Media Implosion: Posthuman Bodies at the Interface

In keeping with the rhetoric of technology as a dehumanizing force, the participant in communication technologies has often been interpreted as passive in the information network. In this context, engagements with electronic forms of communication signal a loss of agency and the erasure of the body and identity. Through the analysis of an image from the 'Evolve to TDK' advertising campaign, this article reconsiders such understandings of the subject in the media by conceiving of the body as an interface. Figuring subjecthood in contemporary mass media as an interface serves to undermine a myth of origins predicated upon oppositional thinking, which positions subject and object, technology and nature, as irrevocably and diametrically opposed. This in turn destabilizes a fixed locus of bodily identification, and the codes surrounding just what a body might be within contemporary culture. The interface thus offers a strategy by which feminism may negotiate the question of disembodiment in electronic networks. As bodies interface with electronic media, distinctions between subject and object, spectator and scene collapse. What ensues is a transformation in how the body and the subject are constructed and understood. I ask for bodies to be re-visioned as part of a circuit of communications that productively collapse a dialectical economy, so that bodily experience is not denied, but conceived of as an interface.

The chubby mite in the TDK poster is depicted in a portrait pose, naked from the chest up. Wisps of baby blonde hair frame a face that radiates an ecstatic smile, stark and solitary against a white background. The viewer is left to wonder whether the baby is a boy or girl, or where the parents of this, vulnerable child might be. It is, however, apparent that the image has been digitally altered. The baby is a simulation. No child in the 'real' world could possibly be born with the square eyes and oversized ears of the TDK baby. Or could they? It appears as though defining the child's gender is of less concern than the question of whether 'it' is human at all. Post-gender and post-material, the TDK baby is emblematic of a posthuman condition that sees the breakdown between biological and information systems. The ambiguous and uncertain space that the posthuman occupies challenges fundamental assumptions regarding nature and artifice, man and woman, organism and machine.
As electronic networks corrupt the biological system, the TV eyes of the infant resonate with a Baudrillardian notion of the body as a non-reflecting screen in an auto-referential circuit of communication. In ‘The Ecstasy of Communication’ Jean Baudrillard speaks of a subject in a ‘universe of communication’ which sees ‘our own body and the whole surrounding universe become a control screen.’ Subjectivity in the context of electronic communications, as espoused by Baudrillard, contests a psychoanalytic subject model predicated upon the hierarchical mirror relationship between subject and object, which privileges the subject. Instead, in the flows of media and communication, Baudrillard claims that one no longer identifies or projects the self onto representations or objects. Rather:

In place of the reflexive transcendence of the mirror and scene, there is a non-reflecting surface, an immanent surface where operations unfold — the smooth operational surface of communication.

Baudrillard’s displacement of a psychoanalytic model of subject constitution proves immensely significant for forging alternative understandings of subjectivity in contemporary life. In a context
where the real gives way to the hyperreal, Baudrillard seeks to put an end to dialectics, to a value system by which identity is forged through differentiation from the Other. For Baudrillard, the alienation of the subject is surpassed by the ecstasy of communication of the object. This ecstasy results from the proliferation of meaning within a context of the hyperreal that liberates meaning from its object-referent. Instead of acting as the locus of knowledge and being, the subject is constituted within the circuit of signification and meaning as a 'nonreflecting ... surface of communication.'

In Baudrillard's analysis, technology connotes the loss of an active subject position intimately tied to corporeal experience. For feminism, the body's erasure by technology has been a point of considerable anxiety. The project of reasserting embodied experience in accounts of subject formation and technology, particularly in critiques of cyberspace, cybernetics and biotechnology, has been prevalent in feminist challenges to phallogocentric liberal-humanist theories of the subject. Much materialist feminism has theorized the technological refashioning of the body as displacing the lived physicality of everyday existence and struggle for women. To extend the body via information systems implies a loss of the material, the bodily and the real, when defined by binary logic against the immaterial, the cultural (technological) and the virtual. This is because a notion of womanhood grounded in corporeal, socially and culturally prescribed female experience, is undermined by electronic communications that collapse the distinctions between subject and object, nature and technology. The status of the lived body in subject constitution becomes problematic. Anne Balsamo maintains that:

the material body remains a constant factor of the postmodern, post-human condition. It has certain undeniable material qualities that are, in turn, culturally determined and discursively managed; qualities that are tied to its physiology and to the cultural contexts within which it makes sense, such as its gender and race identities.

