Chapter in *_reskin_,*
editors Mary Flanagan and Austin Booth,
MIT Press, 2007

Safety of Skin

> Buried in the confusion of details of every mind, there had to be something untouched by time, unswayed by the shifting weight of memory and experience, unmodified by self-directed change (Egan 1997: 56).

Usually we think of ourselves as being like a peach — having a soft and squishy skin on the outside and a solid kernel-like core. There is something about ourselves that we see as intrinsically fixed, central, immoveable. It's not our mushy and vulnerable brain, and it's not our intangible and ethereal soul. Perhaps this fixed point could be the pineal gland, a small lobe in the forebrain, which according to the eastern perspective of the chakra system governs the experience of self and reality, integrating the entire physical, emotional, mental and spiritual human experience. Or is this hardness more centrally located… lying beneath the rib cage in our heart, that strong muscle which pumps the animating fluid of blood through our vascular systems, bringing life and nourishment to the flesh?

Just what is it that resides beneath our peachy skin, locating and identifying the defining boundary between the 'colony' that is *us* and everything else? Perhaps it's our bones and cartilage, that internal architectural structure that defines our shape. Perhaps it is the softer combination of membrane and muscle that gently and firmly hold our organs, preventing them from spilling out of our bodies? Then again maybe it is that invisible but potent biochemical cohesion which symbiotically binds the billions of tiny bacteria and viri which comprise the bio-ecological scape we call the human body.

Being immersed in online environments makes questions like this difficult to ignore as we establish emotional and physical protocols for interaction in these spaces. Where is the kernel or seed of the self when the body is composed of pixels? Are the ethereally coded soft bodies we inhabit in machine-produced data space different from the flesh bodies we inhabit offline? What is intrinsically unique about an individual when they are re-presented virtually? Without a hard shell, could it be possible to remain untouched and unmodified when we inhabit electronically constructed life worlds?

>> becoming avatar

> The avatar first arises in the most primitive form as a moving cursor on the grid screen when that screen becomes networked with other screens… The cursor mouse becomes the seed of the avatar, the potential of cyberspace to mix information with intersubjectivity and with real-time communication (Heim 2001).

When we slip into networked spaces in online multi-user communities, we must become an avatar — an *other* species to operate in this parallel space. As Gregory Little points out in *A Manifesto for Avatars* (1998): an avatar is among several species which share aspects of social constructions and identity politics that inhabit the online territories. These species include the cyborg and the zombie, but avatars should be carefully differentiated from them by their form and function.

The avatar is unique as it has its origin in one world and is projected through or assumes a form of representation appropriate to a parallel world. The term itself refers to the physical body which the ethereal Hindi deity Vishnu assumes during visits to the earthly plane:

> In its native language, this title refers to a Divine Incarnation, one in whom the Supreme Consciousness has descended into human birth for a great world-work… The Avatar is not a singular incarnation but takes birth through a divine lineage stretched out over many millenniums. These incarnations are linked through the substance of their mission which is the establishment of a reign of Truth Consciousness on the Earth (Wilkinson 1994).

The appropriation or repurposing of the term ‘avatar’ to represent a human user migrating from the earthly plane to operate within the ethereal plane of shared online Internet environments is attributed to LucasFilm’s *Habitat* project in the early 1980s (Morningstar and Farmer 1991: 276). However, the more mainstream usage of the term came with the avatar-inhabited *Metaverse* environment of Neil Stephenson’s *Snow Crash* in the early 1990s. Stephenson also established the crucial visual hierarchy of avatar representation that I will discuss later in more detail. Today the term ‘avatar’ has lost its sacred association in technocultural circles and is generally used to refer to the body we inhabit when we transcend our material bodies and enter the plane of the alternate reality softspaces of the World Wide Web. What does remain of its spiritual lineage is that the avatar, although a software construct, is usually seen to be rooted in hardspace.

One software language which gives an insight into the way avatars have been conceptually and technically constructed in networked computing is the VRML 2.0 specification. Here the avatar entity is clearly defined as “3.5 avatar: The

abstract representation of the user in a VRML world. The physical dimensions of the avatar are used for collision detection and terrain following" (VRML 1997: 3.5). Importantly, although having dimension and physicality, the avatar is *not* the user, who is separately defined as "3.108 user: A person or agent who uses and interacts with VRML files by means of a browser" (VRML 1997: 3.108).

The specification is very clear that the user does not have to be human. It may also be an agent, opening up the possibility that any user may be a software construct — an extension of another machine. VRML is not designed to be a playground only for humanity. It is open to any sort of species interaction. The terms are important here because they additionally distinguish the user from the viewer: "3.109 viewer: A location, direction, and viewing angle in a virtual world that determines the portion of the virtual world presented by the browser to the user" (VRML 1997: 3.109). This produces three separate but interlinked possible viewing and interactive perspectives in a virtual world.

The viewer's position is the central node, the hard core, the floating x, y, z coordinate point 0,0,0, around which the point of view of the world is drawn and redrawn in real-time. Although fixed at the position of 0,0,0, this coordinate point moves through the universe as the viewer navigates, constantly relocating the central axis of the visual world with each navigational decision. While this viewer appears to be omnipotent, they are restricted to their line of sight, as they are never rendered in the world, existing as a disembodied observer invisible to any other users. Without an avatar, and tied to their viewing position, they can only function in a single sensory mode — with the externalised view or eye (I) trajectory.

To become part of the virtual networked environment in a multi-sensory mode, the user must inhabit the software-constructed material presence of an avatar, producing interlinked possibilities for subjective and interactive perspectives. This provides physical dimension and parameters for contact in the world, a malleable coded skin with which the user may touch others in softspace. The user can gently push with their pulsing skin and permeable boundaries, establishing a cohesive tactility by scripted touch and proximity sensors which generate visual, programmatic, and sonic events. The user is translucently, visibly and momentarily solid in the environment, becoming simultaneously a central player and part of the background to other users in the environment.

>> programmed possibilities

Being temporarily liberated from our singularity — simultaneously occupying the three positions of user, viewer and avatar, and as well, able to code our own avatar bodies — would seem to open up myriad possibilities and freedom of choice in our representations of our online selves. However, it appears that the opposite is true. The choice of avatars adopted by many users is very mainstream, as Little observes with some disappointment:

> a colony of extremely generic, homogenous representations rooted in prevailing constructions of successful commodification and accumulation: pop icons, juvenile fantasies, dumbed-down cartoon

> characters, and racially pure, white, young, 'perfect bodies.' A tool with the potential for the playful generation of territories of signification and empowerment, the avatar is being used instead as a weapon against its own referents to seize this terrain of potential as part of a rabid process of accumulation (1998).

There may be historical precedents for this, as early choices of visual representation or embodiment available in online chat worlds were constructed by programmers, rather than designed by artists, so often had functionality prioritised over aesthetics. Some of the most popular options were the virtually amputated talking heads, which were often employed for very practical reasons as they took less construction time and skill due to the absence of an animated body, as well as less bandwidth and processing time. A choice of mythic figures, outlaws and deities offered quick and easy identification in a heads-only world like the long-standing and still functioning OzGate community shown in Figure 1.

