

Virtual Embodiment

"When I think of my body and ask what it does to earn that name, two things stand out. It moves. It feels. In fact, it does both at the same time. It moves as it feels, and it feels itself moving. Can we think a body without this: an intrinsic connection between movement and sensation whereby each immediately summons the other?"

Brian Massumi, *Parables for the Virtual*

"[This] leads to a strategic definition of 'virtuality.' Virtuality is the cultural perception that material objects are interpenetrated by information patterns. The definition plays off the duality at the heart of the condition of virtuality- materiality on the one hand, information on the other."

N. Katherine Hayles, *How We Became Posthuman*

The body, the abstract idea of the body as well as the body as a physical and cultural entity, is under constant negotiation in contemporary technologically-informed art practices. In fact, some might say that the body is obsolete¹, that we are in a post-human era², or simply that technology is inherently anti-body and actively destroys the body.³ These assertions only reveal the complicated situation in which the body finds

¹ Stelarc quoted in Massumi, 89.

² N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: U of Chicago P, 1999) 3. According to her definition, the posthuman view "configures the human being so that it can be seamlessly articulated with intelligent machines. In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals."

³ "Even the appeal of the internet and cyberspace are part of the eighties' heritage that we will have to acknowledge, rethink, and work through. While presenting itself as a celebration of the body and its pleasures, this fascination bears witness to a profound, if unacknowledged and undiscussed, hatred and resentment of the body. The preferred body was one under control, pliable, amenable to the subject's will: the fit and healthy body, the tight body, the street-smart body, the body transcending itself into the infinity of cyberspace. A body more amenable, malleable, and more subordinated to mind or will

itself in relation to new technological practice. At the very least, it is true that technology at every stage demands a new anatomy, a new conception of the body in time and in space. Technological interventions have acted as prostheses for human bodies, amplifying many capacities that bodies were already endowed with, and inventing new capabilities. Over time, technology has changed the way we communicate, increased the distances we can travel, and even confounded human finitude in a form of technological eternity.) “Time is downloaded into our bodies. We contain it. Not only time past and time future, but time without end. We think of ourselves as close and finite, when really we are multiple and infinite.”⁴

Likewise, technologies of the late 20th and early 21st centuries alter the physical and/or psychological unity of the body by causing a displacement of the body which is both here and there, in my chair at my desk at home and in cyberspace, or in New York at a board meeting but also in Doha where business partners not only hear or see but participate fully in the decision-making process via their own telepresence. Surveillance is of course a primary example of this ability to make a single individual virtually omnipresent by adjusting her anatomy to include the “eyes” of the cameras placed throughout a building or city block. Technology extends the reach of bodies and, in so doing, it causes a proliferation of subjectivities.⁵ and a distribution of cognition,⁶ whether by increasing the

than ever before.” Elizabeth Grosz, *Space, Time, and Perversion: Essays on the Politics of Bodies* (New York: Routledge, 1995) 1-2.

⁴ Jeanette Winterson, *The PowerBook* (New York: Alfred A. Knopf, 2000) 121.

⁵ Hayles, 27.

distance a body can travel, multiplying the number of locations a person can see and interact with, or by magnifying the otherwise invisible so it can be studied, dissected, and understood.

Contemporary technology, especially in the context of new media, raises some very interesting questions about the nature of presence, consciousness, and identity in relation to the continually-negotiated status of the technologically-mediated body whose boundaries are constantly shifting. Before I discuss how these aspects of the idea “body” are altered by technology, first we must understand that bodies are not antithetical to machines, but as organic systems that fulfill endless functions, they are themselves already machines and come into relationships with technologies as machines. Every interaction or relationship can be described in terms of machinic qualities. A simple example of this is if I want to hang a picture on a wall, the nail that will hold the picture cannot drive itself into the wall, and a hammer has no force of its own. But by taking the hammer in my hand, applying a little force in the form of a swinging motion and hitting the nail, I become the machine which drives the nail into the wall by way of the hammer. As bodies utilize machines, they create new machines out of those encounters and interactions. This does not rob humans of their humanity, but simply demonstrates that bodies constitute their own technologies which simultaneously infuse machinic relationships with corporeality. Technology incorporates humans,⁷ but only to the extent that humans integrate technology. Bodies are constantly forming machinic relationships

⁶ Hayles, 288-291.

