Chapter 3

Living Digitally: Embodiment in Virtual Worlds

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From R. Schroeder (Ed.) *The Social Life of Avatars: Presence and Interaction in Shared Virtual Environments*. London: Springer-Verlag, 2002.

3.1 Introduction

In effect, I suppose I was unknowingly using my second reality as a social experiment and it has become very much a learning experience for me.
Meg, virtual world user

Designers, and the code they construct, go a long way toward making a virtual world real. They fill it with objects and spaces, properties and behaviors. Sometimes they create imaginative scenes only found in science fiction or fantasy. Other times they help mirror the offline world by creating more straightforward representations of our everyday environments. In each case they significantly provide a means of embodiment for the user. For graphical worlds, this comes in the form of avatars – those pictorial constructs used to actually inhabit the world. It is in large part through these avatars that users can come to bring real life and vibrancy to the spaces. Through avatars, users embody themselves and make real their engagement with a virtual world. They often push back on the system – asking more of it, turning its sometimes limited palettes into something other than what was intended. Avatars, in fact, come to provide access points in the creation of identity and social life. The bodies people use in these spaces provide a means to live digitally – to fully inhabit the world. It is not simply that users exist as just "mind", but instead construct their identities through avatars.

To examine how digital bodies can facilitate life in a virtual world, I am going to focus my attention on a particular graphical multi-user system, The Dreamscape. The environment is a "2 1/2 D" world in which the user looks at their avatar from a third person perspective. Although it is not a three dimensional space, I would argue that it still very much constitutes a virtual environment (as text-based MUDs – multi-user dungeons or dimensions – do). Users engage in real time with an immersive simulated world in which objects and others occupy the space. Avatar bodies (of which there are ten varieties in The Dreamscape – five male and five female) can be changed at will by purchasing new ones (both via "inworld" tokens or "real" credit cards). Avatar heads, which are separate and different

objects from the rest of the avatar body, more commonly operate as the main means of customization and individuation in the world. They too can be purchased and are also often given as prizes or gifts. These heads and bodies can be further customized through the use of "spray paints" to change the color of the clothes, skin, and hair. Finally, many different accessories (such as hats and jewelry) as well as more mundane "daily" objects (like coffee mugs) can be used by the avatar as well.

In terms of simple communication, both the bodies and the heads contain a range of gestures and expressions, some of which are specific to that particular graphical representation. Actions or facial expressions are initiated by either clicking on an appropriate button or through keyboard commands. Colored speech bubbles, containing the typed text of the user, appear above the corresponding avatar's head. Private speech is also allowed through a backchannel method.

This particular system is one of the oldest graphical environments around, and its original incarnation dates back to 1985 [1]. While the number of users has varied over the years, the latest figures put average U.S. nighttime use somewhere around 500 (this total is for both worlds running the software). I have conducted an in-depth ethnography of the space (including several different "worlds" that use this software) which ran over approximately two years and included hundreds of hours of participant observation. In addition, I have interviewed both designers and users. Doing online research of this sort provides particular challenges, both in terms of the multiple mediums at work as well as for questions of authenticity and plurality that can be raised [2]. Interviews took place through a variety of formats, including email, telephone, and in person. I also conducted a number of group discussions. In addition, I participated in two offline "gatherings" in which users came together for a weekend mini-convention to socialize and talk about the virtual world. The following observation and analysis is drawn from that research. When quoting from interviews and personal conversations pseudonyms are used to protect the anonymity of informants.

3.2 Social Life

When thinking about how social life gets created online and how its attendant communication occurs, avatars are particularly powerful artifacts to consider. They prove to be the material out of which relationships and interactions are *embodied*: much as in offline life with its corporeal bodies, digital bodies are used in a variety of ways – to greet, to play, to signal group affiliation, to convey opinions or feelings, and to create closeness. At a very basic level, bodies root us and make us present, to ourselves and to others. Avatars form one of the central points at which users intersect with a technological object and embody themselves, making the virtual environment and the variety of phenomenon it fosters real.

3.2.1 Presence

Presence is one of the most elusive and evocative aspects of virtual systems – and yet it forms the very foundation on which immersion is built. It goes to the heart of what feels "real" and creates the quality of experience that signals to us "I am here". Users do not simply roam through the space as "mind", but find themselves grounded in the *practice* of the body, and thus in the world. Much like offline life, our sense of self, other, and space is constantly reinscribing itself as structures and relationships change. In virtual worlds, this same dynamic process occurs – but with a twist. The body through which presence is being constructed is not simply the corporeal one, but the digital as well. In multi-user worlds it is not just through the inclusion of a representation of self that presence is built. It is instead through the *use* of a body as *material* in the dynamic performance of identity and social life that users come to be "made real" – that they come to experience immersion. This grounding of presence not only consists of embodied practice, but of embodied *social* practice – and this raises important theoretical and design implications for multi-user worlds. Understanding the ways a sense of "being there" is constructed as a social phenomenon might alter what we see as central to creating immersive systems (i.e., "bigger, faster, and more highly rendered" may not, in fact, be as central to presence as once thought).

In graphical worlds the presence of the user is, at least initially, indicated by the images on the screen. While some spaces allow for a degree of hiding (for example, in The Dreamscape, "ghosting" allows you to turn your avatar into an anonymous "eye" form that sits in the upper right-hand corner of whatever room you are in), it is typically the case that you see the avatars in the room and they are present to you. It is impossible to forget that a user is in the room in a graphical environment – you constantly see their form. The other side to this equation is that the avatar comes to signal to the user their continued participation in the space. Unlike text-based worlds, in which presence is performed via conscious action (or signaled through a room listing), presence in graphical worlds is rearticulated to both others and self by the simple inclusion of an avatar.

Aside from this very rudimentary formulation of presence, activities and games which reinforce it abound in The Dreamscape. For example, greeting often occurs with a wave or a jump. People will also pace, hide, play tag, or even race with their avatars. In all of these ways the digital body is used to root the self in the space. This performance is not only for the benefit of onlookers, but it creates and confirms to the user that they are, in fact, *there*.