In the cacophony of electronic networks and signals that threaten to overwhelm the body and render it obsolete, Balsamo reclaims a place for corporeal experience. Maintaining women’s difference from electronic culture, however, risks replaying the binary dualisms coupling women to nature and the body, and excludes women from the digitally-driven circuits of communication and information.
The notion of women as incompatible with technology is revised by Sadie Plant who claims that women are in fact more suited to the new economy of the digital. In the tradition of Haraway's cyborg, cyberfeminists such as Plant endorse a productive and positive relationship between women and machines. A cyberfeminist sensibility is characterized by a disruption of the traditional coupling of technology and masculinity, revaluing women and the body in a technological landscape that is hostile to a fleshy corporeality associated with the feminine. By endorsing cyberspace as female space, cyberfeminism reinserts the body into the technological landscape.

A feminism that celebrates the coupling of women and technology, and a feminism that opposes it, both seek to redress the notion of the self as disembodied by the circuits of technology. Yet in asserting the body as the site of female identity, the possibilities for subject constitution in media networks are limited by a coherent notion of selfhood located in a material context. Rather than suggest that the body is denied by technology, or that corporeality must be reinserted into the matrix, I want to suggest that the relationship between the virtual and the real, the informational and the biological, elicits a transformation in the experience and understanding of the body. To move beyond an ideal of female identity located in established definitions of the material and reality affords new possibilities for subject constitution in the techno-age. Paul Virilio in 1988 envisioned communication technology as a contaminant, corrupting the distinctions between the human and the informational. Contamination is a useful conduit to configuring alternative relationships between the body and technology, that moves beyond the coding of technology as either good or bad for women. Contamination (or the viral, as it has been theorized by Vicky Kirby in the context of postmodernism's critique of identity) suggests the potential for new fusions between, and combinations of, established binary codes. The hybridity that ensues from contaminated forms challenges the perception of technology as instigating a loss of subjectivity, identity and corporeality.

The TDK baby operates as one such hybrid form, occasioning a new relationship between the body and technology. Rather than legitimating the erasure of embodied experience through technology, posthuman figurations reformulate how the subject is constituted in and by its cultural surrounds. Resisting the tendency to interpret the body as erased or negated by technology, I argue instead that a new kind of subjectivity is created in the
contamination of biological and information networks. Posthuman figurations such as the TDK baby exhibit a protean bodily modality more suited to the interactions between material and informational systems. Fundamental to a re-thinking of subjectivity is an acknowledgment that the range and limits of what constitute humaness and the body are expanding and shifting in the context of digital technologies. Moreover, this displacement of the subject forces a reconsideration of the act of communicating through media systems.

It is not only feminism that has been critical of Baudrillard’s radical take on subjecthood. Douglas Kellner has interpreted Baudrillard’s theory of the self as a screen in terms of the sublimation of the subject by the proliferation of media technologies, arguing that Baudrillard denies the subject a dynamic relationship with its technological surrounds. He claims that:

for Baudrillard all the media of information and communication neutralize meaning, and involve the audience in a flat, one-dimensional media experience, which he defines in terms of a passive absorption of images or resistance to meaning, rather than an active processing or production of meaning.12

If we are to deploy Kellner’s interpretation of Baudrillard’s theory of the media, the TDK baby may be easily construed as the superfluous and disengaged subject of communication networks. The oversized ears of this newborn freak act as radars to pick up signals and passively bounce back a response in the service of communication technologies. The detached stare that emanates from the screen/eyes might suggest that the body as the core of identity is made redundant, as humanity becomes a passive surface for media messages. This explanation upholds a model of information as a one-way, linear transmission from an active sender (the abstracted construct ‘media’) to a passive receiver (the universalized human subject).

Virilio understands this type of non-communication in terms of contamination. The mass media contaminates the socius, making meaningful engagement or dialogue impossible. The subject is violated, unable to keep up with and respond to the proliferation and speed of information circulating via media culture.13 A linear, one-way model of communication, theorized in terms of dialectic of a sender (transmitter) and receiver, underwrites the approach taken by both Kellner and Virilio. In this schema, audiences are configured as a passive undifferentiated group, subject to the hegemonic effects of mass culture.14 If we are to follow a model of
communication that interprets media and culture as the primary determinants in the production of meaning, the only possible relationship for the subject with the products of these technologies is a violent one, where information flows uni-directionally across the passive human receiver. The self becomes a signal in the information network; the body is erased in the experience of technology.

