men's work, and not as the creators or instigators of so-called original and groundbreaking texts and technologies themselves, is subverted in an intriguing manner by Ada's translation of Babbage's paper.

Ada's translation surpasses the original "master's voice", not only in length – together with her added footnotes it is three times longer than Babbage's original text – but Ada also picked up and corrected mistakes made by Babbage. In other words, Ada mimed and then exceeded the "master voice" in the subtext, and by doing so, she added value to the original text that was not anticipated by its author. Babbage did, however, realise the worth of Ada's contribution, as is evident in the following piece where he acknowledges his admiration for her:

Some time after the appearance of his memoir on the subject in the "Bibliothèque Universelle de Genève," the late Countess of Lovelace informed me that she had translated the memoir of Menabrea. I asked why she had not herself written an original paper on a subject with which she was so intimately acquainted? To this Lady Lovelace replied that the thought had not occurred to her. I then suggested that she should add some notes to Menabrea's memoir; an idea which was immediately adopted. [...] The notes of the Countess of Lovelace extend to about three times the length of the original memoir. Their author has entered fully into almost all the very difficult and abstract questions connected with the subject. (ca 1864)

Ironically, given the privileged position that masculinity occupies in terms of technologies, it is Ada Lovelace, and not Charles Babbage, who has since been best commemorated, especially after the U.S. Department of Defense named its primary programming language after ADA [Fig. 2.13] in 1983. Ada's life has also recently been re-interpreted into a film from a cyberfeminist perspective in *Conceiving Ada* (1997, director Lynn Hershman Leeson).



Fig. 2.13 Logo for ADA, International Language for Software Engineering

Once Ada and Babbage started to work together, it was Ada, contrary to the contemporary expectations of women's capabilities, and not Babbage, who set the pace and standards for their working accord. Until that time Babbage had a tendency for general sloppiness and lack of commitment to his projects. Ada laid down the conditions on which their collaboration were to be based, which prevented Babbage from "slur[ring] and hurry[ing] things over" (Plant 1997:8). Ada's working ethics create an interesting inversion of traditional gender roles and expectations. The notion that the female brain is easily strained and exhausted is undermined by Ada's set of rules, by which Babbage's wandering mind had to abide.



**Fig. 2.14 The Difference Engine, "The finished portion of the unfinished engine", 1832
Science Museum/Science & Society Picture Library**

Later Babbage would refer to Ada as his "fairy" (Plant 1999:102) and the "Enhancress of Numbers" (Toole 1998). Not only did she inspire him, but she also had a sprightly presence and

dexterous mind. She was however, differently perceived by the rest of society, who described her as "wayward, wandering [...] deluded" and "hysterical, [a] hypochondriac and lacking in moral fibre" (Plant 1999:102). Thus Ada simulated all the symptoms of hysteria as diagnosed at the time. She did, however, put her "wayward womb" to patriarchal use by marrying and producing three children by the age of twenty-four, to whom she referred later as nothing more than "irksome duties" (quoted in Plant 1999:102). It is clear that Ada struggled with the social roles awarded to women at the time and that she could not be restricted by the rules for acceptable "ladylike" behaviour.

As Ada's behaviour did not fit into societal expectations, her writing style also did not fit into a neatly gendered category. Ada was amazed by the effects that her writing had on others, especially given the gendered ambiguity of her writing style. She comments on her writing in the following manner: "It is especially unlike a *woman's* style but neither can I compare it with any man's exactly" (Plant 1999:102). Remembering the hysterical patients' speech patterns as documented in medical discourses, these women also lacked a distinct style when speaking. Sometimes they spoke as men, often they blabbered and mostly they remained obstinately silent. Clearly Ada was, likewise, a woman who was alienated from her time and context, with no role models to guide her intense relation with technology.