⁷ Michael Heim, *The Metaphysics of Virtual Reality* (New York: Oxford UP, 1993) 77.

with objects, all the more so when those objects are themselves machines.⁸ The whole purpose of an interface is to create an environment in which a relationship between a user and a computer can be established. This enables the user to perform actions via the computer, whether this interaction is with a word processor or with some form of interactive media on the web.

In discussing the relationship between technologies and bodies in the context of new media, let us first turn to the body of the performer or the body-entity that provides movement or a physical appearance to new media artwork. If bodies enter into machinic relationships with other objects in the accomplishment of various tasks, could we not say that as a result, those objects are endowed with some sort of corporeality or even volition or consciousness by virtue of that interaction? In other words, if we have a performer's body that has been recorded and edited/ manipulated within the context of an artistic work, does not the presence of that body lend its physicality to the technological aspect of the work, just as the technology lends an aspect of digital malleability to that body?

When speaking of embodied technology, we can also recognize space as embodied terrain;⁹ not as empty but within a framework that is always already full of (techno)

⁸ For a more thorough discussion of bodies as machines, see Gilles Deleuze and Félix Guattari, "The Desiring Machines," *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, et al (Minneapolis: Minnesota UP, 1983) 1-50.

⁹ "It is clear . . . that performance space is never empty. Bare, yes; open, yes; but never empty. It is always the site of physical, social, and psychic forces in society" Ngugi wa Th'iongo, *Penpoints, Gunpoints, and Dreams* (New York: Oxford UP, 1998) 41. We learn from performance studies that in fact 1) all space is a performance space, and 2) that all space is always already performing. At this point we must consider "embodied

bodies. To think space (even digital space) as embodied terrain, we must consider Katherine Hayles's statement that, though embodiment is always contextual, it "never coincides exactly with 'the body.'" She continues, "Relative to the body, embodiment is other and elsewhere, at once excessive and deficient in its infinite variations, particularities, and abnormalities."¹⁰ Embodiment, therefore, does not require an unceasing attachment to bodies. Embodiment can be in excess of the body, perhaps even leave the body behind while carrying forward the residue of what it means to be embodied: presence-and yet, how is presence determined? (Hauntings, memories, and hallucinations have a ghostly presence that may not be empirically deducible, but that can be felt and experienced as "real.") Hayles further explains that embodiment "cannot exist without a material structure that always deviates in some measure from its abstract representations . . ."¹¹ If embodiment is "other and elsewhere," "excessive and deficient," we must concede that the concrete and discreet "actual" human body can no longer occupy a privileged position in relation to the ideas of presence, of reality, and of embodiment. We cannot continue to think "the body as a self-evident physicality."¹² This being the case, we must find new ways to manifest that presence and evidence of embodiment when the material body is no longer "present."

terrain" to mean that not only is an environment full of living entities, but it is also full of history, ghosts, hauntings, memories, hallucinations and other "bodies" or images that we may not see.

¹⁰ Hayles 196-197.

¹¹ Hayles 199.

¹² Hayles 27.

Brian Massumi explains that bodies have a specifically incorporeal dimension, an indeterminacy that complicates the construction of the body as a concrete entity.¹³ He argues, "The body is as immediately abstract as it is concrete; its activity and expressivity extend, as on their underside, into an incorporeal, yet perfectly real, dimension of pressing potential."¹⁴ There is an aspect of body-ness that exceeds the boundaries of the body as corporeal unity. In its excessiveness, this incorporeal dimension, this presence, this embodiment leaves a residue in the form of images; these residues or images constitute the virtual aspect of bodies that accompany their various actual manifestations. That something is an image does not deny the possibility of it also being an embodied entity and does not, therefore, negate the possibility of presence. As Gilles Deleuze and Félix Guattari state, "the real is not impossible, it is simply more and more artificial." New media functions, then, as a gateway to the real.