Although the myth of the unitary subject is debunked by the negative ecstasy of communication, the primacy of the subject risks being replaced by an equally problematic conception of technology as all-powerful. There is little doubt that Baudrillard denies agency and meaning to the subject within the digitized spectres of the hyperreal. This refusal of agency may be interpreted as a tactical manoeuvre to challenge the notion of the subject in the media as a passive receiver but crucially, it dismisses the possibility of resistance, appropriation or response by the subject to media forms.\(^{15}\) Indeed, Baudrillard has written of the impossibility of meaning and resistance in an economy of simulation where systems of value are abolished.\(^{16}\)

In *Fatal Strategies* Baudrillard argues that negativity functions as an implosive gesture that radically undermines dichotomous poles of value.\(^ {17}\) Negativity in the context of techno-human relations may work in favor of the subject by refiguring the relationship between the subject and technology traditionally couched in terms of a positive or negative value judgement. Rather than interpret the body as a passive screen that abolishes the subject, Baudrillard contests the idea of a relation between the subject and technology. He proposes an experience of the media that does not function in accordance with a communication model of senders and receivers. By challenging an economy of dialectics that structures meaning production and sign value, Baudrillard displaces the Heideggerian vision of the subject as 'standing reserve',\(^ {18}\) and the masculinist desire to transcend humanity and the body through technology.

Adopting Marshall McLuhan's formula that the medium is the message, Baudrillard makes the following proposition:

*the medium is the message* not only signifies the end of the message, but also the end of the medium. There are no more media in the literal sense of the word (I'm speaking particularly of electronic mass media) — that is, of a mediating power between one reality and another, between one state of the real and another. Neither in content, nor in form. Strictly, this is what implosion signifies. The absorption of one pole into another, the short-circuiting
between poles of every differential system of meaning, the erasure of distinct terms and oppositions, including that of the medium and of the real — thus the impossibility of any mediation, of any dialectical intervention between the two or from one to the other.  

According to Baudrillard's analysis, any relation between dualisms such as sender and receiver or media and audience, is rendered impossible by a simulation economy that abolishes a dialectical system of meaning. Terms cannot be defined against one another, rather they collapse into each other, or implode under the weight of an excess of meaning and information. What this implosion creates is a type of non-communication, making it impossible to analyze the act of communication in terms of active or passive participants. By doing away with the difference between information and its recipient, Baudrillard displaces a dualistic mode of thinking traditionally associated with the unified and undifferentiated subject of modernist thought. In Kellner's reading of Baudrillard, the subject is subsumed by information; a passive rather than active producer of meaning. His interpretation relies upon maintaining a relation between the medium and the real. Accordingly, the real and the medium are upheld as coherent categories. This is very different to Baudrillard's analysis of the media, which collapses the media into the real so that the subject is information.

The potential pleasures of the information and entertainment technologies advertised by TDK are located at this fatal site, where the acceleration and proliferation of signs and information approach overload. Pleasure, anticipation and enjoyment of entertainment multimedia arise at the implosion of boundaries, rather than in response to the experience of communication. The TDK tot takes pleasure in the cacophony of media signals. Its eyes glisten and its wide smile suggests the 'pleasure of an excess of meaning'.  

The infant appears to inhabit another set of social relations beyond the dichotomous systems of mirror and the gaze. S/he is on another wavelength; in an order of symbolic exchange that resides beyond signifying practice. This posthuman figuration inhabits the space of simulation, where the tradition of perspectival space no longer determines how we make meaning. The mirror makes way for the model.