From an early age she suffered from several "female disorders". She was victimised by the popular belief, which attributed bodily disorders (hysteria?) to the over-exertion of the female intellect. Ada writes: "Many causes have contributed to produce the past derangements; and I shall in future avoid them. One ingredient, (but only one among many) has been *too much Mathematics*" (quoted in Plant 1999:103, original emphasis). Ada therefore believed, or was convinced by others to believe, that her exposure to "*too much Mathematics*" caused her ailments. In 1850 Ada was diagnosed with womb cancer and, after a year of agonising suffering, she died.

Is it of no significance that the first "computer programme"¹⁵ was written by a young female, who was not only suspected of hysteria and waywardness, but also ironically died of womb cancer? Ada not only experienced the psychological consequences of her waywardness, she physically perished from a cancerous and self-devouring womb. Obviously, one cannot read too much into her physical particulars, in fear of over-interpreting the historical events and forcing them into a specific argument. But one may, however, speculate about the events and weave them colourfully into a tapestry of meanings. For instance, what cohesion – if any – exists between Ada's wayward and cancerous womb and primitive computer technology? Did the first computer software require a deviant female for its inception? Perhaps some comments on the first "computer programme", to which Ada contributed, can highlight the links between Ada as an embodied woman and the computer technology she loved.

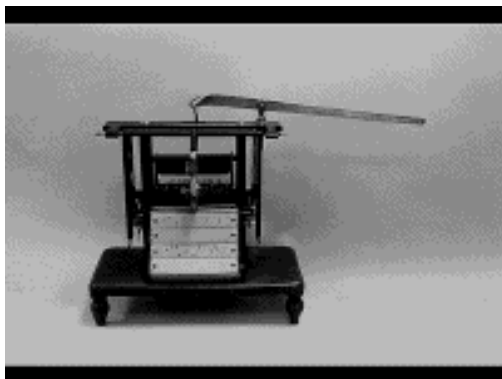


Fig. 2.15 The Jacquard loom, 1806

Recalling Freud's analysis of femininity, where he braids women and weaving intimately together, the association between Ada Lovelace and the loom, as vanguard tool for the development of future software programming, becomes apparent. It is no mere coincidence that the development of the *Analytical Engine* [Fig. 2.17] (Babbage's follow-up project, which was far more complex than the *Difference Engine*) and the Jacquard loom [Figs. 2.15 & 2.16], invented by Joseph Marie Jacquard (1752-1834), correspond closely. Babbage often used the loom as example when trying to explain the inner workings of the *Analytical Engine*.¹⁶ In her notes on Babbage's paper Ada also clearly relates the two mechanisms: "We may say most aptly that the Analytical Engine weaves algebraical patterns just as the Jacquard-loom weaves flowers and leaves" (Toole 1998).

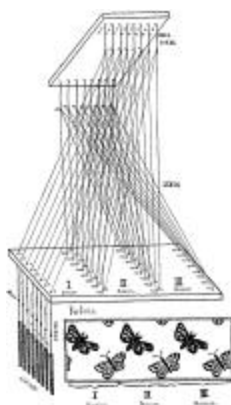


Fig. 2.16 The principles of the Jacquard loom

Without delving into too many technical details, the Jacquard loom corresponded with the algebraic processes of the *Analytical Engine* insofar as both implemented "stored programs" (primitive software) to complete their tasks.¹⁷ The loom and the *Analytical Engine* both had "memories" to enable them to programme complicated algorithms. In addition to her notes for

the translation of Babbage's paper, Ada also provided what might be called "the first computer programme" by devising a plan for the *Analytical Engine* to calculate Bernoulli numbers (a very complicated algebraic process). Ada also correctly predicted that the *Analytical Engine* would one day be used to create complicated patterns for sound and graphics in her notes:

Supposing, for instance, that the fundamental relations of pitched sounds in the science of harmony and of musical composition were susceptible of such expression and adaptations, the engine might compose elaborate and scientific pieces of music of any degree of complexity or extent. (Toole 1998)

The *Analytical Engine*, as interpreted by Ada Lovelace, consisted of all the important components of a modern-day computer, such as memory, processor and input/output protocol. Moreover, the development of the *Analytical Engine* and the loom also fed into each other to such an extent that their evolutions were densely interwoven.