Probably one of the most dramatic examples of the way presence is felt in these spaces is through an examination of personal boundaries. As Becker and Mark note in their work, people typically report having a sense of personal space and body boundaries get expressed through the proximity of avatars [3]. Different environments have different norms, but users consistently identify personal boundaries and have strong feelings about when they are violated. As one respondent put it,

> Placing your body [the avatar] in relation to another is the only real form of body language. It speaks to familiarity, to intimacy, to trust…

> to many things. The people who are more casual or even completely oblivious to their place in relation to others seem exceedingly self-centered to me.

Users will quite often move their avatars if their personal space has been invaded. Crossing boundaries can also be taken (and meant) as a sign of aggression. In the following image, one user has "gotten in another's face" during an online argument. The confrontation is played out in the position of their avatars. The text above the avatars is their speech. While one group in the middle is carrying on a separate conversation, the two people on the right are having an increasingly volatile argument. You will notice that they have not only "gotten in each others face", but their expressions are also being used to convey a strong emotion.

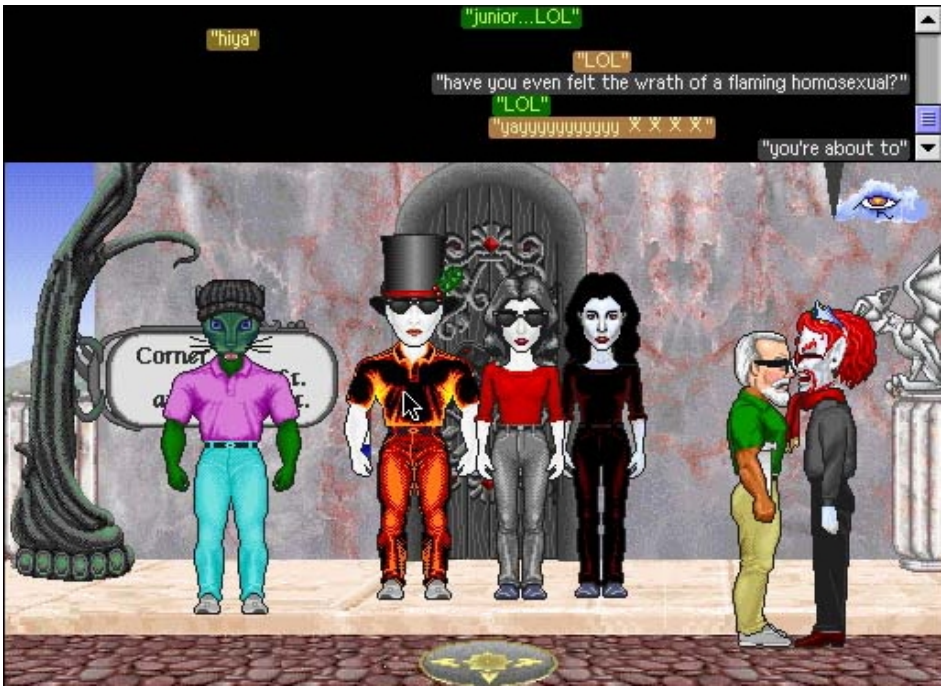

Figure 3.1 Avatar confrontation (©Stratagem Corporation, reproduced with permission).

While avatar positions can convey fighting, they can also signal intimacy or friendship. Sometimes avatar bodies inadvertently touch, but more often than not avatars only touch each other if the user feels a friendship or more than casual connection with the other person. I would argue that when boundary definitions are not present (such as when people stand "on top of" each other), this is an

indication either that users are not fully affiliated with their avatars, or that the interface does not provide users with accurate information about their body position. (In the image above, Fig. 3.1, notice that three avatars are standing very close together. These people are friends and share a kind of social relationship, also displayed in their body aesthetics). In addition to platonic friendship, proximity can signal other connections. Often users position their avatars right up against each other, sometimes with one avatar hiding behind the other person and the visible avatar's back facing out. This signals a private conversation and often a public intimacy.

In each of these examples I want to underscore several points. First and foremost is the way in which presence enacts itself as an *embodied* activity. It is through a performance of the body, in this case via the avatar, that one is rooted in the virtual environment. There is a material thing (albeit a digital one) that finds itself located in a space and moves through it, engaging in some way with objects and with others it encounters. In multiuser worlds, the power of embodied presence is also quite often directly tied to a *practice* of presence as a social activity. In this formulation, the inscription of self on the space becomes a socially-mediated experience. Through action, communication, and being in relation to others, users come to find themselves "there". It is through placing one's avatar in the social setting, having a self mirrored, as well as mirroring back, that one's presence becomes grounded [4, 5]. As one user put it, "Avatar bodies don't exist in isolation. They exist in context".

In the best of systems, this practice is seamless and consciously supported. It is rare to find such systems actually implemented however. Errors or poor design often conspire to disrupt presence. Graphical environments regularly unsettle the users experience of body and space through glitches in the graphics. Seeing people inadvertently walk through walls or suddenly disappear are persistent problems in many systems. This feeling of being suddenly pulled back out of the virtual world highlights the fragility of multiple forms of embodiment, especially in relation to the digital. Systems that rely on only one aspect (objects, to the exclusion of the social; or the social to the exclusion of the landscape and artifacts) risk constantly unsettling user's attempts at fully involving themselves in the space. Drawing in a range of modes that foster presence is then central to good design.

3.2.2 Communication

The actions that initiate and make up presence in the world are closely tied to both interpersonal and more social forms of communication (and later, as I will discuss, even to identity). While some aspects of presence can be performed and experienced privately, a great many are public events. The use of avatars in the argument above (Fig. 3.1) was both a way of enacting a kind of presence in the space and of communicating.

In addition to "speaking" via the text bubbles that appear overhead, the expressiveness of the avatar through movement and facial gestures is also used to display emotions and communicate. This can be seen not only in the individual or

spontaneous uses of an avatar's facial expressions or body language, but in the ways avatars can be used to communicate collective sentiments.

In some instances, groups gather and use expressions to convey feelings, opinions, and even protest. Public mourning is not uncommon (generally following the offline death of a user) and avatars will often gather together and set their facial expression to "sad" – which will then typically guide the discussion amongst the group about the departed friend, as well as prompting recent arrivals to inquire as to what has happened. Sometimes they will attach URLs to their avatars which inform the community of the loss and take viewers to memorial web pages. In these instances it is not unusual to find a particular location filled for an entire day with avatars looking sad, holding candles, and creating public memorial space.