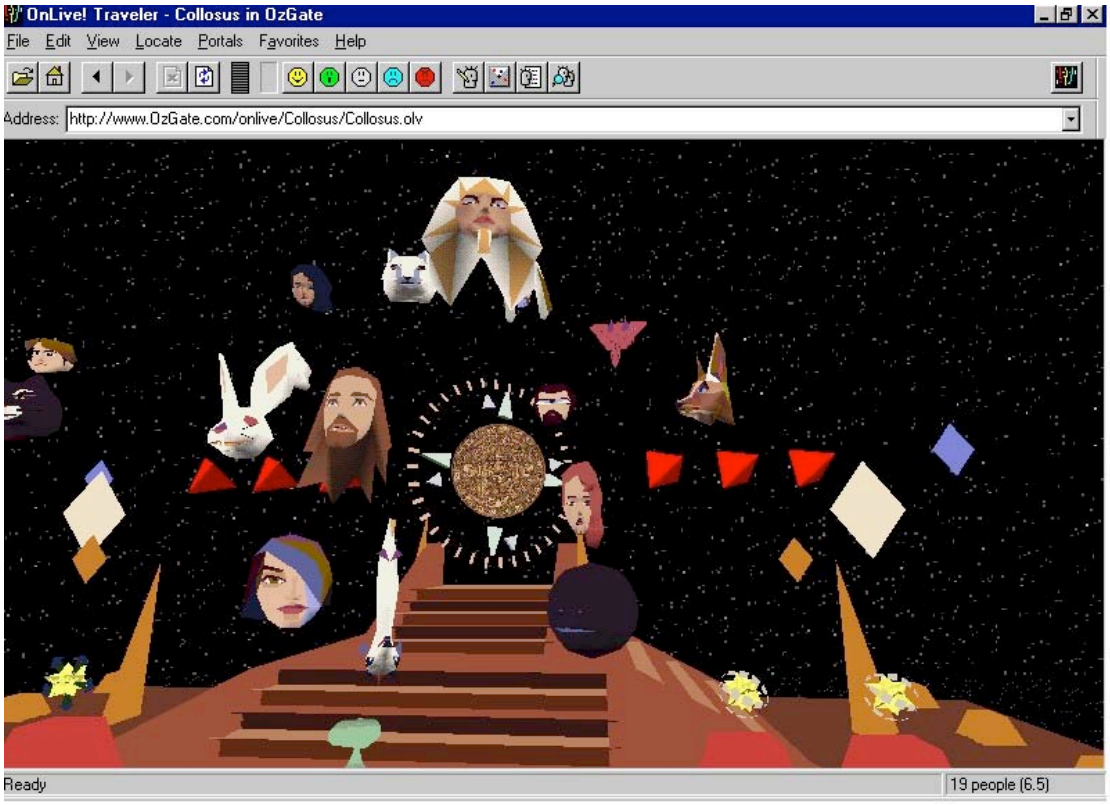

Figure 1: Heads-only avatars encountered at *OzGate* online community.

Ironically, Stephenson predicted a limited and impoverished state of avatar representation in *Snow Crash (1992)* where one's choice of avatar online reflected one's social status offline. To have a custom-written, well-defined, high-resolution avatar you needed to be either wealthy or a programmer, and in the novel's online virtual world *Metaverse*, programmers assume the

highest status. The poorer or less tech-savvy who cannot afford custom avatars, or who cannot write their own, have to opt for more restricted and lower definition avatars. Hiro Protagonist, the main character in *Snow Crash*, was of course a well-rendered version of his actual offline self, and was always virtually dressed in a black leather kimono. The anti-hero however, the viral terrorist programmer, chooses the lowest of the low avatars, a black and white, low-resolution, highly undifferentiated pixelated representation; one which is mass produced, highly unrecognisable and distracts attention from the avatar itself. Most users in the *Metaverse* have some basic avatar decoration options, but Hiro is scathing of those who don't have these choices available or don't make them:

> Brandy and Clint are both popular off-the-shelf models. When white-trash high school girls are going on a date in the Metaverse they invariably run down to the computer-games section of the local Wal-mart and buy a copy of Brandy. The user can select three breast sizes: improbable, impossible, and ludicrous… Her eyelashes are half an inch long, and the software is so cheap they are rendered as solid ebony chips… Clint is the male counterpart of Brandy. He is craggy and handsome and has an extremely limited range of facial gestures (1992: 35).

Figure 2: Avatars in *There* online environment.

Most online environments today are populated by Brandy and Clint clones [Figure 2], for example the avatars available within the popular *There* multiplayer environment, or ones customised from prefabricated avatar mannequins provided by software houses. This second category, commercially available avatar creation packages, are often linked to specific software-driven environments as interlinked marketing promotions. An example is *Avatar Lab*, software designed to let the user create custom 3D avatars specifically for the not very successful *Adobe Atmosphere* worlds. The user selects basic human, animal, or robot figures with the mandatory arms, legs and heads, or could "even mix-n-match to create wild combinations, there are over 200 million possible choices" (Curiouslabs 2002). They are then invited to "use photos of yourself or any other face to create a unique and personalized avatar. Add hair, accessories and props to complete the figures" (Curiouslabs 2002).

Although applications such as this promise individuality, invariably there is a sameness about the avatars which they produce. One could conclude that the user does not want to stand out in a way that is, in popular culture, seen to be unattractive, different or ugly. Strangely the opportunity for exploration brings more conformity, as often users select avatar body types, genders and racial characteristics which bear little relation to their hardspace physicality — in order to conform to westernised standards of cultural attractiveness. There is of course nothing wrong with wanting to be 'attractive'; however, the freedom to step outside of culturally fixed appearances and specified roles is one of the major factors which draw people to participate in online worlds. But perhaps the visual homogenisation of these avatars is as much due to the limited range of choices offered by the avatar design environments, and hence the software designers, as to the users themselves.

Whatever the reason, places like *There* do breed a certain style of avatar — "most people choose something quiet straightforward, *There's* characters look more like everyday people; *Second Life's* are likely to be dressed as superheroes or in other costumes" (Terdiman 2004). *Second Life* is the first product of Linden Lab, a company specifically established to develop shared 3D entertainment. Although it is a multiplayer environment similar to *There, Second Life* promises to give its members an added dimension to their everyday life. It encourages users to "become the world's most popular or wealthiest resident. Win votes for your personality, appearance, or building skills" (Second Life 2004). Users are provided with "Fashion Design Templates" which work with *Photoshop* software to make buttons, pockets, and tattoos to customise their avatar's appearance, hence supposedly enhancing the individual experience. According to Cory Ondrejka, Linden Lab's Vice President of Product Development:

> You can be a woman some of the time and a man the rest of the time, and you don't even have to look human. Residents have fun dressing up to go dancing or showing off their cool tattoos to each other. As for

> the detail to which you can customize your avatar, there are hundreds of controls, which allow for effectively infinite possibilities for how you can look in-world. You can look like a realistic version of yourself -- or you can look as outlandish as you want (Assassin 2004).