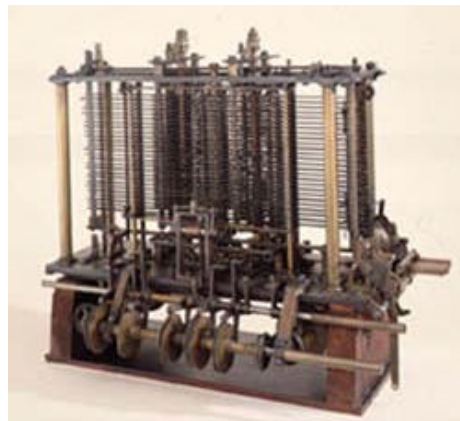


Fig. 2.17 The Analytical Engine, 1834
Science Museum/Science & Society Picture Library

If weaving is the one technology that women have invented (according to Freud), Sadie Plant's strategy to claim the loom as the most complex human engine of all is not a politically innocent one. She asserts:

Weaving has always been a vanguard of machinic development, perhaps because, even in its most basic form, the process is one of complexity, always involving the weaving together of several threads into an integrated cloth. (1999:104)

During the process of weaving the weaver and loom, women¹⁸ and machine, are closely incorporated, bound up together and almost "linked limb by limb to the process" (Plant 1999:105). The Jacquard loom used punched cards and therefore required only one operator. Analogously, the *Analytical Engine* could transfer control from human hands to software systems. The new industrialised weaving machines that developed from the cooperation

between Babbage and Ada Lovelace's primitive computer programming during the nineteenth century alienated human hands and feet from the weaving process.¹⁹ Industrialisation was seen to force the human body to adjust to the rhythm of bigger and automated machines, which received inputs from "software programmes" or a string of punched cards. If the loom is indeed the most complex of machines due to the assimilation of body and machine, as Sadie Plant argues, how could the "software" developed by Ada Lovelace prove liberating, when what it accomplishes is not to further an accord between body and machine, but rather to alienate the two? In other words, interpreted from another angle, the first software programme, developed by Ada, did not strengthen the relation between bodies and technologies, as in the case of weaver and loom, but instead contributed to an alienating and disembodiment process, which takes the loom out of the hands of the weavers and places it under the control of software programmes. Hence, Ada's "software" brought about a far-reaching change in the order of the (wo)man/machine interaction by disembodimenting the embodied nature of the loom, rather than meshing it closer together. One may rightly question the liberating possibilities of Ada's "software" for weavers in particular. Ada's "software programme" was not liberating merely because a woman introduced it. In fact, viewed from a specific vantage point, Ada's first primitive software may even prove to be problematic in terms of women's liberation at the time.

If Ada's contribution is interpreted from yet another standpoint, namely by concentrating instead on how her software uprooted most forms of control by initiating processes of decentralisation, another perspective surfaces that may be fruitful for a cyberfeminist rendering of her work. The disruption of centralised control processes as implemented by industrialised weaving processes can be likened to the way in which software programmes run contiguously, uncontrollably and in a decentralised fashion within computers. In the same way, uncontrollable female identity is associated with complex computer systems and programmes, for women also "simulate" their operations by running contiguously and miming the "programmes" expected of them, such as hysteria. This ability of women to mime their own inessential essence corresponds with the ambiguous phenomenon that "if 'she' says something, [...] it is already no longer, identical with what she means. What she says is never identical with anything, moreover; rather, it is contiguous" (Irigaray 1985b:29). If one compares this non-identical position of women, which Irigaray describes as contiguous, it compares favourably to parallel computer programmes replicating freely without ever being identical in their repetition. Furthermore, if one asks women what they are "thinking" – the philosophical category from which they have traditionally been separated – they will probably reply "Nothing. Everything" (Irigaray 1985b:29). In other words, they are both the precondition for thought and that which is excluded from thought. If you ask a computer what it is thinking, as in the Turing test – if it is "thinking" at all – the answer will probably be nothing and yet everything at once. Similarly the computer can also

