Queer Fordism: Technological Bodies Moving Otherwise

Jake Buckley

Cardiff University

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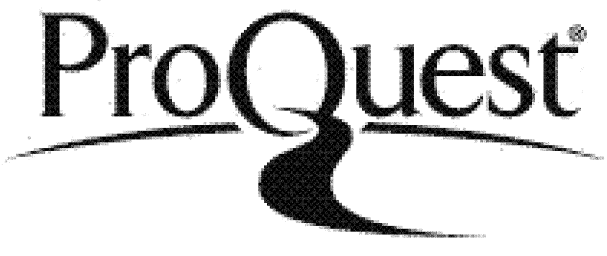

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Summary

This thesis analyses the temporal logic that informs the shift from Fordism to post-Fordism, a highly influential narrative for understanding how developments in technology affect the body in western nation-states from the late nineteenth century to the present.

The thesis reads this shift as a history of touch and bodily mobility. First, I study the techniques of factory management known as Taylorism, which provided the basis for the Fordist socioeconomic system. Taylorized Fordism, I show, made working bodies touch technological objects in order to time, represent, and control bodily movements. However, I argue that Taylorized Fordist techniques organize bodies into a space of tactility, which is not the same as invoking Fordism as a predictable system of domination.

Second, I discuss socio-historical accounts that outline the reasons for Fordism's eventual failure and replacement, all of which emphasize bodily flexibility as the quality that determines a post-Fordist time. I consider the fate of Taylorism in Fordism's ostensible demise, by explicating the subtlety with which Taylorism is superseded by the more flexible practice of ergonomics.

Third, I conduct a philosophical analysis of what it means for bodies to be affected by post-Fordist changes in technological objects, most prominently the transition towards digital media. I refute the notion of a post-Fordist digital age, by arguing that Taylorized Fordism can be interpreted as a model of digital bodily function that persists uncomfortably in the present.

The thesis concludes by arguing for the significance of touching tactile technological objects – and tactile technological bodies making contact with one another – in ways that produce stasis, rigidity, and hardness – Fordist qualities that are unfairly subordinated in a post-Fordist temporal frame. I call these relations 'queer Fordism', whereby a technological body's activity is not contemporaneous with a presumed Fordist-to-post-Fordist continuum.

Contents

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Introduction

This thesis draws attention to unexplored relations between bodies, technological developments, and artefacts in technologically affected lives. I will argue that the qualities brought to light by these relations – namely touch, mobility, and flexibility – are significant in ways that have not been central to critical theories and histories of technological embodiment. I will also claim that these relations and their attendant qualities have a history, which relates closely to the shift from Fordism to post-Fordism – a highly significant and influential narrative for understanding technological development in western nation-states from the late nineteenth century to the present. However, I will show that interpreting the shift from Fordism to post-Fordism as generative of these relations both reveals and disrupts the logic of temporal succession and advancement which, I argue, not only underpins the Fordist-to-post-Fordist narrative but also profoundly informs the ways in which scholars and historians have represented technological development to make claims about bodily movement, bodily change, bodies in society, and critical theory.

In chapter 1, I study the rhetoric of Taylorist work management, which was a crucial precursor to Fordist processes of production and consumption. I explain the very specific techniques by which Taylorism and Taylorized Fordism brought together bodies and machine technologies in order to time, represent and control bodily movement, and I consider the writings of cultural critics and political philosophers who variously argued in favour of the Fordist system at the time of its implementation. I argue for the significance of cultural critic Walter Benjamin's claim that Taylorized Fordist techniques organize bodies into a space

of tactility, which is not the same as invoking Fordism as a predictable system of domination. The second half of the chapter expands on the significance of this claim by considering the often overlooked agential possibilities of Fordism's key notion: automobility.

Chapter 2 engages with the events surrounding the advent of post-Fordism. I discuss socio-historical accounts that outline the socio-economic and cultural-political reasons for Fordism's eventual failure and replacement, all of which emphasize technological and bodily flexibility as the qualities that distinguish a post-Fordist time. I consider the fate of Taylorism in Fordism's ostensible demise, by explicating the subtlety with which Taylorism is superseded by the more flexibly adaptive practice of ergonomics within the rhetoric of physiology. I expand on this particular analysis to make the chapter's two main arguments: namely, that the same social histories which damn the presumed cultural shift to flexibility nonetheless need to be flexible enough to keep up with that shift, and that social history erroneously tries to fit the history of twentieth-century feminism into a Fordist-to-post-Fordist temporal frame.