Deleuze suggests that cinema, and I would argue that new media, is "the organ for perfecting the new reality."¹⁵ Though reality is a sort of passing into existence, it is important that Deleuze does not equate "real" with "actual." What is real is, in fact, located in the register of virtuality; "the virtual is not actual, but as such possesses a

¹³ Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke UP, 2002) 5.

¹⁴ Massumi 31.

¹⁵ Gilles Deleuze, *Cinema 1: The Movement-Image*, trans. Hugh Tomlinson and Barbara Habberjam (Minneapolis: U of Minnesota P, 1986) 8.

reality."¹⁶ It is precisely this reality of the virtual that new technologies enable.¹⁷ It is this "real without being actual," that they perfect. There is a way in which that which is virtual is becoming actual. "The virtual . . . does not have to be realized, but rather actualized."¹⁸ The screen, the image, the artificial, they are all becoming-actual by slipping through the cracks of their own realities. The real is just the master copy, the becoming-actual of the virtual, the becoming-original of the simulacrum. But Deleuze says, "In short, the characteristic of virtuality is to exist in such a way that it is actualized by being differentiated and is forced to differentiate itself, to create its lines of differentiation in order to be actualized."¹⁹ The virtual cannot become-actual without differentiating itself in the process. In a way, the virtual will always miss the mark of actuality through this differential; it must toggle undecidedly between presence and pattern, "materiality on the one hand, information on the other," as Hayles asserts at the beginning of this paper.

¹⁶ Gilles Deleuze, *Bergsonism*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Zone Books, 1991) 96.

¹⁷ The concept of the virtual that Deleuze and Bergson (on whom Deleuze builds) are articulating is not to be confused with the concept of virtual reality in its more contemporary usage. For Bergson, the virtual was an evolutionary process of differentiation, not a construction of a fantasy realm or immersive environment into which a person may enter by means of sensory receptors and VR goggles. The virtual is also distinct from the possible because possibility has no reality while virtuality does. See previous note. Nevertheless, there are parallels. Bergson states, "In other words, the virtual image evolves toward the virtual sensation and the virtual sensation toward real movement: this movement, in realizing itself, realizes both the sensation of which it might have been the natural continuation and the image which has tried to embody itself in the sensation" *Matter and Memory*, (New York: Zone Books, 1988) 131.

¹⁸ Deleuze, *Bergsonism* 97.

¹⁹ Deleuze, *Bergsonism* 97.

Virtuality is often opposed to the real in discussions of cyberspace, media, and wherever images take precedence, but I think this is a mistake. Virtuality is a bridge between the material world and a purely informational data world. Virtuality, as such, is no-place, a sort of cyber-utopia. Virtuality and those elements occurring within the terrain of virtuality are not locatable. (What/where is mind? What/where is self? What/where is presence? What/where is embodiment?) But unlike other utopian ideas/ideals, this one has a reality-it exists somewhere in between actual, physical existence and non-existence. Virtuality is a negotiation between materiality and information, but virtuality can only appear in the context of that negotiation. This is true whether we are talking about the virtual as evolution in the “natural” world (Henri Bergson) or materiality in cyberspace. Hayles rightly asserts that information must always instantiate itself in a medium,²⁰ and it is this medium which not only enables a communication of information, but also provides the material in which information must situate itself. The virtual is opposite nothing; it mediates between the existent and the non-existent. Ghosts, hallucinations, metaphysical doublings, illusions, mirages, etc. all locate themselves within the intermediary space of virtuality. The virtual pits the rational against the empirical. The virtual equals the image. The virtual is an emanation of the existent into the non-existent, an extension of actuality, a vibration of vibrations. Presence is already virtual, its transference into technological realms like the web or video is an easy relocation; it is the particularly physical materiality, the instantiation of presence in an actual physical body, that is lost in this transfer. Information must always be instantiated in a medium, and it is the medium that

²⁰ Hayles, 13.

is changed from physical to technological, giving the impression that something is lacking in the technologically-instantiated image.