not distinguish between what it is thinking and what not and therefore it can think both at once. It is also interesting to note that in Gibson's *Neuromancer* (1984), the protagonist, Case, conducts a conversation with the artificial intelligence, Wintermute, where its essence (or rather non-essence) is similarly described as follows:

"I'm not Wintermute now."

"So what are you?" Case drank from the flask, feeling nothing.

"I'm the matrix, Case." Case laughed. "Where's that get you?"

"Nowhere. Everywhere. I'm the sum total of the works, the whole show." (Gibson 1984:267)

From this short piece it can be deduced that Wintermute refers to itself as the matrix, which in turn is a reference to the material and yet immaterial womb or "the sum total" that finds itself nowhere and yet everywhere at the same time. This also links with the notion of the (hysterical) female body that forms the precondition for language and yet falls outside the scope of that language, which is at once nowhere (outside language) and yet everywhere (inside language).

In the virtual age where parallel-distributed processing systems are running without central controlling units and are spread all over the system at any given time, the logic of "nowhere and yet everywhere" gains new meaning. Therefore, the information in a computer is at once nothing and yet everything, nowhere and yet, everywhere. A reference is no longer required to a central governing core, but rather to concurrent processes that are spread contiguously across the system. Just as women are popularly aligned with multi-tasking, parallel processes similarly run next to one another – proliferating and multi-tasking – without the need of an hierarchical master to enslave them. These self-organising, connected, and parallel distributed processing systems can be likened to the technology of weaving that has always supposedly fallen outside the controlling mechanisms of patriarchy, exactly because "there is continuity between the weaver, the weaving, and the woven which gives them a connectivity which eludes all orthodox conceptions of technology" (Plant 1999:271). It does not however, take much imagination to link weaving with modern software engineering²⁰ and the "weaving" of pixelled windows on flickering screens to make a connection between how women and technologies are closely aligned. This is the legacy of Ada Lovelace, first cyberfeminist in her subversive use of technology and challenger of the myth that women and technologies do not correspond.

In this chapter I have established the intellectual links that cyberfeminism shares with posthumanism, postmodernism and virtual realism. I have also shown the problems associated with cyberfeminism's general reluctance to couple the movement to a clearly directed political agenda. Women's traditionally awkward relation to technologies needs to be addressed not only

on a mythical level, for new myths about women and technologies are patently required, but also by finding pragmatic solutions to women's exclusion. It is for this reason that cyberfeminism, as I defend it, sees itself as both a subversive undermining of the epistemological pairing of masculinity with technology, as well as pushing physical boundaries further in gaining access for women to technologies, not only to use technologies, but also to create and develop new technologies.

In addition the etymological roots of cyberfeminism have been traced in an attempt to reveal women's kinship with technologies, as the origins of words such as "weaving" and "web" evidently prove. The re-figuration of Ada Lovelace as exemplary of an embodied cyberfeminism, positioned as technologically apt and artful has mimed a place of enunciation from which cyberfeminism can address women's traditionally awkward relation to technologies. In the next chapter, I start the investigation into the four identified body types in earnest with an analysis of the techno-transcended body, which is also the embodied configuration that aspires most passionately to disembodiment and consequently lies the furthest from an embodied cyberfeminist position.

Endnotes:

¹ The use of the term "wayward" refers to the discussion on hysteria in the late nineteenth century in the Introduction and the medical link between hysteria and so-called "wayward wombs".