This strategy has also been used for protest. The following screenshot (Fig. 3.2) was taken at a rally in which users expressed their adamant desire for "turfs", or personal apartments in the world. The use of shared clothing colors (in the color version of this image, all clothes are grey, while the rest of the environment is fully colored) and the clear expression of unrest via chanting, gestures, and facial expression all convey a strong sense of group solidarity at work.

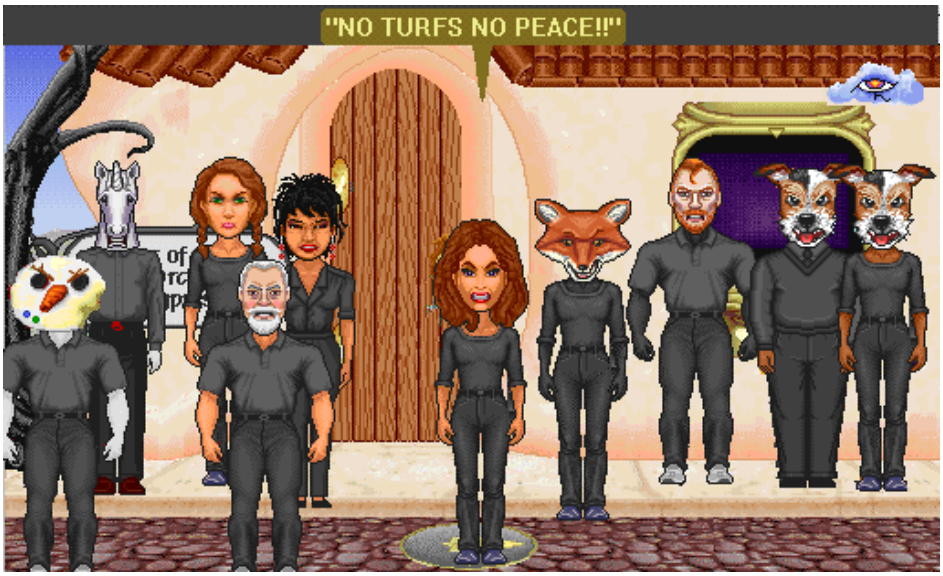

Figure 3.2 Protest event (© Stratagem Corporation, reproduced with permission).

3.2.3 Affiliation

While memorials and protests typically represent one-time events in which avatar bodies are used to express collective ideals, more general or longer-term

affiliations are also expressed via embodiment. Avatars can become a way to opt into, or out of, a group. They can significantly signal affiliation through their color choices, bodies, accessories, and heads. For example, one prominent informal group in The Dreamscape is that of "vampires" and those who enjoy styling themselves with a gothic sensibility. Unlike in a text-based world where a player might adopt a particular code to support vampiric role-play, in The Dreamscape the performance takes place primarily through the look of the avatar. Dark colors predominate and a particular head that has been coded gender-neutral (a remarkable feature: this is the only human head that is seen as gender neutral) are favorites. Spraypaint that is now rare (no longer available to the general population) has been gathered and saved over many years and new group members will often be awarded a "rare spray", thereby coloring themselves with unique shades of gray. While the fine distinction between a "rare" gray and a common one are likely to go unnoticed by outsiders, those within the group can signal their "insiderness" with these kinds of avatar modifications. The special head, worn by men and women alike, is also rare and quite costly to purchase in any of the inworld consignment shops. Owning one also invokes a measure of status and certainly represents a unique customization to the general population.

Animal heads make up the second most significant category in terms of informal affiliations in The Dreamscape. Cat lovers often signal their love of all things feline by wearing one of the handful of cat heads available. Since heads can be removed at any time and "pocketed," and another easily put on, it is not uncommon to find people switching heads based on particular social situations. Schroeder and Axelsson have discussed the challenges changing avatars can present to the maintenance of persistent identity and trust in another online virtual environment, Active Worlds [6]. While too much head swapping can be seen as disruptive, because of the wider range of components in The Dreamscape for anchoring identity – not just an avatar and name as in Active Worlds, but accessories, colors, objects, distinct heads and bodies – it is not unusual for a user to come upon a group wearing bunny heads, for example, and decide to put one on to join in.

In addition to the informal affiliations that bodies can signal, more formal relationships can come to be coded in avatars. Not unlike the T-shirt that reads "I'm with her", couples often customize their outfits (through color or accessories) and sometimes even match heads to signal their partnership with each other. This can also be done through the use of names which are inextricably linked to the artifact of the avatar body. A name in this space is not simply something you are known by, but it is directly "inscribed" on the body. Clicking on an avatar will always show the user's name. People will often choose a name that indicates group affiliation or partnership with another avatar – by adopting a name with a related theme.

In turn, people make judgments based on how other users present themselves and the kinds of affiliations and identities they express through their avatars. As one respondent told me,

> The fact that people do have avatars that I can actually see and interact with tells me a lot more about each individual than would a few lines of

> text in a chat window […] I maintain that you can tell a lot about a person by how they design their avatar, and how they move and interact onscreen.

3.2.4 Socialization

Beyond explicit signals of group affiliation, people use their online bodies to facilitate basic social interaction. They don't simply chat in disembodied spaces, but use their avatars to gather for social events like weddings, community meetings, games, and simply hanging out. There have even been instances of theater and performance for the community to take part in. Joining together in rooms and on street corners, sharing space is an important component of social interaction in The Dreamscape. While in a "room", users not only talk to but experience embodied others in an immediate way . In Figure 3.3, a group of people have joined at a special location to hear the "White Mage" (the person in the center of the picture wearing robes) answer questions and tell special stories about the history and myths of the world. As you can see, the locale is set up to facilitate this kind of gathering, with stones placed around a central point. This arrangement of people facing in, rather than out, is unusual for this world and creates a feeling of a story-telling circle. People come to this locale and literally gather around a speaker, participating in a semi-formal social event.