We would be foolish to think that virtuality only arises in the context of technologically-mediated experiences. In fact the virtual is engaged with on a day-to-day basis. Like the examples I listed above, memories, dreams, and body-images (the mental picture of one's body and its orientation in space) are virtual, and so are images that come to be in relation to a technological intervention, like photographs or videos. But virtuality possesses a reality only through interaction; it is only because virtual events, images, or experiences are acknowledged and believed in that the virtual is real. If I believe that a photo of my brother is my brother, and I exclaim 'Oh, look how cute he was as a baby!' it is only my belief that allows the virtual or the image to represent, refer to, or even engage with my actual brother. The virtual has power, in other words has a reality that can affect us, only to the extent that its power is created by belief leading to subsequent action.²¹

Belief (which could simply be the belief that there is a correlation between what my eyes see and what I am looking at) makes the virtual real, as something that can be interacted with. What is real for me may not be real for anyone else; as I already mentioned, I can experience and be affected by the virtual without being able to demonstrate the actuality or sharability of my experiences. Belief makes real; this is why some people can say they have experienced a divine intervention or that they hear voices and see people that others

²¹ Religious beliefs and rituals are perhaps the most pervasive examples of engagement with the virtual. Religious altars explicitly engage with the virtual as a reality that cannot be seen or that cannot be proved except in the belief in its existence and with its engagement.

do not. This is also why some people can experience a definite sense of self while others argue that there is no self, or why some people believe in the past, present, and future, while other people think that time is a construct of the mind. If the self is not locatable, or if the present as such can hardly be experienced, or if the existence of a deity or of aliens cannot be proved, this is not because these entities are somehow untrue; it is because they participate in the reality of the virtual. The intermediary elements of virtuality do not exist, but they do not not exist.²² The virtual is that indeterminate, liminal terrain of constant flux where existence and non-existence interface.

The perfection of the new reality (the virtual) which Deleuze found in cinema paves the way for an ongoing process of becoming actualized. Cinema may have begun this process, but I think it is new media which has taken up the project and sought out ways of working with movement and with bodies in new and complex ways that, for the most part, cinema has not continued to pursue. Much of new media seeks to challenge its spectators, especially in terms of interactive media and performance where both the artist and the technology can make demands on the audience/user and the audience also can make demands on the performer or the technology. Deleuze asks, "Can we conclude that the result is artificial because the means are artificial?"²³ No, but this does not confer a status of actuality on all acts conducted within new media; they are real without being

²² Francisco J. Varela, et al, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, Mass.: MIT Press, 1991) 249.

²³ Deleuze, *Cinema 1 2*.

actual. It is in this process of differentiation that we must locate the presences offered in the context of the screen.

If cinema began a renegotiation of its relationship to 'natural perception,' namely the perception of bodies and environments, then new media has perpetuated this interrogation in terms of body-images, dimensionality, virtual environments, motion capture, cyberspace, as well as video editing and manipulation. If even in its incorporeality, presence occupies a privileged position in relation to the body, how best to understand it within a technological framework? We can approach a description of the image as material or as embodied as Aden Evans does in an essay on sound. He provides a beautiful example of the vibrations a violin exudes that can be used to rethink this issue of presence. He states, "An E-string bowed on a violin vibrates at once the string, the body of the violin, the other strings, the body of the violinist, the air around the violin, the material of the room, and the bodies of the listeners. The vibration vibrates any other vibrations in the room, any other sounds, such as those of instruments, the creaking of chairs, even the constant movement of the air."²⁴ The violin provides the body for the music (the medium of instantiation) but the music itself and the vibrations that constitute the music exceed the violin. The vibrations or music would not exist without the violin, but they cannot be defined solely in terms of the violin because they emanate from the violin and the vibrations disperse, effecting other vibrations. Music is not located in the violin, just as embodiment and presence are not located in the body. If embodiment,

