THE AESTHETICS OF UNEASE:
TELEPRESENCE ART AND HYPER-SUBJECTIVITY

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INTRODUCTION

The term “telepresence” was proposed by Patrick Gunkel and first formally used in a 1980 *Omni* magazine article, “Telepresence,” written by Gunkel’s friend Marvin Minsky, a cognitive scientist and co-founder of the artificial intelligence (AI) lab at the Massachusetts Institute of Technology. Telepresence was used to refer to the ability to manipulate objects from afar.¹ As Minsky wrote, “Telepresence emphasizes the importance of high quality [sic] sensory feedback and suggests future instruments that will feel and work so much like our own hands that we won’t notice any significant difference.”² It was actually through Robert A. Heinlein’s 1942 short story, “Waldo,” that Minsky first became inspired to conceptualize a remote-controlled existence. In the story, Waldo suffers from a condition causing muscle weakness, and as a way to counter his physical degeneration, he designs a satellite system and telepresence framework, called “Waldo F. Jones’ Synchronous Reduplicating Pantograph,” to compensate through machinic means for his physical deficiency.³ In Minsky’s landmark article (to which Heinlein contributed) Minsky made many predictions for the benefits afforded by telepresence, all of which concerned ergonomics and efficacy of manufacturing as well as “microtelepresence” used within the human body for surgical purposes. Perhaps his narrow focus on telepresence for satellites and nuclear reactors is unsurprising given the Cold War context in which Minsky wrote. He did assert that for *true* telepresence to happen, the framework would require as many sensory channels as possible: “touch, pressure, textures, [and] vibration.”⁴ While Minsky

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² Ibid., 47.  
³ Ibid.  
⁴ Ibid., 50.
primarily considered how such systems would affect late capitalism, he neglected to critically analyze how telepresence would redefine what it is to be human in the late twentieth century.\(^5\)

The meaning of telepresence has changed greatly in the time since Minsky popularized Gunkel’s term. Some of the main theorists of telepresence have varying definitions, so it is important to discuss them before I identify what I will use as the operating definition of telepresence for this thesis. To oversimplify the term, let us begin by defining telepresence as “remote presence.” Broken down, the prefix “tele” is derived from the Greek for “far off, afar, at or to a distance.” One must additionally consider who or what is present at a distance and how being distantly present might affect the perception of space. By enabling presence from far off, presence from afar, presence at a distance, telepresence functions to make the world smaller. Thus, it collapses space.

Definitions of telepresence vary from all-encompassing to very specific. Stephen Wilson provides what is perhaps the broadest definition of telepresence I have encountered:

> Telepresence represents a major goal of telecommunications in both research and art. In some ways, every kind of telecommunications is telepresence – a technology for a person to be present in some form in a distant place. Thus, the telephone, videoconference, and even E-mail could be thought of as telepresence. Any synchronous, near real-time system for exchange could qualify. Some early observers of the telephone were so unnerved by the unnatural presence afforded by the disembodied voice that they ran frightened from the room.\(^6\)

I reject this very generalized definition for its failure to distinguish telepresence from telecommunications. Telepresence is indeed a form of telecommunication, but what is unique about telepresence, in contrast with the telephone and e-mail, is the ability for an individual engaged with telepresence to act within a space through embodiment in a material avatar that is

\(^5\) Minsky does cite research conducted in the field of psychology concerning spatial perception, providing the example of a photoreceptive skin that fits over the fingertip, translating the two-dimensional text into sensation and allowing the blind to read printed text without the need for three-dimensional Braille.

able to move within an environment and to physically interact with others. I accept multiple layers of mediation as constitutive of physical interaction, be it indirect interaction through a physical telerobot, or increasingly indirect interaction (more layers of mediation), such as a virtually shared space represented on a screen, to which distant audiences phenomenologically respond. In this sense, videoconferencing is acceptable as a form of telepresence only if the images of both audiences are merged upon the same screen in order to impart an immersive sense of a shared space. Otherwise, the videoconference is an example of telecommunications, not telepresence.

Lars Rosenberg and Thomas B. Sheridan define telepresence as what others would call teleoperation. They require that telepresence include the ability to act, in some capacity, within a distant environment. An example of Rosenberg and Sheridan’s definition of telepresence would include the Mars Rover.\(^7\) Furthermore, Rosenberg defines the ultimate goal of telepresence as creating a seamless link between humans and machines.\(^8\) I accept this definition for its ability to prioritize action at a distance within a definition of telepresence, while also considering the possibilities for carbon-silicon hybridization in the interaction.

The definition provided by Matthew Lombard and Theresa Ditton is by far the most concise and precise definition of telepresence: the “perceptual illusion of non-mediation,” whereby “perceptual” refers to human sensory response in real time, and “illusion of non-mediation” indicates “when a person fails to perceive or acknowledge the existence of a medium in his/her communication environment and responds as he/she would if the medium were not

\(^7\) Ibid, 527.
\(^8\) Ibid.
there.” This is the definition of telepresence that I have accepted for use in my thesis. Not only is it accurate and simply stated, but it offers a built-in critique of the effectiveness within telepresence of varying modes of perception. For example, in some telepresence artworks, speech is absent while touch is present, while in others, speech is present while touch is absent. Such a variety of available sensory channels across telepresence artworks contributes to breaking the five human senses from a unity into an à la carte sensorium, affecting our experience of what it is to be human.

Historically, telepresence is most commonly associated with the fields of Computer Science and Communication, but since the mid-1980s telepresence art as a genre has been developed. The birthplace of telepresence occurred during the post-World War II era to handle dangerous chemicals at nuclear sites, but between the 1950s and 1980, telepresence research all but came to a halt for three reasons: 1) increased costs of research and decreased funding opportunities, 2) the efficiency of engineers to make small improvements with preexisting technologies rather than updating the entire system with one of telepresence, and 3) a lack of centralized telepresence research and development.  

While telepresence research slowed to a trickle, the art world continued to move into postmodernism. Since the 1950s, formalist approaches that focus upon the artistic medium and its inherent properties have been critiqued and dismantled by postmodern critics. However, what the study of telepresence art allows us to do is consider how the form of telepresence installations, especially those that are humanoid, affect their function.

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Born out of telecommunications art, the formal timeline of the genre of telepresence art begins in 1980 and extends to the present. Brazilian artist Eduardo Kac is the self-proclaimed inventor of both the medium and genre of telepresence art. His work is notable for its consideration of the impact of telepresence upon the personal. Kac wrote in 1992, “As the participant explores the remote environment and gathers image after image of that environment, he or she constructs a personal mental image of the space. This mental image will vary from person to person. In this sense, each participant creates in real time a relatively different and personalized imaginary environment.”\(^{11}\) This suggests that the personalization of telepresence can have an effect on identity.

Regardless of what is present, the term telepresence is inherently oxymoronic. *Tele* does not quite imply absence, but something that is not physically embodied in its original state in the immediate vicinity of another. Telepresence is a method of being present and absent at the same time. When our telepresence is perceived as a stand-in for the real thing, we are in effect mass producing our presence. Commodification has moved beyond mass producing the physical into the non-physical. This simply reconfirms Jean Baudrillard’s ominous warning that we are in the age of simulacra or that of copies without models. Action at a distance, like speed, is a relationship between phenomena; the phenomena exist at remote sites, but telepresence occurs at the “place of the no place” in between, in what Virilio calls “the third interval.”\(^{12}\)

What I am most interested in within the study of telepresence is the impact that telepresence has on postmodern identity formation and how this is manifested in telepresence art. Installations of telepresence art offer technologically-mediated environments for self and other to

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overlap and merge into a new form of subjectivity within the telepresence framework; because telepresence allows access from multiple users simultaneously, and from across the globe, the new subject, which arises from the death of the individual subject position, is one which I will call the hyper-subject. Hyper is Greek for “over,” meaning in excess. Compared to the individual subject of Humanism, it follows that anything more than one self-contained subject is excessive, and thus the term hyper-subject is an appropriate name for this characteristic of telepresence artworks.

My methodology relies on three theoretical, and at times overlapping, approaches: 1) Freudian and Lacanian psychoanalysis, 2) post-anthropocentric posthumanism, and 3) feminist disability theory. It is most effective to draw elements from the psychoanalytic theories of both Freud and Lacan throughout the thesis. As I examine the interaction of humanoid telepresence robots within telepresence frameworks meant to offer the “perceptual illusion of non-mediation,” it is paramount that the psychoanalytical effect of the uncanny be taken into account through Freud’s theories. I accept Freud’s hypothesis that the uncanny is a signal for a return of something which has been repressed, and this is supported by case studies of behavior within telepresence art installations. Thus, I will employ Freud’s theories on repression and the pleasure/unpleasure principle to examine how telepresence artworks psychologically offer both pleasurable and unpleasurable elements to foster a return of a psychic fracturing that is subsequently resutured.

At this point in my methodology, Freud is less helpful, and it is instead the theories of Lacan (who built upon Freud) on the interrelationships of self and other that allow us to equate the technological mediation of near and far, presence and absence, and self and other, with his theories on the construction of the self in relation to one’s environment. However, I reject the
lack of consideration for technology and the hierarchy placed on humans in Lacan’s theories, and supplement this with Caillois’ Surrealist – and what I would call post-anthropocentric - take on psychoanalysis, as well as Rosi Braidotti’s post-anthropocentric posthumanist theory. In tandem, these philosophies provide the best framework to challenge normative psychological identities (the fiction of self and other) and bodily identities (the normativity of disability as rehabilitated via technology in the creation of a cyborg). By strategically employing the above frameworks, I examine how the globalization afforded by technology has created a society both materially and behaviorally on hyperdrive, contributing to increasingly schizophrenic tendencies that ultimately allow for a greater symbiosis between the hyper-subject and the total environment. I reject the negative connotation of schizophrenia and instead embrace the possibilities for telepresence artworks, as a catalyst of schizophrenic characteristics, to increasingly develop hyper-subjectivities capable of fostering empathy across global differences. Eduardo Kac terms the empathy available through telepresence art “telempathy.” He explained it to me in more detail during a January 2015 conversation:

...historically the mechanism of distance is indispensable for you to reject the other. This distance can be cultural, it can be intellectual, it can be economic, it can be geographic. But it’s very difficult to exert prejudice, to discriminate, to reject, to condemn, to enslave somebody who is very close to you. Somebody that enters the sphere of responsibility in the double sense of care and ability of response, meaning dialogue. That makes it a lot more difficult. So, to bridge that gap at least – we’re talking about art, we’re not talking about federal policy – but art can open up these pathways that lead to larger cultural change in the world. In the context of the artwork, it has always been my hope that once you momentarily step out of your frame of reference, and then when you “come back” to it, you realize that the world is a much bigger place and there are all these subjectivities that lie outside of you but that you’re part of this network.13

Telempathy can impact identity formation through the realization of new subjectivities.

In order to best address identity formation, one must also identify what individual or group identities are of interest. Telepresence art began anthropomorphically, but in time, it began

13 Eduardo Kac (Professor, School of the Art Institute of Chicago), in discussion with the author, January 2015.
to shed any reference to the human body, and eventually transcended its preoccupation with humans. Furthermore, the definition of telepresence that will be used here to not only define meaningful art examples, but to explore them, relies upon dialogical interaction and the ability to act at a distance, following Rosenberg and Sheridan. Thus, any audience group must be dyadic. The audience groups available include 1) human-human telepresence, 2) human-machine telepresence, 3) interspecies telepresence, and 4) human-earth telepresence. Naturally, there are overlaps amongst these audience groups: for example, in order for two human audiences to experience telepresence requires a machine. For this thesis, I will narrow my focus upon telepresence frameworks that create dialogical interactions between humans and machines and between two human groups.

Telepresence is attempting to overcome the mechanism of space, divisible into near and far, by using electricity to merge locations both near and remote. Marshall McLuhan differentiates between the mechanic and the electric form. The former can be separated into component parts. The human body can be physically separated into hand, leg, arm, foot, nose, eyes, etc. This reading presents the body as mechanic and fragmented. However, he presents the electric form as a “unified field” that is indivisible. Telepresence aids in the overcoming of Humanist philosophies by contributing to the sacrifice of the individual subject.

The index of McLuhan’s most famous text, *Understanding Media: The Extensions of Man*, lists four words that share the prefix of tele: telegraph, telephone, teleprinter, and television. If we follow McLuhan’s well known argument that “the medium is the message,” what, then, is the medium of telepresence? What is the message of the telepresence medium?

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According to McLuhan, “the ‘message’ of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs.” To discover the message of telepresence is to investigate how telepresence has instilled change in human interaction and identity formation.

Let us briefly look at McLuhan’s example of the medium of light. McLuhan writes in 1964 that light as a medium is largely ignored until the light is used to spell out some word or phrase; when light is used in such a way, as in fluorescent lighting, McLuhan argues, it is the content of the word that is focused upon, rather than the light delivering the word to our eyes. According to McLuhan, “it is the medium that shapes and controls the scale and form of human association and action.” McLuhan also notes that when the medium is changed, as with the extension of ourselves through new technologies like telepresence, the social message inevitably changes. How do the nuances of the telepresence medium, such as humanoid telepresence robots (“telerobots”); installations using self-view monitors; and artworks directly using the body as an avatar of multiple teleoperators, change the social message of telepresence (the individuals participating in the telepresence art installations)?

Defining the medium of telepresence is elusive, as telepresence includes the component media of robotics, fiber optics, electricity, real time, and the collapse of space. Perhaps one of the most important media in telepresence is the teleoperator, capable of acting and sensing in a remote environment. Writing in 1992, Kac explained the ways in which telepresence art, via

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17 Ibid., 20-21.
18 Ibid., 20.
19 Ibid., 19.
20 As the Editor W. Terrence Gordon notes in his preface to “The Medium is the Message” in *Understanding Media: The Extensions of Man*, McLuhan revised his well-known phrase, “The medium is the message,” after it became cliché and misunderstood. The updated, more accurate, phrasing that McLuhan established is “The medium is socially the message.”
phone lines for example, takes on a personal connotation, rather than being associated with remoteness and aloofness.\(^{21}\) He writes of telepresence as:

a new art form generated in the intersection among telecommunications, computers, and robotics…[that seeks] to expand telecommunications beyond the screen and to give it a tangible or corporeal sense that comes from spatial contiguity. I wanted to enable the participant to cross the screen and gain a sense of his or her own presence in a remote social milieu.\(^{22}\)

Others consider telepresence in terms of high and low, mimicking the divisions between high and pop art.\(^{23}\) In contrast to what some may deem Kac’s “high” art, Campanella contends that webcameras are very basic telepresence, aka “low telepresence,” affording the most popular form of telepresence. While Campanella acknowledges that scholars often use the word telepresence inaccurately,\(^{24}\) I reject his application of the term. Campanella presents a thought-provoking concept: that through the webcamera is enacted a dual telepresence whereby the user is telepresent in a distal landscape and vice versa, that the landscape is present with the distal user. However, what I find problematic in such an approach is the privileged position given to opticality. For instance, Campanella describes a webcamera affording “telepresence” in one of the most remote locations, Mount Everest. Data is collected and displayed online, for instance, recording and archiving the wind, air temperature, precipitation, air pressure, etc.\(^{25}\) The environment is coded into data and visually implemented upon a screen, but this does not constitute presence. I reject webcams, as treated by Campanella, as a form of telepresence for the simple reason that they do not permit users to interact with the environment, to move within it, and the landscape to move the teleoperator beyond moving them emotionally and

\(^{21}\) Kac, “Toward Telepresence Art,” 133.

\(^{22}\) Ibid., 127.


\(^{25}\) Ibid., 37-39.
phenomenologically. Until telepresent sensorium are available where a human could feel the chill of Mt. Everest wind upon distal skin, and the danger of the climb, webcams are too non-immersive to constitute real and genuine telepresence.

Furthermore, the telepresence of the user atop Mt. Everest cannot affect the space of Mt. Everest bidirectionally. Moving toward a different example employed by Campanella, are examples of “desktop telepresence,” such as another remote view, this time not Mt. Everest but instead Kruger National Park in Africa. The webcams, Campanella assures the readers, are contained in weather- and animal-proof housing, and that at night the webcam emits a flood of light. Lest the reader be concerned, Campanella reassures that the webcam’s nocturnal light leaves the animals undisturbed. However, the means by which animals’ awareness and response to the webcam can be measured is undefined. Similarly, it is a complex issue to measure pedestrians' reactions to live city webcams, such as the one in Times Square in New York City.

Campanella’s description brings to mind the widely accessible telecommunications interface, Skype. I, like Kac, reject Skype as a form of telepresence. When I visited Eduardo Kac at his office at the Art Institute of Chicago in February 2014, he and I discussed at length which forms of telecommunications he would define as telepresence. Kac dismissed Skype as a form of telepresence, reasoning that true telepresence does not involve engagement with a distant location of which the user is already aware. Rather, Kac explained, telepresence relies upon developing “new modalities of experience.”

Throughout the evolution of telepresence art as a genre, within which Kac worked from 1986 to 2001, his conception of telepresence art changed and became more nuanced. In 1992,

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26 Ibid., 39.
27 Eduardo Kac (Professor, School of the Art Institute of Chicago), in discussion with the author, February 2014.
Kac wrote the essay “Toward Telepresence Art,” which one could consider the first manifesto of telepresence art. Within this piece, he characterizes telepresence art as involving bidirectionality (two-way, dialogic conversation rather than one-way, monologic delivery). Kac described a familiar monodirectional experience during our 2014 meeting, the example of watching President Obama's inaugural address on television. When a viewer watches this on television, they are merely passively aware of a situation (the White House) that is already familiar. Telepresence involves active engagement with new environments as well as rediscovering what was thought to be familiar. Taken as a whole, a constant thread can be discerned throughout Kac’s work: the relationships and codependency of carbon-based and silicon-based forms and the relationship between self and other. These are qualities that largely characterize the work of other artists who have begun making what one could call telepresence artworks.

Additional tenets of telepresence art include “the creation of invented worlds populated by imaginary creatures embodied in electronic parts”28 (drawing from Donna Haraway’s definition of the cyborg) and the formation of the “context for the participants to explore these [invented] worlds – not from a human scale but from the perspective of their denizens.”29 If we define an invented world as a virtual world, today this is inseparable from the real world. Ken Goldberg stresses the criticality in differentiating between virtual reality (VR) and telerobotics (TR): “Although [author William] Gibson’s term ‘cyberspace’ encompasses both [VR and TR], the distinction is vital: VR is simulacral, TR is distal.”30 Goldberg’s argument hinges on the differences between fiction and reality: the limits of fiction in virtual reality and the reliance of telerobotics on real environments mediated by technology. However, just because telerobotics

28 Kac, “Toward Telepresence Art,” 129.
29 Ibid.
relies on real, rather than fabricated, simulated environments, and telepistemology delivered through real time, this does not guarantee that there is not some level of fiction within what Goldberg deems the non-fictitious (telepresence).

Many of today’s media are not visible, but have the most powerful effects on our lives. As McLuhan explains, electric light and power are media in and of themselves, but when they are used to spell a word or transmit a television image or radio program, they create additional layers of media. These latter mediating layers, with clear visual and audial content, are focused upon to the neglect of the purer light and power, perceived as being devoid of content. Both on their own and in the ways they are used as vehicles, electric light and power are equally media. While McLuhan’s text is fifty years old, the following still very much holds true: “For electric light and power are separate from their uses, yet they eliminate time and space factors in human association exactly as do radio, telegraph, telephone, and TV, creating involvement in depth.”

How can we interpret depth of space here and just how involved have we become with this space? McLuhan implies depth when he writes about the extensions of man. In the tripartite schema of volumetric measurements (height, width, and depth), height is most associated with systems of hierarchy and the institutionalization of domination. Can we interpret the “involvement in depth” of which McLuhan writes as usurping any involvement with height and width? Does this designate a culture shift, and if so, how does this affect the history of hierarchical power and self/other intersubjectivity? McLuhan supports the collapse of control through technological speed:

There is a collapse of delegated authority and a dissolution of the pyramid and management structures made familiar in the organization chart. The separation of functions, and the division of stages, spaces, and tasks are characteristic of literate and

31 McLuhan, “The Medium is the Message,” 21
32 Ibid.
visual society and of the Western World. These divisions tend to dissolve through the action of the instant and organic interrelations of electricity.\(^{33}\)

In the late 1970s and early 1980s, telecommunications was spectacular as satellite connections dissolved the differences between carbon and silicon, humans and machines, as well as near and far. For the first time, a broader public could see distant people and communicate with their full-bodied images instantaneously. The emotional response to the 1980 *Hole in Space* by Kit Galloway and Sherrie Rabinowitz (see Chapter 3), for instance, was dramatic and powerful.

Today, the experience of telepresence is largely taken for granted, and is thus in greater need of examination. Of interest to me is both the way in which this acceptance and integration of telepresence has impacted (and potentially negated) telepresence artworks as well as the ways in which it has impacted identity formation.

Telepresent interactions with others change when the user is no longer affected by the local behavior of their interlocutor. In some ways, distance protects our selfhood, but it can also enable us to merge with the other (be it the same species or species-diverse) and to overcome hierarchies. Telepresence affects our experience of our own bodies, allowing us to sense them as increasingly remote. Immersion in virtual worlds has the capacity to powerfully affect our bodies, a technological potential that artists use to explore our so-called “posthumanity.”

By multiplying their locales, the single spectator operates as self and other. I am interested in how telepresence artworks affect the viewer-viewed relationship in the dynamics of a single viewer, two viewers, and multiple viewers. This affects one’s senses of self and of otherness, resulting in an evolution of the role of “other” in the telepresence artwork. Lacan writes that it is alienation that creates the subject: recognition of the self is always inherently a misrecognition. Yet because the subject lacks an identity, the subject is confronted with its own

otherness. This lack is important to establishing the subject: “Alienation engenders, in a sense, a place in which it is clear that there is, as of yet, no subject: a place where something is conspicuously lacking. The subject’s first guise is this very lack.”

In one sense, technology holds captive our mental presence as we gaze upon cell-like screens, like Jeremy Bentham’s Panopticon that we hold within our hands instead of the Panopticon holding our bodies within cells. The structure is reversed but the effect is the same: in many ways it serves to alienate. In fact, telepresence rewrites the alienation experienced by the subject. Through telepresence, a subject is physically one place and – perhaps – mentally elsewhere, creating a dual alienation. The body is alienated by being unable to be physically present at a distance, but the mind avoids such a sense of alienation, free to “travel,” through the exertion of agency, to the distant location in real time.

Telepresence makes absence a liminal state. Through telepresence, spaces that are inaccessible become accessible in new ways – in partial ways that are spatially efficient. Bruce Fink describes Lacan’s dynamic of separation and desire as follows: “The subject tries to excavate, explore, align, and conjoin those two lacks, seeking out the precise boundaries of the Other’s lack in order to fill it with him or herself.” The subject cannot physically be where the Other is, and vice-versa. In installations of telepresence art, bodies displayed on screens (or represented in other forms) are only stand-ins, functioning as signifiers for lack. Even so, they live vicariously through each other’s bodies in order to make up for a lack of physical coexistence. The telepresent body is a chimera, a fusing of self and other into a technological being with no need to regard the laws of space.

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35 Ibid., 52. Fink’s emphasis.
36 Ibid., 54.
As Lynn Hershman Leeson said, “I think that the technology that’s being invented is something that is key to what we need in order to understand who we are.” While “we” is referenced by the artist in general terms of “individuals and cultural groups,” it can be further interpreted as referring to individuals and cultural groups in the West, specifically. Similarly, I will argue that installations of telepresence are contributing to the creation of a hyper-subjective position that, when embraced, is capable of significant social change. By placing telepresence in the genealogy of Surrealism, I will argue that telepresence amplifies the uncanny, thereby signifying a return of the repressed and a repeating of the mirror stage. Telepresence is a response to a changing postmodern landscape, contributing to the rise of the hyper-subject.

The psychic state of the hyper-subject, manifest in telepresence art, belongs in the genealogy of Surrealism and is best physically represented in the infinitely unfinished, corporeally recombinant dolls of Surrealist Hans Bellmer. I will place telepresence firmly in this genealogy in Chapter 1 through investigating Bellmer’s doll, La Poupée. Bellmer’s dolls are a tangible incarnation of a fragmented body, built in response to the Nazis’ demand for pure, perfect, eugenically sound Aryan bodies, a demand that was inspired by historical models of human proportion and perfection, including Renaissance Humanism. Bellmer was heavily influenced by the Austrian psychoanalyst Paul Schilder, who studied hemiplegia and phantom limb pain. Schilder’s ideas helped Bellmer to form what would become the “physical unconscious” shown through his Poupées and drawings that express displaced senses, such as eyes on the bottom of feet. Interestingly, Minsky proposed an ideal telepresence robot in 1980, as though embodying Bellmer’s “physical unconscious,” indicating, “We probably would want to

\[37 \text{“Lynn Hershman Leeson in Conversation with Gabriella Giannachi,” Leonardo 43, no. 3 (June 2010): 233 (hereafter cited in text as “Lynn Hershman Leeson in Conversation with Gabriella Giannachi”).}
\[38 \text{Ibid.}
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have an eye of some sort on the fingers.” Overall, Bellmer’s work brings to light the problem of wholeness or the lack thereof. Similarly, in the 1980s and early 1990s, there was a “crisis in ‘whole’ spatial dimensions and the resultant rise of ‘fractional’ dimensions,” with the prediction that “we will soon see a crisis, in short, in the temporal dimensions of the present moment.” An understanding of Bellmer’s tangible work contributes to a greater understanding of the phenomenology of telepresence art.

Humanoid telepresence artworks amplify the uncanny and interfere with the seamlessness characteristic of true telepresence. While many of the earliest and most seminal telepresence artworks were anthropomorphic, within the broader history of telepresence artworks since 1986, these are among the least successful in terms of offering a “perceptual illusion of non-mediation” when compared with later works. Chapter 2 will build upon the physicality of Bellmer’s version of the fragmented anthropomorphic body and show the negative effect of humanoid telerobots on telepresence. When telepresence art was first created in the mid-1980s, many of the telepresence robots (AKA telerobots) were created in man’s image: anthropomorphically. In the 1970s, however, Mashahiro Mori had proposed that anthropomorphism in robotics can elicit an adverse reaction in the viewer. This phenomenon is represented through a graph called the “uncanny valley.” As robots increasingly look and move like humans, humans respond positively to them, represented by an increase in the plotted line along the y-axis (familiarity) and x-axis (human likeness). However, at a certain point the robot becomes so humanlike that its uncanniness is repulsive, represented by an extreme dip in the plotted line. It is this sudden descent (the valley) and its subsequent ascent, for which the uncanny valley receives its name. This graph and its implications will be explained in greater detail in Chapter 2. My main inquiry, in terms of Mori’s

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40 Virilio, Open Sky, 14.
study, examines the ways telepresence, as a “perceptual illusion of non-mediation,” may be negatively affected by humanoid telepresence robots. I argue that humanoid telerobots amplify the uncanny valley, considering its effect on both the body and the psyche, employing Freudian psychoanalytic theories.

If the humanoid telerobot is removed, and if one isolates screen-based telepresence artworks for critical analysis, one finds that the reactions of the teleoperators support a return of the repressed. Freud theorized that uncanniness is a sign of repression, and the amplification of uncanniness experienced in telepresence artworks supports a return of repressed content, exhibited through bold and taboo behaviors in telepresence installations. Feelings of repulsion suggest an encounter with what has been repressed. The disorientation one feels, both physically and psychically, within a telepresence installation, not only encourages uninhibited behavior, but equates with a return of a sense of utter disorientation and bodily fragmentation Lacan theorized as repressed in infancy. When confronted with this memory in installations of telepresence artworks, participants attempt to overcome a sense of fragmentation by seeking wholeness, which is satisfied not autonomously, but through self-other overlap (both visually and psychically), creating the hyper-subject. Chapter 3 compares one telecommunications artwork to two telepresence artworks since 1980 (the year the word “telepresence” was coined). All of these artworks are screen-based. Moving away from the tangible, three-dimensional avatar, screen-based telepresence installations flatten the telereceiver and teleoperator into two-dimensional images, pictured within a shared virtual space. As Virilio wrote, “…getting close to the ‘distant’ takes you away proportionally from the ‘near’ (and dear) – the friend, the relative, the neighbor – thus making strangers, if not actual enemies, of all who are close at hand, whether they be
family, workmates or neighborhood acquaintances.” Virilio cites an “inversion of social practices” that I will critically analyze in the third chapter.

Both the built environment (in response to which telepresence art was created) and the hyper-subject can be equated with a positive valuation of schizophrenia; theoretically, the mental fragmentation of the schizophrenic is a tool that can encourage greater self-other overlap and, in turn, a better understanding of the other. Telepresence art provides the utmost “perceptual illusion of non-mediation” when it directly uses a human body as its avatar, creating great potential for its use in dispelling the fiction of the Humanist, normative body, such as that implied by the ability-disability spectrum. Chapter 4, the last chapter, examines telepresence artworks that do not use physical surrogates (three- or two-dimensional), but directly employ the human body as the mediator of the telepresence artwork. Using the lenses of feminist disability theory and post-anthropocentric posthumanist philosophy, I question the ways that telepresence may help or hinder the institutionalization of oppression of actual bodies within the ability/disability spectrum. In this chapter I will argue that telepresence was significantly impacted by what Fredric Jameson identified as a shift in built space, called “hyperspace,” a space for which humans did not initially possess the perceptual organs to navigate. Telepresence, as a spatial prosthesis, enabled humans to adapt to their environments in a form of camouflage that mimicked the fragmented, schizophrenic qualities of the built environment. Yet, while extending the spatial mobility of agency, telepresence paralyzed physical mobility within hyperspace, enacting yet another shift in the lived dimension of hyperspace:

Though none of us would dispute the inalienable right of the disabled to live the same way as everyone else, and therefore with everyone else, it is none the less revealing to note the convergences that now exist between the reduced mobility of the well-equipped disabled person and the growing inertia of the overequipped able-bodied person, as

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41 Ibid., 20.
42 Ibid.
though the transmission revolution always yielded an identical result, no matter what the bodily condition of the patient…\textsuperscript{43}

Thus, while the hyper-subject was born, its potential is still being realized in the early twenty-first century through applications that challenge and render ironic the ability-disability spectrum. Telepresence that enables the exchange of first-hand accounts of bodies of varying placement on the ability spectrum confirms that telepresence, as a prosthetic enabling us to extend our bodies, has the ability to “make the super-equipped able-bodied person almost the exact equivalent of the motorized and wired disabled person.”\textsuperscript{44} Telepresence is today contributing to overcoming the history of corporeal hierarchies and physical oppression in response to which Bellmer created his \textit{Poupées}.

\textsuperscript{43} Ibid., 21.
\textsuperscript{44} Ibid., 11.
CHAPTER I

TRIPLE ENTENDRE: PAST IMPRESSIONS, PHANTOM LIMBS, AND SYMBOLIC INTERCHANGE IN HANS BELLMER’S LA POUPEÉ

The anagram is the key to all my work...The body is like a sentence that invites us to rearrange it.
—Hans Bellmer, Obliques

...our own body-image gets its possibilities and existence only because our body is...a body among other bodies.
—Dr. Paul Schilder, The Image and Appearance of the Human Body

Many writers have recognized a connection between the work of Surrealist Hans Bellmer and the Austrian psychoanalyst Dr. Paul F. Schilder, a pupil of Freud.¹ However, the artist never cited Schilder in any of his writings. Bellmer owned a copy of the doctor’s influential 1935 study on Körperschema (body-image), The Image and Appearance of the Human Body, which explored body-image, defined as a “spatial image” of the self, through Gestalt psychological and phenomenological lenses.² Green aptly observes the uncanny similarities between writings by Schilder and Bellmer and posits, “Probably Schilder was insufficiently recherché for Bellmer’s taste, and expressed himself negatively on a number of Bellmer’s preoccupations.”³ Studies to date on the connection between Bellmer and Schilder offer little to no elaboration on how Bellmer’s work was influenced by Schilder’s idea of symbolic interchange (interpersonal postural models, or knowledge derived from and expressed through the body, between self and other). I will investigate this connection further, drawing from the work of French psychiatrist

and psychologist Jacques Lacan, who first presented his paper on the mirror stage in 1936. I will define the mirror stage later in this chapter.

Bellmer himself coined the phrase “physical unconscious”; similar to the psychological unconscious’ ability to repress thoughts while still accessing the conscious, Bellmer’s physical unconscious enabled a similar repression and transference of sensation between parts of the body. Just as Bellmer took apart the body in his doll objects to recombine it into Gestalt “third images,” or “third realities,” I will argue that Bellmer’s physical unconscious can be extended beyond the self. Such a relationship between the body and inanimate prosthetics suggests a network between the self and multiple others, extending Bellmer’s anagram model beyond the body and its immediate surroundings and into the distantly connected space of the telepresent environment. Anagrams, a literary device that Bellmer would often figuratively employ, are created when letters of a word are rearranged in order to form another word, such as “arcs” and “scar,” “cinema” and “iceman,” and “angel” and “glean.” Bellmer treated the body as an alphabet that could form other bodies through rearranging different body part “letters.”