There have also been instances of inworld classes, as well as ongoing Bible studies and worship services. A very different example of public performance using avatars takes place, interestingly enough, during religious online services. There was a fair-sized Christian community in The Dreamscape that held worship services in which people would raise their avatar arms, dance, and many other forms quite similar to some offline behaviors. Schroeder, Heather and Lee have also documented religious practices and sentiments in another virtual world (Active Worlds) and the ways avatar bodies are deployed in this setting [7]. In each of these cases, performing oneself through the avatar and using it as a vehicle to express participation and connection with others has been central to the creation of a vibrant world. As users will often say, inworld locations devoid of avatars feel empty and abandoned.

There is also a range of activity and experimentation on the part of Dreamscape users when they engage their digital bodies in a playful fashion. One popular game is called ghost racing. In it, users change their avatars into the anonymous ghost state which is indicated by an "eye" image in the upper right hand corner of the screen. (The image represents all possible ghosted avatars in that location.) A game host then puts a token or prize on the ground, and users "unghost" (become avatars) as quickly as possible. The first person to unghost and grab the item wins the round. Another game involves a scavenger hunt in which users run around the world, looking for objects and clues hidden in it. There are also times when groups of people who have the "athletic female" avatar (a body type) will simultaneously initiate the "flying" motion, causing their bodies to gracefully flap their arms and float up the screen, then drift back down. In a similar vein, the

Japanese version of the world has seen the development of dance teams in which groups of people line their avatars up and move them in synchronized fashion for a crowd of spectators [8]. Randy Farmer noticed an earlier version of this body behaviour in groups in the first version of The Dreamscape (called Habitat). Spontaneous collections of performers would often make a "wave team" which would perform "coordinated movement, gesturing, and typing, to create a sort of slow-motion dance that looks very much like cheerleading on Valium" [9].

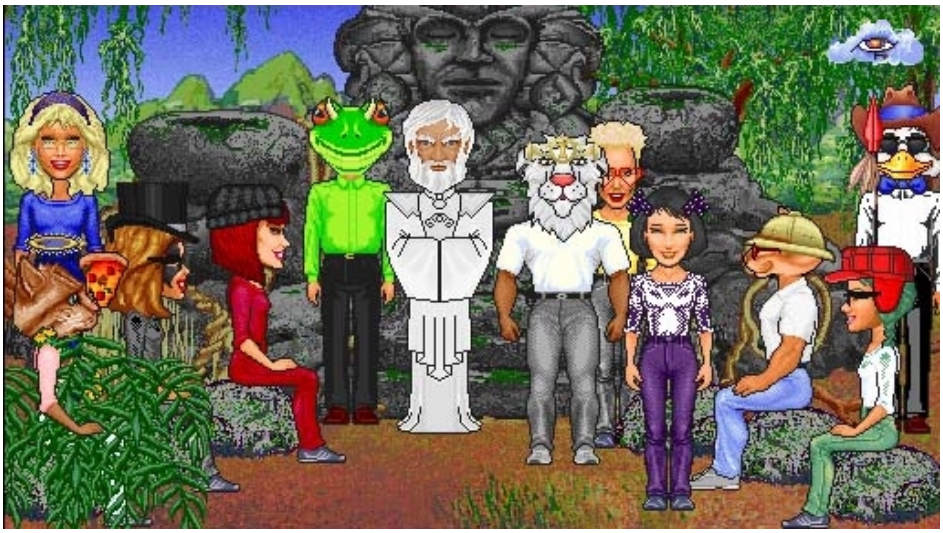

Figure 3.3 Storytelling (© Stratagem Corporation, reproduced with permission).

Probably one of the most interesting, yet somewhat rare, forms of socialized play I have found is body swapping. Since changing one's avatar costs money, this can be an expensive activity (which has a lot to do with its infrequency) – and when it does occur – tends to be a group event. People will get together and, often prompted by one or two participants, visit the body-change machine and alter their avatars. Quite often this is as much an exercise in some form of gender swapping as it is swapping body type. The experience (both personally and socially) of the disjuncture between the gender of heads versus bodies, as well as the types of gestures a particular body may provide, will on these occasions generate most of the interaction.

These playful sessions are one of the few social spaces in which overt experimentation with gender is seen as a legitimate activity. While people gender swap privately (i.e., making an anonymous second character, often unbeknownst to friends), these events are unique moments in which people try on different bodies and genders publicly and amongst friends. Often they are simply moments to make jokes that rely on stereotypes, but I have also seen them used as instances

where people actually talk more seriously about the body types, reflecting on what feels "right" or "like them". The following screenshot (Fig. 3.4) is taken from an incident of swapping that prompted a discussion about whether or not the "average male" body could be legitimately used as a female one. While all the women on this occasion converted back to their original avatars, several of them commented on liking this body once they tried it.

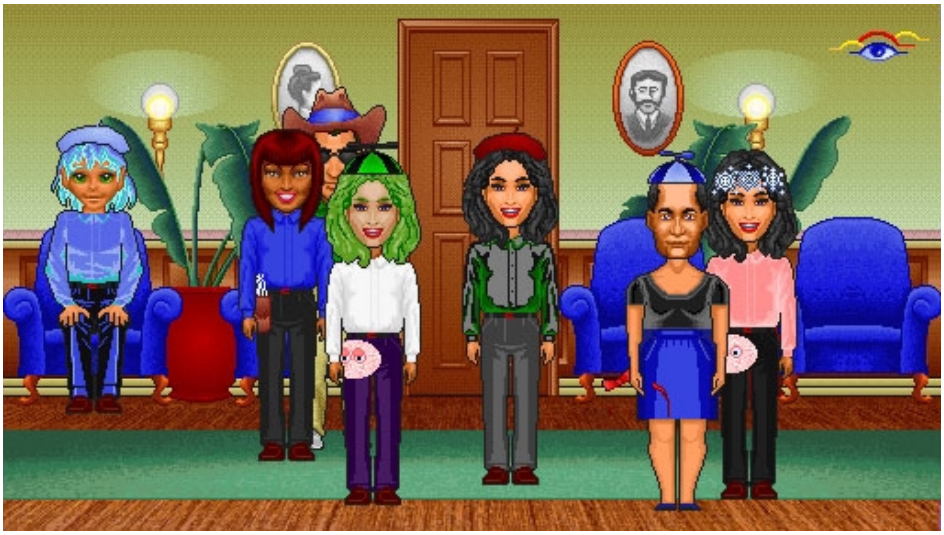

Figure 3.4 Body & gender swapping (© Stratagem Corporation, reproduced with permission).