Simulation here functions as a productive irony that simultaneously displaces the subject, while advancing a framework for theorizing the subject in technology beyond identity politics. By absorbing meaning, Baudrillard's implosive simulacra
occasions alternative forms of subjectivity that, rather than negating the subject entirely, reside beyond signification. Baudrillard offers an escape from thinking about the subject and object as irreducible terms. When the subject is no longer projected into the image or object, something else occurs that opens up possibilities for thinking about subjects outside of self/Other dualisms:

No more fantasies of power, speed and appropriation linked to the object itself, but instead a tactic of potentialities linked to usage: mastery, control and command, an optimization of the play of possibilities.\(^{21}\)

Scott Lash calls this collapse of dualisms a 'flattening' of ontological and epistemological formations based on binary dualisms, resulting in 'the radical monoism of technology'.\(^ {22}\) In attempting to make sense of contemporary social engagements as they are negotiated through everyday technologies, Lash suggests that as forms of life are flattened, stretched-out and sped-up, they become 'lifted out'.\(^ {23}\) He explains this in terms of an 'opening out' of traditionally closed systems, such as the individual and the social body. They become externalized systems that are open to the movement of communication and information between each other. Exposed to the world, these once closed systems now function as interfaces.\(^ {24}\)

Most significantly for the subject, technology's monoism implies that the boundaries once alienating the self from the spectacle dissolve when the body as a site of power is absorbed by the matrices of technoculture. This is evidenced in the TDK infant as the distinctions between observed and observer collapse. The newborn looks at the world, its glazed-over eyes housing square pupils that stare out to somewhere beyond an engagement with the viewer; with the Other. In this act of 'looking beyond', the TDK baby avoids returning the spectator's gaze. This disengaged stare is neither a form of active resistance, nor a gesture toward identification and engagement. Baudrillard claims that the truth constructed by the gaze of authority — the panoptic vision that locates, controls and creates the Other — is no longer applicable in an age of technological communication. We have passed over from a system of surveillance to a system of deterrence. The absolute gaze is abolished by the TV eye.\(^ {25}\) The gaze is not so much denied by the TDK baby, as made impossible when self becomes Other.

In this environment where the distinction between subject and object, viewer and spectacle collapses, Baudrillard perceives the subject as ill-equipped to protect itself from the relentless influx of
media. This does not necessarily suggest that Baudrillard is vehemently opposed to technology on the grounds that it threatens the integrity of the human subject; Baudrillard is more akin to a celebrant of technology for the reason that the techno-human engagement precipitates the death of humanism. Within an economy of simulation, a stable state of subjeckthood cannot claim a privileged position when the hierarchy of binary thought implodes.

The digital manipulation of the eyes of our posthuman progeny indicates a new way of looking in the digital age, which complicates origins. Just as the visual apparatus of the TDK baby is reformulated, changing from round eye sockets to the square space of the screen, so too our understanding of vision is challenged in an age of simulation. By confusing that which looks (the eye), with that which is looked at (the screen) the TDK figuration indicates the potentialities of technology to generate multiple and varied imaginings of the body beyond established codes that limit what a body might be. The face to face meeting of the body and technology is averted; the eye no longer faces the screen. Rather, they interface to create another kind of configuration of the body and technology that resides between representation and reality. What is shown on the screen becomes the experience of vision located in the eyes of a subject. The two cannot be differentiated. It is the collapse of the fluid subject of postmodernist thinking into an equally unstable and dispersed technological environment that transforms how bodies are lived and conceived.

The kinds of techno-human engagements outlined here are markedly different from the culturally pervasive formulation of technology as a prosthetic extension of the self. Typified by Marshall McLuhan’s 1960s vision of electronic communications as extending the range of the body, the ‘technology as prosthesis’ model maintains the body and technology as discrete entities. Within McLuhan’s schema, media networks function to augment the ‘the scale and form of human association and action’. The biological body is not abolished, rather its limitations are redressed, and ultimately the distinction between human and non-human components is upheld.

Although heavily indebted to McLuhan’s model of media theory, Baudrillard differs from his predecessor with regard to the status of the body in technology. Instead of technology forming an extension of (a hu)man, Baudrillard inverts McLuhan’s model by positioning the human within an integrated circuit of unmediated and direct sensory flow. This contravenes a theory of techno-
human relations that upholds subjectivity as a discrete component of the integrated circuit of information. In the age of digital technology, the prosthesis takes on new meaning as bodies are represented and theorized as seamlessly wedded with technology.

For Baudrillard, too much information results in an excess of meaning, a transparency that erodes the distinction between the real and the medium through which it is represented. The real becomes the medium, the spectator becomes the spectacle. The increased surface area of the infant’s eyes, mouth and ears implies more than a prosthetic projection of the body. Oversized and misshapen, the eyes and ears of the TDK baby are ‘lifted out’, as Lash puts it, to become the flow of information. Spectacle is abolished so that ‘YOU are information, you are the social, you are the event’.