After exploring an extendable physical unconscious, I will then elaborate upon how Bellmer created “third realities” within the self, and how this was influenced by biographical events. Ultimately, by exploring the relation of the physical unconscious to Gestalt and anagrams, I will show how the physical unconscious can be equated to a network between self and other. The ability of the self to incorporate external objects into the body-image lays the foundation for further inquiry. I will question the ways in which other people can be incorporated into the anagram of the self on a global scale and ultimately argue that Bellmer’s work hints not merely at a corporeal anagram of the self, but an anagram of interpersonal, symbolic exchange indicative of self-other overlap.
Remarkably, Malcolm Green wrote in 2005 that Bellmer’s inanimate dolls provide an encounter that cannot be sensed by actual, animate people: “The Doll is a means for generating new experience, for fathoming the underlying patterns of the unconscious in ways perhaps not permitted with real persons.”\(^4\) Proving that Bellmer’s works support symbolic interchange will have important implications for the placement of telepresence art installations in the genealogy of Surrealism. It will also significantly aid in showing that the physical unconscious, tangibly manifest in Bellmer’s dolls, can indeed be experienced by people psychically today through phantom presence and the shattering of the psyche in technologically mediated telepresence art installations. In these installations, the self is psychically deconstructed in order to form a new whole (“third reality”) with the other to form what I will call the hyper-subject, explored in the fourth chapter of the thesis. Transference of body parts may be read in terms of transference of parts of the psyche across space in order to construct new forms of subjectivity. I hope to connect Bellmer’s work to telepresence as a form of spatial collage. While Bellmer physically disassembled and reassembled human body parts, treating mannequin parts as virtual (de)constructions of the actual human body, telepresence creates psychic anagrams.

Bellmer examined the physical unconscious throughout his oeuvre of drawings, sculptures, and writings. To elaborate upon the physical unconscious, it can be described as a fluid, dynamic system in which sense impressions may be transferred from one part of the body to another, “a system of continual unconscious transformations of physical sensations that aim at circumventing repression or taboo…[and the] principle mechanism is doubling.”\(^5\) For example, Bellmer illustrates the displacement of a toothache through a clenched fist. The clenched fist is

\(^5\) Ibid., 22-23.
the representation of the pain, the virtual expression of the actual site of pain at the tooth. The actual pain is doubled in its virtual representation (the clenched fist), and the doubling prevents repression of the pain. Manifestations of the physical unconscious can evade the repression of pain, but they can also circumvent taboo, showing “the interpenetration of sexuality and violence [to accentuate] the Surrealist aim to assail taboos and to bring opposing forces to a point of convergence.” Bellmer analyzes the posture of a young girl in the evening. To Bellmer, her body language expresses the sexual desires of her physical unconscious that cannot be obtained, thus transforming her physical unconscious. “Since the fulfillment of her desires is denied her, she has a tendency to diminish the existence of her sex and the surrounding region, including her legs as if by a kind of amputation.” However, transference occurs, in which, by analogy, the sex organ projects itself onto the intersection of her chin and armpit in a “curious mixture of the real and the virtual, the permissible and the forbidden” that circumvents the suppression of desires that might be seen as taboo for a young girl. She creates, through transference, a “virtual center of arousal,” having been forced to shift her sexual nexus to a more socially acceptable bodily location.

Another phenomenon of displaced sensations, known as phantom limbs, occurs in amputees, those whose limb is physically absent, as well as individuals who suffer paralysis of a limb or limbs, those whose limb remains physically present but neurologically absent.

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9 Ibid., 107-108.
As its name suggests, a phantom limb is a limb (or limbs) that is psychologically projected like an apparition, resulting in real sensations emanating from a source that is not what it seems to be. The psyche can project the presence of a limb or limbs even where one no longer remains (physically and/or neurologically). Referring to body parts as the “physical alphabet,” Bellmer argued that even amputees could recall repressed sensations (repressed through the amputation of the limb) through the physical unconscious.11

Bellmer would explore the potential of the physical alphabet to its fullest through his doll objects, known as his _poupées_, French for dolls. His fixation on dolls has its place in a long lineage of doll obsessions within Dada and Surrealism, including Man Ray, Max Ernst, and the practice of creating the exquisite corpse. Of his many drawings, paintings, and other works, Bellmer is perhaps best known for these sculptural dolls and the photographs he took of them. Between 1933 and 1968 Bellmer made three _poupées_: the 1933 _Die Puppe_ (Fig. 1), _La Poupée_, begun in 1935 (Fig. 2), and _Mitrailleuse en état de grâce (The Machine-Gun[neress] in a State of Grace)_, sketched and painted between 1936-37 and completed between 1961 and 1968 (Fig. 3).12

While each of these dolls and their associated photographs, sketches, and paintings are intriguing, it is on _La Poupée_ that my present study will focus.

In 1925, Bellmer met the doll maker Lotte Pritzel; through her he discovered the mechanics of the ball joint, which first inspired Bellmer to examine the body’s recombinant possibilities, as later expressed through _La Poupée_. Pritzel introduced Bellmer to many significant dolls and texts on dolls, including an influential doll created by a member of Albrecht Dürer’s circle, which Bellmer saw in Berlin in the Kaiser Friedrich Museum (Fig. 4). These “articulated dolls” had ball jointed limbs, an advancement that enabled their bodies to be posed

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11 Ibid., 68.
in a variety of configurations. Yet, as advanced as the doll was in its mutability, it still abided by the naturalistic representation of the animate human body. Bellmer took the ball joint as inspiration, but by contrast, *Die Puppe*, Bellmer’s first doll, transcended the limits of naturalistic representation by incorporating anthropomorphic substitutes for appendages, such as a pole for a leg (Fig. 1). Its component parts could be disassembled and laid bare in numerous configurations, such as the eighteen arrangements that were photographed and published in the Winter 1934-35 Surrealist publication *Minotaure* (Fig. 5). In terms, however, of a connected, networked arrangement, *Die Puppe* was limited in its figural possibilities. Without a central spherical ball joint for the stomach from which to combine any receiving end, the doll would always have a torso, whether or not it was connected to its leg and prosthetic. By comparison, the multiple sets of limbs of *La Poupée* “allowed it, unlike the first doll, to ‘go beyond the narrow limits of naturalistic representation’ – from the inflexibility of the first to a flexibility that went beyond the limitations of the human body as such.”

Bellmer had created *Die Puppe* as a response to the Nazis. In the 1930s, only a limited range of bodies were acceptable and to possess a body deemed unacceptable was to risk one’s life. Bellmer refused to work or make art for the ideals of the German state and, seeking an anatomy of articulated parts, created his *poupées* as an anti-Nazi art form to combat the idealist Aryan “whole.” These bodies are fragmented, sometimes joined, other times neatly arranged in unusual and eerie compositions. Unlike the possibilities in *La Poupée*, in the German state in the 1930s, there were not infinite realities, but only one reality: Aryan wholeness, or death.

The attempts of some Nazi doctors, such as Josef Mengele, to employ eugenics to rid the world of degenerate bodies, belief systems, and ways of living, was a defense mechanism against what many scientists at the time inhumanely felt was a threat to the future of a perfect human

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13 Ibid., 302.
race unified by qualities deemed desirable. The Holocaust was a manifestation of Die Endlösung der Judenfrage, or “The Final Solution to the Jewish Question,” Germany’s plan to systematically annihilate the Jewish population. Europe has a long history of anti-Semitism, and the word “final” in “Final Solution” implies the centuries of prior attempts to eradicate the Jews, harkening back to the murdering of Jews by Crusaders on their way to the Holy Land.

Individuals who did not comply with the future vision of Aryan wholeness - targets of the "Final Solution" - were dehumanized and killed, and the bodies of many Jews in concentration and labor camps were used for inhumane medical research. In his book, Victims and Survivors of Nazi Human Experiments: Science and Suffering in the Holocaust, author Paul Weindling delves deeper into what he identifies as a grossly understudied "nazification of the medical sciences,"14 which “[mobilized] medical research for racial ends.”15 Weindling describes the experiments, which occurred primarily in isolated areas of concentration camps, and in which academic, military, and political personnel were complicit: “This was violence in distinct, systematized forms that could be camouflaged as being of benefit to the war effort, to science, and the race...The scientists plunged into research without boundaries. If they wanted an eye, a testicle, a brain, or a whole skeleton, it was there for the taking.”16 Dehumanization of what were deemed undesirable bodies was supported by the Nazi doctors’ desire to protect the future well-being of the human race: “Auschwitz doctors used the metaphor of excising a diseased organ to restore health. The destruction offered hitherto undreamt of scientific opportunities for the exercise of

15 Ibid., xii.
16 Weindling, introduction to Victims and Survivors, 3-4.
experimental agendas in clinics, camps, and ghettos, and consequent research on stockpiles of body parts.”

Attempts to manipulate identities on a global scale, as employed by the Nazis, relates to the much more innocent transformation that takes place in the psyche of the infant between six and eighteen months old. Lacan’s mirror stage construct was first presented on August 3, 1936 at the International Congress of Psychoanalysis. Human knowledge, Lacan explained, is paranoiac; in other words, human knowledge is based upon the belief that others are out to harm the self. According to Lacan, preoccupation with wholeness begins shortly after birth. The infant, once nestled within the mother’s womb and literally existing within another person, emerges into the world unable to distinguish itself from its environment, just as it was once attached to its environment by an umbilical cord and huddled within a placenta. The newborn child lacks motor coordination and due to the absence of voluntary movement, its physical (un)conscious is fragmented. Yet, when the child sees itself in the mirror, it is presented with an image that is similar enough to allow identification, but significantly different in its coordination and symmetry; this contrasts with the uncoordinated, fragmented, and chaotic body of the infant.

Méconnaissance ensues, which is a process of identification defined by misrecognition with the imago, or the image by which one defines oneself, be it one’s own mirror image, a parent, an idol, or a cultural construct. Before the mirror stage, the child is immersed in a pre-Symbolic realm in which it is inseparable from the mother. Through the mirror stage the child comes to understand itself as separable from the mOther, establishing within the child the

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17 Ibid., 5.
19 Ibid., 1-2.
20 Ibid.
21 After the mirror stage, the mother is spelled with a capital “O,” as she has become defined as “other.”
desire to be “total” again; this desire is permanent and throughout the individual’s life they will attempt, through identification, to suture, and maintain the repair of, the fragmented body.  

This méconnaissance is a defense mechanism against returning to the body in pieces, or what Lacan calls le corps morcelé. If one can form a relationship with the world through a unified image, it distances one from the truth of fragmentation, while alienating oneself from reality. Ultimately, the imago, or a self-image that includes visual and phenomenological representations, is only ever a fiction; one can never recognize oneself as an absolute subject, but can only ever misrecognize oneself in a false image of wholeness. Alienation and aggression ensues. Through the mirror stage, the truth of the fragmented body is hysterically repressed, a repression that has the potential to return on many scales, such as the atrocious form of mass hysteria that was the Holocaust.

Fear of returning to the fragmented body surfaces in dream imagery, of which the Surrealists were keenly aware. In this sense, Bellmer’s dolls are a waking dream image, confronting the viewer with the full frontal, taboo of the fragmented body. Just as the young girl in Bellmer’s earlier example transferred her sexual impulses from her genitals to the meeting place of her chin and armpit, the taboo of the body in pieces is transferred from the subject’s psyche to Bellmer’s inanimate doll. In this sense, La Poupée can be read as a parody of the fiction of a total image, offering a method of overcoming the fear of the fragmented body. Bellmer’s La Poupée presents a tension between wholeness and fragmentation. The recombinant possibilities presented by the ball joint offer infinite numbers of “wholes.” Unlike the Gestalt that the child sees in the mirror (organized, symmetrical, anatomically “correct”), Bellmer’s

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22 Ibid., 4.
wholes are composed of the same chaos that the child feels. La Poupée undermines any notion of achievable wholeness; it only taunts.

La Poupée is an example of a Gestalt whose meaning changes with each reconfiguration of the mannequin’s parts. The word Gestalt comes from the German *gestalten*, which means “to give shape or significant structure to;” while it is challenging to translate Gestalt from its original German definition, it can be described as forms and shapes that, while reducible, are taken for their meaning as a collective entity.24 For instance, the meaning of the signifier *face* is not understood by considering eyes, nose, mouth, and ears in turn, but instead the signified “face” is different than the sum of its components; the mother’s face is the child’s first Gestalt.25 Gestalts present wholes that differ from the sums of their parts. With the same letters, anagrams can be created, but what is generated when the same body parts are reconfigured? Can La Poupée ever be read as a whole? Figure 6 shows a rarely seen image of La Poupée in its “whole,” near-anatomical assemblage that is just one of the infinite Gestalts of La Poupée. Formally this image is so rare a sight of La Poupée because conceptually Bellmer sought to use the formal makeup of the doll, enabled by the interchangeability of the ball joint, to create physical anagrams.

Anagrams operate through context: new meanings depend upon the position of letters relative to the whole word or phrase. For instance, cinema and iceman are anagrams that use the same six letters (“parts”), yet their meanings (“wholes”) are drastically different. Gestalt theory also asserts that “a part within a whole is different from the part on its own, or the same part within another whole – the part’s identity depends upon its position and function relative to the whole.”26 Anagrams are literary Gestalts. Parts of the body, like the eye, can also be treated as

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25 Ibid., 1.
26 Ibid., 2. Ginger’s emphasis.
Gestalts, whose identity shifts depending upon its context. An eye on a human face (Lacan’s gaze) holds different meaning than an eye on its own (Freudian castration); this in turn holds different meaning than a false eye on a butterfly’s wing (Caillois’ theories on mimicry and camouflage). Similarly, a pair of legs within a whole human body, such as the rare image of the whole and anatomically “correct” La Poupée (Fig. 6), versus the pair of legs on their own (castration) (Fig. 5), express different meanings; additionally, a pair of legs that substitute for the arms and torso within another whole creates a drastically different meaning (Fig. 7).

Lacan argued that identity, or ego (which is always a bodily ego), is founded upon the Gestalt of one’s external body image, seen either in a mirror, in the mother, or in another caregiver. The image can only ever represent the Ideal-I, constituting a Gestalt to which the child will aspire throughout his or her life. The mirror stage functions to create a relationship between the Innenwelt (private, inner world) and the Umwelt (environment, literally “around-world”), expressed fictionally as the self; because the self is created at the meeting of inner and outer worlds, Lacan called the mirror stage the “threshold of the visible world.” Upon realizing the emptiness of the imago, a transition occurs that will affect the child for its lifetime:

The mirror stage is a drama whose internal thrust is precipitated from insufficiency to anticipation – and which manufactures for the subject, caught up in the lure of spatial identification, the succession of phantasies that extends from a fragmented body-image to a form of its totality that I shall call orthopaedic [sic] – and, lastly, to the assumption of the armour of an alienating identity, which will mark with its rigid structure the subject’s entire mental development… This fragmented body – which term I have also introduced into our system of theoretical references – usually manifests itself in dreams when the movement of the analysis encounters a certain level of aggressive disintegration in the individual. It then appears in the form of disjointed limbs…

La Poupée may be read in terms of what Lacan, above, calls “the lure of spatial identification,” the state of the subject that allows the mirror stage to occur. Reading Bellmer’s work in this way

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28 Ibid., 4.
provides a more literal example of fragmentation, providing a more concrete model upon which to elaborate on psychic fragmentation in telepresence art. To begin, we must look at the parts of *La Poupée*. Although the head and hand of the first doll, *Die Puppe*, were repurposed for the second doll, *La Poupée* had many more appendages that were interchangeable using the ball joint, also known as the universal joint that “is far more hinged and thus unhinged than its earlier sibling.” While no image exists of all the doll’s components together, a full inventory of *La Poupée* includes “two pelvises, two pairs of legs that could be attached to either end, four breasts, two pairs of feet, a head, a black wig, a blond wig, a toupée, short socks and a pair of black strap-shoes.”

Before exploring the function of the recombinant capabilities of *La Poupée* further, it is instructive to explore other examples of Gestalts, such as the well-known 1915 Gestalt drawing, *My wife and my mother-in-law*, by William Ely Hill, adapted from a German postcard circa 1888 (Fig. 8). This image simultaneously depicts both a youthful and an elderly woman looking to the left in a principle of Gestalt psychology known as “multi-stability.” The black shape that encompasses the lower half of the picture is the coat shared by both women. The curved white form that dips into the coat constitutes the hooked chin of the elderly woman, but it is also the thin neck of the young lady. Moving upward, the large, crooked nose of the elderly woman makes up the young lady’s delicate jawline. Both women share an eye (the left eye of the young lady makes up the right eye of the elderly woman). Within one picture are two images: the old woman and the young lady. The image of them both simultaneously is “the third image.”

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31 Ibid., 297.
Similarly, Bellmer’s 1936 *La Poupée* sculpture, based on the mechanics of the ball joint, creates a double image (and thus a third image) above the navel (Fig. 9). At first glance the viewer sees a female torso that has been cropped at the shoulders and hips. Upon further inspection, especially upon noticing the vaginal lips that create the “cleavage” between the breasts, the breasts are perceptually realized as identical to the hips. It is as if someone placed a mirror through the navel to create two identical halves.

Another artist well known for using Gestalt in his work is the sixteenth century Italian painter Giuseppe Arcimboldo, who combined different objects, primarily fruit, to create portraits. To most, his 1566 *The Lady of Good Taste* (Fig. 10) presents itself initially as a profile bust-length portrait before it perceptually breaks down into its component fruits and vegetables. Arcimboldo was able to accomplish this by thinking of the body primarily in terms of spherical locales. The navel orange cheeks and the cantaloupe breasts are a testament to this. Bellmer’s hand-colored photographs and some drawings of *La Poupée* recall, through the ball joint, the spherical tendencies emphasized through color in the work of Arcimboldo. For instance, in Bellmer’s hand-colored photograph of *La Poupée* (Fig. 11) his application of hues vibrantly accentuates the ball joints. Varying choices in colors make the spherical joints appear as fruit, particularly the central ball joint. This joint presents itself as a bright green apple viewed from above.

Like Arcimboldo, Bellmer reduced the body into as many spherical parts as possible so that he could maximize his usage of the ball joint, and thus divide the body into the maximum number of letters of the “physical alphabet.” This exemplifies the Gestalt perceptual principle of similarity, whereby our eye is drawn to things that look similar. We categorize these parts based on visual similarities. Implications between fruit and the ball joint reoccur in Bellmer’s 1939
Here, an articulated doll sits at a table, her exaggerated posture drawing attention to its fulcrum: the spherical ball joint at her center. Her body pivots to the right of the image; her arm is raised aloft, in line with her pelvis. Holding an apple in the air, the vertical alignment between the apple and her pelvis suggests that Bellmer thought of these parts in terms of fruit, as did Arcimboldo in his works.

It is in his essay, “The Ball-Joint,” that Bellmer describes his “third image,” which shares a relationship with the Gestalt, something that is whole and organized, but is understood to be more than the sum of its parts. Bellmer defines the third image, or third “reality,” as a new whole, constructed specifically from irrational parts. Similarly, his poupées create a tension that simultaneously evokes wholeness and fragmentation. Somewhere between these irrational parts (wholeness and fragmentation) is a third reality, or third image, akin to the imago in Lacan’s Mirror Stage that simultaneously represents the fiction of wholeness and the permanent fear of le corps morcelé. In his essay, Bellmer gives the example of holding a frameless mirror at a right angle to a picture of the human body while keeping the mirror in motion. What makes this false whole convincing, Bellmer argues, is the constant transformations made as the mirror moves – it is movement that makes the whole persuasive. Although the mirror fragments what we see of the real body, we recognize what we see – the combination of real and virtual images meeting as a whole (and false) body. It is created through the dividing and doubling of the mirror while in motion to “[unite] the parts in a new reality.”

Two artists, working later in the 1970s, were influenced by Bellmer’s concept of the physical unconscious: Joan Jonas and Hans Breder (Figs. 13 and 14). Joan Jonas’ 1969 *Mirror*
Piece I (Fig. 13) could easily function as a static illustration to Bellmer’s dynamic example about the mirror in motion. Each of these works clearly reference Bellmer’s Cephalopods (Figs. 7 and 15). The Cephalopod arrangement was one of the artist’s favorite configurations, named for its resemblance to creatures such as squid and octopi, members of the class Cephalopoda, whose tentacles extend from the head. Bellmer’s Cephalopods were just one of the many recombinant possibilities permitted by the mechanics of La Poupée: two pairs of legs are connected by the spherical ball jointed center. In Jonas’ piece, because the vision of flesh connects in its silhouette at the hips, linking actual and virtual into one split-reality “whole,” one can recognize this as a fictively unified, unbroken outline, but as an anatomically incorrect body that lacks a torso.

Breder’s 1973 Body Sculpture (La Ventrosa) (Fig. 14) immersed the mirrored body of performer Ana Mendieta in waves crashing upon a beach, expanding the idea of the physical unconscious to include the surroundings outside the body and the environment within the bodily double. This concept of environmental doubling will be important later as we examine how self and other (rather than the self alone) can create “third realities” across the global village of telepresence art installations.

Bellmer, through treating body parts variously like letters, treated his poupées, specifically La Poupée, as anagrams of the artificial human body. Anagrams are simultaneously deconstructionist and constructionist. Within the letters themselves are coded multiple meanings. The same four letters can form “arcs,” curved lines, “scar,” marks of a former wound, and “cars,” a four-wheeled, modern method of transportation. The same four letters are capable of producing multiple words whose meanings are drastically different, just as the corporeal anagrams of La Poupée – the Cephalopods and Figure 2, for example – are drastically different.
If *La Poupée* can simultaneously function as both an anagram and a Gestalt, can letters do the same? Take for instance the letters A, C, R, and S that formed the aforementioned anagrams “arcs,” “scar,” and “cars.” To see an anagram as a Gestalt, one would look at all of the possible word combinations from a specific set of letters as a matter of the collective identity. If one imagines each of these words in terms of a mental image, visualizing simultaneously the multiple possibilities (“realities”) of the letters is akin to an understanding of the corporeal anagram of *La Poupée*, whose numerous recombinant figures were photographed and documented by Bellmer. He described *La Poupée* as “a series of endless anagrams.” Instead of letters that can be rearranged into new words, body parts are arranged into new types of bodies, and therefore new realities. Letters, like doll parts, must be taken apart in order to be recombined, a process that Rosalind Krauss has termed not construction and dismemberment, but “construction as dismemberment.” Bellmer’s dolls, like anagrams, are simultaneously generative and entropic, both whole and fragmented.

What mediates the tension between wholeness and fragmentation in *La Poupée* is the ball joint, also known as the “universal” joint. While the universality of the ball joint lies in its ability to connect to anything with a correctly formed receiving end - regardless of whether it is an arm, leg, or hand - what is also universal is the severing of the doll’s parts in order to create these building blocks. As discussed earlier, Bellmer believed that the human body is capable of enacting a return of the repressed through amputated limbs, a reversal of Krauss’ “construction as dismemberment” to create dismemberment as construction. Because the dolls are

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anthropomorphically based on the human body, it is appropriate here to explore the phantom limbs created by the infinite amputation and recombination endured by *La Poupée*.

I shall return to the Cephalopods and *The Ball Joint* sculpture. These pieces exemplify not only the anagrammatic body, but the *palindromic* body. Palindromes are linguistic devices, words or sentences that are spelled the same whether read forward or backward. Examples of palindromic words include mom, wow, and racecar. Due to the complexity of Bellmer’s physical anagrams, it is more appropriate, I feel, to discuss them in terms of the sentence. An example of a palindromic sentence is: “Gateman sees name, garage man sees nametag.” The first letter “R” in “garage” functions as the ball joint of the sentence, from which the mirroring occurs. In both the Cephalopod and *The Ball Joint*, the central ball joint acts as a mirror locus to create the doubling on either end. The vertical orientation of the *Ball Joint* sculpture, however, causes the viewer to read the bottom as hips and the top (despite the vaginal creasing) as breasts, whereas the overhead, more horizontal orientation of the Cephalopod suspends a directional reading of the body, encouraging a bidirectional reading. Bidirectionality will be important later to the relationship between Bellmer’s works and the two-way communication fundamental to telepresence art installations.

Mirror imaging of two torsos to create a third image would not visually include the hips, legs, or feet. They have been visually amputated, but have they been mentally amputated? Could they remain in the doll’s memory as phantom limbs? Are the two absent torsos still present somehow? If one considers Bellmer’s Cephalopods in terms of phantom limbs, in effect, amputating the torso would produce a phantom presence of the top half of the body. For each pair of legs that we *see* without a torso contains the virtual image of its torso (with its arms, hands, and head) that we *do not* see.
Bellmer’s unique model of blurring the body is something that he called an “analogue-antagonism.” By “analogue-antagonism” we can infer the definition of analogue, of or relating to one another, and antagonism, hostile or in opposition; this is not unlike the definition of Lacan’s *imago* that creates a self-image while establishing alienation and aggressivity. Analogue-antagonisms relate to one another in their oppositions, such as self and other, human and inhuman, subjective and objective, whole and fragmented. The body relates to itself as a whole, but within that whole are parts that are antagonistic to one another, such as a pair of breasts that are constructed out of the structural similarities (thanks to the ball joint) to the hip joints.

Traumatic bodily experiences can, rather than breaking down barriers, institute barriers within an individual, creating the other within the self. In 1931, Hans’ father suffered a cerebral hemorrhage resulting in hemiplegia, paralysis of one side of the body. Four years later, Schilder published his 1935 study *The Image and Appearance of the Human Body*, the same year that Hans Bellmer began making *La Poupée*. By 1935, Bellmer’s father would have been a hemiplegic for four years; if he had had any phantom limb experiences, it would have allowed them to evolve over four years’ time. Beyond the artist’s father, Bellmer and other Surrealists, such as André Breton, who worked in war hospitals in World War I, would have experienced firsthand the social reality of amputees outfitted with prosthetics.

The aforementioned studies of Bellmer and Schilder primarily focus upon the relationship between Bellmer’s physical unconscious and Schilder’s postural model of the body, defined by Schilder as “the importance of the knowledge of the position of the body.”

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sense of body position is framed by the just-past tense. Body position is constantly responding to and mediating what has just occurred both in one’s surroundings and in the interior of the body. The self-awareness that exists at the brink of interior and exterior is based upon – framed by – what has just occurred in one’s total environment. Schilder explored the body-image as a human Gestalt and added to this the fact that personalities always shape perception by effecting ways of seeing, in order “to show that the postural model of the body is in perpetual inner self-construction and self-destruction.” Schilder defined the image of the human body as “the picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves.” He also defined the “body-image” as “a tri-dimensional image everybody has about himself…it is not mere perception.”

In *The Anatomy of Anxiety*, Sue Taylor does not specify what side of Hans Sr.’s body was paralyzed, so any information on the hemiplegia of Han’s father is, for now, purely speculative. Schilder writes that in hemiplegics that suffer a paralysis of the full right or left side of the body, there is a tendency to transfer sensations from the active to the paralyzed side, a condition known as alloaesthesia. Elaborating, Schilder wrote:

> It can be based upon mechanisms of the so-called purely psychic type (conscious or unconscious), but it can also be based on organic mechanisms (organic repressions), which are akin to the psychological mechanisms…The organic repression may either lead to overlooking the hemiplegia…or it may lead to the total neglect of this side of the body. It may finally lead to illusions and distortions concerning the perception of this side.

Bellmer’s father may have experienced alloaesthesia, transferring sensations across the body, or if he repressed it, he would have in effect turned one half of his body into an object.

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Taylor emphasizes the connection between Schilder’s writings on the “Japanese illusion” and Bellmer’s lesser known photographs of hands from 1935, about which she claims no one else had written prior to her essay.

40 Ibid., 14-16.
41 Ibid., 11.
42 Ibid.
When phantom limbs are formed in the victim, at first the patient’s phantom limb will match the extant one: the phantom of a lost arm will be a virtual, psychic Gestalt of the actual arm. Over time, though, the phantom limb can change. In the example of the arm, Schilder explains, eventually the forearm can shorten or disappear in the phantom image to the point that the hand is near the elbow, if not directly connected to it. Bellmer’s ball joint allowed such combinations that were physically impossible but psychically possible, especially when one considers the evolution of the body image in amputees and hemiplegics.

Many have interpreted Bellmer’s work in terms of castration anxiety. While I do not disagree with this interpretation generally, specifically I will argue for a more nuanced account that was shaped by his father’s physical condition as a psychically disassembled and reassembled man, coupled with Hans Sr.’s psychic condition as a Nazi sympathizer and advocate for the perfect Aryan body and modernist pure form. A typical physical castration, as in amputation, severs a part of the body for its removal. Because Hans Sr.’s arm and leg were neurologically severed, yet were still attached to the side of his body that could not feel them, the castration was more psychic than physical. The arm’s presence is visible and its absence is enacted through lack of agency. Half of the body is simultaneously present and absent. Within telepresence installations, the teleoperator is also caught in the tension between presence and absence; like the arm, while the teleoperator is physically present in one location, they are psychically present where their body is not.

While telepresence relies on real-time transactions over spatial distance, phantom limbs incorporate real-time sensations over temporal duration. In instances of phantom limbs, the limb is present at a distance; here distance refers to past impressions that remain in the unconscious.

45 Ibid., 64.
Schilder proposed, following Sir Henry Head, that when something happens in the present, the stimuli are filtered through these past impressions within the mind.\textsuperscript{46}

Probably, according to general psychological experiences, the postural model of the body is present in us in its original shape. This original shape is based upon continual transformations from the postural model of the child into the postural model of the adult. There is a long series of images. But one of the most important characteristics of psychic life is the tendency to multiply images and to vary them with every multiplication. It is one of the inherent characteristics of our psychic life that we continually change our images; we multiply them and make them appear differently... Probably the amputated person tries in a more or less playful manner to find which one he can use.\textsuperscript{47}

The past, in its temporal extension, acts as an unseen force to help us navigate our present both physically and psychically. In this way, the past tense can be treated as a prosthetic (mental) attachment. For instance, if someone loses the function of part or all of the body, past impressions of having total use of the body persist, resulting in phantom limbs projected by memory onto limbs that have either been amputated or remain, but are paralyzed. The temporal dimension of real and near real-time transmission in telepresence art will equally serve as a digitally-mediated prosthetic, which I will explore in Chapters 2 through 4.

Typically, when one fears castration, one mitigates it by overcompensating production. For example, if one fears castration of the penis, one may overproduce phallic imagery; Freud identified this as the “Medusa effect.” Rosalind Krauss elaborates upon the Medusa effect in Bellmer’s work as protecting the artist against oncoming trauma.\textsuperscript{48} Furthermore, Bellmer fortified his defense mechanism by designing it to be inexhaustible. \textit{La Poupée} allowed Bellmer to produce infinite images of the doll in recombination with no final configuration; this can also be read as a criticism of modernism’s “pure form.”\textsuperscript{49} Thus these third realities, while numerically

\textsuperscript{46} Ibid., 11.
\textsuperscript{47} Ibid., 67.
\textsuperscript{48} Krauss, “Corpus Delicti,” 86.
\textsuperscript{49} Green, \textit{The Doll}, 18.
named, are infinite. It is not just a third reality, but a fourth, fifth, sixth reality, and so on, ad infinitum.

Such infinite repetition is highly suggestive of what Bellmer may have feared. Reading extra sets of limbs as evidence, what dread could they have indicated? Initially one might suggest castration; if an arm is amputated, this loss may be alleviated by having an “extra arm” that can simply be attached to a ball joint to renew the “wholeness” of the body. However, I am not satisfied with this conclusion. Bellmer may have recognized the mind’s ability to “produce” phantom limbs, causing him to lose faith in the unity, solidity, and singularity of the body. If he feared his body’s disunity, as the child of the mirror stage fears le corps morcelé, producing infinite images of disunity and recombinant possibilities may have served as his defense mechanism. Bellmer also feared his father during childhood and would develop defense mechanisms. In a letter to the writer Constantin Jelenski, Bellmer wrote of his childhood relationship with his parents:

Like everyone else I was born with a very pronounced need for a sense of well-being, for a paradise of limitless permissiveness. But for me the limits were there in the shape of ‘father’ and (a little later) ‘police’. Behind the warm, comforting presence of my mother I could sense masculine authority: the enemy, the possessor of arbitrary powers in the outside world.  

Similarly, the Nazis would exercise their powers in the outside world; Bellmer’s father would join the Nazi party, only increasing Bellmer’s contempt for him. Bellmer created the doll as an anti-Nazi artform and as a limitless existence in defiance of the boundaries in the shape of his father while mocking his father’s hemiplegic condition. “[Bellmer] never allowed his father to dominate him but always mocked him, first personally and then by becoming a militant

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revolutionary at a very early age.”

Bellmer even fooled his father into believing that his grandmother was Jewish, causing his father great distress. While I do not condone any mockery of the body and disability, Bellmer’s La Poupée is a useful tool in exploring how bodily and mental identity, through mutability, can open to recombinant possibilities manifest in hyper-subjectivity.

Embracing the instability of the individual’s body image opens it up to incorporating outside objects, for example a chair arm for the arm of La Poupée (Fig. 11) or a chair leg substitute for a human leg and a cup and saucer for a breast (Fig. 12). Writing about prosthetics, Schilder quotes Dr. Head to explore how inanimate objects become part of the self:

It is to the existence of these ‘schemata’ that we owe the power of projecting our recognition of posture, movement, and locality beyond the limits of our own bodies to the end of some instrument held in the hand. Without them we could not probe with a stick, nor use a spoon unless our eyes were fixed upon the plate. Anything which participates in the conscious movement of our bodies is added to the model of ourselves and becomes part of these schemata: a woman’s power of localization may extend to the feather in her hat.

Can an individual’s power of localization extend not only to inanimate objects, but to the animate other? Telepresence relies both on inanimate objects, such as telerobots and screens (Chapters 2 and 3, respectively), and animate others, such as human avatars (Chapter 4) in order to provide the “perceptual illusion of non-mediation,” albeit to varying degrees of success. For telepresence to function, both objects and other people must be capable of adding to the model of the self, while functioning to disassemble individual selfhood altogether.