3.2.5 Sexuality

In addition to these more public social events, people often also use digital bodies as a way of engaging in sexual practices. As there are some basic limitations in this world, the creativity required to do so is quite amazing. Why do users engage in such elaborate and creative plays with their avatars? I suggest that it is because the experience and presence evoked in these environments is powerful. As one woman put it, "When I get an appropriately placed [online] hug, I really feel the rush of endorphins". Thinking about how private interactions around sex occur online raises some important issues. People are able to engage with the world and with others in ways that link their corporeal body to their digital one. The nature of erotics and sexuality online is probably one of the most underexplored aspects of internet experience. When online sex is discussed, it is often done in a pathologizing or humorous manner. People who engage in "cybersex" are often either seen as lacking "normal", healthy sex lives, or participating in a form of

lying. What I would like to suggest is that the practice of sex in internet spaces is a common aspect of embodiment online and that neither the abnormal nor comic ways of discussing the matter go far in describing the nature of sexuality in this medium.

Depending on the world, the form of sexual activity varies somewhat. In most worlds, however, the textual component of erotic practice is primary whereas the avatar itself generally plays a supporting role. Nevertheless, initially the avatar often acts as an image that evokes desire and attraction. Despite the arguably limited palette of current graphical systems, people remarkably still find particular avatars, aesthetics, and styles distinctive from others and uniquely attractive. One user, for example, commented that "We can look so good here" and later added "I like the look of some avatars". The bodies themselves thus act as agents of engagement. Stone has suggested that virtual world users "have learned to delegate their agency to body-representatives that exist in an imaginal space contiguously with representatives of other individuals. They have become accustomed to what might be called lucid dreaming in an awake state" [10]. In sexual activity this delegation is quite striking, with avatars and language acting both as central players, and conduits of, corporeal experience.

Deploying an avatar via actions for sexual activity is much trickier however. In The Dreamscape there is a limit on the range of movement of avatars. The standard body gestures are wave, bow, shrug, present, jump, react, and a special action customized to the particular avatar. This range of action presents some challenges for actually using avatars in any significant way for sexual activity. People tend to use the limited range of motion in creative ways and those actions (and the avatars themselves) then become placeholders of sorts, signifying something more, something that becomes enacted via textual emotes. Users can position their bodies such that it appears they are holding hands, kissing, or sitting on one another's laps. Some of the more explicit actions include bending in front of another avatar (through the "bow" gesture) or using a gesture which, when done in close proximity to another avatar, looks like a pat on the rear. Ultimately the software is somewhat prohibitive for the sexual activity of avatars. Moving the avatar with any degree of precision can often require using a mouse (and thus suspending typing). For many users then, sexual activity is made up of a handful of symbolic or placeholder positionings, supplemented by textual emotes and speech. The way that language becomes interwoven with the visual symbolism of the avatar is particularly interesting here.

One of the more creative examples I've found in the use of avatars for sexual activity relates to the longstanding practice of prostitution and stripping in the world. The following account was given by a man who found himself propositioned to act as a stripper for an inworld party, and how he ended up using the avatar and objects to create this performance:

> I bought a cowboy hat and a length of rope at vending machines. Since I could carry six items in my pocket, I purchase different coloured roses to represent shirt, belt, boots, pants and G-string of Cowboy Roy [his avatar]. The sixth item was a fern. The act consisted of Cowboy Roy moving from place to place about the locale and me describing his fluid

> movements and general appearance. From time to time he would pass too close to one or another of the spectators and she would "grab" (be given a rose to represent) some item of clothing. Roy would spin away across the floor in a teasing manner. Finally, when he was down to his G-string and the description of his flowing muscles and tight buns etc was done, one of the by-standers was given the final rose at which point he quickly "covered himself" with the fern. In an uncautious moment he danced too close to the person in whose honour the party was being given and she was able to "grab" the fern away. This was a signal (prearranged with the turf owner) for Roy to be evicted from the turf and hence go "poof" and end the act.

He added that when word got around about his show, he was hired on several other occasions. What strikes me as fascinating about this story, and what makes this a wonderful example of embodiment, is the complicated mix of speech and symbolism combined with the artifact itself, that must occur for the performance to be successful. There is also a way in which, while the designers of the world clearly did not build the avatar bodies to facilitate particular kinds of interactions, users push back on the system and make more out of it than was originally intended. Attention to the sexual lives of users is rarely considered in design, so that practice tends to be enacted through a pastiche of multiple types of software (for example, augmenting a virtual world with a video feed or using an entirely different environment where the digital body has a greater range of freedom), and language is used to extend the limits of images.

3.3 Personal Identity

While presence, social integration, and communication form powerful aspects of embodiment online, identity remains one of the most evocative uses of an avatar. Ultimately, digital bodies tell the world something about your self. They are a public signal of who you are. They also shape and help make real how users internally experience their selves.

3.3.1 Customization

The act of changing heads and customizing an avatar is something most users spend an enormous amount of time doing. Their avatar acts as a mode of personal expression which is constantly being worked over. This activity plays a central role in becoming an individual and making the body real. In a space like The Dreamscape where avatars are drawn from a fixed library, users will often run across others wearing similar heads and bodies. Establishing a unique identity then becomes tied up in naming and customizing an avatar. These two processes not only serve a personal function (individualization) but also a social function –

it is easier to recognize and remember people over time. Instances where users attempt to exactly copy another's avatar (or use a slight variation on their name) is generally taken as an offense. One user told me that there had previously been a "rash of impersonations" and that "folks were furious. Folks work long and hard to establish an identity, and they get really upset when someone tampers with it". One of the more bizarre twists on this theme was an incident where one of the top administrators of the world found out her avatar (which took the form of a robed oracle) had been copied and the graphical representation inserted into a competing virtual world by another user. Interestingly enough, it was this incident that bought to light a peculiar legal feature of her digital body. She explained, "I came to work and found out that I was copyrighted and the way I found this out was someone had stolen me and now there was a legal fight over m – my body, my head, and my name".