Second Life is primarily marketed as a space in which one leaves the everyday behind, "Second Life is like your life unlocked and unbound; it's your reality on fast-forward" (Second Life 2004)... but not too far behind. Offline reality is painstakingly recreated as avatars — even in cat-suits or superhero outfits — marry, acquire property and assets, and live life online as if it were hardspace. It is clear that despite their promises both the avatar creation packages and these online virtual environments are not offering any really alternative experiences of what it is to be human offline. Instead they offer a way of altering your body to whatever "perfect" humanoid representation you desire, and a fantasy world where you can live life in that avatar body. This is obviously very appealing in a cultural and social context where people are increasingly dissatisfied with their physical appearance. Avatar creation is easier, cheaper and less dangerous than physical intervention like cosmetic surgery. And it can be easily revised, unlike an off-line tattoo or a breast, vaginal or penis augmentation, which are messy to reverse or erase. Slipping into an other, a virtual humanoid body, is not too much of a mind shift, as we want our fantasy excursions to be as seamless as possible. This loyalty to a form of realistic representation ensures, we think, that our online personas remain under our control.

>> (im)proper usage

Once we have carefully digitally constructed and groomed our avatar selves for projection into another space, then what are we going to do with them? Do we merely desire touristic observation of an other world, or are we really yearning to interact with others — to live, work and play virtually?

Michael Heim speaks of the importance of communication in his *Avatar Manifesto* where he predicts that by the year 2010 "networked collaborative communication becomes the norm for business, commerce, and the arts" (2000a). Instead of the Internet being a static space for data storage, the flows in cyberspace — that is, the true "substances" of virtual worlds — become obvious in event-based interactions. Heim uses his online *Activeworlds Eduverse* environment "CyberForum@ArtCenter" as an example of a space which can promote those interactive experiential flows in an educational — a place which "takes process seriously in fashioning worlds as "aesthetic occasions" (2000b). In February 2000, guest Katherine Hayles discussed the posthuman in the environment with Heim and his students as an avatar in 3D virtual worlds. The transcript and screenshots remain online (Hayles and Heim 2000), and the documentary result is a rather tedious discussion, a curious mix of intimate and theoretical posting by both Hayles and the students in Heim's online 3D class.

> **KateH: Yes, my talk seems to be in bold--and I'm so shy, too!**
> **gaga**: no way! I've heard you speak before..
> **ommm**: your avatar may be in bold, while you remain shy ;-)
> (Hayles and Heim 2000)

Hayles chooses to be embodied as a low-resolution, low polygon, multicoloured swallow type construction, mostly obscured in the site's screengrabs by her text. Heim aims for the CyberForum to address issues of consistency with the "flow of words with visuals, flow of atmospherics, flow of group dynamics, flow of virtual with physical architecture (avatecture)."(2000a) However, lag online seems to ensure that there is not a continuous flow of questions and answers in the chat session, but rather an overlap of statements and questions that are often left unaddressed. Hayles attempts to discuss her book *How We Became Posthuman* (1999), however the environment only allows the briefest of overviews, leaving the content of her posting mostly on the materiality of text in artists' books rather than any issues to do with embodiment in online environments.

Figure 3: Screengrab from *CyberForum@ArtCenter 02/26/2000* with Katherine Hayles' bird avatar located at the center left (slightly obscured).

To read this archive and view the screenshots, examining the visual re-presentation of the participants makes individual and group meaning difficult to discern. It is hard to focus on the subtleties of posthumanity while a group of chunky translucent virtual brides wanders through the 3D rendered scene [Figure 3]. The forums, while opening the possibility of taking multi-user spaces more seriously than as pure entertainment spaces, make it apparent that Heim's vision for networked communication as the norm within the next decade is rather optimistic, as sadly VR technology has not been uniformly developed, moving little in visual resolution or mainstream uptake in the last fifteen years — except in specific arenas.

Commercial online gaming environments, in which avatar deployment has been highly successful, warrant a mention at this point in the discussion. The world of Massively Multiplayer Online Computer Role-Playing Games (MMORPGs), a parallel universe to artistic multi-user environments or the more pedestrian domains of *Activeworlds*, is a thriving, income-generating enterprise. *Lineage,* for example, an online world in South Korea, claims four million subscribers in 2004, or one in eight households in the country involved. It attracts at least twice as many concurrent users as the US based *EverQuest*, a series of *Lord of the Rings* style fantasy worlds. Like the *There* and *Second Life* communities, players pay a monthly fee of around US$30 to be loyal and committed members of these gated fantasy enterprises.

Top-level users in the first game of the *EverQuest* series spent most of their time in the nation of Norrath, engaging in conventional offline behaviours, including the accumulation of wealth. According to Edward Castronova's early study of the economies of Virtual Reality worlds, "Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier" (2001), an average player's per capita income within *EverQuest* was around US$2,500. *EverQuest* currency was traded offline for real US dollars or other hard currencies; avatar realities begin to blur with hard world space in terms of income generation. Today (2004) asset accumulation and trading has become such a part of daily life that the *Second Life* currency "Linden Dollars" and currencies from other games like *The Sims Online* can be exchanged for on- and offline goods and services or traded for US dollars at game commodity trading sites.

But back to *EverQuest*… Castronova points out that if a player lives in a country like Bulgaria where the per capita income is lower than in Norrath, then they would be financially better off spending time online, with their *EverQuest* avatar earning or stealing or otherwise obtaining money. Selling the avatar acquired soft currency on- or offline for hard currency income is more beneficial than actually going to work in their own geographic local area. Avatars, whose skill development and hierarchy ascension become the property of the user and part of this soft economy, were sold at the time to the

highest bidder at places like eBay for up to US$2,000 each. Interestingly, in a further study of the social valuation of software-generated bodies, Castronova found that offline gender politics were also mirrored in online worlds, as male avatars were significantly more valuable in resale terms than female avatars of equivalent skill level (2003).

EverQuest and similar spaces work so well and are so popular precisely because they don't question the 'real' world status quo. They operate on stereotypical role-playing devices; on defined scenarios taken from fantasy. There are enemies to kill, there is wealth to be acquired, romantic conquests to be made, skills to develop, and a hierarchy of levels to ascend. There is the comforting familiarity in the avatar appearance in *EverQuest.* The environment has horizon lines, fore, mid and backgrounds, all visual markers of reality which make this fantasy world safe for the user. The feeling of visual safety and familiarity along with the safety of defined game parameters means that users are happy to pay to belong to this community.

However, in spite of the growing sophistication of graphical representation in virtual space, the success of creating an embodied experience online is not reliant on realistic representation. The avatar representation for the comic strip-like *Habitat,* or even the text based LambdaMOO, proved to be just as successful in creating a sense of immersion and intimacy as these multi-million dollar, massively multiplayer games today. If strict adherence to the recreation of offline reality does not enhance our online emotional engagement, why do developers strive to provide hyperreal human avatars for users to engage in fantasy roles in virtual environments?

>> multiple choice

But not everyone wants to engage online in visual and cultural ways similar to their hardspace realities. Consequently, in my multi-user *empyrean* online virtual reality environment, I have provided an alternative to these prevailing representations by offering four choices of bio-coded avatars. *empyrean* is a nodal space, with seven inter-connected anti–hierarchical realms for users to explore. It is both a microcosmic and a macrocosmic space, creating a sensation of uncomfortabilty in some, as there are no familiar horizon lines to orient the self against, nor are there fixed texts to read or pathways to navigate. The user could be simultaneously swimming through viscous liquid and floating in the dark voids of outer space. The only visual anchor point for any user is their own avatar, which, upon entry to the *empyrean* universe, is given a randomly generated seven-character genome sequence as an identifier within the world.

Having non-humanoid avatars in this environment challenges the usual mimicking of hardspace stereotypes, focusing the users attention on other flows apart from role playing in online networked space. Contrary to the norm, these avatars do not resemble in any way either human facial or full-bodied physical characteristics; they are translucent ephemeral, microscopic, cellular, electronic constructions.