² Bruno Latour argues in *We have never been modern* (1993) that quasi-objects operate within a network that is at once materially real, socially regulated, and yet discursively constructed. In other words, the humanist subject has never mastered control over reality, as once thought in Enlightenment and humanist modernism. In fact, the subject has always been an integral part of a network of relations.

³ I have devised this syntactical use of hu+(man) to show exactly where the emphasis lies in the term and what specific sex, gender, race, class, religion and technological access is favoured when the term is used unproblematically.

⁴ In the chapters dealing with the techno-transcended body, the techno-enhanced body and the marked body, such instances of disembodied impulses are discussed and analysed from a cyberfeminist position.

⁵ Donna Haraway's "Cyborg manifesto" (1990) is discussed at length in chapter six, which deals precisely with the cyborg body as an embodied proposition for cyberfeminist endeavours.

⁶ The *Old Boys Network* consists of "seven artists/media theorists/hackers/art historians/ writers/ designers/weirdos", namely Susanne Ackers, Berlin (Germany)/Skovde (Sweden); Valentina Djordjevic, Berlin (Germany); Ellen Nonnenmacher, Berlin (Germany); Helene von Oldenburg, Rastede/Hamburg (Germany); Julianne Pierce, Sydney

(Australia); Claudia Reiche, Hamburg (Germany); and Cornelia Sollfrank, Hamburg/Berlin (Germany). They also work closely with the German *FACES* e-mail community for "women only" under cyber-guidance of Eva Wohlgemuth and Kathy Rae Huffman.

⁷ Since Faith Wilding's criticism about the lack of a political strategy within cyberfeminisms, which she made after the *First Cyberfeminist International* in September 1997, the leaders of the *Old Boys Network* have steered their course on another, more political route. In the editorial to the Reader for the "Next Cyberfeminist International", which took place in March 1999 in Rotterdam, reference is made to a "new cyberfeminism". The need for a "new" cyberfeminism is explained as springing from "[...] our need to distinguish ourselves from the first generation of cyberfeminists who coined the term in a way we found too narrow. This is why we made and are still making vigorous efforts to free Cyberfeminism from its old attributes in order to make it a useful and operational tool for all kinds of new utopias", write the authors, Yvonne Volkart and Cornelia Sollfrank. Then, importantly, they state: " And since Cyberfeminism, like feminism, is a politically-motivated, anti-phallogocentric idea, **we need to formulate and marshal our understanding of politics in a more concrete way** than we have done until now" (Reader for the "Next Cyberfeminist International, 1999, emphasis added).

⁸ It is particularly in William Gibson's cyberpunk writing, especially in his trilogy, *Neuromancer* (1984) *Count Zero* (1986)) and *Mona Lisa Overdrive* (1988), where the old metaphysical dream of leaving the burdensome body behind is starkly perpetuated.

⁹ For a fascinating, but rather abrasive version of the sexual possibilities of new technologies and how women can successfully apply them, see Virginia Eubanks's (1996) piece entitled "Multiple orgasm through multitasking" in the *Brillo* e-zine.

¹⁰ See in this regard Slavoj Žižek's discussion of the phallus as "the ultimate semblance" (1997:136), where he cleverly explicates that the phallus as signifier is in fact a supplement or prosthetic and therefore a stand-in for the male potency. The phallus as signifier is, consequently, never the presence of male potency, but in fact its absence.

¹¹ The term *jouissance* refers to physical and intellectual pleasure or ecstasy. It is a term that has been used by Lacan to explain the pleasure that women experience without knowing it. In other words, *jouissance* is a kind of pleasure or ecstasy that women experience, which goes beyond the control or knowledge of the phallus. It is also described as a pleasure (even orgasm) that is experienced rather than rationally known. The term has been co-opted by feminisms, especially in the work of Luce Irigaray and Hélène Cixous, where it refers to women's embodied pleasure that is simultaneously immanent (body) and transcendent (mind).