Even if users were roleplaying or acting with secondary characters that were being kept secret from close friends, the desire to make their avatar unique and identifiable prevailed. Customization, however, is not simply a pragmatic issue. It is not just that users want to be recognizable, but that the look of their avatar, the form their digital body takes, becomes tied to deeper questions around identity.

3.3.2 Getting to "Me"

Ultimately the question of which body is most evocative to a user is very personal. What mattered to most users I spoke with was how much the representation allows them to immerse themselves in the environment—how much it feels "right" and fosters their connection to an avatar. A large part of this feeling of a body being "right" is tied to how well it allows people to construct, express, and perform the identity they are seeking.

The case of Meg provides an interesting example of the complicated ways in which digital bodies come to be tied to identity. Meg is a longtime participant in The Dreamscape, having been there from the early beta test days. When she told me about her initial experience of putting together her first avatar, she expressed a common sentiment among participants, that the act of creating an avatar is in large part focused on getting to the "that's me" stage. (Of course, what gets defined as "me" often changes over time and with experience, as further discussions will illuminate). In this world the process entails trying out different heads, bodies, colorings, and even accessories. Throughout her initial experimentation she reported that she "couldn't find a head that suited [her] personality" and that "none of the human heads felt comfortable". As mentioned previously, one of the most popular types of heads in the world are the cat heads and Meg, being a "cat nut in RL [real life]", was thrilled to learn that she could "become a cat for a while".

The meaning, and effect, of this form of embodiment provoked some fascinating reflection for her on the subject of identity. She wrote to me,

> Although it wasn't a particularly conscious process at the time, choosing an animal head instead of a human one was a way of giving

> myself more leeway in my inworld actions, and absolving myself of some of the responsibility of "acting human". It was also somewhat of a protective measure, a way of not getting too close to people until I really knew what I was getting into.
>
> If people didn't like me as a human, it would be a definite reflection on my waking world self. If they didn't like me as a cat, somehow that wasn't as serious an issue because after all… I'm not really a cat, so it's not really me they don't like.
>
> All those thoughts didn't go through my head at the time of course, but later, when I decided to try a human head for the hell of it and found that I felt *very* uncomfortable without my cat head. I ended up going back to a cat head for a few months before I finally felt comfortable as a human.

This feeling of uncomfortableness was something I heard repeatedly in interviews. Her statement about feeling "finally comfortable as a human" is particularly poignant and reveals how avatars can foster different associations and forms of self. Another user expressed a similar feeling of being out of sorts, of not feeling entirely comfortable in their (avatar) skin and the anxiety caused by this experience.

> I remember wearing the Watson head for a while one day… people were coming and going and I was just talking away when I noticed I was feeling kind of anxious. The feeling didn't go away… I went afk [away from keyboard] for a few minutes but when I came back it was the same thing… and it got worse. I was sitting there at the keyboard actually feeling uncomfortable. I put the dragon head back on and I immediately noticed I felt much better. I have always thought, since the minute I put the head on, that the dragon head was "me".

In both instances, the avatar head became a central object around which some performance of identity was structured. For Meg, the cat head provided a kind of "material" that she was able to create a sense of self within world. It allowed a certain playfulness, and, in view of the associations people commonly have with certain types of heads, a social connection to others. At the same time, this allowed a certain distancing and acted as a kind of boundary device. Once she became more familiar with the space and had made more friends, she began to drift toward using human heads. She said that as she began to use a human head ("adjust to being human"), she was surprised to find that the cat head "didn't feel 'complete' enough" anymore.

I queried her about whether she thought cat heads *only* facilitated play, or if she found that serious conversations and connections had occurred while she was embodied that way. She replied, "Well, interesting you should ask that because I was just about to say that since I became human [referring to using a human head inworld] I've found that interactions with others are quite a bit deeper. On my part

anyway". While part of this change is due to her own internal reorientation, it is worth considering how much the actual form of embodiment can influence particular kinds of personal or social engagement. Like all objects, the artifact of the avatar is located within a system of meanings and values which will have an impact on how it is experienced and received. Meg still has several heads she uses, generally according to her moods.

> I have a favorite human that I use the most now. [The] cat and lion are more for playful moods. I seem to connect more with people as a human and people open up more. Whereas as an animal… it's more of a surface thing. Lots of fun… but not all that much depth.

This use of avatars to engage in different types of social situations, or perform different aspects of one's self, also extends to the objects and accessories used. One respondent told me about the way she uses a two different objects to signal her "approachability". She wrote, "The witch hat was perfect for me once I found a head that both suited the hat and my personality, and in my mind it also portrays a bit of a mystery as well, a slightly 'dangerous when crossed' <g> [grin] aura. I wear it when I'm [doing] business and also when I want to appear less approachable to those that don't know me well. When I'm in a more gregarious mood I wear the same head with a holly wreath which to me appears a lot friendlier and softer looking". Avatars can thus be reflective material, used to explore both one's inner self and the social world. As Meg put it, "[I] usually change my av [avatar] to suit my moods, or to experiment with other's reactions to different appearances, or to see how different looks affect my own actions and comfort levels".

3.3.3 Avatars as "Truer" Reflections

In one of the more complicated twists on the subject, some users have even come to identify their avatar as "more them" than their corporeal body. One man expressed his feeling of what he thinks about when he sees his avatar, Leonardo, on the screen facing him and interacting with others.

> I identify this brown cat as me more than I identify my picture with me. I see Leonardo more often than I see myself in the mirror or anywhere […] I can't see "me" in the WW ["waking world"] but I can see "me" in the DS [Dreamscape]. When I look at the brown cat I know I am looking at me and also that everyone else who sees that brown cat also sees me… I like that continuity… I take comfort in it.

This feeling that somehow you not only project yourself into your digital body, but that you are actually made *most real, most true* via it, is something I have

heard from a number of users. This is similar to the kinds of phenomena Turkle reports on MUD users. She quotes one in particular who says, "So even though I play more than one self on MUDs, I feel more like 'myself' when I'm MUDding" [11]. What is interesting is how this translates into bodies in graphical worlds. In this form, users suggest that the corporeal can no longer "corrupt" the truth about who they are and people often say that it was through their avatars that they found a "better" version of themselves, one that felt even more right than their offline body.