²⁴ Aden Evans, "Sound Ideas," *A Shock to Thought: Expression After Deleuze and Guattari*, ed. Brian Massumi (New York: Routledge, 2002) 171.

presence, and materiality are reconsidered in terms of this vibratory effect, as produced by bodies but separate from them, mediated by technologies but separate from them, one realizes that presence cannot be rendered by simply slapping images onto a screen. Presence or embodiment as vibrations or flows are in excess of the bodies that produce them and, as Hayles asserts, they do not coincide with the body. This is a result of their virtuality. Massumi states, "The virtual, as such, is inaccessible to the senses. This does not, however, preclude figuring it, in the sense of constructing images of it. To the contrary, it requires a multiplication of images. The virtual that cannot be felt also cannot but be felt, in its effects."²⁵ Embodiment, therefore, must be created through an artistic circumlocution. Art, say Deleuze and Guattari, "is the language of sensations;"²⁶ virtual art cannot be felt, but in its evasiveness it cannot but be felt.

But the status of the body is not negotiated simply in terms of the bodies that might appear on a computer or theater screen. The bodies of spectators/users also undergo a process of transformation in relation to the bodies on screen. If new media determines an alternate embodiment for the image, it also determines a new anatomy for both the body-image and the spectator who encounters the image. The process that transforms the live performing body into the body of new media work is similar to the process that is required of the spectator's body: technology always requires anatomical reconfiguration. Whereas new media constructs for the performer "an impossible body, one not

²⁵ Massumi, 133.

²⁶ Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia UP, 1994) 176.

encumbered by gravity, temporal restraints or even death"²⁷ that can expand into non-physical media, in those cases where the spectator is interactive, the spectator experiences a multiply-present self, a hyper-presence in some cases. Where there is no interaction, there is still a reconfiguration. Technology constructs the body that can interact with it, a bodily mediated technology. Thus we can experience shots of partial bodies/body parts as they appear on screen as fragmented, disjointed, and surreal, or we can psychologically fill in the rest of the image with an idea of the complete body that belongs to the parts. Either way, our own anatomy and bodily experience provides the reference for the body-image. This acknowledgment forces a future consideration of a postmodern or virtual phenomenology with which to frame visceral experiences of images.

More than any other art form that has been reconfigured in terms of new media projects (literature, music, visual art and graphic design) dance demands the consideration of virtuality as both material and information because its practice is so intimately tied to bodily awareness, sensual presence, and kinesthetic experience. If it is true, as others nothing remains of dance except moving shapes, a Platonic ballet of bodiless Forms. However, if virtuality is considered as a negotiation of corporeality, the point at which the body is re-interpreted through the image, then dance in new media can be considered in terms relevant to its manifestations. Moreover, dance, as play, provides a metaphor for that negotiation. Ellen Bromberg writes, "The revolutionary quality of dancing, then, becomes more than the quick footedness to move out of the way; it takes on the refined ability to change places without feeling displaced, to move in a way that shifts the

²⁷ Douglas Rosenberg, "Video Space: A Site for Choreography," *Leonardo* 33.4 (2000): 280.

meaning of location."²⁸ It is through the play of the virtual that the body can appear in new media, that it can be considered within and without the terms of movement and sensation with which Massumi characterizes the body. When Massumi asks if the body can be thought outside of the simultaneous presence of movement and sensation the answer is both yes and no; virtuality, he says, cannot be felt and yet it cannot but be felt. Virtuality requires a constant to and fro, a "curious indecisiveness"²⁹ that allows presence and pattern to flow into one another. The virtual/image is thus the point at which both dialogue and reference between the corporeal and incorporeal are possible. The virtual is the place of confrontation, the interface where the image reigns. It is in the realm of the virtual that we must locate the productive flows of information and materiality that mutually construct the body in its increasingly mediated incarnation.

²⁸ Ellen Bromberg, "Thoughts on Art, Technology, and Telematics," address, *Congress on Research in Dance conference*, New York City, Oct. 26, 2001.

²⁹ Massumi, 133.

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