¹² Ada's mother, Lady Byron, was herself known as the Princess of Parallelograms due to her mathematical skills. She was married to the famous poet Lord Byron, but when Ada was five months old, she divorced Byron and kept custody of Ada. Apparently, Lady Byron feared that her daughter had inherited her father's poetic skills and therefore persuaded Ada from an early age to rather pursue mathematics. Ada obliged, but in her plea for "poetical science"(Toole 1998) it is clear that she was not only her mother's daughter, but also her poetic father's.

¹³ Ada married William King in 1835 and in 1838 Ada and William became the Earl and Countess of Lovelace (Toole 1998).

¹⁴ The text that Ada translated from French was: "Sketch of the Analytical Engine. Invented by Charles Babbage" by LF Menabrea of Turin, Officer of the Military Engineers from the *Bibliothèque Universelle de Genève*, October, 1842, No. 82. With notes upon the Memoir by the translator Ada Augusta, Countess of Lovelace.

¹⁵ I place "computer programme" in inverted commas so as to draw attention to the fact that there is a debate on the issue of whether Ada did indeed write a computer programme or merely prepared the way for others to do so. See Michael Mattis's "Repurposing Ada" (1999).

¹⁶ Babbage travelled to the European mainland and spent some time in France while he was developing the Analytical Engine. It is in France that he saw a Jacquard loom, about which he wrote: "It is known as a fact that the Jacquard loom is capable of weaving any design that the imagination of man may conceive [...] holes [are punched] in a set of pasteboard cards in such a manner that when these cards are placed in a Jacquard loom it will then weave [...] the exact pattern designed by the artist [...]. The analogy of the Analytical Engine with this well-known process is nearly perfect. Every formula which the Analytical Engine can be required to compute consists of certain algebraical operations to be performed upon given letters, and of certain other modifications depending on the numerical value assigned to those letters [...]. The Analytical Engine is therefore a machine of the most general nature. Whatever formula it is required to develop, the law of its development must be communicated to it by two sets of cards. When these have been placed, the engine is special for that particular formula" (Goldstine 1980:1).

¹⁷ In the case of the Jacquard loom, encoding or programming the patterns to be reproduced controlled the weaving process. Weaving patterns were punched into a sequence of pasteboard cards, where each card contained the same number of rows and columns. The presence or absence of a hole was detected mechanically and used to determine the actions of the loom. By combining a string of cards together the Jacquard loom was able to weave (and reproduce) patterns of great complexity, up to ten thousand cards' "program[s]" (Dunne 2000).

¹⁸ There are many examples of men as weavers, but etymologically the term "webster" refers to "a weaver as the designation of a woman extended or applied to a male weaver as well" (*The Shorter Oxford English Dictionary* 1990:2521). Alison Adam also makes the point in *Artificial knowing. Gender and the thinking machine* that Plant's unequivocal linking of women with weaving, "will not stand up [...] when one considers that [...] both in the cotton industry of North West England and the silk industry centred on Macclesfield in Cheshire, the higher status and pay accruing to weavers made it [...] the domain of men rather than women" (1998:176). Also the control of the Jacquard loom was mainly in the hands of men because it was considered to be too skilled an activity and too heavy for women to undertake. Adams argues that **spinning**, rather than weaving, was the domain of working-class women.

¹⁹ Jacquard's loom did not receive a warm welcome from the weavers' industry at the time, for they feared that the machine would replace them. The animosity was so strong in Jacquard's hometown, Lyons, where he introduced his loom that he had to flee for his life. His machine was even torn to pieces in public places by the Conseil des Prudhommes. It was only later that Jacquard received acknowledgement for his invention and, ironically, a statue of him now stands on the exact spot where his machine was previously torn up.

²⁰ In this regard several software packages have been developed to assist the weaving process. *Swiftweave* is software that allows the user to import computer-generated images from other programs into the weaving draft. *Swiftweave* works with several major looms in the market. For more information see Greta Schmidt's *Weaving and technology*, (1999).