There is no more subject as the distinctions between the real and the medium dissolve. The broad smile of the TDK baby is spread across its face, its ears appear to have been pulled in opposite directions from the lobe and the tip. This stretching of sensory surfaces challenges the limits of the body as it is traditionally coded.

The TDK baby encourages a reconsideration of McLuhan’s formulation of the body/prosthesis relationship, a formulation that underwrites conventional interpretations of the techno-human relationship, whereby the technological is the extension of a unified, corporeal subject. Rather, the interaction of the natural with the machine results in something beyond a mere prosthetic extension of an undifferentiated, organic notion of the self. In coupling the organic and technological, the body may be re-interpreted as a boundary site — neither entirely natural nor cultural but a configuration that negotiates the limits of corporeal existence within an increasingly technological environment. The interface operates as another kind of prosthesis that is not so much a material extension or external projection from a ‘natural’ body, but a flow of information between biological, digital and media systems.

The confusion between systems is, however, not a new concept within feminist discourses of the body and technology. Hayles, for example, contests the demarcation between information and materiality. Rather than positing the organic and the technological as discrete and incompatible entities, Hayles makes the point that ‘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’. The body’s relationship with technology is
envisioned as something more than an adjunct or augmentation of an intrinsically natural or original humanity. Moreover, as the organism becomes an interactive extension of communications networks, it exceeds the boundaries of the natural, disrupting the humanist longing for an organic unity.

In an age that Allucquere Roseanne Stone has termed technosociality, subjectivity is no longer understood as aligned with the natural or organic, thus assuming an incompatibility with the machine or non-natural. Instead, Stone argues that we situate ourselves within the context of contemporary technologies, which blur the boundaries between self and technology. For the purposes of this feminist project, such techno-human engagements function strategically to displace conventional identifications and meanings figured in terms of the binarization of nature/technology, self/Other and human/non-human. Moreover, the importance of Stone’s study for a theory of the interface resides in her consideration of how social interactions that are brought about by technology (such as cyberspace) may function as transformative. The TDK baby implies such subjective formulations by interfacing between information networks and the body. What manifests, in place of traditional notions of the natural subject, is a radically altered conception of the self as mutable and able to flow between networks, affiliates and matrices of knowledge.

The prosthetic element of electronic media is central to Stone’s analysis of the subject in technology. For it is the point of engagement between technology and human that destabilizes established notions of self as locatable in a fixed body. Stone’s analysis supports my argument that the economy of the body requires re-organization to take into account new modalities of being in the techno-age. Her example resonates with my insistence that the body is not lost, but experienced differently through technology. Amid the digital communications that for many constitute cyberspace, such as e-banking, email and virtual chatrooms, Stone acknowledges the continuum between modernity’s radical refiguring of space and contemporary cyberspace, claiming the prior existence of the ‘proto-cyberspace’ of the diorama, botanical garden and carnival ride. These spaces created a new sense of being in the world, just as virtual systems now enable the formation of new kinds of communities, in a space that provides a form of social interaction. Within this framework of a deconstructed subject, nature as a unified entity is actively re-articulated to produce new formations and modalities that defy the
fixity, immutability and process of Othering upon which desire and consumption depend.

Running along the bottom of the poster in small print is TDK’s prominent advertising slogan ‘TDK does amazing things to my system’. Its resonance with the current media generation forges an association between this well-known phrase and the campaign described here. ‘What exactly does TDK do?’ you might ask. ‘And to what system?’ The viewer is invited to consider such statements in light of the primary motto of the advertisement, ‘Evolve to TDK’, which is printed in large letters in the lower third of the poster.

In the instance of this particular TDK advertisement, the posthuman is articulated as both product and consumer of the visual image. In an era of mass-marketing hype, potential customers are encouraged to consume the image of the baby and, in turn, TDK products. While the baby is the image we consume, the infant is also advertised as a consumer of TDK’s product line of blank video tapes, audio cassettes and CDRs. As both product and consumer of the media circuit, the TDK baby complicates the place of the subject in a culture typified by the acceleration of communication. ‘Evolve to TDK’ employs the commonplace strategy of disassociation between an advertisement and a material product. The products that TDK markets are left out of the advertisement. Rather, a lifestyle choice is offered to the consumer; the possibility and potential to rewrite the boundaries of the body through the interplay, interconnection and flows between the human and non-human. Through our relationship to these products, it is suggested the subject may be transformed.