3.3.4 Experimentations

While some people make conscious choices to have their avatar reflect their offline self and corporeality in some way (or present a version they feel is more authentic), others experiment with embodying themselves in unfamiliar ways. In these instances, it is often typical to find people speak of those avatars in the third person. One man described it this way, "George and Wendy [two of his avatars] both live out different identities and I thought I would lose something important if they were conflated". Another person spoke about the ways he used the space to experiment with and think through how different constructions lent themselves to different kinds of interactions. Because of the nature of the environment (being able to scroll back through conversations to review them, standing somewhat "outside" oneself by viewing your avatar from a third person perspective, etc.) a level of both reflection and surveillance is introduced that some regard as a unique opportunity. As he put it,

> I'm not particularly interested in "connecting" with my avatar, so much as I'm interested in the ability to see myself as others see me. I'm obviously familiar with the motivations of my avatar, but actually SEEING [emphasis his] that behavior, and being able to scroll back and review my interaction with others in the group, is an opportunity that is rare in the Waking World.

Interestingly, most users I spoke with made connections between their experimentations and their offline identities. The George/Wendy user actually suggested that all performances invoke an aspect of experimentation. As he put it,

> Actually, I think role playing with an avatar is a part of avatar construction. The avatar doesn't come in to the world *ready made*, but rather as a blank canvas. The role-playing is sketching a personality on that canvas. I suppose that this is the process by which you (unconsciously) decide which facets of the Ravata [offline self, "avatar" reversed] get embodied in that particular avatar. Some you reject as not really being what you want that avatar to be, others get incorporated into that avatar's identity as you perceive it.

This process of working through constructing an avatar, sometimes by venturing into role-play, leads the most thoughtful of users to reflect upon the kinds of selves they perform. As this same user later put it, "I see being an avatar as sort of a long-term self-exploration and even self-reconfiguration".

3.3.5 Avatar autonomy

Despite the best intentions of users to actively construct identities, they just as frequently report a feeling that there is something about employing an avatar in this performance that lies outside of their control. The impression is often that the avatar has some independence apart from the user. Ideas about avatars being "almost autonomous" are typical. While the avatar may express some aspect of the user, people often report a sense that they can't quite control or predict what their avatar will do—what situations or identities will emerge. One user told me, "[Y]ou are kidding yourself if you think you will be able to control or even predict what will happen to your avatar. It is the ultimate learning experience". It strikes me that these comments touch upon a phenomenon equally common in offline life. We exist in social and cultural contexts that often have profound effects on our identities and bodies despite our intentions or wishes. It is this *social* production of self and body that I think users are tapping into when they discuss avatar autonomy. This experience is simply more pronounced for most users both because they may not have such clear examples of this dynamic in their offline life or because of the reflective distance provided by an avatar.

When formulated this way, the bodies and selves people create in these worlds have some rooting outside of the user, in the social world. When I inquired of one man whether he thought you could change your avatar body and yet maintain the same identity he replied, "I'm going to throw you a curve on this one. You CAN NOT [emphasis his] maintain the same identity. Avatars have a mind of their own, and they grow in unexpected ways".

In large part this phenomenon is produced from the fact that the "understanding" and social context of any given body may turn out to be quite different than that intended by the user. Users may also not anticipate how a particular avatar will be "read" by the community. Identities and bodies are not constructed in a vacuum but are given meaning, as well as supported or challenged, in social contexts. Avatars often become an artifact that teaches this lesson. One of my favorite examples of a user coming to terms with this is from a short article written for a community newspaper. The author wrote:

> But I have experimented quite a bit, and the one thing that I've found most interesting is that people treat you based on how you present yourself, and, if you pay attention, you'll notice that *you* change depending on how you present yourself [12].

The author went on to describe their experience of being seen as technically savvy and the links between that assumption and the use of a male avatar. Interestingly, it wasn't simply that others used the body to support a particular stereotype about

technical competence, but that the author also felt that this body legitimized a particular identity. The author wrote, "If Cosmocat had been female, I'll bet not only would he not be accepted for his skills, but I wouldn't have felt comfortable pretending I knew stuff I didn't. As Cosmocat, it didn't matter, I just did it anyway, because Cosmocat had guts that my ratava didn't" [12].

3.3.6 Making Sense of Plurality

The issue of how to reconcile the different selves and bodies we find both online and offline is something users are always working though. While most experience a lot of pleasure in creating their avatar and experiencing the development of identity through it, all users are confronted with having to make sense of their immersion. Frank Biocca, in his work on virtual systems, has approached the tangled mix of bodies we find online and offline by breaking them down into three categories—the virtual body, the physical body, and the phenomenal body. He suggests that the phenomenal body (our body schema or the "mental or internal representation" of our body) is not stable and that "media can radically alter" it. He writes,

> It appears that embodiment can significantly alter body schema. Metaphorically, we might say that the virtual body competes with the physical body to influence the form of the phenomenal body. The result is a tug of war where the body schema may oscillate in the mind of the user of the interface [13].

I have consistently found users right in the middle of this tug of war. Their avatars and online identities seem to often have real import to their offline life, and they also fluctuate in their use of third and first person language to describe their experience. Often they move between feeling the avatar is simply an extension of themselves to feeling that the avatar and its life is very much "not like them". But the other important thread Biocca is pointing to is the way in which experiences in virtual worlds can actually reshape users sense of their bodies (and, I would take the argument further, their selves). As one user recounted when talking about the relationship between his avatar and his corporeal body, "When my arthritis is not acting up and I can move freely, I sometimes lengthen my stride and move purposefully through malls and shopping centers the way I think he [his avatar] would".

Of course, not all users have these deeper experiences from their time online. One woman stated it clearly when she said, "the connection between our offline selves and our avatars is a lot more meaningful for some than it is for others". However, when they do engage with the space actively, people report some fascinating things. She went on to say that "the more time I spend inworld… the harder it is for me to differentiate between my inworld self and my offline self […] The two seem to be merging with each other and it's actually a pleasant experience for the most part". Conversely, role-play also provides interesting benefits. As one respondent said, "That, of course, is the beauty of virtual reality

worlds. I can try out behaviors that I am afraid to try in the real world and see how they feel. Then I either take them back to the real world or discard them as unworkable". This ability to shift is made real through the material of bodies in the spaces. As she went on to say, "I think the animal heads remind me that I am free to be someone entirely different".