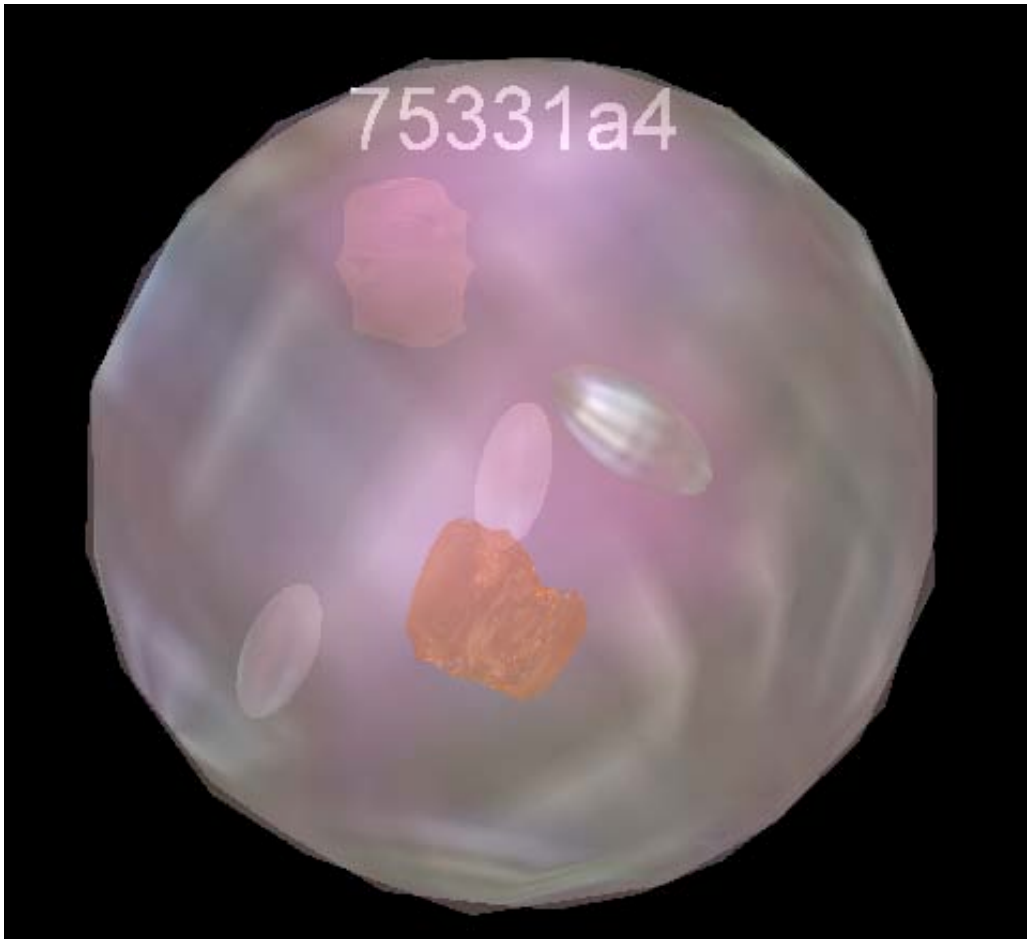

Figure 4: *miss fluffy* avatar

First, there is *miss fluffy* who has existed through many textual incarnations on the Internet since 1995, though now she is embodied in a visual way. Her pink, opalescent, animated appearance could be mistaken for a cell, or an alien creature; however, *fluffy* is actually a representation of a globule of spit or mucus, the sort of thing that you expel from the body when you sneeze. Containing a few viri (the small egg shapes), and some much larger orange coloured bacteria, she is a colonial forward scout, searching for new sites of infection. She has in the past had a wild history of digital presence on mailing lists, MOOs, MUDs; and some sexual textual exploits, some of which are detailed on my *tunnel* web site (Rackham 1996).

miss fluffy is incredibly popular. From my anonymous observations at museums and festivals where this work has been installed since its inception in 2000, it is the avatar consistently chosen by all types of users. However more often she is chosen by male users of all ages, who possibly desire to experiment with virtual cross-dressing and transgender identity through inhabiting her. Perhaps it is anthropomorphising a piece of software; however, I would suggest that her long online history has left the avatar with a personality residue, an electronic trace or aura which makes her a familiar and comfortable choice amongst users.

Because I know *miss fluffy* well, I'm more likely to choose to be embodied in *empyrean* by the avatar *big pickle*, a spiky pink and purple phallic pulsing slug-like creature. *pickle* is visually based on a macrophage, part of the body's immune system, often known as the body's clean up crew. The biological function of a macrophage is to respond in the body to a site of infection by 'eating up' destroyed cells. My projection of the macrophage's personality is something like the characters in white biohazard suits who appear after a crisis or messy violent scene in *X-Files* or *Men in Black* to erase all evidence of damage, deviation or infection; to return the space to a pristine state. Interestingly, and again from anonymous observation, women tend to pick *pickle* as their avatar. I have no evidence to suggest whether these users are attracted to the biological jackal like aspect, the rhythmic pulsing movement and vibrant colour, or the obviously phallic aspect of *big pickle*. Maybe they think the name is cute and their choice is without reference to any of these other aspects.