In order to probe the question of extending the individual’s power of localization, I want to move from a physical examination of Bellmer’s “physical unconscious” in terms of bodily

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51 Ibid., 2.
52 Ibid.
Gestalt to a psychic examination of the Gestalt. The main question directing my research in the remainder of this chapter is whether the self is also a sentence that can be rearranged with other selves in a type of inter-subjective anagram. If so, what is its effect on identity addressed in installations of telepresent art? Beyond the hemiplegic’s transference of sensations from one side of the body to the other (active to paralyzed sides), the body\textsuperscript{54} can also transpose heteromorphically between unrelated, unsymmetrical organs, based on symbolic interchange.\textsuperscript{55}

As Schilder suggested, openings and protrusions of the body are commonly sites of transference, or “symbolic substitution;” for example, cavities like the anus, vagina, nose, and mouth are symbolically interchangeable, as are protrusions like the nose and phallus.\textsuperscript{56} Bellmer elaborated on other sites of transference based not on opening or protrusion, but with similarities in the ability to interact – whether optically or haptically – with one’s environment. He expressed such a symbolic interchange in his lithograph from 1949, *Transfert des sens* (Transference of senses) (Fig. 16). An eye is symbolically transferred to the foot, represented by a profile face superimposed on the foot at the bottom of the image. The figure’s right hand intersects with a disembodied profile face, suggestive of the incorporation of the other. In fact, Schilder argues that the postural model is largely shaped by the outside world, and it follows that one would place higher importance on the extremities that contact it most closely, such as the foot contacting the earth.\textsuperscript{57} Similarly, the hand gives us the most intimate touch with other people.

What Lichtenstein and Taylor do not address in their studies of Bellmer and Schilder is the effect of space on the articulation of Bellmer’s *La Poupée*. Schilder argues that the body-

\textsuperscript{54} Here the body does not necessitate the hemiplegic, but refers to non-hemiplegic bodies that experience psychosomatic symptoms.
\textsuperscript{55} Schilder, *The Human Body*, 171.
\textsuperscript{56} Ibid.
\textsuperscript{57} Ibid., 64.
image “incorporates objects or spreads itself into space” – the body-image of telepresence, relying upon bidirectionality, accomplishes both. Can the body-image of the self spread into the body-image of the other, and vice-versa? In theory, if a psychic, symbolic interchange can occur between one part of the body and another, it follows that this interchange can also happen between bodies of self and other. If objects outside of the self can become part of the self, can other people, too? And if so, how can this be accomplished without objectifying the other? These questions are important to my investigation of telepresence art. If installations of telepresence art incorporate distant animate and inanimate objects as an extension of the self through projection of agency, this suggests a radically new form of technologically-mediated subjectivity.

Departing from the work itself to the viewer of Bellmer’s work is instructive. Lichtenstein, writing in Behind Closed Doors, describes how viewers of Bellmer’s work can experience a type of psychic blurring: “The heterogeneous emotions the viewer experiences produce a breakdown of barriers between I and other, domination and subordination, and strict male and female gender identity.” La Poupée also blurs boundaries and identities, both physically and psychically. It is important to remember that La Poupée had nearly enough sets of limbs to constitute two full bodies. Anatomically correct human bodies only possess two legs and two feet, for instance, instead of four legs and four feet; this doll, in its sheer number of limbs, already suggests multiple bodies within the singular identity of La Poupée. Had Bellmer wanted to imply multiple identities within this doll, he might have named it Les Poupées. Yet, Bellmer gave it a singular name. Additionally, La Poupée shared the head and hand of the first doll, Die Puppe, which already supports a merging of the first and second dolls.

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58 Ibid., 213.
The Cephalopods further allowed Bellmer to suggest two bodies merging, as in *The Doll* photograph from 1935 (Fig. 17). In this photograph, like Figure 15, the viewpoint is from above the Cephalopod; yet unlike Figure 15, this image differentiates the two pairs of legs through their mode of dress. The pair of legs nearest the background wears only socks and strapped shoes, while the pair of legs closer to the foreground sports socks, shoes, and trousers. How is one to read this differentiation? Does the inclusion of trousers imply sexual difference? If a Gestalt is a whole that is read as more than the sum of its parts, one may interpret this whole as being more than superficial, physical connectivity. *La Poupée* once again represents the merging of two forms into an impossible “third reality.”

Researchers on Bellmer and Schilder have explored symbolic interchange in the physical unconscious of the self, but they have not explored the ways in which *interpersonal* symbolic interchange, what Schilder calls the “deep community between the postural models of human beings,”\(^{60}\) may have influenced Bellmer’s work. Bellmer writes about the influence of the outside world on the body in his essay “The Self and the Outside World,” in which he attempts to “undertake a radical re-evaluation of our concepts of identity.”\(^{61}\) Examples given by the artist include projecting pain or arousal not to another part of the body (as in the earlier tooth pain example), but to the outside world. Within the essay, Bellmer includes an anecdote of a man asleep who, just before waking, sees many pairs of women’s legs approaching him on tiptoe. At that same moment, he heard someone say “je ne dis pas,” (I can’t say); “dis pas” is phonetically identical to the French “dix pas,” or ten paces. In this instance, something heard in the outside world was capable of influencing the dream state of the sleeper, who misinterpreted the

\(^{60}\) Schilder, *The Human Body*, 44.

homophone. As Bellmer explains, “The intensity of the image resulting from this marriage of perception and imagination probably ensues from the degree of violence involved in establishing the equivalence of two merely similar, perhaps dissimilar, or even extremely different images.” If extremely different images can combine the self and outside world, this is suggestive of a body-image that is capable of combining a self and other that are radically different.

An intact postural model of the self enables us to interact and successfully recognize others. However, when the body-image is traumatized, such as in amputation or hemiplegia, it can significantly impact our ability to recognize different body parts or sides of the body, and ultimately create difficulty in distinguishing the bodies of other people. From his findings, Schilder concluded that postural models are networked.

I argue that the creation of the phantom limb is the body’s attempt to maintain wholeness (actual and/or virtual) in order to sustain interpersonal relations. Additionally, teleoperators within installations of telepresence artworks, like the infant of the mirror stage, often struggle to distinguish their distant expression of agency in real space and time. In this instance, if one is unable to identify one’s own technologically-mediated body boundaries, and thus unable to identify those of others, this has potential to create self-other overlap in the creation of a new subjectivity.

Compared with the first doll, Bellmer’s second doll was photographed hundreds of times to record its infinite forms. The repetitiveness of the recombinations of La Poupée relate with the repetition that Freud defines as a symptom of the uncanny. Taylor argues that the theme of castration preeminent in Bellmer’s work is an expression of the artist’s fear of loss, and that the first doll not only did not fulfill this castration anxiety, but that La Poupée required constant

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62 Ibid., 146.
63 Ibid.
64 Schilder, The Human Body, 43-44.
recombination in order to be effective. Its resurrection was compulsively enacted and reenacted.

If the body is constantly recombining to form new corporeal anagrams, identity is never fixed. Hal Foster calls such an unstable identity “convulsive identity,” defined as a “psychic shattering.” Foster argues that Bellmer’s work represents the exchange of psychic and physical fragmentation in a type of barter system: “the psychic shattering (the convulsive identity) of the male subject may depend upon the physical shattering (the compulsive beauty) of the female image, that the ecstasy of the one may come at the cost of the dispersal of the other.” Is this proposition reversible? In the gendered example of Bellmer’s female dolls, would the physical repair (and disrepair) of the female image result in the psychic repair of the male (Bellmer)?

Interestingly, the methods of mirror imagery that Bellmer used to create his poupées are today used in psychophysical treatment of amputees experiencing phantom limb pain (Fig. 18). For instance, a 1996 study showed that phantom limb pain could be alleviated by placing the amputee’s intact limb inside a mirror box to create the illusion of a whole limb where it was missing. Mirror Box Therapy can lead amputees experiencing phantom limb pain (PLP) to feel as though the missing limb has returned. With this virtual return of the missing limb comes a lessening of the pain. If the virtual return of the repressed limb can ease trauma, perhaps Bellmer’s anagrammatic La Poupée, combined with the physical and psychological background of his father, can be interpreted not as violent, but strangely restorative through the unseen phantom limbs of La Poupée. Fragmentation is simultaneously a form of recombination and

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67 Ibid.
relief. As I will explore in Chapter 4, the psychic fragmentation afforded by telepresence has the potential, through performance art using telepresence technologies, both to inspire empathy for bodily difference and to heal, while also ushering in a new form of subjectivity: the hyper-subject.

Within the body of the amputee and hemiplegic, parts of the body that have been repressed through physical or neurological castration can return through the creation of a phantom limb. This phantom limb, Schilder maintained, is informed by past impressions (memory) of the Gestalt of the body-image. After castration, the lost limb is present at a (temporal) distance, returning as a virtual limb from the past. Presence at a distance can also be expressed as telepresence. The understanding of the expression of the body-image has evolved since Bellmer constructed his La Poupée in 1935, and technology has developed the ability to collapse past-impressions into real-time transactions not just from one part of the body to another, as in alloaesthesia, but from one part of the globe to another. In the next chapter, I will explore how this, in turn, affects our body-image and interpersonal symbolic interchange through the mediation of humanoid telerobots. Rather than the universality of the ball joint, today’s corporeal anagrams are capitalizing on the real-time connectivity of the World Wide Web.
Frequently, writings on telepresence focus primarily on the experience of the teleoperator, the individual situated in a remote location that is extending his/her agency to a proximal or distal location to interact with an environment. Within this environment (the “telenvironment”), agency can also be extended to what I will call a telereceiver, one or multiple others situated on the opposite side of the “screen” of telepresence, interacting with the telerobot within the same physical space (Fig. 19). Telerobots, through their myriad designs, such as the Mars Pathfinder, function as physical avatars of the teleoperator and interface directly with the telenvironment and/or telereceiver. Telereceivers can include individuals or a group, whether humans or other species. If telepresence relies on bidirectional communication that gives the illusion of non-mediation, it must be as effective as possible for both parties – the teleoperator and the telereceiver. Conversely, the teleoperator manipulates, but does not share the same physical space with, the telerobot. Many factors are involved in telerobotic efficacy, including form and speed, ideally approaching as close to real time as possible. The form of many telerobots takes on the human image, underscoring how important it is to orient the teleoperator’s experience to the mobility of the telerobot. For instance, it is much easier to orient oneself in a distant space if the range and locations of motion, such as joints, body height, and eye placement are similar to one’s own. Because the teleoperator embodies, but so seldom sees,
their own distant avatar, one can assume that their mental image of their projected body differs from its appearance in reality, witnessed by the telerceiver.

This chapter focuses on the telerceiver’s experience with the humanoid telerobot. Where mirrors are involved, allowing the telerobot to be seen by the teleoperator, the teleoperator then becomes both teleoperator and telerceiver (Fig. 20). This study will concentrate on the form of the telerobots in four examples, exploring how anthropomorphic form impacts the telerceiver(s), and how their responses in turn affect the efficacy of the telepresence artwork. Applicable to this study are theories on the uncanny from robotics as well as from Freud’s writings, following Anneleen Masschelein’s argument that the “Freudian uncanny is a late-twentieth century theoretical concept,” despite its early twentieth century origins. I will argue that humanoid telepresence robots in telepresence artworks recode, and at times amplify, the uncanny valley, the sense of revulsion that suddenly occurs in response to robots or computer-generated images that are increasingly humanoid. By coupling animate telerobots with robotic humans, humanoid telepresence robots cannot completely fulfill their role in telepresence due to the fact that their uncanniness prevents the “perceptual illusion of non-mediation.”

Bidirectionality, as a key component of telepresence art, is limited by the effect of the uncanny on the distal interlocutors. “The technologies used and the design of the interface should be an integral part of the experience so that they don’t break the user’s immersion to the artwork.”

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1 Anneleen Masschelein, “Different Stages in the Conceptualization of the Uncanny,” in The Unconcept: The Freudian Uncanny in Late-Twentieth-Century Theory (Albany: State University New York Press, 2011), 4 (hereafter cited in text as Masschelein, “Different Stages”). Masschelein notes that between 1919 and the 1960s, research on the uncanny slowed, and its resurgence in the 1960s was limited to niche audiences. In the 1970s and 1980s, interest in the uncanny increased and it is at this time, in the late twentieth century, that a considerable number of scholars began dedicating themselves to close studies of Freud’s text.

Telepresence art that involves humanoid telerobots thus comments less on telepresence and more on both the uncanny and the networked relationship between self and other.

If the goal of telepresence is the “perceptual illusion of non-mediation,” how can non-mediation be realized if it is impacted by the uncanny? Sensations of the uncanny will call attention to the media framework. Is the attempt at creating robots in our own images indicative of an unwillingness to learn to adapt to non-anthropomorphic modes of vision and communication? Ideally for telepresence to work, it must successfully give the illusion of perceptual non-mediation to both parties: teleoperator and audience. Do artists working with telepresence as a performative, interactive medium have the means to create non-anthropomorphic telerobots? If so, have they ignored this option, or were humanoid telerobots the only option at the time of each work’s conception?

Four main examples will be examined throughout the course of this chapter, in the order following - and challenging - plotted points on Mashahiro Mori’s 1970 uncanny valley graph (Fig. 21): 1) Eduardo Kac and Ed Bennett’s 1992 *Ornitorrinco in Copacabana*, 2) Ken Feingold’s 1993-95 *where I can see my house here so we are*, 3) Kac’s 1986 *RC Robot*, and 4) Lynn Hershman Leeson’s 1995-98 *CyberRoberta* and *Tillie the Telepresence Robot*. *RC Robot* is significant as the first telepresence artwork in Kac’s oeuvre, and *CyberRoberta* and *Tillie* were among the very first humanoid telerobots. As a disclaimer, there are many examples of telepresence artworks that are fashioned in the form of robotic animals, for instance Kac’s batbot and macowl. However, my aim in this chapter is to focus specifically on how the incorporation of the human form impacts the individual capabilities of these telepresence works as well as what they can tell us about postmodern human identity formation (without yet considering inter-

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3 Throughout the body of research on CyberRoberta, two spellings can be seen: CybeRoberta and CyberRoberta (with two “R’s”). For this thesis, I will use the latter spelling, CyberRoberta, as it is the heading used on Lynn Hershman Leeson’s website.
species identity formation). These examples will be explored in turn as we follow the trajectory of what is known as the uncanny valley graph.

Much early work in telepresence art relied upon robotics for communicative potential, but historically speaking, robots are met with feelings of aversion in humans: “…human beings often feel uncomfortable around robots. Roboticists call this…phenomenon the ‘uncanny valley’– the sense of deep unease that often sets in when human beings try to negotiate relationships with human-looking machines. The more realistic the machine, it seems, the more uncomfortable we become.”

The uncanny valley, first proposed in 1970 by the roboticist Masahiro Mori, is a hypothesis stating that as robotic appearances and movement approach human likeness and action, human psychological responses to these robots increase in affinity until a sudden onset of repulsion in the human. This dramatic response is represented on the graph as a valley, hence the name the “uncanny valley.” It was not until the past decade, however, that the uncanny valley was empirically studied, and the full text of Mori’s essay was only published in its English translation with Mori’s review and approval in 2012.

While many theorists have criticized Mori’s ideology for being too simplistic, including ignoring issues of age, race, gender, and previous experience, I will begin with his theory before developing a more nuanced approach. Telepresence affects this theory because the form of robotics takes on a new function – not to connect a human with a robot teleologically, but to connect two or more humans through the vehicle of robotic avatars. The objective of telepresence is to allow one or more teleoperators to exert agency from a remote location, and to extend human vision; this redefines the meaning and

use value of the uncanny valley for telerobotics, and creates opportunities for artists to use the telepresence medium to comment on human identity.

The uncanny valley is represented through a graph with the y-axis representing affinity and the x-axis representing human likeness (Fig. 21). Two graph lines are drawn, a dotted line representing entities capable of motion and a straight line representing static entities. Because telepresence relies so heavily on motion to convey corporeality and engage interactively at a distance, I will focus primarily on the dotted motion line of the graph in this study. Multiple examples of mobile representations can be plotted on this graph, including industrial robots, humanoid robots, zombies, myoelectric hands, Bunraku Puppets, ill people, and healthy people.

Before I continue, a working definition of “human” must be given. This is no small task, as the question of what it is to be human in the machine age has given rise to studies of transhumanism, posthumanism, and beyond. I will explore this topic in more detail in Chapter 4. For now, let it suffice that the human, in terms at least of Mori’s uncanny valley, can be broadly defined as an organic, carbon-based lifeform that is today acted upon, and in turn interacts with, silicon-based prostheses such as installations of telepresence art.

The first plot on the uncanny graph, the industrial robot, has near-zero resemblance to a human and is located near a zero affinity scale. Therefore it causes neither revulsion nor positive affinity in humans. Reactions to the industrial robot are neutral. In the oeuvre of telepresence art, the example that most closely approximates this location on the graph of the uncanny valley is the 1989 Ornitorrinco, created by Eduardo Kac and Ed Bennett, Technical Assistant at the Electronics Department of The School of the Art Institute of Chicago (Fig. 22). Portuguese for platypus, an animal that is reminiscent of a hybrid of mammal and a bird, due to the fact that the platypus is the only mammal that lays eggs, Ornitorrinco similarly merges robot and human, not
through appearance, but through function and experience. This telerobot consists of a square metal base situated low to the ground underneath which are casters; atop the square base are a series of wires, two antennae, and other electronic parts, including one “eye.” It is the combination of a lack of human likeness, akin to the industrial robot, and the projection of human experience that is of the greatest significance in the comparison of Ornitorrinco and the uncanny valley.

Ornitorrinco is the name of the robot as well as the series of performances in which it was involved, each performance leading to new experiences for its participants. Its form was purposefully designed to differ from humans in terms of scale, mobility, and agency. As Kac wrote in 1992, “Each work is always built to the scale of the telerobot, and not to a human scale.” While Ornitorrinco was involved in several events, beginning with *Experience I* on January 11, 1990, I will only examine one specific event in the series, *Ornitorrinco in Copacabana*. This performance took place during the Siggraph ’92 conference in Chicago as part of the Siggraph ’92 art show from July 26 to July 31, 1992. Ornitorrinco was stationed in the Kinetics and Electronics Department of The School of the Art of Chicago while the teleoperator was locally distant, also in Chicago, at McCormick Place. Participants operated Ornitorrinco by telephone sound manipulation from the telephone tone. The teleoperator used the telephone keypad to control the motion of Ornitorrinco. For instance, pressing 2 on the keypad would result in a tone that would move the telerobot forward; pressing 8 directed it backward; 5 translated to the telerobot stopping, etc. Successful navigation of the telerobot relied on the teleoperator receiving visual feedback in a transmission speed as close to real time as possible. Thus, the feedback from Ornitorrinco is first sent to a video receiver, then to a videophone where it can be visually received by the human teleoperator. From this data, the teleoperator can make decisions

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7 Kac, “Toward Telepresence Art,” 130.
on what direction to next lead Ornitorrinco in its location at the Kinetics and Electronics Department.

The teleoperator can make decisions at a distance, exerting agency at a distance, or what I will call *teleagency*. In this work, teleagency relies on two things: 1) the ability for the teleoperator to see the videophone and 2) real-time or near real-time transmission. Ornitorrinco, while physically manifest miles away, becomes merely an image for the teleoperator in McCormick Place. In order for the teleoperator to transcend the screen effect, Kac and his team set up objects in Ornitorrinco’s environment to cause collisions, transferring to the teleoperator a tangible sensation and encouraging a virtual, multisensory presence in the remote location. While haptic telepresence is encouraged, it does not seem altogether convincing. Daily, one can witness others interact with objects and perhaps collide with other people and things, but seldom does one empathize so strongly that they feel the pain of the other. Perhaps what makes Ornitorrinco different is the first-person connection with the telerobot and the ability to extend agency.

The teleoperator may virtually feel the collision, but does not *actually* feel it. Contrary to agency, to act and to do, the sensory shortcoming upon collision relates to a lack of transference of experience, the ability to feel and sense. Agency and perceptions of experience are two characteristics that have been studied in recent empirical tests on the uncanny valley to distinguish what elicits feelings of uncanniness in humans during human-robot interactions. To date, telepresence artworks lack the ability to transfer *actual* haptic qualities to the teleoperator; if s/he were to collide with a wall, there is at present no means by which to transfer that sensation. Thus, *experience* takes on new meaning in the telerobot-teleoperator coupling. I argue

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that experience of any sort relies upon a projection of a type of phantom sensorium in the human teleoperator, much as an amputee would continue to feel an arm that has been lost. When Ornitorrinco collides with objects in the environment, the teleoperator feels more present in that space because s/he recalls what it has felt like in the past to have a collision with their own flesh; s/he projects this sensation onto the telerobot.

Telerobots like Ornitorrinco are not autonomous or near-autonomous, so all agency stems from the human teleoperator. The 2011 study by Kurt Gray and Daniel W. Wegner concluded that uncanniness is triggered both by robots suggesting experience (sensing, feeling robots) and by experience-less humans (humans who cannot feel pain or sense love). Ornitorrinco, by acting as a vessel for human qualities projected at a distance through collision, doubles the sense of uncanniness by distracting the human teleoperator from experience where s/he is stationed while impregnating the telerobot with experiential qualities, albeit limited from haptic-feedback. The telerobot turns the human body into a phantom limb. As in a phantom limb, sensations are experienced where a limb is not present; here the “limb” is the distal human, when treated as a distal prosthetic to the telerobot crashing into objects in its immediate environment. Upon collision, the memory of pain is projected from the human onto the telerobot, in effect anthropomorphizing and imbuing it with experience. Simultaneously, the body reacts by generating a sensation in response to the impact, despite the fact that the teleoperator’s body was not directly affected. The teleoperator’s experience in real time is now in fact doubly uncanny. If optical virtuality involves seeing presence (as in a reflection) where it is not, Ornitorrinco virtualizes experience by leading the teleoperator to “feel” (remember) pain where it is not actually generated through nerve endings. While suggestive of the experience of watching TV, the experience of Ornitorrinco differs by the real-time connection between teleoperator and

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9 Ibid., 129.
telerobot, networked through agency: decisions made by the teleoperator are enacted in the space shown on the screen based on technological feedback. There are not nerve endings on the Ornitorrinco telerobot in Chicago, yet the remembrance of painful sensation is projected there.

Although Ornitorrinco as a robot is not humanoid and by appearance alone would be located at the location of “Industrial Robot” on the uncanny valley graph, through telepresence the uncanniness of the telerobot is amplified, even doubled, as if it were humanoid. As Kac wrote:

Since the [remote] environment was built to the scale of Ornitorrinco, and not to a human scale, a sensation of strangeness was produced when participants tried to relate what they saw, as they navigated through Place 2, to their conventional expectations of a space inhabitable by a human…the issue was the subjective construction of an imaginary space in the mind of each participant based on his or her decisions as he or she navigated in space.\(^\text{10}\)

While Kac never specifically addresses uncanniness or the uncanny valley, the “sensation of strangeness” that Kac mentions can be translated as the uncanny.

*Ornitorrinco in Copacabana* did not involve telereceivers in the form of a peopled audience in the Kinetics and Electronics Department, but the installation did have a mirror into which teleoperators would unintentionally direct Ornitorrinco (Fig. 23). “The mirror, which reflected the space behind Ornitorrinco, led many participants to believe that this space was in front of them. As they moved forward in their telerobotic body, some participants collided head-on with the mirror.”\(^\text{11}\) This is a rare chance in the installation for the participant to embody the roles of both teleoperator and telereceiver.

Studies of the uncanny suggest that the form of the autonomous, pre-programmed industrial robot is not met by revulsion or affinity by the viewer, but instead is neutralized. However, because in *Ornitorrinco in Copacabana* the teleoperator has already projected the

\(^{10}\) Kac, “Toward Telepresence Art,” 133.

\(^{11}\) Ibid., 130.
phantom experiential qualities previously discussed onto the telerobot in real time, seeing Ornitorrinco in the mirror serves to disorient, and recognizing oneself as Ornitorrinco serves to symbolize a confrontation with one’s own humanoid behavioral traits. I conclude that unlike the industrial robot, the formally industrial telepresence robot, when used in telepresence installations such as *Ornitorrinco in Copacabana*, has the potential to create uncanniness due to its medium where it had previously not signified uncanniness.

What happens when we move up the scale of the uncanny valley? According to the graph, for a time, as the robot becomes increasingly humanlike in appearance, human affinity to it increases, but only up to a point before the graph dips down into the “valley.” Thus, a “humanoid robot” should be more amenable than an “industrial robot.” In theory, the next example should be more amenable than *Ornitorrinco in Copacabana*. We have already seen how an industrial robot’s uncanniness is amplified due to telepresence. How does telepresence affect the amenability of the humanoid telerobot?

The adjectives “humanoid” and “anthropomorphic” are similar but distinguishable. The word *anthropos* is Greek for “human,” while *morphe* means “shape” or “form.” Anthropomorphic connotes human in shape or form; it emphasizes the visual. The adjective “humanoid” means looking or behaving like a human. “Humanoid” and “anthropomorphic” are two sides of the same coin, but I define “anthropomorphic” as referring to visible, physiognomic characteristics, while “humanoid” refers to actions and behavioral characteristics. For instance, a non-human with opposable thumbs or binocular vision would be anthropomorphic due to visible similarities. Most robots that look like humans are also capable of movement and are referred to as “humanoid robots,” and furthermore a male humanoid robot is an “android” and a female humanoid robot is known as a “gynoid.”
Telepresence allows the robot to be the host to human agency. Therefore, telerobots are humanoid because they allow attribution of human qualities to something that is not human. Ornitorrinco was not anthropomorphic (visually similar to a human), but it was humanoid. We must remember that the uncanny valley (1970) was created prior to the conception of telepresence robots (1980) and telepresence art (1986). Unlike the robots, documented in the uncanny valley, that only looked and acted like humans superficially, telerobots are the first robots to be truly capable of acting humanoid – not on their own, but through a collaborative performance enacted through a partnership of carbon and silicon, man and machine.

Moving up the graph of the uncanny valley is the plotted point, “humanoid robot.” However, before we can arrive at this point, we encounter Ken Feingold’s 1993-95 installation, *where I can see my house from here so we are*, that includes three identical telerobots (varying only in the slight difference in the shade of their bodies), that are partially humanoid (Figs. 24-25). Each telerobot is fashioned out of odds and ends – “dishes and bowls from a Chinese restaurant supply shop, a molded metal head modeled after an old ventriloquist puppet (or was it a fortune-telling machine?), and a mechanical drive with wheels to move the robot around. The three robots were identical except for slight differences in color.” Feingold’s telerobots are a mixture of anthropomorphic features from the neck up and industrial robots from the neck down. The non-humanoid qualities are largely defined by its lack of bipedal motion and arms. These cyborgs are imbued with motion and the ability to “speak” when the teleoperator speaks into a microphone, and speakers on the robot project the sound in real time. One eye is replaced by a

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12 “Documentation clip of *where I can see my house from here so we are*, Ken Feingold 1993-94: Documentation of installation at 1995 Interactive Media Festival Los Angeles,” YouTube video, 4:54, posted March 5, 2011 by Ken Feingold, https://www.youtube.com/watch?v=n0jM1vzGNqU&feature=tp (hereafter cited in text as “Documentation clip of *where I can see my house from here so we are*”).

videocamera; the mouth is a speaker and the ears are microphones to pick up the vocalizations of
the other two telerobots in the adjacent spaces.

Throughout the history of this work, two spatial combinations have been exhibited: first,
a mirrored interior whose walls were low enough for human spectators to see over but high
enough for the gaze of the telerobots to be unable to surmount; second, a completely enclosed
space, accessible to human spectators only via the internet.\footnote{Stephen Wilson, “Ken Feingold,” in \textit{Information Arts: Intersections of Art, Science, and Technology} (Cambridge and London: The MIT Press, 2002), 544-545.} I will focus on the former
combination only. This installation, created between 1993 and 1995, was included at the
Interactive Media Festival 95 in Los Angeles, a show that Kusahara cites as among the finest
festivals of interactive art in the 1990s.\footnote{Kusahara, “Presence, Absence, and Knowledge,” 207.}

While this installation was intended to situate teleoperators distally, as in \textit{Ornitorrinco in
Copacabana}, for practical purposes the teleoperators were located on the same floor as the
telerobots, within individually partitioned areas. Because there is less distance between
teleoperator and the telerobot and telereceiver, this is an example of “proximal telepresence.”
The three telerobots were each located within three adjacent, hexagonally shaped areas of floor
surrounded by low mirrored walls around the perimeter; the hexagons met at the center with a
low Y-shaped retaining wall only a few inches in height (Fig. 26); the mirrored wall was low
enough for human visitors to peer over (Fig. 27) but tall enough that the telerobots’ vantage
points could not see above the mirrors (Fig. 28).

On the uncanny valley graph, Feingold’s telerobots can be located between the marked
“industrial robot” and “humanoid robot” in an as-yet unmarked spot. I will term this location on
the graph “partially humanoid robot.” However, from another vantage point, one could also place
Feingold’s telerobots \textit{across} the uncanny valley at “Myoelectric hand,” or a prosthesis that
moves due to electricity generated from muscle; in this case the muscles of the teleoperator generate electricity through interaction with the remote control. According to the original graph of the uncanny valley, this placement should result in a higher affinity between the telereceiver (teleoperator-cum-telereceiver) than the industrial robot.

Just as in *Ornitorrinco in Copacabana*, each teleoperator in Feingold’s installation acts as telereceiver of its own presence - that is, if they can successfully identify themselves within the mirrored surroundings. At the same time, the teleoperator receives the presence of the two other telerobots in the telenvironment. In this particular telenvironment, the telereceiver is repulsed by 1) the form of the telerobot and 2) the difficulty with which one locates oneself in space. Does the sense of unease come more from the construction of space or from the form of the telerobot?

Mirrored walls prevented the teleoperator from immediately locating him/herself in the robotic double, destabilizing the teleoperator and prohibiting orientation in an already unfamiliar environment. Privy only to a view on a projection screen from the vantage point of their robot (Fig. 29), the challenge was, based on the visual feedback from teleoperation, to deduce which robot was “theirs,” by discovering *where* the teleoperator was distantly located within the space. The mirrors, creating a mise-en-abyme effect, made this system of visual deduction difficult. If the teleoperator is unable to discover which of the three telerobots they are assigned to, the teleoperator is in effect in a type of limbo. The ego is not coordinated with its distant “body.”

This work is traumatic, inching the ego closer to what Lacan called the “Real Order,” while simultaneously re-emphasizing the unattainability of the Real. This order was defined by Lacan as one of three orders of the psyche (the Real, the Imaginary, and the Symbolic). Humans can

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16 Lacan first wrote about the Real in his 1936 dissertation, and it was a concept that he would develop throughout the course of his life.
never fully attain the Real as it exists beyond the Symbolic Order of language, and it is the mirror stage, through the acquisition of language, that creates a boundary between us and the Real. The Real is defined by an absolute integration with the environment; signifiers within the Symbolic Order of language demarcate separate things in the world and create oppositions, for example self and other, inside and outside, as well as here and there. The Symbolic Order of language shapes and orders the world, creating a barrier between the human and the Real. Through the mirror stage we are immersed in a world of objects named and differentiated by language, placing the Real eternally off-limits, and leading us to eternally desire it.\(^\text{17}\) We can only ever approach, but not reach, the Real, and therefore the Imaginary Order is “the realm of image and imagination, deception and lure. The principal illusions of the imaginary are those of wholeness, synthesis, autonomy, duality and, above all, similarity.”\(^\text{18}\) The mirror stage is where the Imaginary Order is established.

In Feingold’s installation, the self is initially place-less, creating the setting for a telecommune unable to be confidently located. This experience closely approximates the definition of the uncanny by Freud’s predecessor, Jentsch, who defined the uncanny as not knowing where one is. Yet as Freud criticized his definition:

> He [Jentsch] ascribes the essential factor in the production of the feeling of uncanniness to intellectual uncertainty; so that the uncanny would always, as it were, be something one does not know one’s way about in. The better oriented in his environment a person is, the less readily will he get the impression of something uncanny in regard to the objects and events in it.\(^\text{19}\)

While the telerobots are identical save slight differences in color, the magnification of space and telerobotic form in the mirrors amplifies the obstacle of orientation, like in a fun house.

\(^\text{17}\) Evans, An Introductory Dictionary of Lacanian Psychoanalysis, s.v. “real,” 159.

\(^\text{18}\) Ibid., s.v. “imaginary,” 82.

However, Freud remarks that while disorientation is included in the definition of the uncanny, Jentsch’s is an incomplete definition; Freud adds to Jentsch’s definition of disorientation the qualities of being “robbed of one’s eyes.” Feingold’s partially humanoid telerobot includes three anthropomorphic heads, each robbed of one of its eyes. Yet it is the robbing and subsequent replacement of this eye with a video camera that adds to the vision of the teleoperator, quite like Coppola’s spy glass in Hoffman’s Olimpia tale, explained by Freud in “The ‘Uncanny,’” a tale that also greatly influenced Hans Bellmer.

Perhaps the teleoperator, fearful of losing his or her sight, enacts a reaction formation, a type of defense mechanism based on an unconscious overcompensation for an area of lack or paranoia. For instance, if one is fearful of losing vision, they might become obsessed with apparatuses that allow them to extend their vision, such as telescopes, microscopes, photography, and so on.