3.4 Bodies With Limits

The people who are working through these issues, working with the material of digital bodies, face some of the most complex ideas that new media present to us. They raise questions about what our bodies are, who we are, and what we can be "virtually". As often as not users are trying to sort through what it means not only to have distributed bodies and selves (that matrix of offline and online creations), but what to make of those instances where it feels like their avatar has taken on a life of its own. They are sometimes challenged by how new forms of embodiment push them to think about their corporeal bodies. Or again, they sometimes find, or create, an aspect of themselves that was previously unrealized. Ultimately, these moves raise the stakes on what the nature of these spaces are. If I can embody, I can be made deeply real.

However, if we accept the powerful role embodiment plays in helping to foster identities and social lives, then we must attend to the ways avatar systems also often limit and constrain interesting and progressive possibilities. As I mentioned early on, presence is regularly undermined by poorly executed systems, or those in which designers have not paid full attention to the complex ways bodies can be formulated. Virtual world systems also carry design decisions which reflect deep links with particular worldviews and value systems. Quite often worlds carry explicit visions about how the space should operate and what kinds of citizens users there should be [14]. While the social performance of gender can take on fascinating nuances as users "rewrite" objects and avatars for their own ends, The Dreamscape, for example, continues to operate within a very specific gender dichotomy which will always inform and structure the possibilities for identity in particular ways.

Beyond the structural limitations on avatar bodies, social ones exist as well. Nakamura [15] has given us an important view of how this works in text-based spaces. She found that often the kinds of experimentation people are engaged in amount to a form of "identity tourism" in which users were not involved in progressive explorations of self construction but instead relied on stereotype and caricature that allowed a kind of unreflective appropriation. Underlying these performances were assumptions about what kinds of bodies and identities were deemed as legitimate.

Such questions appear in graphical worlds as well, at least when the structure of the software doesn't foreclose them. For example, the performance of queer identities (and bodies) is often quite contested in such spaces, either publicly or privately through anxiety about the "real" gender and sexuality of another user. This is probably one of the trickiest areas for people to come to terms with and the conflation of gender with sexual preference becomes quite complicated. Even for

those that limit their sexual encounters with other users to online interactions, the question of the importance offline gender can be confusing. While some people regard offline gender as unimportant to online attraction (as in the case of the user who said, "If you have no intention of taking a relationship into the Waking World, why does the actual sex of your partner matter? If they turn you on, they turn you on".), others speak of the caution, anxiety, and trust that must be given over in the hopes of not being "duped".

The anxiety around sexual orientation is one area in which we can see that all body performances are not weighed equally in virtual worlds, and we should be cautious in overstating the "freedom" such spaces afford. In the following account, users are gathered in a public space to participate in something called an "Avatar Auction" in which users bid on inworld "dates" with other users. One of the participants was an openly gay man and he began by playfully teasing about the underlying assumptions in the event.

> Michael: WOMEN ON MEN?
> Michael: ICK
> Starchild: Shh
> Starchild: [giving instructions to the participants] If all woman would please ghost and all men come down
> Michael: You gonna let guys bid on guys and women bid on women?
> Bluebird: haha
> Starchild: No
> Michael: That really sux
> Michael: Bigot
> Michael: I'm going to go get my female avatar! N'ya n'ya
> Starchild: LOL
> Starchild: [after Michael left] He is strange

Though Michael started out teasing and later jokingly proposed an interesting way of overcoming the constraints (one that only highlights the ambiguity!), he later told me he was very unhappy with the organization of this event and actually complained to the world management (who took no action). Interestingly, the software used for The Dreamscape was also licensed by another company for a virtual world specifically for gays and lesbians. Called Pride! Universe (and later Queery), it explicitly legitimized particular identities and bodies and offered an interesting alternative to many other graphical worlds. Unsurprisingly, Pride in many ways came to be regarded as the progressive counterpart to The Dreamscape. While there were users who were in both worlds, because of the monthly fees for each people generally had to make a choice which space they were going to give their energy to. In the long run, the division of worlds in this way (one explicitly gay-friendly and one in which a real diversity was often limited) had a certain kind of cost. The larger question about what bodies and identities are legitimated in any given system got answered (unsatisfactorily, I would argue) through the idea that some forms were more or less "appropriate".

This strikes me as not dissimilar to the story Julian Dibbell recounts about LambdaMOO's Schmoo wars. In that instance, the very question of legitimate sexual activity, and in turn a particular form of embodiment was, at least in part, at the heart of the community wrangling over a bit of code [16]. Pride has recently closed, and while the reasons are complex, there has been a subsequent loss in the range of embodiment and identity users can perform, at least publicly.

5 Conclusion

The limits, both structural and social, on the kinds of avatars people are able to create and use is important for our understanding of embodiment in virtual worlds. Avatars are in large part the central artifacts through with people build not only social lives, but identities. They become access points in constructing affiliations, socializing, communicating, and working through various selves. They are the material out of which people embody and make themselves real. What they are and what they can be matters.

While a good portion of what has been written about virtual environments so far has focused on communication or identity, I hope to have shown how, in specific ways, the avatar *as a body* is woven into the structure of life in these worlds. It is through embodied practice that selves and social life are grounded in multi-user spaces. Mikael Jakobsson proposes we take virtual objects and spaces seriously. He has argued that "the inanimate objects of a VW [virtual world] are as real as objects in the physical world although different" [17]. The "symbolic significance" (as he puts it) that digital objects carry with them lend themselves to real relationships, interactions, and values. Certainly we must include avatars, or digital body objects, in this category.

This realness of pixels, the materiality of bodies online, and the importance of experiences in these worlds continue to be subjects that users of all types and virtual world participation wrestle with. Researchers and theorists should consider how simple divisions of "virtual" and "real" may not prove to be very useful in accurately explaining what happens in multi-user environments. Instead, we might see what happens when we broaden our notions of embodiment to include both corporeal and digital forms. Given the slippage between on- and offline life, the stakes are high in sorting through these questions. If, as one user told me, "being inworld has actually affected my waking world life quite a bit", then what people are in these spaces, how they are embodied, and what they can do, become central to thinking critically about life online.

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