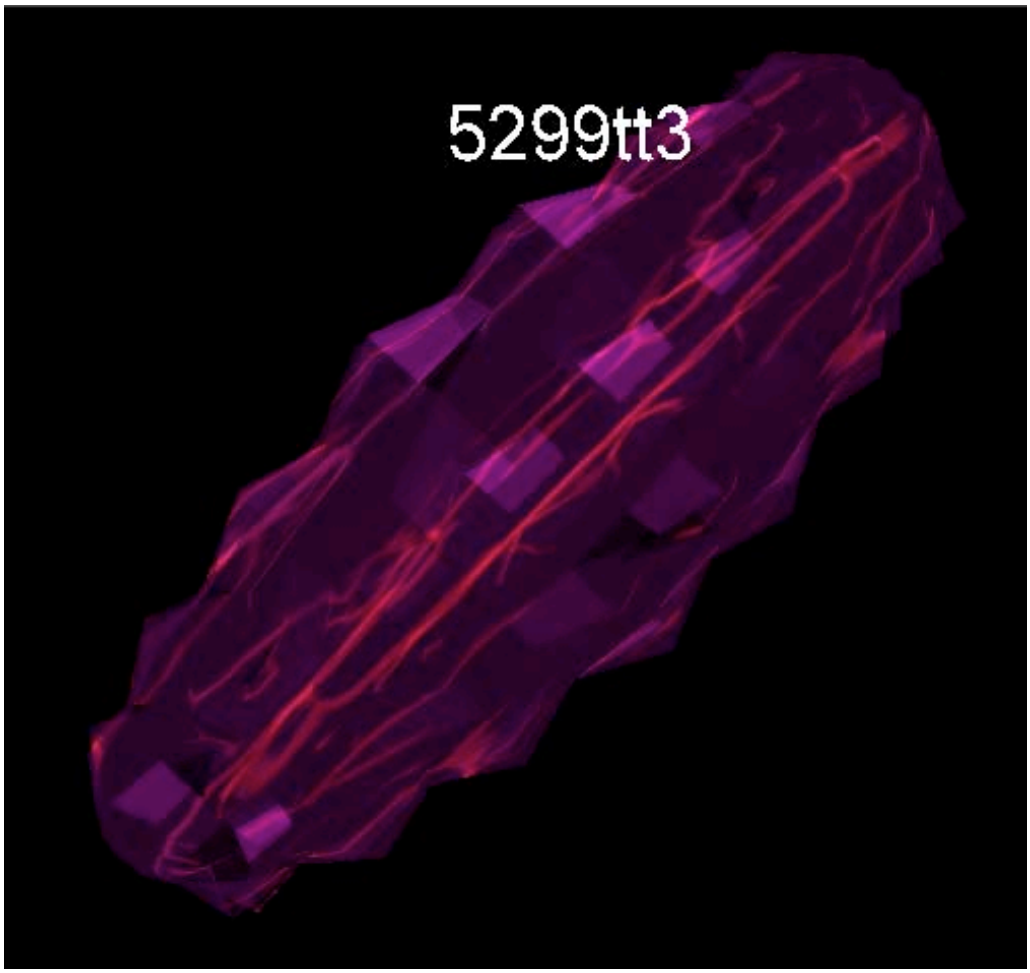

Figure 5: *big pickle* avatar

quincy is more hard edged — a mathematical construct, pure animated geometry; a child of the digital world. He is a perfect sphere, constraining within himself a matrix of revolving crystalline structures. With no markers of biological life, *quincy* is a close relative of the hissing blue spheroid objects in the *beauty* scape of the *empyrean* world. *quincy* is also the avatar who can

easily disappear, who will blend in well in virtual space. But from my observations of users over the first few years of the project, very few choose to be *quincy*. Perhaps *quincy* didn't seem unique enough, or perhaps it was *quincy's* name? As the avatar code creator I had considered killing off *quincy,* however I hadn't been able to delete the file.

Figure 6: *quincy-san* avatar

Perhaps creating an avatar is akin to the responsibility of having a child, giving them life, or the opportunity to inhabit and be inhabited/animated by human bodies/spirits. Under the moral codes of Western Christianity then, deleting the file would be relegating them to a version of purgatory, as they sit comatose on the hard drive, slowly fragmenting and corrupting away. Only a disk reformat will completely erase all traces of their individuality, their unique code, realigning their zeros and ones to a static pattern, ready to be reused for another purpose as building blocks of new software constructs. As a temporary solution to this problem, before the biennial Inter Society of Electronic Arts (ISEA) exhibition in Nagoya 2002, in which *empyrean* was showing, I altered the avatar's name to *quincy-san*. In the Japanese context the once lonely *quincy-san* became a very popular avatar, gaining a new lease of life because of this culturally specific familiarity of title.

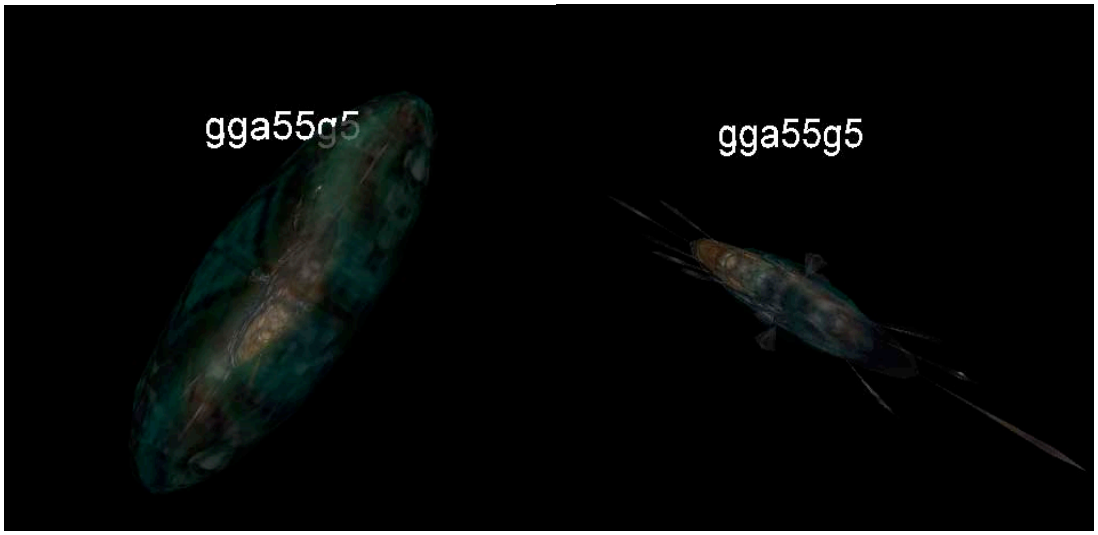

Figure 7: *symborg* avatar in two stages

Finally comes *symborg*, a viral/machine creature, the 'terminator' or android of the *empyrean* world. A smooth green surface hides nasty metallic viral spikes which emerge rhythmically from under the silky skin, evoking a sense of danger. *symborg* operates on stealth, managing to visually camouflage itself through its transparency in the space, so it can slip around the empyre without being easily spotted. *symborg* is based on the character *infectious agent* from my earlier work *carrier* (Rackham 1999), which investigated the symbiotic relationship between human, machine, and both a biological and a software virus. *Infectious agent* is a java software construct, which seeks to seduce the user into symbiotic infection through aesthetic and textual means, through disguise and manipulation rather than through direct confrontation or attack. Again from my rather random observations, *symborg* tends to attract women users more often than men.

Utilizing the visual tactics of translucence, abstraction and ephemerality with semi-transparent textures in *empyrean* I have made obvious that all the avatars are constructs based on polygons, rather than simulations of organic carbon based life forms. Some avatars have deliberately incomplete or erroneous data sets. This means they lack some visual detail which would indicate a seamless model. They miss 'faces', that is a polygon parameter will be missing, and therefore a small surface will be not drawn, creating a visual hole, a blemish or corruption into the exterior of the model. These inconsistencies are intended to alert the user immersed within this space that they are interacting within and with electronically activated, software-produced entities, which have their own aesthetic characteristics. Neither are the avatars trying to recreate or simulate a user's hard world persona; users cannot transfer their fantasy physical selves into digital medium when they look like a mucus ball. Rather I would like the user to be aware that they are inhabiting or co-habiting within a coded construct whose lifeworld is electronically activated softspace.

>> communication

The avatars of *empyrean* cannot speak. They communicate only via gestures. There are five gestures, each with an associated sound, loosely based on Stephenson's template for the off-the-shelf white-trash Brandy avatar, whose facial gestures are limited to "cute and pouty; cute and sulky; perky and interested; smiling and receptive; cute and spacey." (1992: 35) Likewise there are a restricted number of gestures available with the Sony Aibo pet robotic dog — with six gestures of happy, sad, anger, surprise, dislike and love. Billions of yen spent on gestural research indicate that very few gestures are required to induce empathy, sympathy and identification with another creature.

In many online environments communication is often very limited — most textual conversations start with accessing gender, location, age, and time zone. Having to type responses creates a rhythm with unique parameters. Any communication is dependent upon individual typing skill, hardware, software, Internet connection speed and server lag, reminding the user that the degree of general traffic on the network at any particular moment influences their interactions. As we have seen earlier, long and complex communication is rarely possible in multi-user space. This interaction via single lines of not necessarily linear text — or offline with stripped down and recoded SMS specific language — is altering the nature of conversing between the electronic generation, necessitating a re-evaluation of online text as we know it.