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20 Ibid., 230.
21 Ernst T.A. Hoffman, The Sand-Man, trans. J. Y. Bealby, B.A., formerly scholar of Corpus Christi College, Cambridge (New York: Charles Scribner’s Sons, 1885), accessed August 11, 2014, http://faculty.washington.edu/jdwest/russ430/sandman.pdf. Tales of Hoffman is a story that involves a young boy who falls in love with a lifelike doll. In the original 1885 narrative, called “The Sand-man,” the main character Nathaniel is told by his mother each night to go to bed before the Sandman arrives. Over time, he associates hearing footsteps enter his father’s room at night to the arrival of the Sandman. One night, Nathaniel decides to investigate. While hiding in the study observes the arrival of Coppelius, his father’s acquaintance. Concluding that Coppelius is the Sandman, Nathaniel conceives the signifier of the Sandman shifts from the virtual to the actual (Coppelius). Like Bellmer’s corporeal anagrams explored in Chapter 1, rearranged elements take on new meaning, and the signifier of the Sandman shifts. Even Nathaniel’s beloved father, when in the company of Coppelius, absorbs the awful features of Coppelius the Sandman. When Nathaniel foils his hiding place, Coppelius seizes him and roughly handles Nathaniel’s feet and hands to “observe the mechanism[s]” as though the animate Nathaniel were an inanimate machine able to be replicated. The Sandman shifts further; after the death of Nathaniel’s father, and the subsequent disappearance of Coppelius, Nathaniel reassigns the signifier of Sandman to the town newcomer, the eyeglass maker Giuseppe Coppola. Pacified by his sweetheart Clara’s bidding, Nathaniel attempts to dissociate Coppelius and Coppola. One evening Coppola, traveling door-to-door to sell his wares, visits Nathaniel, who purchases a “pocket perspective.” With this he is able to peer into the room of his teacher, Professor Spalanzani, to see his “daughter” Olimpia, who sits still and motionless. Nathaniel is captivated by her symmetrical beauty and develops an obsession with her. He is ridiculed by his classmates for taking interest in Olimpia. His peers are afraid of her and thought that she was alive in appearance only. Even when she moved she seemed mechanical. Eventually, with Spalanzani’s blessing, Nathaniel approaches Olimpia’s room to propose. Just as Nathaniel is about to enter her room, he finds Spalanzani and Coppelius fighting over her automaton body, and Coppelius runs away with her. Following this incident, Nathaniel realizes she was an automaton, returns home from school, and rekindles his romance with Clara. However, from the top of a tower, Nathaniel spots on the ground below a strange shrub that appears to move on its own. Upon sight of this, Nathaniel’s madness is reigned in a return of the repressed, and he commits suicide.
and telerobots. According to Freud, the eye is another symbol for the phallus that in turn symbolizes castration anxiety. The castration is enacted on the telerobot – by removing an eye - in order to extend the vision of the teleoperator. As Freud writes, “A study of dreams, phantasies and myths has taught us that anxiety about one’s eyes, the fear of going blind, is often enough a substitute for the dread of being castrated. The self-blinding of the mythical criminal, Oedipus, was simply a mitigated form of the punishment of castration.”23 This dynamic is part of what heightens the sense of the uncanny within artworks using humanoid telerobots.

Jentsch also defines the uncanny in terms of the sensation of not knowing whether an object is alive.24 Because telerobots rely on the participation and operation by a living human being, Jentsch’s definition does not apply at face value. However, telepresence also relies on real time, or live connection. In the case of telepresence, Jentsch’s definition must be rewritten as the doubt of whether a telepresence interaction is live or prerecorded (voiding it as a true example of telepresence).

In Feingold’s installation, the objective is also to locate one or both of the other robots (outside oneself) in order to converse through proximal telepresence. At times, the teleoperator would mistake its reflection for another robot, or become stuck in a corner; because the mouth of the telerobot moves when it “talks,” it does not take long for the teleoperator to realize that they are talking “to a wall,” so to speak. This responsiveness is due in large part to the mouth moving similarly to a human’s mouth as an indicator of speech. Should it not move, the robot could long mistake its reflection for another telerobot and be talking to itself ad infinitum. Unlike Ornitorrinco, the relatable features on Feingold’s telerobots enable heightened responsiveness.

24 Ibid., 233.
Such a heightened responsiveness within the installation serves to double the sense of disembodiment and dislocation. First, telepresence means that the agency of the distant teleoperator is removed from their physical station. Second, the difficulty of locating the telerobot keeps agency suspended until one’s avatar is identified. As Kac wrote of the experience of seeing live televised images transmitted from the Mars Pathfinder for the first time, “In science as in art, what you cannot recognize, you cognize.” Within this installation are potentially three users unable to attach themselves to an object within Feingold’s work, tripled cognition without recognition that can affect the construction of group identity and symbolic interchange.

Are these telerobots uncanny? What is familiar and what is unfamiliar? Formally speaking, the head is familiar, the rest of the body unfamiliar. Vision is monocular rather than binocular; the ears “hear,” and the mouth “speaks” (projects sound). The form is partially familiar, from the neck up; from the neck down, the robot is unfamiliar and not a far cry from Ornitorrinco. Similar also to Ornitorrinco is the difference in height. These telerobots are also motionless and “dead” without human interaction. They are visually anthropomorphic when “uninhabited” and behaviorally humanoid when “inhabited” by teleoperators. The art “happens” because the viewer becomes a participant. As Feingold commented in a 1995 interview for CNN, he sees the work as a place where “people can experiment with taking on new identities and new personalities and inhabit these ventriloquist puppets.” The work also asks “where and who am I?” Ornitorrinco in Copacabana only allowed one teleoperator at a time within the installation; in Feingold’s installation, three teleoperators commune within the installation space, expanding

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26 “Documentation clip of where I can see my house from here so we are,” 4:05-4:11.
27 Ibid., 4:24-4:25.
it from an exploratory site of distal perception to a site where one can perform the self, or perhaps perform the (repressed) other within themselves. Anonymity within the telerobot provides a space where the teleoperator can enact invented identities that reveal inner desires. Furthermore, the performance of self and other contributes to the confusion involved in identifying which robot one is operating.

Much of the interaction within the triform hexagonal space is based on systems of projection. I argue that this system of projection is indicative of the uncanny if one follows the definition of psychological projection, whereby desires, motivations, and actions for which one cannot take ownership are attributed to another. In the case of the teleoperator participating in Feingold’s installation, desires, motivations, and actions are projected not onto someone, but onto something. The psychological projection of the teleoperator can be read as dehumanizing because it is projecting the self onto an object and the telereceiver is conceiving of “the other” as an object, as well, without knowing the person himself/herself. Additionally, Feingold’s telerobotic heads are the only part of the telerobotic body that implies the human, suggestive of decapitation. Decapitation, furthermore, is one of many manifestations of castration anxiety.

The telerobot becomes the avatar-cum-dumping ground for hidden actions, behaviors, and motivations. Such a return of the repressed is alluded to in the text that Feingold wrote to accompany the work. This short piece of prose highlights the themes of (in)visibility, the instability of the self, the surprise of limits, knowing and connectivity, and projection:

*What is there to say?*

*Does it make a difference if you are not seen, but rather a projection that sees and speaks and hears in your place?*

*Is the 'I' saying 'Me' to 'It-You' (or its reflection)?*

*Is it that the one who stands in your place is not free to go where they wish, or that even as you move them "freely" in their mirrored infinity theater that there are borders?*

*Is it that they can see their wires but know not where they lead?*
Is it that in the space of the art exhibition there is also a meeting of those who see but are not seen and those who learn to play the game with their projections?\textsuperscript{28}

The association between telepresence and the uncanny is threefold: first, through \textit{place}, second, through \textit{anthropomorphism}, and third, through \textit{secrecy}, expressed as distant vision enacted through telepresence. As Freud thoroughly explores definitions of the uncanny through different languages, it is through his exploration of the German \textit{heimlich} (literally “homelike”) and \textit{unheimlich} (uncanny, literally “unhomelike”) that these similarities arise. For instance, one definition of \textit{heimlich} from Grimm’s dictionary states that it is “a place free from ghostly influences…familiar, friendly, intimate.”\textsuperscript{29} Furthermore, it can mean “\textit{something withdrawn from the eyes of strangers…”}\textsuperscript{30} The teleoperator may be present in the eyes of strangers through the telerobot but its actual person remains hidden in its remote location. As Feingold writes, “Does it make a difference if you are not seen, but rather a projection that sees and speaks and hears in your place?” Yes, it does make a difference in what it reveals about telepresence art, as I will explore in Chapter 3.

Likewise, Feingold asks, “Is the ‘I’ saying ‘Me’ to ‘It-You’ (or its reflection)?” This question brings to light the complicated nature of identity and recognition in \textit{where I can see my house from here so we are}. On one level, the telerobot acts as a distant double of the teleoperator; on another level, the telerobots themselves, due to their near-identical appearance, are not only doubled, but \textit{tripled}. Freud writes:

These themes [of the uncanny] are all concerned with the phenomenon of the ‘double’, [sic] which appears in every shape and in every degree of development. Thus we have characters who are to be considered identical because they look alike. This relation is accentuated by mental processes leaping from one of these characters to another – by what we should call telepathy - , so that the one possesses knowledge, feelings and

\begin{footnotesize}
\textsuperscript{29} Freud, “The ‘Uncanny,’” 225.
\textsuperscript{30} Ibid.
\end{footnotesize}
experience in common with the other. Or it is marked by the fact that the subject identifies himself with someone else, so that he is in doubt as to which his self is, or substitutes the extraneous self for his own. In other words, there is a doubling, dividing and interchanging of the self.”

The experience of the telereceiver is increasingly uncanny in this regard by way of the double/triple. This is not in keeping with Mashahiro Mori’s graph, but then again Mori’s graph only allowed for graphing motion and appearance – not experience. While science has long since employed telepresence, as I discussed in the introduction, it was not until telepresence art that a wider public could experience being within a telerobot and being the recipient of a telereceiver’s revulsion due to the varying effects of alienation posited by the uncanny valley. If Feingold’s telerobots are plotted between “industrial robot” and “humanoid robot,” their forms should result in a higher degree of affinity, yet according to experience and psychoanalytic theory the opposite is true.

Additionally, if one considers the title of the work, *where I can see my house from here so we are*, within the title alone is the suggestion of uncanniness, defined by Freud as a combination of both the heimlich and the unheimlich. Freud explores the definitions of heimlich and unheimlich throughout multiple languages, and many of the definitions of heimlich across cultures include inferences of feeling “at home.” Certainly, for many there is a sense of comfort in being able to see where one’s house is, and on many occasions people describe a place in reference to how far it is from their home. Because the implied speaker (“I”) in Feingold’s title is expressing that s/he can see his/her house, one can deduce that they are outside of the house, leading one to infer rather than the heimlich, a sense of the unheimlich already suggested in the title. Martin Jay writes in support of a connection between “canny” and “homey:”

> Its [the uncanny’s] linguistic contrary, which the English translation ‘canny’ (originally from the Latin for ‘to know’) fails to register, is ‘heimlich,’ or ‘homey.’ What ‘ought to

31 Ibid., 234.
have remained secret’ therefore is somehow related to a conflicted desire to return ‘home,’ an overcoming of the split or alienation that is expressed as anxiety about castration (either imagined in the past or feared in the future). At its deepest level, the desire is for reunion with the mother’s body.\textsuperscript{32}

Uncanniness stems from an uncertainty about returning home. How can we define home? Is it enough to be at home within one’s own body, or must it be within a shell such as the house? When one is telepresent, they are physically “at home” in their own bodies, but their agency is distantly expressed, away from home. Could it be that what sends the self home is a face-to-face meeting with a repulsive humanoid telerobot?

The speaker of the title can “see [his/her] house from [where]” s/he is, but is s/he seen, and by whom? The title includes “we,” but who is we referring to? Does this first person, inclusive pronoun refer to the other two telerobots? It is not only in Feingold’s work that there is, as he writes, “a meeting of those who see but are not seen and those who learn to play the game with their projections.”\textsuperscript{33} As I hope to show, this is a commonality between many telepresence artworks that enables participants to use distance as a disguise in order to express repressed desires. I will explore the return of the repressed in more depth in Chapter 3.

Working our way up Mori’s graph, the next plotted point after industrial robots and partially humanoid robot is the (“fully”) humanoid robot. Kac’s 1986 \textit{RC Robot} is significant as the first telepresence robot (Fig. 30). \textit{RC Robot} was somewhat humanoid in its appearance; standing at seven feet, it had two thick, metallic arms, two legs, a torso, and a head. Furthermore, its face had two eyes and two protuberances that resembled ears. It stood upright and was bipedal, with some semblance of joints at the elbows and knees. Its lack of wires aids in its humanoid qualities when inhabited by the teleoperator. By contrast, the wires in Feingold’s three


\textsuperscript{33} KenFeingold.com.
telerobots are very visible, referenced by the artist in his poem: “Is it that they can see their wires but know not where they lead?" On the robot-human spectrum, the lack of wires connecting RC Robot to an external power source visually suggests the robot’s autonomy. As I hope to show, while RC Robot is visually humanoid, it is more humanoid functionally due to telepresence than it is visually anthropomorphic, and this has important implications for the connection between telepresence art and the uncanny valley. Its location on the uncanny valley graph can be attributed more to the psychological dimension of telepresence and less to its visual, somewhat-humanoid form.

The first telepresence performance in Kac’s oeuvre, with RC Robot, was staged in Rio de Janeiro in 1986 for the exhibition Brasil High Tech at Galeria de Arte do Centro Empresarial Rio (Fig. 31). RC Robot was a conduit for human interaction – humans from afar were able to remotely control RC Robot in order to interact with a human audience at Galeria de Arte do Centro Empresarial Rio. Unlike the later Ornitorrinco (which focused primarily on a single teleoperator learning about a distant and unfamiliar space miles away), but similar to where I can see my house from here so we are, RC Robot functioned as a screen for bidirectional human interaction between human audiences, yet a screen that was also anthropomorphically crafted and capable of motion. In both Ornitorrinco in Copacabana and Feingold’s installation, the teleoperator could also take on the role of telereceiver when encountering the mirror, but there are no such opportunities in RC Robot. How does the lack of self-visualization for the teleoperator and a separate telereceiver audience aid the “perceptual illusion of non-mediation” key to the definition of bidirectional telepresence? How can a metaphoric screen with two arms,

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34 Ibid.
35 Kac, “Toward Telepresence Art,” 127-128.
two legs, and a head aid in non-mediation, and how does the level of uncanniness compare to the non-telepresent robot location on the uncanny valley graph?

The Ornitorrinco series was controlled by a telephone tone motion control code, but radio transmission allowed *RC Robot* to “speak” and “move”. A distant, real human spoke into a radio transmitter and controlled *RC Robot* remotely. Thus, the robot itself had no agency, but rather it was a surrogate for a non-present human, just as in the later *Ornitorrinco* series and Feingold’s work. *RC Robot*'s performance exemplified agency at a distance. As Kac wrote in 1991, “[*RC Robot*] was a telepresence work not because of the remote-control component alone but precisely because the robot became a host to a human being and because this human – who was out of sight – conversed with other humans through the robotic body.”

*RC Robot* is a host. The hiddenness of the human teleoperator to other humans, and the hiddenness of the form of *RC Robot* to the teleoperator is significant in its implications not only for the uncanny valley, but for the classic definition of the uncanny. Freud explained that feelings of uncanniness are inspired by something that is *hidden* and repressed that returns. The human teleoperator manipulating *RC Robot* is “out of sight” yet is able to communicate with other humans “through the robotic body,” a form of return through a robotic avatar. Unlike later forms of telepresence art, we do not see the face of the actual human (the teleoperator), but his/her actions wear the guise of a robot which limits range of movement and, in some ways, the real-time deliverance of vocal utterances.

*RC Robot* participated in another performance during the Brasil High Tech exhibition involving one of Octavio Donasci’s *VideoCriaturas* (VideoCreatures) (Fig. 32). While the *VideoCreature* is not an example of a telepresence artwork, its interaction with *RC Robot* supplies a useful comparison to help us answer previously posed questions. Formally, Donasci’s

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36 Ibid., 128-129.
**VideoCreatures** are similar to **RC Robot** in that they are anthropomorphic; they have two arms, two legs, and a head. Unlike **RC Robot**, the visage of the **VideoCreature** does not have two eyes, two ears, and a mouth, but is a screen framed in black cloth to disguise the head of the human wearer. The **VideoCreature** was unlike **RC Robot** in another significant way: the operator of the **VideoCreature** was present within the shared space of the **VideoCreature**. Its humanoid qualities could not be avoided in the design of the **VideoCreature** since it relied on a human wearer of a TV set headpiece. By contrast, **RC Robot**'s teleoperator was present within shared time – that of real time – but was physically distant. The faces that appear on the **VideoCreature**’s head – the screen – are prerecorded (temporally distant).

In both entities, **RC Robot** and the **VideoCreature**, the humanoid bodies are fragmented. In the **VideoCreature**, its agency of movement is present in real space; a present, live human body is capable of moving its arms and legs. The agency of its face, though, is separated into a past temporality; the images on the screen, however much they were created by a human, are in the past. Its face is prerecorded and thus is unable to interact in the present. The **VideoCreature** is a temporal cyborg, a chimera of time. Unlike the chimera of Greek mythology, with the head of a lion, the body of a goat, and the tail of a serpent, the **VideoCreature** has the human body of the present and the representational, mediated human face of the past. **RC Robot** differs in that its agency of movement, while present in real space, is enacted over distance, enabled through radio transmission. Instead of being a chimera of real time, **RC Robot** exists through spatial collage within the same instant as a “chimera of space.” It has two bodies, one human and one robotic, the former with agency and the latter only capable of receiving commands. Radio transmission relies on real time, but how much is it delayed? Rather than a present, live human body in the **VideoCreature**, **RC Robot** is distantly embodied and physically hollow-bodied. There is a level
of uncanniness in both *RC Robot* and the *VideoCreature*, but because *RC Robot* is a doubling of the body, the telepresence robot is the more uncanny of the two.

Freud further defined the uncanny in 1919 as “that class of the frightening which leads back to what is known of old and long familiar…we are tempted to conclude that what is ‘uncanny’ is frightening precisely because it is *not* known and familiar.”

The uncanny leads whom back, and who is determining what is known and familiar? Freud’s essay frequently references the home as an example of the familiar, but even within the home of the skin one finds the unfamiliar. Within one’s own body is an abject, unseen interior and processes of which we remain unaware and without control. Our bodies, our very lifelong, fleshy homes, are themselves unfamiliar and *unheimlich*.

Unlike Ortorrinco, *RC Robot* leads back to the familiar form (two arms, two legs, a torso, and a head) of anthropomorphism. Similar to Ortorrinco, both robots are cloaked in shiny metal in strong contrast to the fleshiness of the teleoperators that control them. What is familiar is conversing with another human, but what is unfamiliar is the collapse of space to make communication possible at a distance. The telephone facilitated speech at a distance; television, photography, and other forms of machinic vision enabled vision at a distance, but telepresence is unfamiliar in its ability to offer not just visual or auditory telepistemology, but a *multisensory* experience of feedback over a distance. Telepresence artists may select what senses to include in their installations in order to fulfill the function of their piece, but at present haptic feedback is unavailable for inclusion in installations of telepresence art. If we follow Kac’s definition of *media* as “all systems that allow transmission of information from one point to

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37 Freud, “The ‘Uncanny,’” 220.
another, both one-way and two-way (television, telephone),”\(^{38}\) the “chimera of space,” or the dynamic discussed above in contrast to the VideoCreature, created between RC Robot and the teleoperator does not exist in either location, but in the mediated space of radio transmission in-between the two locations.

The audience shares the physical space of RC Robot, but the source of its agency is not generated where one sees RC Robot. The teleoperator’s identity is virtualized. Kac distinguishes between the real and the virtual as such:

The word virtual, as used in computer jargon (e.g., ‘virtual memory’), can be traced back to its earlier use in optics, where a virtual image is, for example, the one seen inside a (flat) mirror. Such an image is called virtual because it is not optically formed where one sees it (i.e., behind the mirror). Virtual images stand in opposition to so-called real images, which are in fact formed outside a (concave) mirror. A real image is formed at a point through which the rays of light entering the observer’s eyes actually pass.\(^{39}\) Whatever alternative identity the teleoperators “perform” through the telerobots, it is a virtual identity created in real space and time.

We can extend this definition of the virtual to multiple other senses. For instance, a ventriloquist virtualizes sound by throwing it to a dummy. An audience suspends disbelief to “accept” that the sound is coming from the inanimate dummy doll, but in reality the sound is not audibly formed where one believes one hears it emanating. Similarly, RC Robot’s human voice is thrown from a distance, not by means of clever mouth movements like the ventriloquist’s, but through radio transmission.

Just as the distant human operator, or teleoperator, of RC Robot, could move and speak at a distance, so, too, could the sounds and movements of the audience members be transmitted to the teleoperator in a system of two-way, or bidirectional, communication. Kac stresses the

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\(^{39}\) Ibid., 137.
importance of bidirectionality in his telepresence works; this feedback loop serves to knit
together distant spaces into a cyborg. The form of the robot, while merely a vehicle for the two-
way interaction, is as yet a framing device for the communication. But why exactly was this
framing device anthropomorphic? Would a square or rectangular screen have functioned in the
same way?

Ornitorrinco, with its robotic body and environment intentionally built to a non-human
scale, is illustrative. This setup places the focus of the work on orienting the human teleoperator
to a set of unfamiliar coordinates. The main difference between RC Robot’s form and the form of
the average human is height; few people are as tall as RC Robot, standing at seven feet tall.
However, because the method of bipedal movement was familiar to the teleoperator, it allowed
him/her to orient himself/herself to the distant environment more quickly. Telepresence allows
for new modalities of experience. Being remotely present permits the teleoperator to enact
his/her agency in an environment that is completely unfamiliar, like the Mars Pathfinder
navigating the Martian landscape. As Freud indicates, this increases the likelihood for an
experience of the uncanny: “The better orientated in his environment a person is, the less readily
will he get the impression of something uncanny in regard to the objects and events in it.” By
Freud’s definition, I argue that the teleoperator of Ornitorrinco is more likely to “get the
impression of something uncanny” than the teleoperator of RC Robot. For RC Robot, the
telereceivers experience uncanniness more so than the teleoperator.

However, does this argument hold true for the members of the audience witnessing RC
Robots’ movements at the Galeria de Arte do Centro Empresarial Rio? If the teleoperator is less
likely to experience the uncanny, how readily do those individuals receiving the telepresence
(rather than the teleoperator, who delivers it) get the impression of something uncanny? How

40 Freud, “The ‘Uncanny,”’ 221.
consistently do the audience members know and remember that *RC Robot* is being manipulated by a human that shares real time with them, and how does this compare to Mori’s theories on the uncanny valley?

Robots, rather than telerobots, are pre-programmed through coding to respond in certain ways depending on algorithms. This type of robot is comparable to the previous discussion of Donasci’s *VideoCreatures*’ heads that have been recorded in the past but can be replayed in the present. Robots’ responses to real-time stimuli are simply a replaying of not a video, but a code. Discovering how *RC Robots*’ audience members respond is complicated due to a division between an outwardly visible near-humanoid robotic form and the knowledge that *RC Robot* is functionally controlled in real time by a real human that is unseen and located remotely.

The wholeness of the analog teleoperator is isolated into voice and motion commands, which are both digitized and sent over radio waves to a telerobotic unit that converts the digital signals back into analog movements before an audience of analog people not unlike the distant human teleoperator. *RC Robot* was “a host to a human being” and “conversed with other humans through the robotic body.” It was able to react to both Donasci’s *VideoCreature* and the audience in near-real time due to the speed of the radio wave transmission.

What makes *RC Robot* uncanny for the audience is the familiar experience of interacting with a human and what makes it unfamiliar is the form of the telerobot as well as the manifestation of motion over a distance. *RC Robot* is far less uncanny for the teleoperator; it is familiar in that its form is similar to the human form but unfamiliar in that the range of motion is restricted, sensory feedback is limited to sight and hearing, and, unlike the real-time vision of the audience, for the teleoperator (near) real-time vision is wholly reliant on the speed of radio transmission. While Ornittorinco amplified the uncanny for the teleoperator, *RC Robot* amplifies

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41 Kac, “Toward Telepresence Art,” 128-29.
it for the audience. The experience of “being there” is perceptually non-mediated more successfully for the teleoperator than the audience, despite the fact that it is actually spatially more mediated for the teleoperator.

Telepresence uses telerobotics not as teleological, but as mediatory. The most successful forms of telepresence give the illusion of non-mediation, a perceptual illusion that the teleoperator really is in a distant space, thereby creating a virtual world within the real world. In the 1980s and 1990s, many telerobots took the form of humanoid robots situated in the uncanny valley to which roboticists refer. How can the sense of unease stimulated by the appearance of the robot contribute to making it non-mediated?

Examining some of the earliest telepresence artworks in Kac’s oeuvre illustrates how his own definition of telepresence evolved between 1986 and 2001, the sixteen years Kac focused on telepresence art. In 1996, ten years after the creation of *RC Robot*, he celebrated how telepresence blurs binary oppositions:

> We are undergoing cultural perceptual shifts due to the remote projection of our corporeal sense of presence. The dynamic, fluctuating interplay between presence and absence on telerobotic bodies creates new aesthetic problems and escapes from rigid formal dichotomies, such as figuration versus abstraction, or physicality versus conceptualism. Expanded through the synergy of organic and cybernetic systems, bodies (human, robotic, zoomorphic, or otherwise) renew their relevance in contemporary art – beyond stylistic pictorial concerns and representation politics.\(^{42}\)

The exploration of anthropomorphism in telepresence art does not seek to linger on “stylistic pictorial concerns” but to explore what the inclusion of humanoid references in telerobots can tell us about the evolution of telepresence art as well as shifting modes of identity creation. Are binary oppositions being blurred, or reconfirmed?

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The next telepresence artwork I will explore was created to challenge the singularity of identity creation within networked systems of interaction. Lynn Hershman Leeson\(^{43}\) began creating *CyberRoberta* (Figs. 33-34) and *Tillie the Telerobotic Doll* (Figs. 35-36) in 1995, the same year that the cloned sheep Megan and Morag were born at the Roslin Institute from differentiated embryo cells. The following year, the first sheep was cloned and Dolly was born on July 5, 1996. Both of these events would profoundly influence Hershman’s work. The artist divides her work into B.C. (Before Computers) and A.D. (After Digital), and these two telerobotic dolls are two of her earliest A.D. works. In a play on words on the name of the sheep, Dolly, Hershman cloned two *dollies*, CyberRoberta and Tillie, hence their collective name: the *Dollie Clones*. “CyberRoberta was conceived simultaneously with ‘Tillie, the Telerobotic Doll’ [sic]. When they are exhibited together, each is programmed to pirate the others’ information, blurring their identities,”\(^{44}\) a challenge to a stable sense of self that exemplifies the categorization of her work as identity art.\(^{45}\) Significantly, unlike other telerobots that I have discussed here, the *Dollie Clones* were “the first robotic networks with a humanoid presence.”\(^{46}\)

Formally, *CyberRoberta* (Figs. 33-34) has long blond hair, wears sunglasses, and is dressed in red, while *Tillie* has shorter auburn hair and wears a long hunter green dress. Rather than the single missing eye in each of Feingold’s telerobots in *where I can see my house from...*

\(^{43}\) Lynn Hershman Leeson is referred to both by “Hershman Leeson” and also “Hershman.” On the dedication page to her *Hershmanlandia* catalogue, it reads “The artist formerly known as Lynn Hershman began using her married name, Lynn Hershman Leeson, coincident with her transition into making feature films. Building a reputation for more than one name is completely consistent with the themes of her art; however, it could cause confusion for readers used to artists content with one identity. For purposes of this book, we have used the name ‘Lynn Hershman’ in the essays and used the more inclusive name ‘Lynn Hershman Leeson’ for the title of the book.”


here so we are, each of the dolls’ eyes is missing. In each doll, the left eye is replaced with a
videocamera and the right eye is replaced with a webcam. The Dollie Clones amplify the
manifestation of blindness as a coding for castration anxiety. The two dolls are linked to the
internet and to distant teleoperators. Thus, like the three previous examples, the dolls are capable
of being manipulated from a distance. However, the Dollie Clones are unique in that the dolls
can be manipulated by multiple users on a network – rather than a single user - simultaneously.

When exhibited, each doll is inside a glass case with a framed screen that displays what
the doll is seeing (Fig. 34) thereby putting on display the perspective of both the doll and, more
importantly, the remote teleoperator. From the proximal vantage point of the teleoperator, they
“see” through CyberRoberta or Tillie by navigating a website (Figs. 35-36). Clicking on the
doll’s right “eye con” will turn her head to the right within the gallery space and clicking on the
left “eye con” similarly turns her head left.

Thus far, of the telerobots explored, RC Robot comes closest to a humanoid robot. What
makes the Dollie Clones so interesting is that they are not situated on one side or another of
Mori’s uncanny valley, but they straddle it. Remember that Mori’s graph has one plotted line to
represent motion and another to represent stasis. Whether the Dollie Clones are dynamically
embodied by a teleoperator or are “empty” and static, they can be likened to pre-plotted points
on the uncanny valley graph. When not in motion, the Dollie Clones are located on Mori’s
uncanny valley diagram in the location of “Ordinary Doll,” about half way up the right side of
the valley, with a positive affinity. However, when in motion, enacted by the teleoperator, the
dolls shift position to the other side of the valley to “Humanoid Robot.” Dolls are created in the
human likeness more so than robots. Making a telepresence robot humanoid reminds us that
anytime telepresence is involved there is a human on the receiving end of sight.
“Tillie, the Telerobotic Doll (1995-1998) and CyberRoberta (1995-1998) parody each other’s information. There’s a crossover, like a DNA helix, linking one to the other. They networked information and used it to revise themselves or to speak to each other.”\(^{47}\) The dolls fabricate each other’s information, a mutually agreed upon identity theft, making it difficult to locate where Tillie ends and CyberRoberta begins. If they are one and the same, pirating each other’s information and blurring identities, why have two dolls at all?

Within Hershman’s oeuvre alone, the identity of CyberRoberta and Tillie can be interpreted as networked beyond the dolls (objects) themselves, blurring boundaries between where one work ends and another begins. CyberRoberta in particular is a telerobotic manifestation of Hershman’s alter-ego, Roberta Breitmore (Fig. 37). For six years, from 1973-79, Hershman enacted Roberta, a false identity that the artist constructed to leave cybernetic traces: motel rentals, psychiatrist bills, restaurant tabs, etc. She put ads in the circular to request interviews with strangers, in search of someone with whom to share rent and companionship. As Lamm describes in a 2006 exhibition review, “‘Born into reality’ at the seedy Dante Hotel after arriving in San Francisco on a Greyhound bus, Roberta Breitmore is a sulky, vulnerable-looking woman who wears a suede coat, blonde wig, brownish rose sunglasses, and knit sweater sets with long, pointy collars.”\(^{48}\) The artist elaborates:

Roberta was a fictional person; she was virtual, but she interfaced with reality all the time. I am interested in a blurring of the edges, of the boundaries. Documents were part of her life, and they allowed you to witness a process of not just her life, but a culture and a society, and the laws that were part of that, giving you a contextual portrait of that particular place in time. Since then times have changed. There has been an evolution. Now everything is connected. We are becoming a hive.\(^{49}\)

\(^{47}\) “Lynn Hershman Leeson in Conversation with Gabriella Giannachi,” 232-233.
\(^{48}\) Lamm, “Lynn Hershman Leeson,” 63.
\(^{49}\) “Lynn Hershman Leeson in Conversation with Gabriella Giannachi,” 232.
Visually, *CyberRoberta* is very similar to Breitmore (blond hair, sunglasses, red clothes).

Functionally, they both share a networked identity: Breitmore “existed” by way of an informational cookie crumb trail, and *CyberRoberta* “exists” by a networked sensorium enacted by anonymous teleoperators across the globe. If Roberta Breitmore is replicated in *CyberRoberta*, and if *CyberRoberta* and *Tillie* exchange identities, blur boundaries, and steal one another’s identity, then are *Roberta, CyberRoberta, and Tillie* one and the same in a vast network?

Thus, *CyberRoberta* is the double of Breitmore, but when *Tillie* pirates *CyberRoberta*’s information, by proxy *Tillie* becomes Breitmore as well. As Steve Dietz writes, “Tillie, then, is a doubling of CyberRoberta as a doppelgänger of Roberta Breitmore as a shadow of Hershman.”

Freud writes of the doppelgänger as a signifier of the uncanny, citing the research of Austrian psychoanalyst Otto Rank, who linked doubling to the concepts of 1) protection of the ego, 2) insurance against death, and 3) prevention of castration. Such a trend is not new, writes Freud, and can even be seen in the carving of ancient Egyptian ka statues in indestructible materials.

Elaborating on the connection between the “double” and the uncanny, Freud concludes, “the quality of uncanniness can only come from the fact of the ‘double’ being a creation dating back to a very early mental stage, long since surmounted – a stage, incidentally, at which it wore a more friendly aspect. The ‘double’ has become a thing of terror, just as, after the collapse of their religion, the gods turned into demons.”

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52 Ibid., 236.
Similar to the way Feingold describes his telerobots as ventriloquist puppets, one can also consider the Dollie Clones in terms of “marionettes.” Telerobots are the postmodern marionettes: instead of having wires attached to limbs, for instance, to turn CyberRoberta and Tillie’s heads 180 degrees, the telerobot puppetry is enacted through wireless transmission. Some marionettes even require multiple puppeteers to manipulate the puppet’s appendages, similar to the way in which multiple teleoperators can be simultaneously sharing CyberRoberta’s eyesight. Most importantly, marionettes are unable to provide extended vision, whereas telerobots can.

The concept of extended vision, while not a new concept, is an important one for Hershman for its ability to create cyborgs of us all. A cyborg is a synthesizing of man and machine, defined by Donna Haraway as “creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted…couplings between organism and machine, each conceived as coded devices, in an intimacy and with a power that was not generated in the history of sexuality.”