In this play of words and images, the distinction between organic bodily systems and mechanical communications systems are rendered increasingly problematic. In the act of consuming TDK products, the body becomes the stereo, rather than the bodily system and the technological system existing as discrete entities. The consumption of TDK products precipitates this evolution. An individual will need a stereo no longer when the individual becomes a stereo. Eyes replace the TV screen and ears become speakers. The infant’s thin mouth stretches across its face, providing the ideal size and shape for the insertion of a CD. The body is made to accommodate the consumption of TDK products. In this regard, the TDK baby evokes the confluence of media, or multimedia, whereby categorical distinctions between cultural forms collapse. The TDK baby is the body as stereo.

The development of an amplified sensory system by the techno-infant suggests this new kind of engagement with the external
environment, where the distinction between the subject and technology is abolished. Positioning the posthuman as both subject and object of communication is achieved by collapsing the distinction between the subject and the technology it uses. His/her auditory and visual pathways are depicted as amplified and larger than life, offering an increased surface area to interface with its surrounds. In this instance, the prosthetic extension of the body does not indicate a lack, but results from an excess, or proliferation of information in the contemporary age. Re-reading the body/prosthesis relationship as an interface suggests a two-way exchange, whereby technological systems may extend the human body and mind, as well as implying that biological systems are extensions of electronic networks.33 In a two-way circuit where data-streams flow across the screen interface, the eyes of this posthuman progeny suggest s/he is both observer of digital culture and that which is observed. The subject becomes part of the technology as a sign-switcher that confuses the distinction between the medium and the message by existing as information. By confusing the roles of consumer, products consumed, and the circuits through which information is relayed from one to another, TDK's advertising occasions alternative ways of thinking about our bodies and our relationship to media environments.

The TDK baby is a commodified body. Despite its obvious artifice and plasticity, the cyber-tot is undeniably cute and appealing. Embodied in the figure of the baby is the desire for technological newness, making it an ideal poster-child for popular consumption. The innocence and appeal of this gorgeous child captivate the viewer, perpetuating the romanticized notion of a global media and communication network that connects people across the world in a harmonious gesture of cross-cultural exchange. Yet to suggest that the TDK baby depoliticizes, or masks the power structures underlying global media, is to imply that there is a truth to be revealed, which resides behind the image. Instead, the posthuman figuration reveals nothing. There is no absolute reality regarding the media or the exchange of information.

The TDK baby does not maintain a discrete differentiation between organic and mechanical systems, but its wide-eyed engagement with the world suggests that this posthuman functions as a system that is open to information and communication flows. Its senses extend outward to interface with the environment.34 This destabilization or slippage between discrete categories functions strategically for a feminist engagement with posthuman
figurations by enabling alternative ways of understanding subjectivity beyond the rhetoric of identity and difference. As the limits of the body are refigured, the modes by which women conceptualize the body and identity also undergo transformation. The body as interface disturbs established notions of what constitutes the material body, undermining the fixity of meaning attributed to an embodied identity.

Kim Toffoletti

Notes

4 Baudrillard, 126-7.
5 Baudrillard, 127.
6 Key proponents of this approach, particularly with regard to the representation of the body in technology, include Anne Balsamo, 'Forms of Technological Embodiment: Reading the Body in Contemporary Culture,' in Cyberspace, Cyberbodies, Cyberpunk: Cultures of Technological Embodiment, Mike Featherstone and Roger Burrows, eds., London: Sage, 1995; Catherine Waldby, 'Revenants: The Visible Human Project and the Digital Uncanny.' Body and Society 3:1, 1997: 1-16.
7 See, for example, Susan Hawthorne, 'Cyborgs, Virtual Bodies and Organic Bodies: Theoretical Feminist Responses.' In Cyberfeminism: Connectivity, Critique and Creativity, Susan Hawthorne and Renate Klein, eds., Melbourne: Spinifex, 1999: 217.
8 Balsamo: 220.
13 Virilio, 5.
23 Lash, 108.
24 Lash, 108.
28 McLuhan, 30.
30 Hayles, 3.
31 Allucquere Roseanne Stone, 'Virtual Systems.' In Incorporations 6, Jonathan Crary and Sanford Kwinter eds., New York: Zone, 1992: 610.
32 Stone, 610.