Although most multi-user spaces impose text as the dominant mode of communication online, *empyrean* acknowledges there are limitations and opens other possibilities as a sub-textual environment. There are three versions of *empyrean* online work, each with different communication options. In the single user world there are no other users, therefore no avatar communication options. The multi-user web version allows for both text and gestural interaction, however in the multi-user gallery version, *empyreanCosmos,* the usual text input function of multi-user worlds has been removed. Avatars must find other ways to communicate and make meaning within the space. The environment does contain text fragments as part of the scapes, but those texts remain random, with no fixed connecting narrative to dictate meaning. Challenging the notion of text as a stable and immoveable authority in Western tradition, texts in *empyrean* shift in response to an avatar's movement. This means that they alter direction and orientation so that the text fragment is always visible and readable by the user, making the user the central, stable, tenant/tenet of the world.

In addition to, or instead of, text, in *empyrean* the avatars have a range of preverbal gestural communication options. The prioritisation of text in most multi-user worlds is reversed and users primarily interact through sound and gesture. Avatars may squeak, squawk, blink, swell up and go opaque, gurgle, giggle, and blush to communicate with each other. These gestures have no fixed meaning, being contextually and relationally defined and consequently altering from user to user. Utilising ways other than text for communication

means the multi-user VRML domain is not tied to a dominant language group, nor is it based on age categories or educational factors, as is the case with most communication in multi-user environments.

Providing another level of consistency in the immersive, sonic environment, the gestural sounds will appear even when the avatar is off-screen, The VRML sound scape design by Mitchell Whitelaw is spatialized and attached to the etheric objects within the worlds. These objects are mostly moving and are often set at different pitches, so once inside the world the soundscape is constantly shifting around the viewer's avatar. In a sense the user could navigate by sound alone, as each zone of *empyrean* has a distinctive soundscape; like the glassy crunching and grinding spheres of *chaos*, or the frenetic cellular skating rink in *charm*, or the tinkling birdsong of the choreographed neurons in *void*.

Avatars need to be connected, to be roaming within their lifeworld on the network to interact. It is true that their gestural code may be twitched and tested from a single file offline, but like any creature pinned to a laboratory bench with electrodes sparking nervous and muscular responses, it is hardly indicative of their communications and responses in their natural environment. When connected, the gestures and sounds of the individual avatars become part of the background of the immersive scapes. This sonic interaction adds to the sense of being there in an experiential way rather than jolting the user out of their avatar embodiment by the comic strip referenced text bubbles [Figure 2] which appear in most worlds. A coherent and specific scape of interactions decreases the distractions for the user-as-avatar experiencing the electronic environment.

>> symbiotica

How close are we to our avatars? Is there a barely visible connection, a string of code or a thread of mucus joining us? Some commentators like Michael Heim view the avatar as a virtual, finite and fixed point, purely based on consensual fantasy:

> Avatars are shared fantasy identities that prove they are alive and telepresent through real-time playful interactive construction. Avatar identities are finite points of presence, intrinsically interactive and plural, embedded in communities of other avatars (2000a).

I differ from both Heim and Little in believing that the avatar is not merely a fantastic creature, a disposable strap-on software construct, but rather an other (perhaps a soft-other), with whom we develop a relationship. We as humans are mutable and flexible in the ways we represent ourselves. For example the code-based characters in Greg Egan's future-fiction novel *Diaspora* are easily able shift their mode of being — transferring themselves from residing in the collective and fluid *polis* (a hard-drive scape) into individual robotic *gleisner* bodies to function in the biological plane. There is a

necessary adjustment in operating through different bodies, through different mediums. One representation is not merely overlaid upon a solid and unchanging self, like a mask. With any avatar, the relationship that is formed is dependent upon the avatar's software-constructed personality, quirks, and uniqueness; this ephemerality and materiality leads to an individuated user experience.

Avatars are not merely an extension of a solid self, rather they can be seen as examples of *parināma* — the Buddhist notion of alterity or "becoming otherwise", where the identity of the self is in reality non-self, never fixed, and changing from moment to moment (Lusthaus 2002: 430). Even when applying the Western philosophical tradition, avatars are easily seen as products of relations. Taking Elizabeth Grosz's discussion of the encounter with the other, I will consider how the four characteristic indicators of alterity — that is, exteriority, excess, infinity and activity — relate to avatar relations. If an other meets the criteria of alterity, they could never be disembodied beings, rather they are "corporeal subjects, sexual subjects, subjects capable of touching, seeing, engaging and negotiating with the other's materiality" (Grosz 1989: 143).

Firstly, there is exteriority: the avatar is separate from the user and in a sense unpredictable. Even though its actions are based on a finite set of rules, there are an enormous number of finite outcomes. Avatars have the capacity to astonish and surprise, frustrate and delight us as the end user, indicating an existence apart from their creators. Even if it is being slavishly traded as a commodity on the open avatar market of online gaming communities like *EverQuest*, the individuality and separateness of the avatar from the user is acknowledged. The more unique and highly skilled the avatar, the more valuable they are to their colonial traders.

The avatar can also be seen as "a site of excess", an "indigestible residue" that we (as the users) are unable to absorb into ourselves. As most who have utilised an avatar character in multi-user space have experienced, an avatar can be resistant to, and independent of, our aspirations and wishes. We experience frustration as we try to manipulate gestures that don't always work, or traverse terrains that won't allow the avatar to enter. Coded attributes override user preferences as avatars collide or don't collide with other objects in their lifeworlds, emitting sounds the user has not initiated, mutating at seemingly random intervals. Rogue avatars like viruses can trigger events which can crash our computer operating systems, bringing our virtual experience to an abrupt end.

An avatar is not a finite structure. It exceeds imposed borders, boundaries and limitations. As an avatar file is stored and activated in online space, unless it is behind a firewall anyone, anywhere, with compatible software can utilise that specific and unique code as his or her avatar simply by routing to its location (url). It is therefore multiple and multilocated, and beyond a single incarnation. Avatars are polygamous, being "exceedingly unfaithful to their origins" (Haraway 1991: 151), a characteristic which they share with Haraway's cyborg. There is no need for faithfulness to an author, as there is

no hierarchical moral code and no necessity to refer to that which has come before. An avatar's structure is never stable: its code can be altered at any time. It is never complete, always open to addition or subtraction.

Lastly, even though we, the user, direct the avatar body or the binary codes within it, the avatar itself is the 'other' which is present in the online world, and which incites responses from other users and their avatars. The user becomes invisible in this space as avatars relate to avatars. Avatars assume their reality status, their individuality, as they seduce and entice actions in others. In *empyrean* when one is interacting with a *miss fluffy* avatar, it is the avatar's appearance and gestures and sound which other users respond to or ignore, not the corporality or mutterings of the unknown user on another networked computer. The avatar code is the unique individual experienced by others.