For Hershman’s telerobots, and applicable to the previously explored examples, the key difference between telerobotic machinic vision versus photography and television can be summed up, generally speaking, in terms of time and place. As Kusahara elegantly outlines, a photograph is a trace that the photographer was there, then. Television, broadcast from a live studio in its infancy, is definable as there, now. The at-home television viewer is unable to reciprocally communicate with the studio audience in a feedback loop. Telepresence, however, as the newest form of machinic vision, can be explained as here AND there, now. Once again:

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Photography = there and then

Telecommunications (e.g. television) = there and now

Telepresence = there and here now

It is important to remember that Hershman’s telerobotic dolls are anthropomorphic screens mediating the interaction of distant audiences: one audience in the gallery, and one or more audiences that is/are “embodied” in the gallery. The latter audience, when composed of multiple users, are dispersed across the globe, and thus represent a fragmented sensorium that is influenced by differences in cultural reception to the uncanny valley, as has been studied by Frédéric Kaplan.55 The fact that there are two dolls in the work, rather than one, serves to metaphorically mirror what may be happening between present and distant audiences. Just as *Tillie* and *CyberRoberta* merge their identities, the present and distant audiences also blur boundaries. Near and far, singular and multiple, self and other are blurred, questioning if it is even possible to protect uniqueness within a networked identity.

The existence of two dolls can be interpreted as a critique of the mediation between self and other in the construction of identity. If telepresence is the “perceptual illusion of non-mediation,” is the logical conclusion of telepresence to make self and other illusionistically non-mediated? In other words, is the logical conclusion of telepresence to blur distinctions between here and there, self and other, or to create the illusion of doing so? In order for the illusion of non-mediation to be upheld, the vehicle for telepresence – like the strings of a puppet – need to be as invisible as possible, but will this leave any room for mediating issues of race, class, and gender? *CyberRoberta* is stylized to match the fictional character *Roberta Breitmore*, which

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calls attention to her hair, clothes, and overall appearance. Focusing attention and vision on the form of the doll risks affecting the meaning and interaction of telepresence. Perhaps the visual focus on the doll creates a psychic split—the individual in the gallery is both cognizant of the body of the doll and the presence, through motion, of distant teleoperators. What happens when a male-identified teleoperator is telepresent in a female doll? What is the effect of this on identity formation? I have argued that telerobots recode Mori’s uncanny valley graph, but how do responses to telerobots vary from culture to culture? How are they influenced by differences of gender, race, and class? Are responses to humanoid telerobots culturally conditioned, and how does this affect the production of telerobotic artworks in different parts of the globe?

While Hershman’s dolls were capable of pirating each other’s data, blurring boundaries and identities, superficially their anthropomorphic appearances were unidentical, but both female, whereas in Feingold’s work, all three telerobots are identical and androgynous. Kac’s *Ornitorrinco in Copacabana* is genderless due to its lack of humanoid features, while the gender of Kac’s *RC Robot* is indeterminable. Of all four examples, Hershman’s dolls are the only telerobots whose gender identity is superficially framed by mode of dress.

Following points plotted on Mori’s classic graph of the uncanny valley, four telerobotic works have been explored in order to challenge the associations between telerobots whose behaviors become increasingly humanoid, and the responses of human viewers. This graph is only applicable for autonomous robots and has been unchallenged by telerobots generally, and telerobotic artworks specifically. As I have attempted to show, this graph is no longer accurate to describe telerobotic human systems of communication and must be regraphed. Actual collisions in *Ornitorrinco in Copacabana* rob the teleoperator of experience where they are situated, imbuing the telerobot with a sense of experience, a source of uncanniness. Kac’s installation
ultimately amplifies uncanniness for the teleoperator. The inability to locate oneself easily within Feingold’s installation, *where I can see my house from here so we are*, would be enough to satisfy Jentsh’s definition of the uncanny, but taking it further (in a way that would be pleasing to Freud), the work also represents castration anxiety, represented through blindness. Furthermore, the title alludes to being outside of one’s home (*unheimlich*) while still feeling comforting in orienting oneself in relation to the home (*heimlich*). Next, the exploration of *RC Robot* showed that, unlike Ornitorrinco or Feingold’s installation, building a humanoid telerobot that closely approximates human scale allows the teleoperator to more readily orient oneself in a distant environment due to relatability. However, temporality, sensory fragmentation (sight and sound), and the unnatural collapse of space make the experience of *RC Robot* more uncanny for the tereceivers than for the teleoperator. Lastly, Lynn Hershman Leeson’s *Dolly Clones*, incite uncanniness due to pirated identity, akin to the doppelgänger. These telerobots also question the nature of networked identity both in the artist’s oeuvre as well as shared between a communal embodiment of one or both dolls who pirate each other’s information.

All of the above points to a key characteristic of the uncanny, that of repression. In the next chapter, I will question whether telerobotic art is a signaling of the return of the repressed. If so, what has been repressed and why has it chosen now to rear its ugly head? The repressed is hidden and returns, but problematic in the study of the real-time event of telepresence is that the word *return* implies duration. In order for something to return, it must go away and come back later. How can something be simultaneously hidden and be enacting a return through the real-time event of telepresence art?
CHAPTER III
THE TECHNOLOGICAL ID AND THE RETURN OF LE CORPS MORCELÉ

In Chapter 1 the body in pieces was literal and very physical in Bellmer’s anagrammatic La Poupée. In Chapter 2, fragmentation was visually enacted through the scopic barrier, amplified in its uncanniness, of the humanoid telerobot. In this chapter, I will show how telepresence establishes a psychic fragmentation that originates in the body but is situated in the psyche. This serves to duplicate Lacan’s mirror stage in a return of the le corps morcelé (the fragmented body or the body in pieces) – a return to that which has been repressed, and which was signaled last chapter through the amplified uncanny. Each of the works elaborated upon in Chapter 2 allowed the teleoperator to see, on a screen, what their telerobotic avatar was seeing; where mirrors were installed within the telespresent environment, the screen also included a self-view image of the telerobot, as in where I can see my house from here so we are and, at times, in Ornitorrinco in Copacabana. If this visuality is removed, and with it the anthropomorphic telerobotic form, how is the experience of telepresence affected and, in turn, the emotional state of the teleoperators and telereceivers? Is there a link between a return of the repressed and the self-reflexive experiences of “seeing oneself seeing” and having control over the exertion of one’s agency? If behavior is more positive and reactions less uncomfortable when users cannot see themselves, this suggests an absence of the uncanny (and thus an absence of a return of the repressed) in these instances. I will argue that in the first work, Kit Galloway and Sherrie Rabinowitz’ 1980 Hole in Space, there is a positive correlation between a lack of self-view monitors and an absence of the uncanny (and thus a more unified, less fragmented body). By comparison, two works by Paul Sermon, Telematic Vision and Telematic Dreaming, both include
self-view monitors and result in participant feedback of loss of unity, and a return to what Lacan termed *le corps morcelé*.

Telepresence, as a new way of experiencing the world, brings us back to a state akin to a child learning to orient itself to the physical – rather than *virtual*– world. “The child, who is still physically uncoordinated, finds reflected back to itself in the mirror a gratifyingly unified image of itself; and although its relation to this image is still of an ‘imaginary’ kind – the image in the mirror both is and is not itself, a blurring of subject and object still obtains – it has begun this process of constructing a centre of self.”¹ Unlike the child finding a Gestalt within the screen, the teleoperator, also physically uncoordinated in distant space, finds instead within the telepresent screen an image that is not gratifying or unified. The teleoperator misrecognizes itself in others, as in Ken Feingold’s *where I can see my house from here so we are*, while the child misrecognizes itself in its *own* image. The child “finds in the image a pleasing unity which it does not actually experience in its own body.”² The teleoperator finds disunity within the installation, both physically and psychically. Can the Oedipal/post-Oedipal adult return to a pre-Oedipal state of fragmentation that has been repressed? I will argue that through telepresence, it is just that repressed, pre-Oedipal state that *attempts* a return through the disorientation of the self, leading to reintegration with the “(m)other,” symbolized by a global network.

According to Freud’s Oedipus Complex, the male child desires his mother and sees the father as barring this desire. This is the literal interpretation. However, when applied figuratively, the Oedipus Complex describes the desire to overcome an obstacle (the father) so that reunification with the environment (the mother) can be achieved, just as the pre-Oedipal child felt an indistinguishable bond between the self and mother. In the Oedipus Complex the

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² Ibid.
underlying Greek myth of Oedipus represents the taboo of incest between mother and son; the father figure, then, by barring this act, signifies taboo. In terms of telepresence, unification is achieved by overcoming distance; thus, distance acts as the metaphorical father. “[The paternal metaphor] introduces a fundamental gap (the original repression) that can only be pursued by means of a signifier.”  

Thus, the paternal metaphor introduces Lacan’s Symbolic Order, which involves substitution: “the substitution of one signifier (the Name-of-the-Father) for another (the desire of the mother).”

Throughout this chapter, I will refer to codes of conduct and rules of social etiquette that bar the merging of self and other as “taboo,” in reference to the Name of the Father that similarly prevents the union of mother and child. Telepresence, through overcoming the fundamental gap of distance (taboo) through technologically-mediated immersion, symbolically reintegrates the child with the mother (representing exteriority):

The appearance of the father divides the child from the mother’s body, and in doing so, as we have seen, drives its desire underground into the unconscious. In this sense, the first appearance of the Law, and the opening up of unconscious desire, occur at the same moment: it is only when the child acknowledges the taboo or prohibition which the father symbolizes that it represses its guilty desire, and that desire just is what is called the unconscious.

Just as the Name of the Father separates the child from the body of the mother, so do the creation of and obedience to taboos, such as how rules against interacting with other bodies signify a separation of (self-)consciousness and unconscious behavior. Freud would term this separation “repression.” Repression occurs when a separation between the conscious and the unconscious is created, and, as Freud writes, “…the essence of repression lies simply in turning something

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5 Eagleton, “Psychoanalysis,” 143.
away, and keeping it at a distance, from the conscious.”⁶ To Freud this is signified by the uncanny, while to Lacan it is the imaginary “Gestalt” crafted in the mirror stage. Strangeness – the uncanny – elicits revulsion and repulsion from the repressed content in Freud, just as the Name of the Father prevents the integration of child and mother in Lacan.

I seek to argue that the amplified uncanniness of the anthropomorphic bodily substitute signals a return of the repressed, but what exactly is this repressed? Why is it returning through telepresence artworks since the 1980s? In this chapter, following the conclusion in Chapter 2 that humanoid telepresence artworks are indeed an amplified, recoded uncanny, I will explore how telepresence installations provide a vehicle through which the repressed returns. Just what has been repressed and why? Has it only just begun to return, or has it been returning over a series of decades, since the 1980s? How is this return evidenced through the behavior of humans interacting with telepresence installations and is it also evidenced outside of the telepresence installation? The three works I will explore do not include a three-dimensional telerobot; each is screen-based in order to test the uncanny and the return of the repressed in the absence of the anthropomorphic telerobot. I will begin by examining audience feedback from each of these works through documentary film footage and preexisting case studies. The lack of inhibition and expression of repressed instincts suggests a disassociation with the self within the telepresence artwork. Expression of repressed instincts through the virtual avatar in telepresence – instincts that would likely not otherwise be expressed while obeying the Law of the Father – suggests that one sees the virtual self not as self but as other (even though the specular image is not a robot but an image of the virtual self). Adding to this argument, I will show how this disassociation of self and embrace of the other-within-the-virtual-self in telepresence installations suggests a repeat of

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Lacan’s mirror stage toward a body fragmented anew. We have returned to the body in pieces—pieces not material, but immaterial: in the psyche.

If the uncanniness of the anthropomorphic telerobots called too much attention to the form of the robot, distracting from the “perceptual illusion of non-mediation,” what form of telepresence installation allows for an experience so immersive that the teleoperator/telereceiver “loses” themselves in it? Finding this form will, hypothetically, unveil more unconscious behavior, allowing that which has been repressed to return through the telepresence artwork.

In the last chapter, I showed how the real-time communication of telepresence facilitates the indulgence of instincts; this indulgence, in turn can counterintuitively produce displeasure. Freud writes, “A necessary condition [of repression] must clearly be that the instinct’s attainment of its aim should produce unpleasure instead of pleasure.”\(^7\) For instance, the aim of last chapter’s examples was to provide an artistic platform for bidirectional communication in real time across variable distance, yet the relationship to the telereceiver produced unpleasure through the reaction to humanoid telerobots. If we remove the anthropomorphic telerobotic form, or the telerobot altogether, is the reaction still one of unpleasure, or is it pleasurable? My findings suggest that unpleasure in screen-based telepresence installations is dependent upon the inclusion of self-view monitors, allowing the process of seeing oneself seeing oneself.

Freud further defined repression as the expression of defensiveness, when a stimulus prevents the fulfillment of an instinct; this is closely related to what Freud called the pleasure-unpleasure principle, or the pleasure principle for short. Freud first wrote about this principle in 1895 in *Project for a Scientific Psychology*, and later in Chapter 7 of *Interpretation of Dreams*.

\(^7\) Freud, “Repression,” 569.
from 1900. He described the pleasure principle as follows in his 1911 essay, “Formulations on the Two Principles of Mental Functioning.”

The governing purpose obeyed by these primary processes is easy to recognize; it is described as the pleasure-unpleasure [Lust-Unlust] principle, or more shortly the pleasure principle. These processes strive toward gaining pleasure; psychical activity draws back from any event which might arouse unpleasure. (Here we have repression.) Our dreams at night and our waking tendency to tear ourselves away from distressing impressions are remnants of the dominance of this principle and proofs of its power.

Just what psychical activity occurs in repression? Freud explained this with his structural model of the psyche, which breaks the psyche down into id, ego, and superego. Lacan’s mirror stage built upon Freud’s structural model. The ego is formed in the mirror stage through identification with the specular image; this constitutes the Imaginary Order and alienates the self from the ego-as-object. The ego functions to mediate between the id (equated to the “subject”) of the Symbolic Order (which in a general sense is related to the unconscious) and the ideal ego (generally related to what Freud called the superego). The ideal ego assumes the illusionistic assurance of wholeness that the ego attempts to achieve over a lifetime. The ideal ego (which Lacan also calls the “Ideal-I”) is the seat of secondary identification, through which the child learns to identify himself with and through others. Thus, the ideal ego is what is most threatened by the return of le corps morcelé in installations of telepresence art.

The id seeks instant gratification of instinctual drives (the pleasure principle); because telepresence operates in real time, it is closely bound with the id and the pleasure principle.

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8 In this essay, the two principles discussed are the pleasure principle and the reality principle. While in the pleasure principle what is desired in the mind is projected as a hallucination, altering the perception of the external world to make it more pleasurable, within the reality principle the mind is able to absorb the external world, whether pleasing or displeasing, and accept it within the mind. Feelings of frustration establish the reality principle.
11 Ibid., s.v. “id,” 79-80.
12 Ibid., s.v. “ego-ideal (idéal du moi),” 52.
However, as shown in the last chapter, frequently those involved in the telepresence art installation experience feelings of displeasure. Paradoxically, one experiences feelings of attraction and revulsion simultaneously. Repression involves balancing these forces of pleasure and displeasure:

Moreover, it is a mistake to emphasize only the repulsion which operates from the direction of the conscious upon what is to be repressed; quite as important is the attraction exercised by what was primally repressed upon everything with which it can establish a connection. Probably the trend towards repression would fail in its purpose if these two forces did not co-operate, if there were not something previously repressed ready to receive what is repelled by the conscious.\(^\text{(14)}\)

Within the telepresence framework, the fulcrum of this balancing act is *le corps morcelé*. Within the psyche, it is the ego that mediates the pleasure and displeasure experienced, thus in telepresence the return of the body in pieces threatens to re-fragment the ego which has sought to obtain the illusion of wholeness promised by the ideal ego.

Telepresence installations produce pleasure by allowing distant audiences to communicate, but this pleasure turns to displeasure through the uncanny. Terry Eagleton eloquently explains, “The paradox or contradiction on which [Freud’s] work rests is that we come to be what we are only by a massive repression of the elements which have gone into our making.”\(^\text{(15)}\) In other words, our identity is tied to a sense of lack. Parts of the self must be suppressed into the unconscious for identity to be constructed. If some of this repressed content returns through the experience of telepresence, we must follow Gauguin in asking the questions foundational to modernism, the questions of our origins: Who are we? Where are we going? What do we come from (or perhaps return to)? If the objective of telepresence art is to communicate proximally or distally, thereby building a networked identity, telepresence suggests a shift in identity construction.

\(^{14}\) Freud, “Repression,” 570.
\(^{15}\) Eagleton, “Psychoanalysis,” 132.
Repression often exhibits itself through unconscious behavior; thus, this chapter will explore the responses to telepresence artworks of audience members whose behaviors differ from socially accepted codes of conduct. This is no easy task, however, for codes of behavior differ from country to country, and also according to race, gender, and class. For instance, the behavioral response to humanoid robots in the West is significantly different than in Japan. In this study, I will focus on behavioral codes in the West, with the hope of expanding the study in the future.

The first example I will explore is *Hole in Space*, a “public communications sculpture” from 1980 by Kit Galloway and Sherrie Rabinowitz, significant in the lineage of telepresence art not as a telepresence artwork, but as a preceding telecommunications artwork. During a Skype conversation with Kac, he explained the fundamental difference between telecommunications art and telepresence art:

> [Telecommunications art and telepresence art are] different because the subjectivity of the sender is firmly anchored in telecommunications art, because you are the speaker, or you are sending something, and then you receive something...it is possible to complexify that relationship, but there is still a fundamental difference because precisely what allows you to complexify that relationship is the fact that in that particular structure of exchange, the positions are firmly established. Telepresence is entirely and always predicated on undoing that. Of course, I came up with telepresence precisely because I noticed this gap in telecommunications art. So, telecommunications art preceded telepresence, and I even discussed that genealogy in my book going back to Dada telegraphy, images from pictures, and others, for example, when Lucia Fontana in ’52 used live television for the first time. So, there is a genealogy, a twentieth century tradition of artists working with telecommunications media in which *Send/Receive* fits, in which *Hole in Space* fits, and it’s precisely because of my awareness of that tradition, and those limitations that I offered this other path.

*Hole in Space* was the first use of satellite feedback in a closed circuit telecommunication art installation (Fig. 38). Due to the fact that the work still involved two audiences separated by

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17 Eduardo Kac (Professor, School of the Art Institute of Chicago), in discussion with the author, January 2015.
space, as in telepresence art installations, but did not involve physical manipulation within the telenvironment, I will replace the dual terms teleoperator/telereceiver with telecommunicators for my discussion of this work. Significant for my present study is the fact that Hole in Space did not provide each audience with visual feedback of itself, but only offered the image of the distant telecommunicators. Without the addition of self-view monitors, participants did not experience feelings of self-consciousness to the degree of participants in Telematic Vision or Telematic Dreaming, as I will explore. Galloway and Rabinowitz found it important that there was no screen in Hole in Space to provide participants with a view of themselves as they appeared to the opposite coast: “No self-view video monitors to distract from the phenomena of this life-size encounter. Self-view video monitors would have degraded the situation into a self-conscious [sic] videoconference.” Like where I can see my house from here so we are, that also included sound, Hole in Space plays with including select senses (visual and acoustic). Haptic senses are still unavailable, but, as we will see, users overcame this lack.

From 8:00am to 10:00pm Eastern Standard Time (5:00-7:00pm Pacific Standard Time) on each of three nights (November 11, 13, and 14, 1980), pedestrians in Lincoln Center’s Avery Fisher Hall in New York City and the Broadway Department Store in the Century City Shopping Center in Los Angeles were connected by a large screen that produced life-size representations of the distal interlocutors. The artists attempted as little mediation as possible: they did not announce the installation of the work in the hopes that pedestrians would encounter the work by chance. Unlike Sermon’s Telematic Vision, as will be explored later, audio was transferable in this work. Thus, the two audiences could speak with one another and see each other’s actions across the over 2,400 miles that separate New York and Los Angeles. To accomplish this, the

artists relied on satellite technology. Over the course of the three nights, six hours of documentary footage was captured and edited into a half-hour documentary. While the modern viewer is not privy to the unedited five and a half hours, within the half-hour footage, almost all of the participant responses within the Hole in Space documentary were positive. It is this available documentary footage from which I have primarily collected my findings of the audiences’ phenomenological experience with the installation.

Galloway and Rabinowitz chose two major cities, on opposite United States coasts, as the dual sites for their work in what Paul Sermon has aptly called “an East Coast meets West Coast soap opera.” One could argue that the placement of the work in this setting of hustle and bustle, and high foot traffic, inflected the work – especially Day 1 – with a heightened sense of surprise. These forms of mediation impacted and framed the response to the work and must be taken into account when interpreting participant behavior patterns. For instance, how is one to interpret the difference in behavioral patterns on Day 1 with the patterns on Day 3? How does the mass media spectacle of Day 3 of Hole in Space impact the work? One might treat each of the three days of Hole in Space as a different artistic piece. Would the impact of surprise on Day 1 of Hole in Space result in the audience expressing the repressed more or less so? Excerpting from the half-hour documentary, I will explore significant behavioral examples from each of the three days in turn.

The first day of the three-day installation was November 11th, 1980 (Fig. 39). This day was unannounced. “Mesmerized by the possibility of live interaction with the other city, often doubting that the people on the other side were actually there,” participants on Day 1 focused

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20 Gordon, “Mobile Annotations,” 43.
on orientation to technology, engaging in litmus tests to trust the reality of the representation upon the screen, and an overall sense of enjoyability with hints of deliciously transgressed (linguistic) taboos. To orient one another to the mechanism of the camera placement, screen height, etc. in relation to their physical bodies, a New York man asked “Is your screen way up off the ground?” Angelenos replied that their screen was not far from the ground; New Yorkers instructed them to look down instead of up, as they discovered the camera placement in LA was below the screen. Allusions to a type of shared space even occurred when a New York man called a Los Angeles woman, “Hey, where you goin’?” to which she replied, while reaching her hand toward the screen, “I’m standing right here with you!” Already, gesture implies an attempt to include touch alongside the senses of sight and sound, to overcome the haptic repression of space and technology.

Unlike the responses to examples in Chapter 2, overall, the reaction to Day 1 of Hole in Space were very positive. A Los Angeles woman, during her initiation with Hole in Space, squealed with delight after finding out that the other audience was in New York. Over the two hour span of Day 1, the work also became increasingly participatory, with Angelenos requesting the visit of a chauffeur, who came before the screen and tipped his hat to the cheering LA audience. Strangers became performers on the virtual stage.

Notably, one man’s response, while echoing the enthusiasm already explored, provides commentary on the transcendence of linguistic taboos:

Reporter: Hi, what do you think of this?
Man: I think it’s wonderful.

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22 Ibid., 21:08-21:19.
23 Ibid., 18:51-19:03.
Reporter: Yeah? How come?
Man: I feel – I wish, I wish I could be on both ends of it. Did you hear what the girl said earlier in the day? Shall I repeat it?
Reporter: (nods)
Man: Somebody asked her, ‘What’s your name?’ and she said, ‘None of your fucking business.’”
Reporter: (laughs)
Man: She really did.
Reporter: And you liked that?
Man: Very much, very much.
Reporter: Why?
Man: I think it’s fascinating.
Reporter: Tell me why you think it’s fascinating. Was it different?
Man: Because it’s extraordinary and it’s, it’s really remarkable. Everybody’s enjoying it.25

This man expressed the titillating joy he experienced in reaction to a brazen remark that he would not have said himself and by his delight at the subversion of repressive linguistic, social, and cultural mores. His response is also significant in expressing an interesting desire: “I wish I could be on both ends of it.” As I suggested in the last chapter, telepresence installations do allow viewers to be on both ends of the installation through a fragmented sensorium partially delivered to the distant site through the mobility of the telerobot.

By Day 2, November 13th, 1980, two days had passed, during which the news of *Hole in Space* had been shared via word-of-mouth (Fig. 40). Friends and family phoned one another to request rendezvous in the virtual non-space of *Hole in Space* on the night of the 13th. On the second day, audiences were still orienting themselves to the setup and camera placement. A son in LA said hello to his mom in NY through the work, “Is this television, like telephone, right?”26 Time and study of telepresence affords us a nuanced reply to his question: television differs in that, while a live TV broadcast is transmitted in real time, it does not offer solely bidirectional feedback; telephone *does* offer bidirectional feedback, but antivisually.

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26 Ibid., 24:54-24:56.
Telecommunicators’ inquiries in front of the screen were in some ways more specific than they had been on the first night. Rather than asking if anyone from Dublin was present on the screen, as on Day 1, on Day 2 New Yorkers asked about the presence of particular people in LA. A New York woman asked if one Barney Murray was present in LA, who commented to his fellow Angelenos, “That’s my mother right there,” while pointing. While on Day 1 a cry of “Hey, where you goin’?” suggested a conceptualized shared space, here the use of the words “there” instead of “here” suggests that at this point in time some participants did not interpret Hole in Space as a virtual commons, instead conceptualizing distance as maintained, rather than closed, by the work. I propose that this maintenance is aided by the absence of self-view monitors that would combine audiences, such as in Telematic Vision.

In Net Locality: Why Location Matters in a Networked World, the authors stress the way that physical place inflected the virtual space-as-place of the work: “The innovation of Hole in Space, however, was not solely its ability to project a remote live image via satellite – it was the placement of the projection screen in a busy public urban space, leading to unexpected reactions from the public, and feelings of connections and disconnections to location.” Expressions of connection to location manifested in terms of reinforcing cultural stereotypes. The identities of the two groups were projected to each other and attempts were made through song, jokes (“How many New Yorkers does it take to screw in a lightbulb?), and comments to maintain the separate identities of New Yorkers and Angelenos, such as “Why don’t you tell us everything that you hate about us and we’ll tell you everything we hate about you?” The identities of each urban

27 Ibid., 25:13-26:05.
audience were established on a lack: a lack of appreciation, or in other words, an expression of what they hated (repressed) in the other.

Disconnections to physical location were evident, as well. Notably, at one point during Day 2, a woman named Priscilla in New York stood in front of the screen and asked the audience in LA what street they were on. Before replying, the telecommunicators in LA asked her name, and then asked Priscilla if she had met Howard. At that point, the man (Howard) standing behind her in New York said, “Hi Priscilla.” Priscilla, expecting Howard to be in LA and within the screen, was startled at their shared physical space. “It’s very confusing, right?” Howard commented to Priscilla, who nodded.30

Similar to Day 1, the disbelief of telepresence persisted on the second night. An elderly couple passing by the screen assumed it was merely a large mirror, until a reporter corrected them:

Man: There’s seriously so many people there. They’re seeing themselves.
Woman: I don’t think they are, I don’t believe so.
Man: It’s a screen.
Woman: Is that a screen?
Man: Of course, it’s a screen, and cameras.
Woman: Are they seeing themselves, is that it?
Reporter: They are seeing people from Los Angeles.
Woman: Oh!
Reporter: That’s Los Angeles on satellite.
Woman: Oh, I see.31

This sentiment is echoed: “I keep expecting to see myself.”32 Notably, as I will explore later, even when self-view monitors are present, allowing participants to see themselves, it is not the self that one sees, but the self-as-other. While the screens in this chapter are literal, they also allow us to explore a theoretical screen-based effect through Lacanian psychoanalysis. For

30 Ibid., 27:50-28:08.
32 Ibid. 35:56-35:59.
example, the literal reflection that telecommunicators expect to see in the screen is never satisfied; the viewer expects to see himself/herself but instead sees the other, just as in the mirror stage the child does not see itself upon the mirror surface,\textsuperscript{33} but instead witnesses the \textit{imago} which is inherently other and always misrecognized as the self.

Day 2 brought media presence at the end of the night, with a visit to the scene from Reporter Peter Bannon, who later announced \textit{Hole in Space} on the TV broadcast: “Tell your friends. It will be up again tomorrow night. Century City in Los Angeles, Lincoln Center here in New York. New York time will be eight to ten pm at Lincoln Center.”\textsuperscript{34} Bennett’s mass media announcement resulted in a very different experience of \textit{Hole in Space} on Day 3, November 14\textsuperscript{th}, 1980 (Fig. 41). Compared to the unannounced Day 1, there were unsurprisingly far more people on Day 3, and the behavior of the participants in Day 3 was much rowdier. Virtual meetings between loved ones continued on the third day. One LA woman recounted, “My daughter lives in Manhattan and she telephoned me this morning and said Ma, she said, they’re showing it right in Century City. Meet me there and say hi to me. So I decided to come along.”\textsuperscript{35} Here, the use of the phrase “meet me there” suggests that participants had begun to conceptualize the piece as more of a virtual commons.

The sheer mass of people congregated around the installation on Day 3 created so much noise that both audiences had difficulty hearing what was being said through the telecommunication installation. Even vision was clouded by the throng. In the documentary footage one hears multiple comments of “I can’t hear you” and “I can’t see you.” Where initially the inclusion of sound for communication was a key difference between \textit{Hole in Space} and the

\textsuperscript{33} The mirror surface in Lacan’s mirror stage is a literal example of this psychological phenomenon. It can also allude metaphorically to the mother, the environment, cultural constructs, fetishes, and others.
\textsuperscript{34} Galloway and Rabinowitz, lecture, 37:29-37:38.
\textsuperscript{35} Ibid., 38:18-38:30.
Sermon examples I will examine, it is the intervention by mass media that caused more people to arrive, thus impairing auditory modality and, in some respects, the ability to visibly recognize others upon (within) the screen (just as the uncanny prevents a “perceptual illusion of non-mediation”). To overcome this difficulty, people started holding up signs on this day, thereby developing a new form of communication from within – and because of – the throng. At some points in the documentary footage of *Hole in Space*, it seemed as though the audio on Day 3 was obsolete.

The last scene in the documentary includes a dialogue between a reporter and two men that is worthy of including here, as it illustrates how the pleasure principle can also be sublimated into something that is useful for society, a process indicative of a repression of the pleasure principle in favor of the reality principle. Sublimation is evident in *Hole in Space* through the dialogue about the capitalist value of the telepresence technologies used to connect LA and NYC:

Reporter (to two men): What’d you think of it?
Man 1: I think it’s great, don’t you?
Man 2: Well, you have to see where it can be used.
Reporter: We need a way for it to be used. How would you use it?
Man 2: Company’s branch is here, company branch is in California. They’re having a meeting here and a meeting there. They discuss it simultaneously.
Man 1: Is this thing bounced off Telstar\(^3\)?
Reporter: Yeah, it is.
Man 1: I could use this in a bigger format than that. I could use this in a live audience, give a whole big nutritional program, reach a million people with that.\(^3\)

As Eagleton elaborates, “For Freud, it is by virtue of such sublimation that civilization itself comes about: by switching and harnessing our instincts to these higher goals, cultural history

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\(^3\) Telstar was an early communications satellite that would have been operational by 1980. The multiple Telstar satellites remain in orbit but are no longer used.

\(^3\) Galloway and Rabinowitz, lecture, 43:47-44:16.
itself is created.” While many participants were overjoyed to telecommunicate with their loved ones, these two men reflected on Hole in Space precisely based on the need to labor, suggesting conference calls and the ability to reach millions for seminars. How much is this sublimated reaction regarding labor entwined with the urban, bustling setting of Hole in Space?

Having never experienced anything like this, people automatically turned it into a space for connection and performance: the participants assigned it use value, be it for visiting with friends and family, conversing with strangers, or imagining its industrial utility. The overall sentiment of Hole in Space was pleasurable, aided by real-time instant gratification achievable through the spectral image of telecommunication. Telecommunication feeds the id.

Overall, in Hole in Space the interest lies with otherness. The self is maintained rather than fragmented. Michael Arnold writes about the uninhibited behavior in the virtual, shared space of Hole in Space: “People are enthusiastic to make contact with others in a much more uninhibited manner than could be found in the normal urban environs of New York or LA. They wave and scream into the camera, and the protective layer shielding city dwellers dissolves into an unabashed fascination with the other.” If the city inflected the unbridled reactions of city dwellers in New York and LA, how, by contrast, might others react to other screen-based telepresence installations that are in settings connoting relaxation? Paul Sermon’s Telematic Vision takes as its setting a couch while Telematic Dreaming takes as its setting a bed, both in high contrast to the public setting of Hole in Space.

The most significant difference between Hole in Space and the two Sermon works I will explore is that the latter include self-view monitors. Self-view monitors, by allowing participants

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38 Eagleton, “Psychoanalysis,” 132.
to 1) see themselves seeing themselves, and 2) see a space shared virtually but not physically, complicate the conception of self within the work as well as boundaries between participants. In the last chapter, the role of teleoperator was clearly defined, even allowing for certain instances in which the teleoperator simultaneously functioned as telereceiver. When the mediatory role of the telerobot is removed, does the teleoperator continue to serve the same role, as in the works in the last chapter? A teleoperator necessitates something that *is operated*, as in an avatar or, as in the case with last chapter’s examples, a telerobot. The works in this chapter share a commonality with the works from last chapter that confounded the relationships between telereceiver and teleoperator, an issue that Sermon relishes:

> [It is] a complex issue to contend with when it is understood that the performers are also audience members merely participating in an active role. Once the audience participant enters this space they immediately represent two dynamic performer roles; consciously as the controller, or puppeteer, of their own avatar performer, yet unaware of their secondary performing role to the off camera members of the audience.\(^\text{40}\)

The participant on Sermon’s telepresence installations perform for their visual co-participants, off-stage audience members, and their own avatars, presented to themselves on the monitors. Toward all three of these audiences, Paul Sermon’s telepresence installations reveal wanton behavior in participants in virtual, shared space that deviates from “normal” behavior. As I will show, this suggests a causal relationship between the *visibility* of shared virtual space and manifestations of the “physical unconscious”\(^\text{41}\) exhibited through a transgression of the Law of the Father. The less visible the virtually shared space (as in *Hole in Space*), the more it is conceptualized as physically distinct, and thus the more inhibited is the behavior of participants. Conversely, the more the virtual space is visible (as in the self-view monitors), the less inhibited


\(^{41}\) For an explanation of the Bellmer’s term, the “physical unconscious”, see Chapter 1.
the behavior. It is interesting to note that the reason Galloway and Rabinowitz excluded self-view monitors from their installation was precisely to prevent self-conscious behavior. However, as I will argue through comparison with Sermon’s works, the inclusion of this feature enacts just the opposite: a release of inhibition through the transcendence of physically-instantiated codes of conduct. Challenging the boundaries of the physical challenges the definition of self and other both corporeally and psychically.

In his work, Sermon is interested in how telepresence influences identity:

In the same way that Lacan suggested the human psyche is constructed in the mirror – as if on stage in front of us, I am suggesting the method of identity construction is taking place on the new global media stage – and it is in the form of interactive telematics environments and their user determined narratives that we are able to become consciously aware of the performer role we are adopting at all social and cultural levels.42

While the anthropomorphic telepresence robot is a visually different avatar, the human’s self-vision on the screen is equally an avatar, even though it is visually identical (if flattened from three- to two-dimensions). If we adopt the performer role frequently through technology, does this equate with adopting the guise of fictional selves, thereby making the self into other? The inclusion of self-view monitors (qua technological mirrors) in the two works I will examine allow us to critically analyze Sermon’s work in relation to the mirror stage. As I will argue, works such as this support a repeating of Lacan’s mirror stage. This level of reflexive visibility is lacking in *Hole in Space*, a work that largely maintains binary oppositions.

*Telematic Vision* was originally installed in 1993 (Fig. 42) and has been permanently installed at The Museum for Communication in Bern, Switzerland since 2003 (Figs. 43-44). While *Hole in Space* was a site specific work whose two cities were intentionally selected, Sermon is interested in constructing telepresence installations that will create a deliberately

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charged context, using familiar, more random items such as couches and beds. The installation is comprised of two couches at variable distances apart, and each couch is covered in a blue chromakey cloth. A video camera identically placed in each space records the participants’ actions in real time, and the two video feeds are joined through a chroma-key mixer (Figs. 45-46). Thus an individual in Location 1, sitting on the left side of the couch, and an individual in Location 2, sitting on the right side of the couch, would appear, within the monitors only, to be sitting next to each other. This line-out footage is played back in real time on monitors in each space to form a feedback loop representing a virtual shared space. Using an H.323 internet videoconference connection for the video loop enabled the selection of two locations virtually anywhere.

Unlike in *Hole in Space*, *Telematic Vision* participants were unable to communicate verbally to those in the other location. They did, however, have a scopic advantage not available in *Hole in Space*: self-view monitors. Passersby in *Hole in Space* commented that they thought it was a mirror when it was not; *Telematic Vision* more closely approximates a mirror, but rather than a true mirror imaging, the line-out image of an individual was reversed, and moved in the opposite way. Thus, when participants turned their heads to the right, the image on the screen showed them also turning their heads to the right, but on the screen it is directionally to the left.

*Telematic Vision* has been installed at over 20 sites since 1993, each representing variations in the setup of the installation. Participants at the temporary installation at Kornhaus Forum in Berne, Switzerland in 2000 could use blue sofa cushions as instruments with which to

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43 Sermon, “Puppeteers, Performers, or Avatars,” 260.
44 Chroma key is a post-production method of combining two images or sequences of images based on shared color hues. This technique is often used today with “green screening.” It is most often executed with blue or green colored backdrops.
manipulate the line-out image in the virtually shared space (Fig. 47). In only one of the two locations in a 2008 field survey at Museum of Communication in Bern, Switzerland, if participants held up the blue cushions, the part of their bodies that the cushion overlapped would “disappear.” For instance, imagine line-out footage in which two people are sitting on the same side of the couch; if one participant holds up a blue cushion in front of their face, this would veritably make their face “disappear;” due to the overlapping of bodies in the line-out footage, the head of the other participant would appear, forming a virtually-based exquisite corpse. This effect also occurred when participants happened to be wearing clothes that closely matched the blue shade of the chromakey cloth. At times, the image of a participant in one location would consistently appear in front of the image of a participant in the other location, as if the former were sitting on the latter, causing a fictive sensation of helplessness caused by virtual, not physical, overlapping; this also occurred in the installation setup at the 2009 exhibition, Imagining Media at ZKM in Karlsruhe, Germany (Figs. 48-49). Just as telepresence makes the virtual out of the physical, it also causes physical sensations out of the virtual.

It could be argued that Telematic Vision is a virtual reality, rather than telepresence, installation. However, I define the work as per the definition of telepresence because the physical actions and postures of a group in Location 1 stimulate and frame the physical actions and postures of a group in Location 2, and vice-versa, bi-directionally. While the work relies on the combination of images upon a screen, possible only through wiring and computer interface, it

48 Ibid., 62.
49 Ibid., 71.
contrasts with a true virtual reality environment. Telepresence creates the virtual within – and from – the physical.51

Unlike the humanoid telepresence robots that “translated” the human teleoperator’s body-image while maintaining three dimensions, Sermon’s works alter the representations, dimensionally speaking. From the couch upon which each audience is three-dimensionally present in Telematic Vision, video footage is captured and in real time, mixed and displayed onto the monitor, converting the image from three to two dimensions. The self is flattened into an image in these works. By contrast, in the telerobotic telepresence works, the teleoperator was maintained in three dimensions for the telereceiver’s viewing only; it was the telereceivers (RC Robot) and/or teleenvironment (Ornitorrinco) that were flattened into an image on the screen by which the teleoperator used the feedback to determine his/her next action. Therefore, in the works explored in the last chapter, the telereceiver received three-dimensions at all times, but it was the teleoperator who had to adjust to the flattened image of a distant environment and its inhabitants.

In Telematic Vision, though, the body is split between dimensions, effectively splitting the physical and virtual. The body is articulated and recombined in virtual space just as Bellmer articulates and recombines parts of his dolls. The chromakey technology that allowed parts of bodies to collage, in effect created an exquisite corpse of telepresence, or in other words, a technologically-mediated anagrammatic body. But rather than physically recombinant (as in Bellmer’s dolls), or visually recombinant (as in the anthropomorphic telepresence robots), here participants are psychically recombinant, forming psychic anagrams. Lacan’s fragmented body

(which also includes the mind) returns here. A fragmented psyche suggests that, in an intersubjective virtual space, it can be recombined into a new definition of telepresent identity.

Rolf Wolfensberger is responsible for an in-depth 2009 case study of *Telematic Vision* that offers a thorough look at the behavior of participants through video recordings, surveys, and interviews. Wolfensberger placed a camera under each of Sermon’s cameras, enabling audio recording of the participants on each couch; while the participants could not be heard by the telereceivers through the work itself, they maintained an intuitive urge to speak to them. Thus, the audio recordings of the separate groups of participants revealed more about their experience of the work.52 Through the experience of 42 participants over the course of two days, Wolfensberger identified five modes of interaction with the work: 1) Orientation/discovery, 2) Experimenting/getting into contact, 3) Playing/acting, 4) Saturation, and 5) Finishing/leaving.53 For the purposes of my research, I am most interested in the second mode (experimenting/getting into contact) and the third mode (playing/acting).

Wolfensberger found that participants spoke within the installation despite the lack of acoustic transaction. These utterances were recorded by Wolfensberger’s cameras and contribute to the archiving of the piece; participants would speak to those physically sharing the couch as well as to the virtual persons with whom they shared the virtual couch.54 Like *Hole in Space*, participants in *Telematic Vision* also experienced impulses expressed through transcending repressive inhibitions. Unlike *Hole in Space*, though, here the behavioral limitations transcended were not physical, but verbal, due to the lack of audio in the line-out recordings. However, it is precisely due to the lack of audio that participants felt compelled to explore alternative ways of communication through “touch.” Participants would innocently stroke the cheeks of virtual

53 Ibid., 59-61.
54 Ibid., 61.
contemporaries. Such an atavistic turn from the realm of the linguistic to that of the haptic further suggests a return of the repressed. Before the mirror stage, the child is the closest to the Real that they will ever be. Through the mirror stage, the child enters into the realms of the Imaginary and Symbolic with the initiation of language. The regression in *Telematic Vision* from the more advanced linguistic realm back to the primitivizing haptic realm synchs with a return of the fragmented body. But, as Wolfensberger notes,

More daring participants started fumbling and groping the others sooner or later, relying hopefully on the fact that potentially abusive behaviour [sic] might not have any consequences in real life. The option of being able to transcend virtual boundaries seemed also to incite gender specific behaviour to try to transcend social and cultural norms. Sometimes I had the feeling that the dividing line between innocent and playful approaches and serious harassment was very small.  

Instances such as these illustrate a psychic separation between the self and one’s avatar. Because such a fine line between play and harassment was not available in *Hole in Space*, I propose that it is the self-view monitors, providing the act of *seeing oneself seeing oneself*, that were responsible for such a varied difference in behavior. Wolfensberger even found that participants found their own behavior strange. “Some seem surprised how differently to the actual reality they had been performing during the short stay in virtual reality.” Why would a brief engagement with telepresence enable such a slackening of inhibition? One interviewee suggested that it is precisely the absence of senses:

> It is a reduction of channels, because you only see each other. You can’t feel, smell, nor hear each other. That’s why you act perhaps more daring. (...) You wouldn’t probably be behaving like that if you were sitting beside each other for real. It would mean that sooner or later you would touch the other, there are those natural inhibition thresholds.

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55 Ibid., 62-63.  
56 Ibid., 75.  
57 Ibid., 74.
Another interviewee commented that the absence of hearing maintains distance, while another remarked that the work transforms participants into “being[s] amputated of senses.”

Increased adventurousness with the other audience in the shared virtual space of the line-out TV monitor at times sacrificed an awareness of shared physical space. Wolfensberger described how the gazes of the participants were locked on the line-out TV monitors; a sense of “awakening” would occur when those physically next to a participant would touch or otherwise physically interact with them in the shared space. The shared-space interaction would break them from the trance of immersive experience through the line-out virtual image of shared sofa space. We observed this in *Hole in Space* with Priscilla and Howard. Thus, despite the more pleasurable experience in *Hole in Space* and the more unpleasurable experience in *Telematic Vision*, what is consistent in these two works is a loss of consciousness of the physical self, allowing the physical unconscious to transfer between self and other, just as Bellmer’s dolls supported a transference of the physical unconscious and an increased self-other overlap through symbolic interchange.

Participants’ behavior suggested a shifting conception of bodily boundaries within the virtual space, as a disregard for boundaries of skin and clothing permeated interactions. One interviewee analyzed the difference between physical and virtual bodily proximity:

I don’t actually like it when people approach you so close. Here they are in fact not that close. But exactly because they can’t approach you physically they can come extremely close. This is fantastic. I mean the effect that you immediately start fumbling each other. This is some kind of phenomenon, with total strangers.

When in physical space, this interviewee values his/her personal space. The concept of personal space allows one to maintain a sense of unity of self. When the other is in too close proximity,

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58 Ibid.
59 Ibid., 64.
60 Ibid., 62.
61 Ibid., 75.
one feels that personal space – i.e. the unity of self – risks being violated. This returns us to Lacan’s mirror stage: once the Gestalt of bodily unity is established, the dislocation of the self and the return to fragmentation (to the Real) is seen as a threat. Yet, in virtual space, as the interviewee attests, because bodily boundaries are no longer functional, this threat is embraced and indulged. Bodily limits were transcended primarily due to the fact that this was not a physically shared space.

Social mores have largely been established to preserve and protect a psychic Gestalt that upholds the fiction of the individual, ideal identity. The drive to maintain the effects of the mirror stage, of the ego, are physically realized when in shared physical space. Engagement with shared virtual spaces makes these maintenance behaviors irrelevant. In shared virtual spaces, without the protection of fleshy boundaries, conceptions of the self are vulnerable to fissuring. The threat of the body in pieces, which Lacan called *le corps morcelé*, is heightened.

What further complicates a reading of *Telematic Vision* is the simultaneous embodiment of both physical and virtual space. One might both virtually and physically share the couch with two respective audiences. This suggests a state of psychic overwhelming; does one follow modes of conduct to obey the physical, or disregard them in a state of virtual abandon? One interviewee commented that the feeling of obligation to continually rationalize what was happening between the actual and virtual environments prevented natural behavior.62 Another commented, “I guess you are behaving rather unnaturally on that thing. (...) You can clearly see that this didn’t appeal much to me.”63 How can we define “natural” versus “unnatural” behavior? Is behavior unnatural because it is a displacement of irrelevant physical modes into a virtual space? One possible answer is that participants rely on what they know: codes of conduct applicable to physically

62 Ibid., 69.
63 Ibid.
shared space. Exploring the relevancy and redundancy of these rules in the virtual space of the shared couch seems unnatural because these social conditions are no longer appropriate.

Or is it, rather, that the definitions of natural and unnatural have been confused due to repression? Perhaps unnatural behavior is that which has been repressed, and has been deemed “unnatural” by cultural standards. More than the irrelevancy of physical codes of conduct, I believe the true reason for discomfort in this telepresence installation originates from a technologically-enabled encounter with the repressed, fragmented body within an experience that is, unsurprisingly, unappealing. Unlike Lacan’s mirror stage in which a Gestalt is formed, in *Telematic Vision*, one encounters the gaze not to edify a false sense of wholeness, but a real sense of fragmentation. This is supported by contrasting the overall emotional responses to *Hole in Space* versus *Telematic Vision*. The majority of participants in *Hole in Space* responded with elation; reactions were more mixed with *Telematic Vision*. Some felt comfortable and others had to overcome feelings of unease; still others described “an ongoing state of having felt uneasy and worried throughout the scene, which they describe as being basically eerie and not very inviting to engage in.”

Including self-view monitors enabled modification of behavior, mediated through the screen, and contrasts significantly with *Hole in Space*, in which the artists were adamant about not incorporating self-view video monitors. The absence of self-view video monitors in *Hole in Space* correlates positively with the pleasure principle, and the presence of self-view monitors in *Telematic Vision* correlates positively with the unpleasure principle.

What is at stake in our reading of *Telematic Vision* is the mediatory role played by the monitors, a dynamic that can affect the expression of the id and repressed urges of the physical unconscious. In Bellmer’s era, the Surrealists engaged in *écriture automatique*, or automatic writing, in an attempt to engage the unconscious. Participants would doodle and scribble in

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64 Ibid., 68.
streams of consciousness, with the hope that the repressed within the unconscious (that has access to the conscious at times) might be revealed. However, the act of recording words and images of the unconscious modifies them, preventing fully unconscious expression. “In Freudian terms the id is always modified by the ego and superego, so that even if we concede that it is possible to raise images from the unconscious these are always going to be modified by the act of writing them down.” While the practice of automatic writing may have decreased conscious decision making in the creative process, the unconscious is still mediated. Whereas the unconscious in automatic writing is “modified by the act of writing [images] down,” the unconscious in telepresence installations is modified by the self-view monitors providing visual feedback in real time.

The id, seeking instant gratification, is embodied in the real-time of telepresence; the superego is constituted by distance with the technological means to overcome distance in order to commune. If the id is constituted by instantaneity and the superego by delay, the telepresent “self” is overridden by the pleasure principle. Spatial instantaneity cannot exist without technology; thus, what appears to be a return of the repressed is still in some ways barred by the screen. In this installation, then, it is the self-view monitor that serves the role of the technological ego that mediates between id and superego.

Just like the unconscious, telepresence is “a place and a non-place, which is completely indifferent to reality, which knows no logic or negation or causality or contradiction, wholly given over as it is to the instinctual play of the drives and the search for pleasure.” If telepresence is in effect the technological unconscious, it is both within and without the digitally mediated public sphere. Freud believed that dreams afforded a rare view of the unconscious,

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drafted in symbols; “if this material were expressed directly then it might be shocking and
disturbing enough to wake us up.”67 In comparison to Telematic Vision, Sermon’s Telematic
Dreaming operates on the premise of a waking dream (Fig. 50). Participants are engaged in the
space most associated with sleep. Unlike the very wakeful urban environment of Hole in Space
or the relaxed (if uneasy) communal state created by the couches in Telematic Vision, Telematic
Dreaming combines within a public, urban space what is possibly the largest signifier of
intimacy: the bed. If public and private are on a sliding scale, the location of Telematic Dreaming
is not quite so public as Hole in Space, but as an object it is much more private than Telematic
Vision. If dreams make our unconscious desires more subdued and less aggressive, Telematic
Dreaming has the capacity to reveal, in the same space as sleep, these desires full force.

Telematic Dreaming was a telepresence installation by Paul Sermon, produced in Finland
in June of 1992.68 The installation is formally comprised of two beds, at a variable distance apart,
and a system of two-way video monitors that stream footage, in real time, of the spaces on
monitors alongside each bed, similar to the setup in Telematic Vision. The beds can be located at
two spaces within the same gallery or museum, several houses away from each other, or further.
During this installation, for a few hours each day Sermon occupied one of the two beds; his
image on the bed was recorded and projected onto the other bed. When a viewer would walk into
the other installation space, they would see only from an oblique angle the projection of Sermon
on the bed surface. A good view of the projection necessitated approaching the bed more closely;

67 Ibid.
68 Rolf Wolfensberger, “Intervention 2: ‘Interactive telematic art defies a means of mechanical reproduction.’ A
as the viewer neared the bed, they saw themselves appear in the monitors alongside the bed, as part of a feedback-looped CCTV system.69

In *Telematic Vision*, the only place where shared space was visible was on the monitors; in *Telematic Dreaming*, however, depending on the year of installation, shared space is visible both on the monitors and on the surface of the bed. Thus, participants are given two perspectives simultaneously: a first-person perspective with a flattened form, creating difficulties in fully visualizing their bedmates, and a second-person perspective through the monitors. The other is always represented as a two-dimensional image. On the bed, multiple dimensions comingle: the three-dimensional self interacts with the two-dimensional other. By contrast, the monitor, upon which both self and other are shown two-dimensionally, becomes a democratizing space.

Before the viewer even saw the projected image of Sermon or the monitor systems, the sight of a bed was already rife with symbolism, just as the very public setting of *Hole in Space* framed the work. Before viewers noticed the flat, two-dimensional projection of Sermon upon the surface of the bed, the bed-as-signifier presents itself as empty, signifying loneliness, estrangement, and absence, like Felix Gonzalez-Torres’ 1991 *Untitled*, that features an image of an empty bed with wrinkled sheets upon a billboard in the midst of a city (Fig. 51). Although markedly different for its critique of the social ostracizing of AIDS victims during the 1980s and early 1990s, *Untitled* is similar to *Telematic Dreaming* in that it is a very intimate image of absence presented in a very public space (more public a setting than *Telematic Dreaming*): the billboard. *Telematic Dreaming* is interesting for the ways in which the bed framed – while also commenting on – the experience of telepresence as one of external intimacy, what Lacan would

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term “extimacy,” which I will explore in more depth next chapter within the context of the posthuman.

As the telereceiver(s) on the bed receive Sermon’s flattened form, so too does Sermon receive a projection next to or on top of him that is of the telereceiver(s). Unlike the examples explored last chapter, both telereceiver and teleoperator receive each other as an image (this was prevented in the examples from last chapter because the three-dimensional telerobot allowed the maintenance of some semblance of three-dimensionality). Sermon, however, cannot see the entire image of the telereceivers from looking down; because he is within the projected image, he must look at a screen to obtain a full view of the scene. Looking at the screen became distracting.

The artist commented:

…I realised [sic] how people were not looking at the bed surface but they were looking at the monitors. They were not only concerned with this other person but with themselves as well. For me this was a sort of an awakening, an understanding, that it is all about not only viewing the other person but viewing yourself, yourself as the actor, as the performer, the puppet, the avatar. The screen is the place which is interesting, where things are going on, in that composite image.70

Susan Kozel, a new media theorist and performance artist, conducted phenomenological research on Sermon’s Telematic Dreaming for four weeks while working on her doctorate at the University of Essex in the United Kingdom (Fig. 52).71 At the time, Telematic Dreaming was included as part of the exhibition I + the Other: dignity for all, reflections on humanity in Amsterdam. Of her overall experience with the installation, Kozel argues that the work reasserted for her the effect of bodily extension available through telepresence and the virtual;72 rather than a deserting of the body in favor of a free-floating consciousness, she relied on the physical bodies of herself and co-participants to orient and immerse her “electric body” within

72 Ibid., 99.
the shared space of the virtual bed.\textsuperscript{73} This affirms my hypothesis of a psychic fragmenting between virtual and physical.

Like the blue pillows in \textit{Telematic Vision}, in \textit{Telematic Dreaming}, the blue sheet on the bed could be manipulated to make parts of the user’s body disappear within the monitor (Fig. 53). For instance, one could wrap their body in the blue chroma key sheet to leave upon the monitor the appearance of a floating, amputated limb. Kozel explains this dynamic in more detail:

\textit{This now-you-see-me-now-you-don’t quality is central to the physicality of \textit{Telematic Dreaming} since it implies a departure from and a return to the body as a whole. The unsettling quality is not merely, as Taylor suggests, the erasure of substance, but its reappearance. This approaches the traces of teleabsence within telepresence. Erasure is never complete; it becomes a space for the invisible or that which is latent to radiate forth.}\textsuperscript{74}

Perhaps Kozel’s argument is not nuanced enough. In order to depart and return to the body, it must be fragmented, like Bellmer’s recombinant body parts in \textit{La Poupée}, capable of being taken apart to create new forms over and over again.

One statement that Kozel made in her report closely parallels descriptions of patients approaching the repressed in therapy sessions, only to somehow realize they are approaching it and recoil rapidly. Kozel writes: “When the movement progressed from these early stages to a sort of full-body choreography, the piece became an emotional investment that shocked and sometimes disturbed people. Some people simply froze, and fled the installation once they realized what was happening.”\textsuperscript{75} Like the patient, participants of whom Kozel writes approached repressed content. This suggests that, like the encounter with the fragmented body in \textit{Telematic

\textsuperscript{73} Ibid., 93. 
\textsuperscript{74} Ibid., 101. 
\textsuperscript{75} Ibid., 94.
Vision, blurring self and other, participants in Telematic Dreaming similarly felt an inability to keep their unitary identity intact.

The symbolic site of Telematic Dreaming was intended as a challenge to participants’ instinctual behaviors. Beds symbolize intimacy, privacy, sleep, and the vulnerability one succumbs to during these acts. Yet, this bed was in the very wakeful and public setting of the museum. While many instinctual behaviors were overcome, such as etiquette regarding physical barriers, gendered behaviors were largely maintained through the work, including violence toward women. In an ultimate transgression of taboo, Kozel was virtually assaulted at multiple points during her interaction with the work. One instance involved an audience member with a knife that made Kozel uncomfortable, and at another point her virtual avatar was elbowed in the stomach. Significantly, a viewer assaulted Kozel’s virtual image, causing her to immediately disengage with her telepresent self. She was shocked to find that, while in other works she felt electric pulses when stroked or caressed by her interlocutor, when she was assaulted she did not feel anything, almost as though a defense mechanism had been enforced. I will quote her anecdote, which she called “the worst cybersexual violence” she experienced during her study, in full, as it represents well the experience of seeing the self as other upon the screen:

Two men in leather jackets jumped my image on the bed. One attacked my head and the other my pelvic area. After three or four body-twisting blows, they fled. It was a back-alley scenario. What did I feel? Very little. This amazed me, after my body had felt so much in the subtly erotic context and through earlier acts of aggression. I believe that the extreme violence of the attack caused me to separate my physical self from my virtual self. A split-second after they began to hit me I found myself watching my image in the video monitor, paralyzed with horror at what they were doing to the woman’s body – no longer my body. This was the only moment in the entire four weeks when I divorced my two selves, and it was the result of an involuntary act of self-preservation – a primordial reaction in a sophisticated technological context.77

76 Ibid., 98.
77 Ibid.
Just as in *Hole in Space* (Howard and Priscilla) and *Telematic Vision* (simultaneously sharing a physical and virtual couch), so too in *Telematic Dreaming* is the user’s relationship with their own materiality altered. Kozel illustrates:

On one occasion, while thoroughly absorbed in interaction with another body, I passed my hand over someone’s leg, he placed his hand on my leg, and when I followed his hand I touched my own leg—and was taken aback by its bulk. For an instant I didn’t know what obstacle my hand had encountered after moving so freely in visual space. With vague feelings of guilt I realized that this foreign body was, in fact, my own. When I momentarily experienced my own body through my sense of touch, it did not coincide with my body according to my sense of sight. The disorientation made me reassess what I took to be the frontier of my own body. Could it still be called a frontier if it was no longer fixed, but highly flexible and constantly changing?  

This anecdote exemplifies a momentary forgetting of one’s own physicality, but overall, Kozel argues for the ways in which *Telematic Dreaming* reminded her of her own physicality. To her, because the physical and the virtual are so blurred, it causes an *extension* of the body. Kozel argues for physicality within the virtual, and, following the theories of McLuhan, she supports that the virtual realm is added to the body’s range of existence, almost as though it were a prosthetic.  

This anecdote can also be read in terms of a recombinant sensorium. Instead of the physical anagrams in Bellmer’s dolls, here Kozel describes how her body became a sensory anagram. Her body was phenomenologically recombined depending on which sense consumed her focus. The sense of sight gave her a completely different body-image than did her sense of touch. Can self and other be recombined as well? When the work was most successful, Kozel wrote, was when boundaries between self and other, physical and virtual, were forgotten.

Returning to Lacan’s mirror stage, he theorizes:

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78 Ibid., 100-101.
79 Ibid., 99.
80 Ibid., 94.
a complex shifting field of force in which the subject (the child itself) is caught up and dispersed, in which it has as yet no centre [sic] of identity and in which the boundaries between itself and the external world are indeterminate. Within this field of libidinal force, objects and part-objects emerge and disappear again, shift places kaleidoscopically, and prominent among such objects is the child’s body as the play of drives laps across it.  

The child’s (subject’s) body is the ground for the experience, but it is dispersed, and boundaries between itself and otherness are indiscernible. I read Kozel’s phenomenological study of *Telematic Dreaming* as representing the stage *before* the mirror stage: boundaries between physicality and virtuality are indeterminate; the physical body is extended into its exterior (virtual) realm; the blue chroma key cloth can cause “objects and part-objects [to] emerge and disappear;” and the layering of multiple users with the manipulation of chromakey cloth, as in *Telematic Vision*, causes users to be combined kaleidoscopically. Lacan’s mirror stage has been repeated through technological mediation. The definition of telepresence as “the perceptual illusion of non-mediation” takes on new meaning as the lack of mediation between self and other as the two are merged into a new form of subjectivity that presents a tension between wholeness and fragmentation. The self is already an illusion; through the self-imaging of the self-view monitors of telepresence, the self merges with others over greater distance.

In *Hole in Space*, a return of the repressed was primarily expressed through language, while repression occurred through a pondering of the works’ industrial utility. In *Telematic Vision*, a return of the repressed is closely bound with self-view monitors that allowed for behavior that would not normally be explored physically with strangers, such as sitting on them; the fragmented body was visually present through the manipulation of blue chromakey cushions manifest on the monitors as technological exquisite corpses. Lastly, in *Telematic Dreaming*, a return of the repressed fragmented body is manifest through a psychic experience dispersed

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81 Eagleton, “Psychoanalysis,” 133.
between virtuality and materiality. The fragmented body is lost and absent when the fictive Gestalt subject is formed in the mirror stage. As Mladen Dolar writes, “…the source of the uncanny is the reappearance of a part that was necessarily lost with the emergence of the subject – the intersection between the ‘psychic’ and the ‘real,’ the interior and the exterior, the ‘word’ and the ‘object,’ the symbol and the symbolized…” Repressed content, submitted to the id and the unconscious, and thus largely (but not completely) absent, is capable of accessing the conscious under certain conditions. In this way, what is always already telepresent is repressed content. Viewing one’s own avatar, and one’s own physical body, as other suggests a reversal of subjective unity. The double, or rather the telepresent self, “carries out the repressed desires springing from the Id,” in this case the technological id.

Why now? Why are we opening up, through technologically-enabled psychic fissuring, to a blurring, a fragmentation, and a duplication of the mirror stage? In the next chapter, I will explore this process in terms of the posthuman. Following Roger Caillois’ and Lacan’s theories on animal mimicry and camouflage, I will argue that our own fragmentation between self and other is an attempt to take on the traits of the hypertextual virtual space in order to camouflage ourselves.

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83 Ibid., 12.
CHAPTER IV
HYPER-SUBJECTIVITY: TOWARD A POLITICS OF (DIS)LOCATION AND THE “TEMPTATION BY SPACE”

...the organism has to 'become' its environment (as the eye has to 'become' light).

This last chapter will turn toward this shift in subjectivity exemplified through telepresence installations, asking why now? With telepresence art situated in the genealogy of Surrealism, why did the shift in postmodern subjectivity take place beginning in the mid-1980s? My chapter will consider this question in terms of adapting to hyperspace, posthumanism, and Lacan’s extimacy, the externalization of intimacy. Jameson, writing in 1984, contended that human subjectivity in the West did not yet possess the "perceptual equipment" to navigate hyperspace.¹ He defined hyperspace as a built environment whose “space makes it impossible for us to use the language of volume or volumes any longer, since these are impossible to seize;” hyperspace is distorted through a “bewildering immersion…[that has] succeeded in transcending the capacities of the individual human body to locate itself, to organize its immediate surroundings perceptually, and cognitively to map its position in a mappable external world.”² In short, hyperspace was identified as an “ alarming disjunction point between the body and its built environment.”³ The environment had evolved so rapidly that the body lagged behind. Using a dual framework of posthuman and feminist disability theories, I will argue that telepresence art - and the intersubjectivity that followed - was a response to hyperspace, yet one that must take care to prevent dehumanization.

² Ibid., 43-44.
³ Ibid., 44.
Considering this question within the framework of posthumanism, and following the exploration of telepresence and the amplified uncanny valley in Chapter 2, it is appropriate to further consider telepresence installations within *post-anthropocentric* posthumanism, defined by Rosi Braidotti as “a posthuman theory of subjectivity that does not rely on classical Humanism and carefully avoids anthropocentrism.”\(^4\) The concept relies on what Braidotti perceives as the link between post-anthropocentrism and monism, the model from Spinoza stating that humans, matter, and the world are enmeshed and do not rely on dualities such as inside and outside, but rather that all matter is unified.\(^5\) A tripartite posthumanist perspective, *post-anthropocentric* posthumanism is defined by Braidotti as three simultaneous states of becoming: becoming-machine, becoming-animal, and becoming-earth.\(^6\) Braidotti elaborates on “becoming-machine,” a term which she borrowed from Deleuze and Guattari, who in turn were inspired by the Surrealists:

> I want to argue for a vitalist view of the technologically bio-mediated other. This machinic vitality is not so much about determinism, inbuilt purpose or finality, but rather about becoming and transformation. This introduces a process that Deleuze and Guattari call ‘becoming-machine’, inspired by the Surrealists’ ‘bachelor machines’, meaning a playful and pleasure-prone relationship to technology that is not based on functionalism. For Deleuze this is linked to the project of releasing human embodiment from its indexation…\(^7\)

Thus far, most of my argument has weighed upon becoming-machine, but in this chapter I will shift to consider becoming-earth (treating earth as a “nature-culture continuum which is both technologically mediated and globally enforced”)\(^8\) and becoming-animal (mimicry). Considering Cailliois' account of animal mimicry and legendary psychasthenia, I will explore how the

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\(^5\) Ibid., 56-57.

\(^6\) Ibid., 55-104.

\(^7\) Ibid., 91.

\(^8\) Ibid., 82.
"telepresent subject(s)" take on the visual qualities of hyperspace. The result is a digitally mediated schizophrenic identity: the hyper-subject. To illustrate this, I will rely on three telepresence art installations: Stelarc's 1995 *Fractal Flesh*, and two telepresence “experiments” using the vehicle called “The Machine to Be Another,” from 2013-2014, by the Spanish art collective Be Another Lab.

The two performances by BeAnotherLab, that I will explore, investigate corporeal difference within the ability/disability spectrum in order to dispel ideas of physical normativity, and are thus by definition feminist works. Feminist disability theory states that “disability, like femaleness, is not a natural state of corporeal inferiority, inadequacy, excess, or a stroke of misfortune. Rather, disability is a culturally fabricated narrative of the body, similar to what we understand as the fictions of race and gender.” Telepresence promises a new form of intersubjectivity capable of undoing the “culturally fabricated narrative of the body.” While there are historically many forms of disability, including what was believed by Aristotle to be the “genetic disability” of femaleness, in this chapter I will focus primarily on physical disability, its historical relation to the impact of the Nazi regime on Bellmer, and its relationship with agency through the vehicle of telepresence. Following Rosemarie Garland-Thomson, this chapter will focus on physical ability both as an identity category and cultural concept. If “the cultural function of the disabled figure is to act as a synecdoche for all forms that culture deems non-normative,” telepresence artworks suggest that telepresence may act as a vehicle of infinite technologically-mediated corporeal anagrams. The potential peril, however, of telepresence is

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10 Ibid.
11 Ibid., 531.
the threat of homogenization within the placeless place of the virtual, risking forgetfulness of the politics of location.