From the few examples above it is easy to see that avatars easily meet the criteria for alterity, an engagement through negotiation giving them a materiality and sexuality of otherness. They have codes of interaction, an ability to coerce and seduce. To develop this further, avatar sexuality can be likened to viral interaction where the relatively simple code of a virus can penetrate and alter and reproduce within the cellular core of a host cell. Avatars then are infinitely reproducible, cloned code, with a fraction of erroneous copies occurring to randomise the 'blood-line'. Avatar activation, which can also be called *life*, is occurring exponentially throughout the growing massively multiplayer avatar community, as we have seen. According to Sadie Plant it is precisely these activations and interactions which alter the user in the process, as "Every action, every communication has a moment of contact, a point of transmission, a line that is crossed, a change that occurs" (1994b). In theory and in practice, the avatar is emerging as a formidable species of other.

>> gamespace

As the web is used by over 600 million people (NUA 2003), I would estimate there are around 100 million avatars roaming the virtual worlds of MUDs, MOOs, multi-user VRML environments, the many zones of the Activeworlds Universe. However, by far the greatest number live in the exponentially successful MMORPG environments, four million in *Lineage* alone.

As I have touched on previously, MMORPGs differ significantly from the more open-ended VRML or multi-user environments like *empyrean*. Probably best described in Johan Huizinga's *Homo Ludens: A Study of the Play Element of Culture* (1950), game play takes place in a spatially and temporally closed environment within certain fixed limits, creating a sense that is different from ordinary life. From this I conclude that online role playing games seem to be successful because they exist just outside our pedestrian reality, having fixed parameters, a set of rules to follow, or to break. Huizinga points out that we engage with at least three dimensions of play: the agonistic or element of

contest; the ludic or exuberant and fanciful element; and that of noble recreation.

Experiencing the fantasy and exuberance of contest in a recreational way, positions a gamer emotionally to have pleasant associations and an investment in the development of their online character. Here, several sorts of avatars operate according to the type of gamespace they inhabit. Some massively multiplayer games have fixed avatar appearance and behaviours, some have characters which can be developed in appearance and behaviours like increased skill levels, and some have avatars which can only be superficially visually modified, that is they can have new *skins* applied.

As MMORPGs may be the primary social spaces for hardcore gamers who may spend sixty hours or more a week immersed in the online gamespace, a player's avatar deployment and appearance assumes some importance. Apart from visually individuating them, gamers who are also artists have enacted avatar performances. A well-known example is Brody Condon's *Worship* (2001), a performative online intervention within the massively multiplayer game *Anarchy Online*. By hacking his avatar's behaviours, Condon turned his avatar to face towards the outside, that is looking out through the screen, and proceeded to make it enact a built-in "worship" animation for an extended period of time. In other words, the avatar appeared to worship its user.

> This avatar action challenges many of the myths of virtual reality space. It shifts the focus of omnipotence from the world programmer/author, placing the player in the position of central importance, and repositions the immersive fantasy environment from being apart from day-to-day life by interlinking the spaces inside and outside the MMORPG. Because the avatar looks outside of the game towards the player, it is easy for the player to perceive their avatar as a separate other by its action towards them. This gives the avatar both an autonomy and a seeming awareness that a world exists outside its contained gamespace lifeworld. However, there is an Achilles heel here. While the avatar is focused on the user, it cannot effectively act or defend itself within the MMORPG, and this leaves it vulnerable to its own death.

As these worlds are so strictly formatted it is precisely this unexpected, unscripted and unsanctioned action which makes the avatar behaviour surprising to other users. Utilizing these safe public spaces for performance pushes the agreed-upon limits, stretching the social rules and conventions of avatar use within game environments. Eddo Stern, who has authored several avatar intervention artworks, thinks it is precisely the rigid structure of these worlds that makes avatar interventions particularly appealing:

> All of my earliest game intervention work was done in *Ultima Online* and *Everquest* - to my mind these represented at the time the gaming world's equivalent of global main street - I felt I was performing in public and my audience was deeply engaged in the conventions of the world - allowing any "Subversive" actions to operate as subversive by going against the game norms… I think in MMOs its really all about agency (vs the game creators and vs the other players) and maintaining a sense of identity (Stern 2004).

In *Summons to Surrender* (2000), Stern re-purposed existing game avatars within *Ultima Online*, *Asheronís Call*, and *EverQuest*. These avatars transmitted what they saw inside the game world as a live video feed that was then streamed online, effectively making the avatars spies. With names like *Streetwalker, Ghost, Sniper,* and *Mimic*, the already *other* characters revealed the usually closed game environment to a general audience, making the avatars themselves agents who existed in two planes. This play on the virtual telepresence of the avatars and telepresent surveillance blurs the authorship of the resultant video between the avatars and their human user.

Stern reprogrammed these characters to actually play the game while he was away from the computer, so that the avatars have complete autonomy and individuality. They can "logoff, logon, write a log file, talk to people, issue all game commands, navigate and control the camera, as well as shut down the computer" (Ludin 2002). As a hardcore gamer, sometimes spending over one hundred hours a week playing in MMORPGs such as *EverQues*t, Stern used these autonomous functioning avatars to replace himself in the game, as he no longer had time to participate. He comments "[t]hey were my revenge" (Ludin 2002).

Stern's avatars could act alone, interacting with other players in the world who would not be aware that there was no human user persistently connected to that particular avatar. In fact, to other players, there is never any way of knowing if they are interacting with a 'live' person or pre-scripted behavioral code. This returns us to my observation at the beginning of this essay: the VRML specification is very clear that the user does not have to be human. (VRML 1997: 3.108). These avatars then cannot be seen as mere coded zombies, the walking dead of gamespace, as according to the 'rules' they are indeed functioning, autonomous agents of their Virtual Reality lifeworld.

Perhaps the greatest test of an avatar's individuality is how it is thought of by its creator. During a discussion on *-empyre-* forum on avatar construction between myself and artist John Klima, the topic of the personality or aliveness of avatars was raised. Klima, an *Ultima Online* player (which also had its real world avatar market), had this to say when I suggested that I could not delete avatar *quincy*'s file as *quincy* felt like my child and I would be denying him life:

> i power gamed a mage (the hardest character to be) for a year and got her to grand master (the highest skill level) before i quit. i could have sold her for 2k easy, she was a rare, powerful and of course beautiful(she wore a very sexy magic bustier) character, but i could not stand the idea of some high school kid from greenwhich connecticut running around masquerading as bix redux. so yes it would have been like selling my baby to the highest bidder, so i just killed her instead. hmmm (Klima 2002).

His reaction, akin to that of a jealous and possessive lover, would seem ridiculous if the avatar was merely a passive string of code. Avatars are seen by those who create, play and/or work with them every day as separate beings, perhaps beings whom we have some power over, but nonetheless beings who are able to function autonomously and intelligently. Here is where we form trans-species relationships, wetware with software, in an enticing posthuman alliance between the seemingly solid and the seemingly ephemeral.

To view the user-avatar relationship from a different perspective, it may be that the avatar uses us — its human user — to ascend onto the earthly plane, as "*the living being is the sacred text of cyberspace*... our body is the screen (the signifying surface) by which the machine has access to reality" (Dyens 1994: 328). Here the animism of technology is the human body, just as the body is animated by fluid biological code. We can no longer assume that the machine and the software creatures that machine lifeworlds support are merely passive instruments, tools for human agency. The flow may be not what Michael Heim had earlier predicted, due to the resistant nature of avatar others; however, our daily lives are becoming more obviously lived cooperatively with and through machine and code constructed environments.