Treating telepresence as a historical and cultural (but not punctual) event, how did it happen, and why? *Telematic Vision* and *Telematic Dreaming* enabled technologically-mediated exquisite corpses and what Kozel called a “now-you-see-me-now-you-don’t” quality through the vehicle of the blue chroma-key cloth. Composite virtual identities were facilitated through the digital collaging of multiple people upon the self-view monitors, and one could hide oneself, or parts of oneself, within the virtual. Mostly an act of playfulness within the installations, the capabilities of telepresence expressed through the works’ formal structures manifest as part of a long history of interdisciplinary collaboration of art, technology, and science in tactics of disguise and mimicry, most notably seen in times of war. Telepresence art installations are no exception. In what instances would civilians collectively desire to employ mimicry and to camouflage themselves? What effect does this have on global identity? Most importantly, why do we see this shift occurring beginning in the early 1980s, and how has it changed?

If telepresence is a vehicle through which humans adapt to a new type of environmental space, what is this new space, and when did it become distinguishable from other types of space? I see telepresence as enacting a new form of intersubjectivity as a distal hybrid between physical and psychical, in response to the conception of hyperspace popularized by Frederic Jameson in 1984. Hyperspace, Jameson wrote, is a type of space engendered by postmodernism and late capitalism, defined in physical terms of the built environment:

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12 While Jameson was instrumental in popularizing the term “hyperspace” in postmodern theory, he was not the first to coin the word. In his June 10, 1854 lecture, Bernhard Riemann (1826-1866) proved the likelihood of dimensions higher than the third dimension – i.e. “hyperspace”. Originally, Riemann conceived the fourth dimension as an additional spatial dimension; it was not until 1905 that Einstein would redefine the fourth dimension in terms of his description of this universe. One can still conceive of a fourth- (or higher) dimensional Riemannian space in geometrical theory. Roger Caillois briefly mentions “Riemann-Christoffel’s hyper-space” on page 28 of his essay, “Mimicry and Legendary Psychasthenia.”
I am proposing the notion that we are here in the presence of something like a mutation in built space itself. My implication is that we ourselves, the human subjects who happen into this new space, have not kept pace with that evolution; there has been a mutation in the object unaccompanied as yet by any equivalent mutation in the subject. We do not yet possess the perceptual equipment to match this new hyperspace, as I will call it, in part because our perceptual habits were formed in that older kind of space I have called the space of high modernism. The newer architecture therefore...stands as something like an imperative to grow new organs, to expand our sensorium and our body to some new, yet unimaginable, perhaps ultimately impossible, dimensions.13

Jameson portends the development of “the perceptual equipment to match this new hyperspace” and to develop new “perceptual habits.” Telepresence artworks appear to meet this need.

To illustrate hyperspace more concretely, as well as how it differs from the architectural-social framework of high modernism, Jameson uses two architectural examples: 1) the Bonaventure Hotel, designed by John C. Portman, Jr. and completed in 1976, in Los Angeles’ Financial District and 2) Frank Gehry’s house in Santa Monica. Each of these buildings shares the characteristics of “a new category of closure” that controls the inner and outer space of the building, “hypercrowds” that establish new modes of moving through a space,14 a sense of a “shapeless space,” like a type of void,15 “the strange new feeling of an absence of inside and outside, the bewilderment and loss of spatial orientation in Portman’s hotels, [and] the messiness of an environment in which things and people no longer find their ‘place.’”16

Jameson compares the Bonaventure Hotel to older utopian models of the International Style of architecture. The Bonaventure does not seek to violently separate itself entirely from the outside world of the city within which the building is situated, like buildings of the International Style. Rather, the hotel, through its highly reflective exterior, gently integrates the Los Angeles’ Financial District visually, all the while identifying itself as an equivalent, if not superior, nested

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14 Ibid., 39-40.
16 Ibid., 117-118.
space: a city-within-a-city (Figs. 54-55). Similarly, as I showed last chapter, the hyper-subject does not seek to exist entirely in the shared telepresent space. Just as the psychic fragmentation of the mirror stage is situated in a bodily ego, the hyper-subject exists as an amalgamation of the body and digitally mediated extimacy in the public sphere.

Jameson also characterizes the interior of the Bonaventure as symptomatic of hyperspace. Elevators straddle interior and exterior; from the residential quarters, when one boards the elevator the passenger is on the outside of the building (Fig. 56). As the elevator descends, it shoots through the glass roof of the lobby and is interiorized. After exiting the elevator, from the hotel lobby one can look upward to see a spiraling walkway through the galleries of shops and eateries on progressively higher floors (Fig. 57). Repetitive forms of concentric circles make navigating the space difficult and disorienting, despite maps and street signs that honor the hotel’s nickname, “the city within a city.” When the hotel was completed in 1976, it was a radically new approach to built space. Today, the Bonaventure appears dated, especially when compared to the sheer prevalence of hyperspatial architecture elsewhere in the world.

When I visited the Bonaventure Hotel in August 2013, I felt for myself an echo of the spatial confusion of which Jameson wrote. Yet, the Bonaventure Hotel I visited was a hollow shell of its former self and not the devouring force about which Jameson wrote nineteen years prior. On nearly every floor stood vacant boutiques and galleries, scooped out by the booming of e-commerce under late capitalism. Similar to the experience of the teleoperator in Ken Feingold’s *where I can see my house from here so we are* explored in Chapter 2, I initially had a difficult time orienting myself to this space. Rather than being immersed in a space of too-much-to-see, I rather was confronted by repetition and emptiness, much like the mirrored interior space of Feingold’s work. Today, the building does not hold the same affect; is this reaction a result of

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greater exposure to hyperspace over the last few decades, leading us to develop the necessary perceptual organs?

Jameson acknowledged that the state of unpreparedness of which he reported may be temporary: “…[hyperspace] can itself stand as the symbol and analogon [sic] of that even sharper dilemma which is the incapacity of our minds, at least at present, to map the great global multinational and decentered communicational network in which we find ourselves caught as individual subjects.” The individual subject of Humanism is not up to the task of this adaptation in the built environment; rather, it is through the subjectivity of the hyper-subject that one can learn to exist within hyperspace. Humanism is inefficient scaffolding for the adaptation in the built environment, and thus one must look to posthumanism, addressed below. One year prior to his seminal essay on hyperspace, Jameson wrote in “Postmodernism and Consumer Society” that the death of the subject is really the death of the concept of the individual and of individualism. He acknowledged two schools of thought: first, that “in the classic age of competitive capitalism, in the heyday of the nuclear family and the emergence of the bourgeoisie as the hegemonic social class,” individualism did exist, but it does no longer; another (poststructuralist) school of thought contends that the individual subject never existed, but was only a myth. Jameson originally proclaimed this at a lecture at the Whitney Museum in the fall of 1982; the death of the concept of individualism, coupled with the emergence of telepresence art in 1986 as a response to hyperspace, leads me to identify the years between 1982 to 1986 as the birthing period of the hyper-subject as a result of the death of individualism and the rise of spatial fragmentation in a rapidly globalizing setting.

\[18 \text{ Ibid., 44.}
Jameson’s second example of hyperspace, architect Frank Gehry’s home at the corner of Twenty-Second Street and Washington Avenue in Santa Monica, California, is significant in its relationship to creating a shell to transform an older structure, like an architectural cyborg (Fig. 58). This dynamic is absent in the Bonaventure Hotel. Originally, the Gehry residence was a 1920s pink-shingled, barn style house, quite antithetical to the architect’s signature style of chrome waves that defy the rigidity of their structure, as seen in the Peter B. Lewis Building in Cleveland, Ohio. Instead, the pink-shingled house is colorful, symmetrical, rigid, unreflective, and provides a vantage point of simultaneous temporalities materially manifest in old shingles and new glass, plywood, and metal.

Around the two-story clapboard house, Gehry built a one-and-one-half-story corrugated metal “wrapper.” Rather than demolishing the structure and building a new house, Gehry sought to create a dialogical architecture that would converse with the pink clapboard house in its past tense: “I got fascinated with the idea that the old house should appear to remain totally intact from the outside, and that you could look through the new house, and see the old house as though it was now packaged in this new skin.” The interior is called the “core” and the corrugated metal shell, the new skin, is the “wrapper;” the dialogue between the two is best seen where the windows of the original structure are overlapped with the simulated window cutout of the corrugated metal wrapper, expressing “the persistence of history and the past: a content which can still be seen through the newer elements” (Fig. 59). Stelarc’s Fractal Flesh, as I will show,

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20 For a definition of the cyborg, see page 75.
22 Ibid., 115.
similarly frames the Humanist view of the singular body through a technological wrapper that “creates the possibility of more intimate and enhanced interactivity.”

When interiors and exteriors intermingle, just as the architectural core and wrapper in hyperspace, it can bring about feelings of uncanniness and discomfort, which Jameson acknowledges. Feelings of unease and uncanniness, as I have explored in previous chapters, are also phenomenologically a large part of the technologically-mediated cyborg body, such as participants in installations of telepresence art. Last chapter I explored Lacan’s extimacy through Paul Sermon’s works, which were similarly offputting at times. What Baudrillard would call the “forced extroversion of all interiority, this forced injection of all exteriority” is characteristic not only of hyperspace specifically, but of postmodernism in terms of Jameson and architecture.

Hyperspace is the result of a tension between spatial opposites, such as interior and exterior (the core and wrapper), or even whole versus fragmented types of built space. For the new subject that has emerged since the death of the (individual) subject, the self and other evolve beyond the ancient trope of tension between self and other to resolve that tension through the merger and overlap of self and other. This creates new forms of intersubjectivity that I will call hyper-subjectivity. It was this same type of tension within the self that Bellmer called “third realities.” The subject today similarly has a wrapper, that of technological mediation. Just as the wrapper both envelops and intersects the core, technology surrounds humans, intersecting the body and abjectly exteriorizes psychological and phenomenological interiors.

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Australian performance artist Stelarc created the telepresence performance *Split Body: Voltage-In/Voltage-Out*, executed at Galeria Kapelica, Ljubljana, in 1995 (Fig. 60). In this piece, Stelarc hooked up the left side of his body to muscle stimulators while the right side of his body was unattached and free to move according to his own agency. These muscle stimulators attached to the body were linked to the Stimbod, a web-based touch screen interface created by Stelarc and available to participants in Paris, Helsinki, and Amsterdam. On his right arm he wore his *Third Hand* prosthetic (seen individually in Figs. 61-62), which was also accessible to tele-manipulation through the work. Thus, the left side of Stelarc’s body was made hemiplegic through its possession by distant audiences.

As seen in the diagram of the related performance, *Fractal Flesh* (Fig. 63), six areas of the body were available for remote manipulation: 1) the right bicep (connected to the Third Arm), 2) the left bicep, 3) the left deltoid (functions to lift the arm), 4) the left flexors (function to articulate the wrist and fingers), 5) the left hamstrings (function to raise and bend the leg), and 6) the left calf (functions to extend the foot). In the diagram, the user touches Site 3; stimulation would be sent to the left bicep, causing involuntary contractions of the muscles in that region which would raise the left forearm. This interaction situates the remote participant as a teleoperator not of an inanimate telerobot, but of an animate human made partially “inanimate.” It is through wires, the *Third Hand* prosthetic, and a split physiology shared between self and distant others that transforms Stelarc into a cyborg. Inanimate is synonymous here with lack of individual agency through its dispersal. It is this dispersal that makes intersubjectivity - and a new type of animation - possible.

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Psychophysically, the Stimbod has the capacity to “create a possessed and possessing body – a split physiology to collaborate and perform tasks remotely initiated and locally completed – at the same time in the one physiology.”28 Half of Stelarc’s agency was dispersed to an untold number of participants in three cities. Remote participants “possessed” Stelarc’s body through the ability to animate the body at a distance. In order for Stelarc to conceptually “possess” the telepresent collective, it requires that the “others” have somehow become part of his shared identity (expressed through agency). The ability to possess others within (his) own body suggests a distanced method of considering the (his) body. Yet, a mutual possession suggests merger of “self” and multiple “others.” Identity is simultaneously constructed and deconstructed.

Similarly, fractals in geometry represent construction and deconstruction simultaneously. Etymologically, “fractal” is derived from the Latin “frangere” or “fract,” which means “broken.” The study of fractal geometry is concerned with identically repeating patterns on successfully larger or smaller scales. The best known fractal is the Mandlebrot set (Figs. 64-65); in nature, fractals can be seen in shorelines as well as the structure of plants such as Romanescu broccoli and Barnsley ferns. Applying the meaning of the word fractal to the body suggests that the body is broken repetitively into identical pieces. But Stelarc asserts that his body is not a fragmented body but instead “a multiplicity of bodies and parts of bodies prompting and remotely guiding each other.”29 Stelarc describes his conception of Fractal Flesh and distinguishes it from what he calls “Phantom Flesh:”

When I talk about Fractal Flesh, I mean bodies and bits of bodies spatially separated but electronically connected, generating similar patterns of recurring activity at different scales. What I mean by Phantom Flesh is phantom, not as in phantasm, but as in phantom

28 Stelarc, “Parasite Visions,” 121.
29 Ibid., 120.
limb. Haptic technologies will generate tactile and force-feedback experiences, enabling us to construct more potent physical presences of remote bodies, robots and AI agents.\(^{30}\)

What connects a fractal, what creates its paradoxically and infinitely repetitive structure, is a code in the form of a mathematical equation. In fractal flesh, instead of a single mathematical equation to form the Mandlebrot set, for instance, it is the myriad sets of codes that create the scaffolding of telepresence that electronically connect in real time “bodies and bits of bodies” across space. The result is a technologically-mediated anagrammatic body, to put it in Bellmer’s terminology. Rather than nested visual and physical shapes, as in the Mandlebrot set, Romanescu broccoli, or Barnsley fern, actions are nested within bodies across space. The other bodies in Paris, Helsinki, and Amsterdam, become Stelarc’s felt but unseen Phantom Flesh, adding to the Third Hand in his bodily extension. In turn, half of his own body also becomes Phantom Flesh, limbs that he cannot control but that he can feel.

Problematic for the study of technologically-mediated identity is the implication of identicalness in the word “fractal.” Within the fractal structure, the parts are the same as the whole, regardless of perspective. Whether one zooms into or out of a Mandlebrot set, for example, it remains nearly visually identical in its underlying structure. As one zooms into the Mandlebrot set, its outline, rather than demarcating inside and outside, blossoms into myriad Mandlebrot forms ad infinitum. Its form is not increasingly simplified (deconstructed) as one looks closer, but increasingly complex and visually reflexive.

It is clear that the possessed and the possessors are remarkably different, shaped as much by variances of nature and culture in the geographic locations of Paris, Helsinki, Amsterdam, and Luxemburg, as they are by global accessibility facilitated by technology. Yet, instead of suggesting that Stelarc and his “possessors” are identical, what Fractal Flesh in fact proposes is

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that the “borders” or “outlines” of an individual – be they visual or behavioral, as in agency – are indiscernible. Outlines (fleshy, social, and psychological) are constructs, as is the idea of the individual. Without the individual, clearly outlined as a form against a ground of otherness, dualities of self and other no longer hold meaning or power. It is for this reason that Stelarc does not subscribe to possessive pronouns in reference to bodies.

Splitting or otherwise manipulating physiology has been an undercurrent of Sterlac’s oeuvre. In his suspension pieces, Stelarc argued for the ways that technology, having pierced the body, makes irrelevant the skin as boundary: “Skin no longer signifies closure.”\(^{31}\) The skin was the first boundary, architecture the second. If Stelarc proved that skin no longer signified closure in the 1970s,\(^ {32}\) telepresence has been proving since the 1980s that geographical and architectural physical location no longer signifies closure. Through telepresence, technologically-mediated agency transcends the site-specificity of physical boundaries. However, site and personal and cultural history are more important than ever for its politics of location, as I will discuss.

Dispersal of corporeal agency is at the heart of *Fractal Flesh*. If Stelarc’s oeuvre tests the limits of the skin as a barrier, he has not broken that barrier, but proved that it was never a barrier at all. Challenging the limitations of flesh boundaries is only possible through the ultimate nearness afforded by electronic networks and the rapidness of real time.

The body of *Fractal Flesh* creates becomingness between multiple environments. Where does the body of *Fractal Flesh* exist? In the physical world? In the placeless place of the virtual? One might argue that it exists within both simultaneously. Because this body is difficult to locate, it suggests that it is a schizophrenic body. Baudrillard and Jameson both identified a

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31 Stelarc, “Parasite Visions,” 119.
32 During the 1970s, Stelarc preformed many suspension pieces. The artist would pierce his skin with metal hooks and hang from ceilings within galleries, from outdoor structures in parks, and from cranes above cities. His objective was to challenge the limits of the skin as barrier between self and environment and to perform bodily extension.
schizophrenic tendency within postmodernism. The former described it as “too great a proximity of everything, the unclean promiscuity of everything which touches, invests and penetrates without resistance, with no halo of private protection, not even his own body, to protect him anymore.” The latter explained the phenomenon in terms of schizophrenia, dispersal, and the fragmentation of the psyche, all characteristics of a postmodern existence (in contrast with feelings of anxiety and horror that defined modernity); ultimately the postmodern subject is a decentered one. Jameson draws his definition of schizophrenia largely from Lacan, who writes that schizophrenia is a language disorder as a result of an Oedipus complex. Substituting the father for the desire of the mother’s attention creates Lacan’s paternal metaphor, the “Name-of-the-Father,” which is linguistic rather than biological. Infants develop schizophrenia when they do not fully enter into the Symbolic Order, or the realm of language; symptomatic of this partial accession is “the breakdown of the relationship between signifiers…an experience of isolated, disconnected, discontinuous materials signifiers which fail to link up into a coherent sequence.” Without the ability to recognize relationships between signifiers, including the self, over time, the schizophrenic is unable to grasp a sense of their own identity.

Is the telepresent individual really schizophrenic? I reject any normative judgments associated with the state of schizophrenia as something undesirable. If a “normative” concept of perception relies on signifieds “produced by the interrelationship of material signifiers,” it follows that the perception of the “non-normative” schizophrenic would find these interrelationships incomprehensible; for the schizophrenic, these interrelationships are always already broken down into isolated, free-floating signifiers that become increasingly materialized.

36 Ibid., 118-119.
37 Ibid., 119.
and literalized as a result.\textsuperscript{38} Yet, how does one define “material” signifiers when the intersubjective in telepresence is created in part through immaterial signifiers situated within the placeless place of the virtual? Jameson explains how the (im)material signifiers of language are experienced by the schizophrenic:

\ldots what the schizophrenic breakdown of language does to the individual words that remain behind is to reorient the subject or the speaker to a more literalizing attention towards those words. Again, in normal speech, we try to see through the materiality of words (their strange sounds and printed appearance, my voice timbre and peculiar accent, and so forth) towards their meaning. As meaning is lost, the materiality of words becomes obsessive, as is the case when children repeat a word over and over again until its sense is lost and it becomes an incomprehensible incantation...a signifier that has lost its signified has thereby been transformed into an image.\textsuperscript{39}

The schizophrenic would find intersubjectivity incomprehensible (even while he/she is within it), which is established via relationships between material bodies interacting through the telepresence framework, such as in \textit{Fractal Flesh}. By contrast, the schizophrenic would be more likely to understand the more literalized image of \textit{La Poupée}’s bodily inventory laid out on the table, as represented in a plate of Bellmer’s book, \textit{La Poupée} (Fig. 66). Eighteen plates from this book were published in the Surrealist publication \textit{Minotaure}, as seen in Figure 5. In this particular plate, each body part is neatly laid out without the need to understand the infinite interrelationships between arms, legs, and so forth, made possible by the ball joint. The telepresent individual possesses perceptual tendencies of schizophrenia and is almost, but not quite, schizophrenic. The dependency of telepresence on real time is amenable to the schizophrenics who, living eternally in a present tense disconnected from past and future, are incapable of understanding temporal continuity, whether linguistically or phenomenologically.\textsuperscript{40}

“The schizophrenic thus does not know personal identity in our sense, since our feeling of

\textsuperscript{38} Ibid., 119-120.
\textsuperscript{39} Ibid., 120.
\textsuperscript{40} Ibid., 119.
identity depends on our sense of the persistence of the ‘I’ and the ‘me’ over time.”\textsuperscript{41} However, while telepresence does indeed manipulate material signifiers, such as the body, to be experienced as a distributive existence, it is the fusion of the virtual that links the immaterial signifiers into sequences never before imagined or experienced. The resulting intersubjectivity and “third realities” challenge Jameson’s implied hierarchy of “the persistence of the ‘I’ and the “me’ over time,” in favor of the “we” and “us” over time. The inclusivity and multiplicity of hyper-subjectivity has the potential to critique hierarchies.

In order to better understand how the telepresent human has allowed hyperspace to affect the human, and in turn the human to enter hyperspace (and its schizophrenic symptoms), it is instructive to consider human hyper-subjectivity (defined by strong, technologically-mediated self-other overlap over variable distances, conceptualizing “other” both as becoming-animal and becoming-environment) in terms of what Roger Caillois defends as the schizophrenia of animal mimicry. This requires an analysis following post-anthropocentric posthumanism. Rosi Braidotti defines the process of post-anthropocentric posthumanism: “The ‘becoming-machine’ understood in this specific sense indicates and actualizes the relational powers of a subject that is no longer cast in a dualistic frame, but bears a privileged bond with multiple others and merges with one’s technologically mediated planetary environment.”\textsuperscript{42} In other words, post-anthropocentric posthumanism moves beyond assuming that the human species is hierarchical, and considers the ways that being is constructed between one’s environment (that includes other types of humans, other species of animals and plants).

Writing in 1935, Roger Caillois also discussed schizophrenia, but in terms of animals adapting to their environment through mimicry. He argued that humans have tainted their

\textsuperscript{41} Ibid.
\textsuperscript{42} Braidotti, “Post-Anthropocentrism,” 92.
interpretation of animal mimicry by focusing on their own species; anthropomorphism, he maintains, is what leads a beholder to ascribe meaning, respective to the beholder, to particular marks on a creature’s body.\textsuperscript{43} Within a post-anthropocentric posthuman approach, Caillois’ theories on animal schizophrenic behavior can help us to understand how telepresence came to satisfy the need for new perceptual equipment, AKA cyborg prostheses.

Homomorphy and homochromy are ineffective forms of self-protection against predators, Caillois claimed. Mimesis is not utilitarian and thus is a “luxury,” even a “dangerous luxury,” since creatures’ camouflages can lead to death; for example, humans shear insects while trimming hedges, believing the insects to be leaves and twigs.\textsuperscript{44} Additionally, Caillois determined that the reason why certain species of insects position themselves in particular ways on branches and leaves in their environment is because they are responding to a “temptation by space;” a marking on the insect’s body may dictate that it more naturally assimilate to its surroundings by assuming a certain posturing of the body,\textsuperscript{45} as in Bellmer’s studies on the postural model.

The temptation by space is inflected by the temptation of contact. “...the insect that disguises itself requires the contact of foreign bodies and the nature of the bodies producing the contact is of little importance.”\textsuperscript{46} We witnessed this in \textit{Fractal Flesh}; the contact through tele-manipulation was delivered by strangers whose real lived experiences remain unrecorded within the archive of \textit{Fractal Flesh}, yet equally a part of the work. Clear delineations between self and other became impossible. Keith Ansell Pearson sees Stelarc as embodying a rhizomatic structure

\textsuperscript{44} Ibid., 24-25.
\textsuperscript{45} Ibid., 27-28.
\textsuperscript{46} Eugène Louis Bouvier, \textit{Habitudes et métamorphoses des insects} (Paris: E. Flammarion, 1921), 151.
established by Deleuze: “Stelarc’s non-human becoming of the body involves confronting
perception with its own limits in which it no longer entails the relation between a subject and an
object (he is both at the same time, a zone of indiscernibility), involving a becoming-machine, a
becoming-animal, and a becoming-imperceptible (imperceptibility finally perceived)...”

Ultimately, rather than functioning to defend, animal mimicry serves to create “a
disturbance in the perception of space.” Telepresence similarly disturbs the way that space is
perceived; by capitalizing on real-time transmission, technologically-mediated time collapses
space. Caillois continued that an organism is “but one point among others,” meaning that
perception is not determined by the organism, and thus the coordinates of represented space are
not established by the organism either; the result is that the organism “no longer knows where to
place itself.”

Caillois draws a parallel with this disorientation and legendary psychasthenia, a term
first used by Caillois to describe a psychological condition with symptoms of obsessions,
compulsions, phobias, and anxieties that result in an inability to connect identity with a sense of
space. Responding to the “pure” science of Darwinism and the Cartesian subject, legendary
psychasthenia was intended as an “impure science,” founded in Surrealism, in which mimicry is
a luxury rather than a necessity for self-preservation. His description of schizophrenics could

47 The phrase “becoming-machine...becoming-animal...becoming-imperceptible” is borrowed from Gilles Deleuze
and Félix Guattari, “1730: Becoming-Intense, Becoming-Animal, Becoming-Imperceptible...” in A Thousand
50 Ibid.
51 Psychasthenia, similar to Obsessive-compulsive disorder, was a real diagnosis, although it is no longer used by
psychiatrists. Legendary psychasthenia, however, which functions conceptually rather than diagnostically, is still
used by cultural theorists.
53 Claudine Frank, “Introduction to ‘Mimicry and Legendary Psychasthenia,’” in The Edge of Surrealism: A Roger
just as easily come from a case study of Ken Feingold’s, *where I see my house from here so we are*, explored in Chapter 2. Cailllois writes, “[Space] ends by replacing them. Then the body separates itself from thought, the individual breaks the boundary of his skin and occupies the other side of his senses... And he invents spaces of which he is ‘the convulsive possession.’”

This can suggest how hyperspace owns the body, but works like *Fractal Flesh* beg the question, *whose body is this?* How do we define technologically mediated identity and ownership? Are the terms “self” and “other” still relevant? Significantly, Stelarc intentionally disassociates himself from his body, choosing the impersonal article “the” rather than the possessive pronoun “my.” What is obsolete is therefore not the body itself, but the notion of an *individual* body. Visually, within *Fractal Flesh*, Stelarc’s body appears as a singular body, despite the dispersal of half of his bodily agency. The singular body no longer signifies individuality, but opens up to dispersal and fragmentation. Without maintaining meaning, the material body signifier becomes an image.

Stelarc’s linguistic detachment counters Susan Kozel’s experience of her own screen-based avatar at the point of the worst sexual violence during her research on *Telematic Dreaming*; during an attack by two men, Kozel felt an immediate disconnect between her physical and virtual selves, followed by awe as she watched *the woman’s body* (her own) on the screen as if she was witnessing a violent attack on another person. Her previously integrated self, equally constructed between screen and body, became other and it was “the woman’s body – no longer *my* body” that was within the virtual. As Kozel elaborates, invoking Bellmer’s corporeal anagrams, “…the grammatical constructions of ‘my’ and ‘I’ seem to imply ownership of a clearly delimited body, but the dynamic of the chiasmus spreads and bends this so that the

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55 Jameson, “Postmodernism and Consumer Society,” 120.
proper self is amorphous even if language is structurally constrained." Here Kozel’s critique of language mirrors Stelarc’s critique of the body. Structural constraints, be they physical (body, architecture) or conceptual (language), are no longer adequate to embody and describe the paradoxical nature of hyper-subjectivity.

Kozel experienced in *Telematic Dreaming* an extension of the physical frontiers of her body as though the virtual body was a prosthetic; Stelarc, too, believes in the extension of the body. When the latter speaks of the “obsolete body” he does not mean that the body is useless, but essentially echoes Jameson’s claim that the body has not kept pace with the evolution of the built environment:

> When I talk about the obsolete body I don’t mean that we should discard bodies altogether, but rather that a body with this form and these functions cannot operate effectively in the technological terrain that it has created. The obsolete body is not about a loathing of the body; it’s not about discarding the body altogether. It’s [the obsolete body is] rather about speculating on how the body has evolved and, in a technological terrain that it has created, how the body has problems coping with the sort of intense information that is really alien to its own sensory apparatus, how it measures bits of information in scales that it can’t experience...What irritates me is people who see the Internet and virtual reality systems as strategies of escaping the body. You don’t escape the body; you function differently with the interfaces that produce these immersive and interactive effects. You construct an extended operational system that functions beyond the biology of the body and beyond the local space that it inhabits.\(^58\)

Stelarc and Kozel approach the body’s problem coping in different ways, but their conclusions are the same: the body functions differently in the current technological environment, but the body is necessary. If anything, Kozel’s experience with *Telematic Dreaming* made her more aware of her physical body, her consciousness pulled as in a game of tug-of-war between “the abjection of flesh and the sanitization of technology.”\(^59\)

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\(^{59}\) Kozel, “Spacemaking,” 96.
Notably, Stelarc defends staying within the body, articulating that the body adopts other modes of being. The body of *Fractal Flesh* can be considered in terms of Felix Guattari’s assemblages, “the nonhierarchical coming together of divergent technologies/bodies into new technology/body machines.” A nonhierarchical mode of being through telepresence has many theoretical possibilities at the dawn of the twenty-first century. We are, however, still facing the challenges posed by the ongoing fight against the fiction of corporeal normativity.

Rather than asking whose body is this, we must ask of the hyper-subject, *whose bodies are these?* What is the race, gender, class, age, ability of the participants of *Fractal Flesh?* This question is posed by disability activist and performance artist Petra Kuppers in her book *The Scar of Visibility: Medical Performances and Contemporary Art*. She sees *Fractal Flesh* as an opportunity to contribute to the ongoing critique aimed at certain phenomenological schools that all too often focus primarily on white, male, middle-class, nondisabled individuals. “But whose phenomenological experience is it, actually,” Kuppers beseeches, “to be draped across the globe?” How nonhierarchical is the interaction in *Fractal Flesh?* The body has been evenly divided to share the agency of the body between Stelarc and the tripartite Parisian, Helsinkian, and Amsterdam audiences, but each is located within a museum space, and each museum may charge an admission price. Therefore, to experience Stelarc’s *Fractal Flesh* requires a certain location and level of disposable income.

To broaden the scope beyond white, male, middle-class, nondisabled individuals, we must work to purposefully and meaningfully incorporate variance and lived experience within the teleoperator-telereceiver relationship. Who are the people that used Stelarc’s Stimbox? What

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61 Ibid., 116.
62 Ibid.
are their lives like and how do their respective cities help to shape their experience? I reject the system of depersonalization and detachment implied by Stelarc’s impersonal pronouns, and instead support Adrienne Rich, who argues for the importance of using the word “my.” Personal pronouns inspire “lived experience.” As Rich describes, “To say ‘the body’ lifts me away from what has given me a primary perspective. To say ‘my body’ reduces the temptation to grandiose assertions.”63 Teleoperators that manipulated Stelarc’s body were located in the capitals of France, the Netherlands, and Finland (certainly Eurocentric, although Stelarc himself is from Australia). A politics of location implies that the place in which you are located affects your body identity: the personal is political. Rich grew up in Baltimore, during the time period of the Third Reich, as a Jewish, white female, and grimly acknowledges that had she lived in Europe rather than North America, her identity would be entirely different, framed by the abject reality of growing up as a Jew in war-torn Europe. Had she lived somewhere different, she “would be some body [sic] else...[or be] in no body at all.”64 How does one situate the politics of the dislocation of telepresence? What if, within the placeless place of global telepresence, one forgets their physical location and the politics associated with that place? What if losing the self within the virtual results in losing one’s sense of culture within the physical?

The cultural chimera formed through telepresence risks becoming acultural if we neglect to use personal pronouns, instead using “the” body, contributing to the oppression of variances of lived experience. When multiple teleoperators occupy a telerobot or a human avatar, modes of seeing and being are shaped by politics of location. One tele-location, such as Telopolis in Luxemburg, could be occupied through telepresence by a white, middle class, European male; a

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64 Ibid., 372.
black, wealthy, American woman; an elderly, poor Latin man; and a middle class, disabled Alaskan transvestite. How does one define the dynamics of fractal and phantom flesh in such an instance? How much does telepresence enact the “‘deadly sameness’ of abstraction,” and is what is truly uncanny about telepresence? If we do not take into account the personal and political within the hyper-subject of telepresence, we risk making history null and void, “[allowing] no differences among women, men, places, times, cultures, conditions, classes, [and] movements.”

These are the paradoxes that define the liminal nature of the posthuman body and its identity. Telepresence, and perhaps being human today in the developed West, is not possible without technology, be it satellite, internet, fiber optics, chroma-key mixers, VR headsets, etc. We are all cyborgs, but the identifier “cyborg” itself has the potential to erase the personal and the political. Imbedded within the history of the cyborg is the oppression of monsters, including individuals with physical disabilities, as Rosemarie Garland-Thomson reveals. Feminist work of the early 1990s by Donna Haraway, Rosi Braidotti, and others, theorized a connection between cyborgs and other hybrid creatures. Garland Thomson aptly notes that, like in Fractal Flesh, such a theorization neglects lived experience:

However, this metaphorical invocation seldom acknowledges that these figures often refer to the actual bodies of people with disabilities. Erasing real disabled bodies from the history of these terms compromises the very critique they intend to launch and misses an opportunity to use disability as a feminist critical category.67

Telepresence risks the erasure of culture and, furthermore, erasure of the lived bodily experience of the disabled if it is not carefully harnessed. As an artistic framework, telepresence has the potential to redefine and empower the experience of those who are disabled.

Although we are already cyborgs, new modes of interaction and communication to displace habitual or ossified modes of conduct takes time. Yet it is these codes of conduct, founded upon discrimination of gender and/or ability, which prevent telepresence artwork from being fully immersive. For instance, the gendered violence to Kozel’s virtual image in *Telematic Dreaming* was the only reason her immersion in the work was severed. As Faith Wilding argues, “…the new media exist within a social framework that is already established in its practices and embedded in economic, political, and cultural environments that are still deeply sexist and racist. Contrary to the dreams of many Net utopians, the Net does not automatically obliterate hierarchies through free exchanges of information across boundaries.”68 I am hesitant, though, to believe that using telepresence to overcome dualistic thinking is but a telematic dream.

Feminist disability theory considers disability in terms of the fiction of the ability/disability spectrum. The tenets of disability, which feminist disability theory critiques, are fourfold. Firstly, the ability/disability spectrum is a means by which bodies can be differentiated and disciplined. Secondly, the disability spectrum is holistic, “a relationship between bodies and their environments.” Third, it creates able-bodied and disabled subjects through praxis. Lastly, “it is a way of describing the inherent instability of the embodied self.”69 For my research I am most interested in interrogating the connection between bodies and environments and the instability of the embodied self as performed through telepresence artworks and their related interdisciplinary manifestations.

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Robotics have been used to aid in the rehabilitation and assisted living of the elderly and disabled (Assistive Robots) since the mid-1970s, with increased applications after the Americans with Disabilities Act (ADA) on July 26, 1990. Today, telepresence is used for a new branch of medical assistance called tele-care, through which healthcare workers stationed at a distant site could administer remote care to patients in their homes, such as feeding, bathing, and mobility assistance through a TeCaRob (telecare robot). Other systems using self-view monitors are also being developed as recently as 2011. Tele-care and telepresence artworks co-create infinite possibilities for interdisciplinary overlap between art and the medical sciences that break down the boundary not only between art and life, but also between art and sustaining life.

In 2013, the Spanish art collective BeAnotherLab created the vehicle for art experiments called “Machine to Be Another” (referred to in the thesis as “The Machine”) (Fig. 67). This experimental setup has gained rapid international attention since 2013 and has been featured in the Huffington Post, C-Net, and others. Using Oculus Rift virtual reality technology, “The

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71 Ibid., 47-51.


75 The Oculus Rift virtual reality technology was critiqued as sexist in Danah Boyd’s March 28, 2014 essay, “Is the Oculus Rift Sexist?” Men and women process movement differently because there are “more sex hormones on the retina than in anywhere else in the body except the gonads.” Some have argued that the coding of Oculus Rift has been, intentionally or not, established upon the biologically male model of vision. As a result, many women engaged with Oculus Rift suffer nausea and vomiting. Military researchers have found that women get sick in simulators far more frequently than men. Depth is perceived through one of two sets of cues, either “motion parallax” or “shape-from-shading.” Motion parallax is illustrated by an object increasing in size as it approaches the subject. Shape-from-shading depends upon changes in lighting relative to the subject in order to estimate the depth of an object. In reality both motion parallax and shape-from-shading work in tandem, but as Danah Boyd argues, in virtual reality motion parallax, attributable to the biological vision of men, is preferential in coding, most likely because it is less
Machine” creates “an embodiment system designed to address the relation between identity and empathy,” with the goal of “promoting empathy among individuals of different social, cultural and ideological contexts.” Identity is performed in its rediscovery through “The Machine.”

“The Machine” works through various performances by relying upon equipment such as head-mounted displays and a servo engine. Like other artworks explored, such as Telematic Vision and Telematic Dreaming from Chapter 3, each space in “The Machine” must be identical. Unlike works previously explored, “The Machine” relies upon identical movements between the performer and the user; the installation can only function through similarity of environment and behavior. The “performer” is defined as “the virtual avatar [that] copies movements of the user;” the user “explores movements, gestures and interactions with objects.” Users wear an Oculus Rift head-mounted display; rather than seeing an artificially constructed, computer-animated environment within the headset, the user sees the first person perspective of the performer, who wears a first-person camera attached to the shoulders and chest and situated at eye level. Servo engines capture the coordinates of the user’s head-mounted monitor and reproduce it in the placement, tilt, and roll of the performer’s camera. Because the performer does not also wear a headset, it enables him/her to watch the movement of the user’s limbs in order to mirror them.

Identical movements and physical surroundings enable a pseudo-haptic sense in this telepresence art installation that was lacking in the examples explored earlier in the thesis. When performer

complex to reproduce in computer systems: “men are more likely to use the cues that 3D virtual reality systems relied on.”


78 Bertrand et al., “‘The Machine to Be Another,’” 2, figure 1.
and user *share* through telepresence, the group calls this the “experiment.” Each experiment is followed by dialogue about what it was like to be “other.”

Like *Fractal Flesh*, “The Machine” also uses physical human bodies as avatars, rather than one’s image within a self-view monitor. Unlike *Fractal Flesh*, the experiments performed by BeAnotherLab aim to incorporate not only the body, but emotions. Users are encouraged to describe out loud their memories of objects with which they interact during the course of the performance, a process which succeeds in integrating a politics of location and of real bodies shaped through lived experience.

BeAnotherLab has been influenced by investigations, conducted at the Karolinska Institute, into the potential of embodied simulation mechanisms, enabling healthy participants to have sensations of having phantom limbs, including a third arm, like Stelarc’s machine-like one; researchers found “that when individuals visually experience that they are located in a different place from their real body they disown this body and no longer perceive it as part of themselves,”79 skewing the relationship between self and other. Telepresence has the potential, as we have seen, to create a disconnection between the physical self and its avatar; this detachment can be capitalized upon in the formation of the hyper-subject. Notably, another study found that people respond with more empathy when the individual appears familiar rather than strange, contributing to the “self-other overlap.”80 A key proponent of the hyper-subjectivity created through telepresence is just this overlap between self and other. Thus, for telepresence installations to be truly immersive, and to promote empathy, they must consider a politics of location, lived experience, and emotional affect.

79 Ibid., 1.
While BeAnotherLab has explored many identity issues, the issue most important for my research is how “The Machine” is able to increase self-other overlap through the poetics of telepresence, and to contribute to revealing normative states of being as fictional. The collective accomplishes this not through bidirectionality within a single artwork, as in previous telepresence artworks, but through two performances focused on the ability/disability spectrum: *Dancing on the Feet* and *In Merce’s Wheels*. Stelarc’s *Fractal Flesh* is a split body while *Dancing on the Feet* and *In Merce’s Wheels* may be considered a split performance. *Dancing on the Feet* allows a physically challenged person access to disabled limbs through the performer-avatar, while *In Merce’s Wheels* allows able-bodied participants to experience disability.

*Caracoleando en Espejo* (Dancing on the Feet) was a live “embodied dance experiment” performed on June 2013 at L’Estruch by Victoria Martínez Alés and Cristina Roca using the vehicle of “The Machine” (Figs. 68-69). The investigation, led by BeAnotherLab in collaboration with the Liant La Troca dancers, was “suggested by dancers physically challenged [who were] willing to see themselves from another’s perspective: dancing on the feet.”\(^{81}\) Some of the sensations felt by the physically challenged dancers were experienced for the first time in their living memory, such as the sensations of being taller and having the ability to stand up.\(^{82}\)

Similar to examples that included sound, such as *where I can see my house from here so we are*, and *Hole in Space*, this work also incorporated acoustics. However, it is not bidirectional; rather, the performer is outfitted with a microphone to which s/he can speak to the user. This gives the impression of hearing the thoughts of the other and adopting his/her

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\(^{82}\) Bertrand et al., “‘The Machine to Be Another,’” 3.
consciousness. When the user interacts with an object, the performer is to verbally describe (into the microphone) their associations and memories – their subjective experience – of the object.

The immersive qualities of this work are among the most powerful of the telepresence art installations included in my thesis. One reporter, Aaron Souppouris, experienced “The Machine”83 for his article, “Virtual reality made me believe I was someone else.” His experience was profound and immersive:

I am no longer Aaron Souppouris. I am a woman. I am a stranger. I stare down at the mask I hold in my hands, struggling to comprehend how those hands, which are clearly not mine, are allowing me to feel its curves and cracks. As I glance at the mirror in front of me, my new lip piercing glimmers under the harsh fluorescent lights. This is not a fever dream, not a hallucination, not even a video game. This is The Machine to Be Another.84

Through technologically-mediated self-other overlap, “The Machine” promotes an overwhelming phenomenology of a distributive existence, which Souppouris, who wrote that he “felt embarrassingly connected to [his] performer,” clearly experienced.85 Returning to Bellmer’s work on the physical unconscious, and Schilder’s writings on the postural model, “The Machine” is a way that we can, through telepresence, create articulated collectives based on body-image, agency, and beyond.

Even the way that the collective describes this performance supports my notion of a repeating of the mirror stage: “two dancers, one extended body choreography.”86 Like the other telepresence works examined, “The Machine” operates through – while blurring - the roles of performer and user.

83 Souppouris reported on his involvement with “The Machine to Be Another” performance Gender Swap, in which a man and a woman, both wearing head-mounted displays, mirror each other’s movements in order to feel embodied in the opposite gender. This work is more bidirectional in its framework than the individual performances Dancing on the Feet or In Merce’s Wheels, but the phenomenological response to the work is just as relevant.
85 Ibid.
86 “Dancing on the Feet,” 0:29-0:33.
In Merce’s Wheels reverses the roles on Dancing on the Feet. This time the user is able-bodied and the performer is disabled (Fig. 70). Merce, the performer, is the woman in a motorized wheelchair who shares stories of her daily experiences and challenges with the user, who sits in a wheelchair. The user directs Merce through pointing where s/he would like to go. Combining physical and emotional immersion increases the charge of the work. As BeAnotherLab reports, “some users stated that after some time they felt that [Merce’s] voice came out of their own heads.”87 Both works by BeAnotherLab integrate extimacy not through interpersonal, virtual contact, as in Paul Sermon’s Telematic Vision and Telematic Dreaming, but through the sound that Sermon’s works omitted. Fragmentation of the subject in hyperspace, and its infinite recombinant possibilities, better enables discovery and empathy. Writing in 2001, Garland Thompson noticed, “Nowhere do we find posters suggesting that life as a wheelchair user might be full and satisfying, as many people who actually use them find their lives to be.”88 Imagining another’s personal experience as lacking due to corporeal difference smacks of a lingering Humanism in a posthuman culture. Equating the treatment of corporeal difference in the new millennium to the Holocaust would be to create a false equivalent; yet, within their respective cultural contexts, echoes of Bellmer’s reaction to the Holocaust through La Poupée, using the ball joint, can be witnessed in BeAnotherLab’s reaction to a lack of empathy in our time through “The Machine,” using telepresence.

Telepresence technologies enable, within the virtual realm, the physical universality afforded by the ball joint. Third realities – or rather the third subjectivity of the hyper-subject – are created from the experience of the users interacting with these two works: Fractal Flesh and the ability spectrum works by “The Machine.” The user(s) experience their own body in part, but

87 Bertrand et al., “‘The Machine to Be Another,’” 3.
the body of the performer becomes, to use Stelarc’s term, phantom flesh. Especially in instances in which the physically handicapped act as teleoperator, the performer essentially performs the able-bodied performer, now acting as a phantom limb.

As I explored in Chapter 1, Bellmer’s “physical unconscious” is instructive to a study of telepresence placed in the genealogy of Surrealism. The physical unconscious is “a system of continual unconscious transformations of physical sensations that aim at circumventing repression or taboo.”\(^89\) Just as the unconscious, in its partial isolation from the conscious, is alien within the self, *Fractal Flesh* is more indicative of an unconscious transformation because Stelarc could not control the animation of the “possessed” half of his body. Stelarc constructs Bellmer’s “physical alphabet” not through the interchangeable limbs of a doll, but through the opposite: Stelarc’s body remains physically intact but the agency – embodied at a distance - is infinitely interchangeable through the Stimbod framework. Agency can move through more or less static physical entities as though traveling through passageways in a building, yet a building whose interior and exterior is impossible to define.

The Gestalt psychological concept of multi-stability discussed in Chapter 1 defines a multiplicity of images within a single image. Multi-stability is founded upon visual forms. *Fractal Flesh* is also multi-stable. Audiences armed with the knowledge of the work’s makeup will realize that Stelarc is not voluntarily convulsing one half of his body, but that it is through the Stimbod system that others are able to inhabit the moving image of Stelarc’s body. It is a mobile elaboration on the multi-stable image of the elderly and young women in the well-known Gestalt image. Rather than two-dimensional, this is a four-dimensional multi-stable Gestalt artwork. It is through time, the *real time of telepresence*, that multiple sources of agency can be seen animating not one image, but one body. This is the “third reality” of the work.

\(^{89}\) Green, *The Doll*, 22.
Furthermore, Bellmer argued that it is movement (requiring the fourth dimension) that allows a Gestalt of irrational parts to become a new whole. To recall Bellmer’s example from Chapter 1, he describes holding a frameless mirror at a right angle to an image of the human body and keeping the mirror in constant motion. The mirror image creates a false whole of irrational parts, but it is convincing because of the constant transformations created through the movement of the mirror. Movement and transformation in *Fractal Flesh* similarly contribute to its persuasive nature, although the visual of a singular body can distract from the greater idea presented in the work.

Each person in Paris, Helsinki, or Amsterdam that contributed to possessing Stelarc’s body is also possessed by him. Their agency – i.e. presence – is not fully where they are. As I discussed in Chapter 2, teleoperators (users) are equated with a type of living corpse whose agency is thrown like a ventriloquist’s voice into an inanimate being. Users of the Stimbody system throw their animation into an animate human as though to oversaturate it with volition. Stelarc possesses the user by displacing their sense of presence away from themselves and onto him. In this way the work is bidirectional.

The technologically-mediated third reality created by “The Machine” has significant implications within the framework of feminist disability theory. Considering *Dancing on the Feet* and *In Merce’s Wheels* as two interconnected works, that in turn connect personal experience with embodied performance, allows us to consider the complexities and challenges posed by hyper-subjectivity. Stelarc does not narrate his experience verbally; rather, *Fractal Flesh* users can watch his movement on their distant computer screens. “The Machine,” through incorporating the personal – be it vocalizing memories or free-association with objects – prevents dehumanizing the hyper-subject into an object. The posthuman incorporates becoming-
machine, becoming-animal, and becoming-earth; I have focused in this thesis only on the first of these three. Stelarc may feel that the body is obsolete, but lived experience surely is not.

Telepresence has the capacity to prevent dehumanization not through an approach to curing and rehabilitation of bodies, but through immersion reliant on familiarity and empathy that would promote social change: “The emphasis on cure reduces the cultural toleration for human variation and vulnerability by locating disability in bodies imagined as flawed rather than social systems in need of fixing.” Telepresence has the capacity to contribute to fixing these social systems through revealing the fiction of unitary identity and reinforcing self-other overlap. That is the promise of telepresence.

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CONCLUSION

Just as the entire mode of existence of human collectives change over long historical periods, so too does their mode of perception. The way in which human perception is organized – the medium in which it occurs – is conditioned not only by nature but by history.

– Walter Benjamin, “The Work of Art in the Age of its Technological Reproducibility”

My thesis is not a utopian manifesto. It is a presentation and questioning of what the hyper-subjectivity of telepresence promises, as well as a cautionary tale. Beneath all of the hyper-subject’s potential lies a dystopian underbelly: 1) the erasure of difference, 2) the end of a sense of history in the schizophrenia of an eternal present, and 3) the end (or a potential recoding) of critical distance through the distraction of a distributed existence. While much further art historical critique is necessary, for now I will conclude the thesis by examining each forewarning in turn before identifying additional lines of inquiry within the genre of telepresence art.

While telempathy is the objective of many telepresence artworks, extreme forms of immersive telempathy risk erasing difference. If telepresence is the “perceptual illusion of non-mediation,” the logical conclusion is for telepresence artworks to be so non-mediated that difference, as mediatory, perceptually disappears. Paradoxically, the very means by which telepresence art promotes empathy through hyper-subjectivity can also create perverse subjective distortions. Audre Lorde, writing in 1984, critiqued the effect of erasure on women, a critique that can be applied to the hyper-subject as well: “It is not our differences which separate women, but our reluctance to recognize those differences and to deal effectively with the distortions which have resulted from the ignoring and misnaming of those differences.”¹ If artists working

with telepresence art are not vigilant, they will actualize the risk of ignoring and misnaming differences.

Many tensions arise in the telepresence artworks I explored in the thesis. For instance, Stelarc supports the use of impersonal pronouns (“the” body). By contrast, Adrienne Rich argues that we must incorporate personal pronouns in order to take account of the politics of location and lived experience. BeAnotherLab supports exploring all ability levels through telepresence, not just “normative” bodies. Additionally, participants throughout the artworks in my thesis experience varying levels of bodily engagement and acknowledgement of their unique identities. In Stelarc’s *Fractal Flesh*, the teleagencies of teleoperators in Paris, Amsterdam, and Helsinki were indiscernible; in this work, the politics of location were not preserved. All participants’ identities, as manifest in *Fractal Flesh*, were reduced to clicks on the Stimbod that translated into shocks on Stelarc’s body, to which his muscles involuntarily responded. Likewise, Lynn Hershman Leeson’s *Dollie Clones* went so far as to steal one another’s identity, and by association, the agency of distant teleoperators interacting with the two works.

Perhaps the greatest threat posed by the hyper-subjectivity of telepresence is the promotion of a monoculture. The term monoculture originates from biology and describes the cultivation of a single organism or crop within a given area. Monocultures are homogeneous and essentially cloned. If a disease affects one organism within a monoculture, and this organism is unable to defend itself, then the entire genetically identical crop will be unable to defend itself and all will suffer. Thus, monocultures represent a death drive. If hyper-subjectivity becomes inherently a mono-subjectivity, diversity has died and, with it, culture. Critiques of the hyper-subject benefit from comparing the cultivation of new forms of subjectivity with the cultivation of new strains of crops that are dependent on the relationship between biotechnology and
biodiversity. As Vandana Shiva asserts, “There is a prevalent misconception that biotechnology development will automatically lead to biodiversity conservation...Although breeders draw genetic materials from many places as raw material input, the seed commodity that is sold back to farmers is characterised [sic] by uniformity.”⁵² For instance, if we conceptualize the creation of Fractal Flesh as a “breeding” of a new strain of subjectivity from the “raw input” (in the form of data) from Paris, Amsterdam, and Helsinki, how is any performance unique from another? These performances, taken collectively, risk uniformity because the personal experiences of the teleoperators are ignored.

It is difficult, but not impossible, to maintain diversity through telepresence frameworks. Telepresence, in promoting the overlap of self and other, risks the cultivation of a digitally-mediated monoculture. This can happen when cultures across the world are obliterated by the collapse of distance and the blending of difference. More specifically, the hyper-subject, rather than risking a physical monoculture, by which bodies are cloned, threatens to become what Shiva calls a “monoculture of the mind.” “Monocultures of the mind make diversity disappear from perception, and consequently from the world. The disappearance of diversity is also a disappearance of alternatives – and gives rise to the TINA (there is no alternative) syndrome.”⁵³

I will not go so far as to say that there is no alternative to hyper-subjectivity today, but it has become, and will continue to become, more prevalent. In its initial gestation phase in the mid-1980s, hyper-subjectivity was a response to what Jameson might have called, in response to Shiva, “TANO”: “there are no (perceptual) organs” with which to navigate hyperspace. Over three decades later, our perceptual equipment (telepresence art among them) provides many alternatives for our biologically-given perceptual organs.

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⁵³ Shiva, introduction to Monocultures, 5.
These alternatives are technological prosthetics that allow us to extend our reach, granting us greater freedom. However, the liberties that enable the hyper-subject by proxy include the risk of erasing difference as a very real form of social control. As Shiva continues, “Monocultures spread not because they produce more, but because they control more.”\(^4\) If the hyper-subject becomes a monoculture, or because it becomes a monoculture, this new subjective state will in theory exert control over all those who are excluded: the other side of the digital divide. Those excluded from digital access become the “outsiders” necessary to maintain global capitalism.

One exclusionary factor in telepresence is accessibility. The digital divide creates digital deserts in which communities large and small have no way to experience internet connectivity, let alone telepresence. The hyper-subject position I discussed throughout the thesis refers to those engaged with telepresence artworks, but to the exclusion of the identities of individuals throughout the world without access to the internet and to institutions that display these artworks. The peril of telepresence lies with the digital divide, or the difference between those who have ready access to the internet and those that do not, a disparity based on race, gender, ethnicity, education, and class. Until the digital divide is bridged, the nonhierarchical promise of hyper-subjectivity may turn paradoxically into a hierarchy to the exclusion of those who lack digital access.

Precisely because you cannot know the skin, age, class, sex, and ability level of the teleoperators in works like Fractal Flesh means that the oppressive powers of racism, ageism, classism, sexism, and discrimination of ability are removed. Yet, at the same time, removing otherness from the equation “presents the most serious threat to the mobilization of women’s

\(^4\) Ibid., 7.
joint power,”⁵ as well as the joint power of all people. In theory, diversity could be subordinated to the difference between hyper-subjectivity and those outside the digital divide, for the benefit of social control and capitalism. According to Lorde, the maintenance of difference in society functions to sustain profit economies:

Institutionalized rejection of difference is an absolute necessity in a profit economy which needs outsiders as surplus people. As members of such an economy, we have all been programmed to respond to the human differences between us with fear and loathing and to handle that difference in one of three ways: ignore it, and if that is not possible, copy it if we think it is dominant, or destroy it if we think it is subordinate. But we have no patterns for relating across our human differences as equals. As a result, those differences have been misnamed and misused in the service of separation and confusion.⁶

In some of the works included in this thesis, namely the Dollie Clones, difference is not maintained, but suppressed. Within the medium of telepresence exists both the means for “relating across our human differences” and a method by which to ignore them.

The hyper-subject is at once both centralized and dispersed. Telerobots and human avatars are located in one place and time: RC Robot in Brazil, Stelarc performing Fractal Flesh in Luxembourg, and the Dollie Clones exhibited in 2005 in Seattle. While the telemanipulators are strewn across the globe, their combined agency, manifested in the telerobot or avatar, is centralized. Is a distributive existence equitable to decentered control, or does the centralization of agency subordinate that power? As Shiva warns, “The shift from uniformity to diversity...is also a political imperative because uniformity goes hand in hand with centralisation [sic], while diversity demands decentered control.”⁷ To prevent a hyper-subjective monoculture, telepresence artworks must work to privilege decentralization of agency over centralization of avatars.

Telepresence and hyper-subjectivity promote empathy at the cost of the individual. Telempathy is like an ouroboros, the image of the circular snake eating its own tail: if the goal of

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⁵ Lorde, “Age, Race, Class, and Sex,” 282.
⁶ Ibid., 281.
⁷ Shiva, introduction to Monocultures, 8.
telepresence is to understand difference to such a great extent, when drawn to its logical conclusion, uniqueness is consumed in the process. Thus, in order to preserve difference, the overlap of self and other in the hyper-subject cannot be total. However, if the overlap is not complete, the experience is not as immersive, threatening to negatively impact the “perceptual illusion of non-mediation” quintessential to telepresence. Yet, because the experience of telepresence is both inside and outside each individual’s body, it is your body that will always already preserve difference because no two people – even possessing the same telerobotic avatar – will ever perceive the same experience identically.

Perception cannot be cloned. The telepresence artworks draw psychological and phenomenological material from across the globe, but no two performances of Fractal Flesh or Telematic Dreaming, for instance, consist of the same combination of telemanipulators. Culture influences perception, and perception mediates phenomenological experience. For example, the way that individuals in the West respond to humanoid robots is very different than it is in the East, where they do not find them as repulsive. If there is a way to express cultural difference through the telepresence framework, it would have to be done in such a way as to not interfere with the “perceptual illusion of non-mediation.”

Going forward, we must continue to probe the role of recognizing and preserving diversity in telepresence, for “only a system based on diversity respects the rights of all species and is sustainable...Diversity as a way of thought and a way of life is what is needed to go beyond the impoverished monocultures of the mind.” These differences exist in terms of scale and form (Ornitorrinco in Copacabana), identity, as well as race, gender, age, ability level, and class – and, one could add, digital access.

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8 Ibid.
In an increasingly digitized culture, we are increasingly starved for physical human interaction. Telepresence facilitates communing in a virtual realm, but the bodies of the teleoperators are very much distributed and isolated. Isolation also impacts perception. A recent study suggests that the way we read the social interaction of a telepresence robot depends upon our state of loneliness or sociability:

...the motivation to connect with other people systematically alters the interpretation of the physical features that signal that a face is alive. Specifically, in their efforts to find and connect with other social agents, individuals who feel socially disconnected actually decrease their thresholds for what it means to be alive, consistently observing animacy when fewer definitively human cues are present. From an evolutionary perspective, overattributing animacy may be an adaptive strategy that allows people to cast a wide net when identifying possible sources of social connection and maximize their opportunities to renew social relationships.\(^9\)

How might loneliness impact the relationship of telepresence art and the uncanny valley? Humans are hardwired to distinguish between living and nonliving humans by facial recognition, and we are intrinsically driven to connect with others. We are social creatures. However, as connection becomes more difficult to enact by traditional modes of interaction, such as in-person meetings, “the drive to fulfill this motivation may manifest itself in the attribution of mental states to nonhuman entities, such as gadgets and pets.”\(^{10}\) To this we can add telerobots. Loneliness has the capacity to recode the uncanny valley even further, making the valley shallower as we become more prone to accepting – out of loneliness – the inanimate as an adequate surrogate for human peers.

Combined with the risk of erasure of diversity is the threat of erasing a sense of history in the eternal present of the schizophrenic hyper-subject. The real time of telepresence is well-aligned with the schizophrenic eternal present of twenty-first century culture. However,

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10 Ibid.
paradoxically, Jonathan Crary asserts that the eternal present of post-modernity is actually an "anti-social" environment that promotes sameness:  

A 24/7 environment has the semblance of a social world, but it is actually a non-social model of machinic performance and a suspension of living that does not disclose the human cost required to sustain its effectiveness. It must be distinguished from what Lukács and others in the early twentieth century identified as the empty, homogenous time of modernity, the metric or calendar time of nations, of finance or industry, from which individual hopes or projects were excluded. What is new is the sweeping abandonment of the pretense that time is coupled to any long-term undertakings, even to fantasies of ‘progress’ or development. An illuminated 24/7 world without shadows is the final capitalist mirage of post-history, of an exorcism of the otherness that is the motor of historical change.  

This moment is foreboding: a “non-social model” (that can reroute our perceptions of animacy) and “an exorcism of otherness” both portend the death of history. Even the history of the hyper-subject is difficult to discern. The birth of the hyper-subject was not a punctual event, but instead evolved over time, beginning in the early 1980s. Today hyper-subjectivity, with its potential to challenge hierarchies and to promote empathy and understanding, must compete with a Western culture that is utterly narcissistic and driven by “selfies” exchanged in real time. It is imperative that an empathetic acknowledgement of otherness regain its foothold, and telepresence art is one such method of vigilance. Telepresence speaks the language of real time and through near, but not complete, overlap of self and other, hyper-subjectivity has the potential to preserve history within the new temporal and perceptual vocabularies of the twenty-first century.

The hyper-subject will likely meet resistance not only in the West, but in the global landscape of identity formation. While traditionally eastern concepts of identity were founded on collectivism, the younger generations in the East are looking to the West for models of identity (in a quasi-global mirror stage) based upon “individualism, competitive success, and materialism and putting personal goals ahead of group goals as well as defining one’s identity in terms of  

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11 Jonathan Crary, Chapter 1 in 24/7: Late Capitalism and the Ends of Sleep (London and New York: Verso, 2013), 9.
personal attributes rather than group behaviors.” Telepresence and hyper-subjectivity have both the potential to preserve cultural identity and the potential to expedite a global shift toward cultural narcissism modeled on the West. Sustaining cultural identity depends upon an understanding of history and of the temporal goals of preservation and identity. Identity is predicated upon the past, while preservation looks toward the future. Yet, the conundrum is this: if the hyper-subject, carrying traits of the schizophrenic in the perpetual present, cannot understand temporal continuity, how can telepresence recognize or preserve difference?

Telepresence robots that experientially represent cultural difference must be created artistically. Just as *Ornitorrinco in Copacabana* had the specific aim to present a non-human vantage point through scale, telepresence art installations must be created to represent the cultural perceptions of different groups around the world and to impart these perceptions, through telempathy, on others. For instance, Eastern cultures do not find humanoid robots as off-putting as many in the West. Is there a way to maintain usage of humanoid robots but, in preserving the cultural difference of eastern teleoperators, somehow affect a shift in perception, however temporary?

The third potential peril of hyper-subjectivity is the end of critique. In addition to real time, the other quintessential trait of telepresence is the collapse of distance to impart the illusion of presence where one is physically absent. Together, real time and “presence at a distance” contribute to a lack of distance both temporal and, in effect, physical. Distance is crucial to analysis and critique. Upholding the closure of temporal and physical distance jeopardizes the act of questioning, a vital act that leads to progress and social change. Jameson cautions that hyperspace obliterates critical distance:

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distance in general (including ‘critical distance’ in particular) has very precisely been abolished in the new space of postmodernism. We are submerged in its henceforth filled and suffused volumes to the point where our now postmodern bodies are bereft of spatial coordinates and practically (let alone theoretically) incapable of distantiation...\(^\text{13}\)

Critique requires not only distance for reflection, but focus for directed thought and action. The “hyper” of hyper-subjectivity suggests a subjectivity that is distracted and distributed to a fault, rather than a function. The ultimate question is this: is the hyper-subject truly a homogenous monosubject or is it instead a form of deconstructive critique, through which the subject enters the settings of a monoculture in order to destabilize and critique it? Instead of reinforcing monoculture, the hyper-subject can potentially critique from within. Telepresence lacks temporal and physical distance, and by definition critique requires critical distance. However, if the hyper-subject is capable of deconstructive critique, it also has the ultimate potential of rewriting what it means to critique at all, without distance.

The aesthetics of telepresence and the hyper-subject are uneasy precisely because innumerably more tensions have been uncovered than are presently resolved, or will be resolved in the near future (is there such a thing for the hyper-subject?). This study, as it pertains to human users of telepresence art, is by no means exhaustive, and further research is necessary to discover the implications of hyper-subjectivity. In 2007, Jamais Cascio proposed an extension to the uncanny valley graph to reflect trans-humanism, post-humanism, and radical\(^\text{14}\) post-

\(^{13}\) Jameson, “Culture,” 48-49.

\(^{14}\) Tamar Sharon differentiates between four nuanced posthumanisms in Human Nature in an Age of Biotechnology: The Case for Mediated Posthumanism: dystopic posthumanism, liberal posthumanism, radical posthumanism, and methodological posthumanism. According to Sharon, dystopic and liberal posthumanisms have a more positive relation to Humanism’s unitary, autonomous subject position, while the latter two humanisms seek to overthrow the Humanist subject. While an exploration of these various types of posthumanisms is beyond the scope of the thesis, Sharon’s definitions of radical and methodological posthumanisms, on page 6 of her book, allow us to better distinguish posthumanism and radical posthumanism, and understand how radical and methodological posthumanisms played a role in the theoretical framework of the thesis: “Radical posthumanism is characterized by the view that emerging biotechnologies are contributing to a deconstruction of foundational discourses based in terms like ‘nature’ and ‘the human’. This interdisciplinary approach is informed by cultural theory, cyborgology, feminist studies, and Science and Technology Studies (STS)...[Radical posthumanism] thus views the posthuman as providing a means of political resistance against the metanarratives of modernity and as having the potential to usher
humanism.\textsuperscript{15} Called “The Second Uncanny Valley,” on this extended graph the point plotted that is equally agreeable to “humanoid robot” on the original graph, is “near-posthuman” (Fig. 71). Considering this model further has the potential to produce a more nuanced approach to telepresence art and twenty-first century modes of being.

Telepresence art is an understudied area of contemporary art history, due to the fact that its basis of interaction is largely immaterial. “In short, once we begin dealing with verbs and nouns which begin with tele-, we are no longer dealing with the traditional cultural domain of representation.”\textsuperscript{16} Real-time communication technologies were shadowed in the twentieth century by representational technologies such as film and audio recording; while the latter led to the development of more recognizable forms of art, real-time communications are equally (if not more) justified in their relevance to creating forms of art reflective of the postmodern nostalgia for the future.\textsuperscript{17} The phenomenology of real-time communications like telepresence cannot be represented, but can only be felt, posing challenges for its study that are aided by personal interviews, observation, and psychoanalysis. To the study of new media and telepresence art my thesis contributes the first art historical application of the uncanny valley to telepresence

in a postmodern and post-anthropocentric era. This approach will be called radical because it calls for a radical rethinking of human ontology in light of emerging biotechnologies.” In the thesis overall, my approach of post-anthropocentric posthumanism and feminist disability theory is, within a more nuanced account of the types of posthumanisms, aligned with radical posthumanism. While Braidotti does not label herself as a radical posthumanist, her approach could be considered such according to Sharon’s definition of radical posthumanism. My approach can also be aligned with what Sharon delineates as “methodological posthumanism,” which “introduces two crucial notions for the analysis of posthuman technologies: an emphasis on materiality, or the study of the concrete development and formation of particular technologies and their impact on human experience (as opposed to more traditional transcendental perspectives of technology), and what is known as technological mediation, the understanding that technologies are not neutral instruments or intermediaries but rather active mediators that contribute to shaping the relation between users and their environment...[it is] an attempt to develop better conceptual tools for studying science and technology in society rather than developing a new posthuman ontology – hence the use of the term methodological for this approach.”


\textsuperscript{17} Ibid., 162.
artworks, the first comparison of telepresence art to Bellmer’s *La Poupée*, and advocates for more art historical research on the hyper-subject as a new state of viewing and experiencing art in the twenty-first century.
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