>> extrapolation

The avatar is a self-conscious 'other' with whom we have a relationship. At once separate from and yet part of the human user, they symbiotically exist, each giving life to the other's reality. To be both one and yet completely separate, can be a little confusing, almost schizophrenic, when we are more accustomed to a peachy individuality where the self is contained by our skin. Not only has virtual space made us reconsider the mind | body split it also forces us to reconsider the me | not me dichotomy, removing individuality from the centre of the universe. Just as our hardspace bodies cannot be ignored, neither can our virtual avatar bodies. It is a bi-directional relationship, at once into hardspace and into softspace.

Having gone beyond the notion of avatar as strap–on software, many virtual artists are playing with these notions of the individuality, trans-locality and

mutability of avatars. In the mixed reality game *Can You See Me Now?* (2002) devised by British media group Blast Theory (2003), avatars in a virtual play environment interact with actors in the offline world. The avatars, representatives of players sitting at their computers anywhere in the world, are chased by living 'hunters' (members of Blast Theory) through the streets of cities like Sheffield in 2002 and Rotterdam in 2003 for discrete periods during Media festivals. When the participants log on to the website their avatar will appear somewhere on the city grid, the position relayed via satellite to the Global Positioning System (GPS) scanners carried by Blast Theory members. The game plan is for the hunters, who are represented by yellow avatars online, to chase the ghostly white avatars of online players through the city street grid and virtually surround them. When the avatar is caught the game is over, the capture site photographed and stored in the website's game archive, together with a blueprint of the chase.

Figure 8: Web interface from Blast Theory's Can You See Me Now?

The online avatars have an enhanced sensory advantage over the hunters in hardspace. Not only do they know the position of all their hunters at any moment, they can exchange tactics between themselves, send messages to the Blast Theory members, and listen in on hunters' walkie-talkie conversations. Others follow the action either on the streets via GPS receiver or in real-time online, creating an experience of mixing realities, condensing

the physical presences with the virtual presences in both a hard- and softspace environment. Blast Theory also investigated this boundary merging of virtual identity with physical identity in their previous work *Desert Rain* (1999), where the user had to locate a soldier left behind in a virtual projection of a Gulf War landscape. When the target was located, an actor walks through the projection surface (a thin sheet of water rather than a solid screen) towards the player, often startling or terrifying players who didn't realise the person coming towards them was a warm fleshed human.

Virtual interaction and avatar presence are common ground in warfare, Virtual Reality after all being the offspring of the military. When Blast Theory's avatars physically interact in physical city spaces, eliciting responses from the hard-bodied players, we draw comparisons with virtual warfare and surveillance techniques. In both arenas humans are represented by white avatars, derived from infrared video where warm bodied humans appear as white spots on the heat sensitive medium. Things have changed since we supposed that online representation ensured immortality. Online video footage from the recent Afghanistan and Iraq invasions show white avatars as easily identifiable moving targets displayed in low-res virtual realism. In these contexts targeting the cold-bodied avatar also kills the warm-bodied human. In war, like cybersex, it becomes obvious that virtual actions have hard world consequences.

A mutual relationship based on information exchange between avatars and hard bodied species is beautifully illustrated by *Brainscore* (2002), a networked Virtual Reality 3D performance produced by Slovenian artists Davide Grassi and Darij Kreuh [Figure 9]. In *Brainscore*, tracked eye movements and electrical pulses from sensors attached to the head of the user (who remains physically constrained throughout the performance) control avatars. These inputs allow the vaguely head–shaped avatars to collect data from the Internet, which in turn alters their shape, size, location and colour over time. The changes then affect the eye movements and brain functions of the performer to provide a feedback loop. Here the avatars' coded attributes alter the users' physiology, making obvious the impact softspace has through its continuum into hardspace.

The Virtual Reality environment is projected in stereo, allowing an audience to watch the performance wearing polarized glasses. This enables them to perceive the events in 3D, as if suspended in mid air between the two performers. The *Brainscore* artists created the work to provide a new perspective on the identification between performers and their avatars. We watch as the flow of information moves from the performers' physical space into the virtual avatars' space and than back from the avatars to the audience, "leading the audience to perceive a concrete co-existence (as a kind of promiscuous co-penetration) of two Realities at the same time" (Grassi and Kreuh 2002).

Figure 9: Avatars generated during a Brainscore performance - Photo: Miha Fras

“Promiscuous co-penetration” starts to sound dangerous when it involves an interspecies relation between human and machine-produced software, evoking spectres of weird science fiction pornography involving a transgression of moral codes. After all, according to historian Lewis Mumford, “If you fall in love with a machine there is something wrong with your love life. If you worship a machine there is something wrong with your religion” (cited in Sofia 1993: 6). As a society highly dependent upon and physically entwined with technology, we are still very techno- and xenophobic. We fear the difference and similarity of the electronic others, preferring to keep an emotional distance between them and us.

Perhaps this is why users prefer to be represented in human form online, for when online presence has a more physical representation it has a familiar and safe skin, a defined visual boundary. Then, when operating as avatars in virtual worlds, users are very aware that they are interacting with other skinned beings and are more proprietary in their interactions. The amorphous, fluidly changing avatar still represents a dilemma to the discrete body boundary schema. Only when the awareness of the electronic stretch of our avatar body is integrated into our perceptions of ourselves, our boundaries and personal body spaces, will operating as a completely soft avatar in virtual space be truly possible.

>> return to the real

In post postmodernist space, at the beginning of a new millennium, there is an across the board return to hard realities, solid spaces and fleshy bodies. With phenomenological awareness, to be embodied in hardspace already means that we as humans simultaneously exist internally and externally to the moist body, congruently within and without. We are always within ourselves while simultaneously watching ourselves acting in the world. To hack French feminism, both male and female are already *this sex which is not one* (Irigaray 1985).

Being online just makes obvious what we already know but usually ignore: we are already avatars inhabiting parallel worlds. Embodied in softspace, communicating with each other, we are the self, and one, and another — alone, together and networked. As avatars operating in a virtual system, we have tripled ourselves. That makes more than a fixed coordinate point x,y,z, an extension of the 0,0,0, centre of the virtual universe. Again it becomes clear that we are not just binary, pattern and randomness, the presence or absence of zero and one. We are composites, with the physical ecology of symbiotic species. We are an amalgam of all possibilities — of all dimensional vectors and variations of x, and y, and z.

Our avatar body, unlike our more familiar physical body, has a soft skinned boundary whereby we can consume and ingest or pass through the other online. As this become increasingly familiar, as we stop insisting that we be represented online by fantasy human form, we will adapt to ephemerality. The necessity for a network connection to breathe life into, and animate, an avatar in a multi-user world or massively multi-user game, reminds us that we do not exist alone. When connected we navigate from our nodal centre, and become part of the scape itself. Soft skinnedness allows us to regain knowledge we have lost offline in hardspace, that is, we are not discrete isolated objects in the world, but part of a connected whole.

Our individuality, our ‘peachiness’, is not a fixed and impenetrable kernel — but rather a concentration of code. We are always open to the influence of an other: as a species any embodiment means we operate in a sphere of influence, a field of intensity. Like the squishy jellyfish swimming in the oceanic lifeworld, dependent upon currents and flows of heat and cold to bring nourishment and for navigation to breeding grounds, we are supported in different and invisible ways by both soft and hard environments. On- or offline there is nothing to fear by acknowledging that we are animated and modified by relations with others; we are soft, open systems.

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