In chapter 3, I move into a philosophical analysis of what it means for bodies to be affected by post-Fordist changes in technological objects, most prominently the widespread transition towards digital media.[1] Drawing on the

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[1] The question of whether we can distinguish between 'old media' and 'new media' is important to my thesis, particularly in chapters 3 and 4, but I am more interested in whether we can make a definite distinction between Fordism and post-Fordism – a question that incorporates issues of film, broadcasting, and Internet technologies but which also frames issues of bodily function, philosophies of movement and relation, and the question of what critical theory should do, which arguably are outside the scope of media studies. Technologies scholar Joanna Zylinska asserts that new media 'always carries a trace of "the old"': similarly, I argue that the novelty of the digital electronic technologies that signify 'post-Fordism' is put into doubt by long-standing philosophical issues that have more in common with the ways in which Taylorized Fordism organized

work of scholars within the critical field of cybernetics, I refute the notion of a post-Fordist digital age that radically changes how bodies move and communicate, by arguing that bodies are always already digital. My argument is problematized by contemporary cultural theorists who claim that when a body is affected technologically, it enters an analogue model of representation, which is closely related to the digital but more attuned to the fluid bodily movements and dynamism that a theory of digitization always misses. Simultaneously, these scholars present this analogue model as a solution to the problem of cultural theory's repetitiveness in the late-twentieth and early-twenty-first centuries. In response to these assertions, I appropriate philosopher Bernard Stiegler's theory of the digital in order to argue that Taylorized Fordism can be interpreted as a philosophy of digital bodily function that persists uncomfortably in the present, commenting on the reductive succession logic that informs the analogue's currency and privileged status.

Chapter 4 presents an alternative account of bodily movement in contemporary technological society. Building on my claims for a temporally stubborn model of digital bodily function, I argue for the significance of making contact with technological objects – and technological bodies making contact with one another – in ways that produce stasis, place fixity, and hardness, qualities that I think are unfairly subordinated within cultural studies of telecommunication. I explicate the ways in which cultural theorists of 'new' technologies equate contact between bodies and digital media with the movement and transformation of a body outside of its control. This equation, I will show, is premised on a theory of tactility that disqualifies certain types of bodily relation

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bodies technologically. See Joanna Zylinska, *Bioethics in the Age of New Media* (Cambridge and London: MIT Press, 2009), p. xi.

from taking place in a present time of transience and global connectivity. Engaging in more detail with the implications of invoking tactility within a technological context, I argue that reaching those bodies that have been excluded and displaced by the valorization of tactile fluidity over fixity is a matter of reaching the virtual, which must not be conflated with getting to a more technologically advanced or post-Fordist time and place.

Before I begin the opening chapter, I want to explain anecdotally how touch and mobility play a crucial role in my own technological life, and why this matters within a Fordist-to-post-Fordist framework.

I am tactless when operating technological objects, whether a car, a computer, or most electronic and motorized devices. I like and am comfortable touching and generally examining these objects before they have been started, switched on, or powered to do whatever it is they are supposed to do, but as soon as they become live I enjoy their company less, because my actions seem out of sync with the control commands that form the basis of these objects' moving properties. That is, I feel that the technological object and myself are moving in different times and places. I can explain this feeling by recounting a scenario in which I am regularly situated. I am typing in a word-processing application or browsing the World Wide Web on my (almost obsolete) home computer, when the computer suddenly freezes and crashes. A multi-coloured wheel icon then appears on the computer screen – replacing the cursor that no longer responds to my manipulation of the mouse – and spins continuously while I await a response from the applications and operating system. Nothing happens. While we can validly assert that the computer has stopped working (or has stopped working properly) at this point, this assertion becomes problematic when we consider that

the computer has not stopped moving: the colour wheel continues to spin, I can hear a whirring coming from the machine, and can feel the vibrations on my computer desk that correspond with this sound, despite being unable to access the computer's desktop.

In other words, my encounter with the machine remains a site of activity – the machine and myself are both moving – but it is now felt as an awkward asynchrony. I respond to the computer's delay by increasing the frequency with which I click its mouse or press its keyboard, and the computer, ignorant of my extra touches, continues to vibrate and display the wheel icon, which, we recall, was the computer's response to an action that I carried out many moments ago. Owing to these extra touches, in one sense I am closer to or more involved with the computer than ever before, yet we remain irreconcilably mobile, staying in places of variable speed and motion that cross and overlap but do not join. Of course there are technical reasons for this occurrence. Those with expertise in computing, however, will view these moments as unfortunate interludes in the interface, which call for some definite action to be taken to re-establish as soon as possible a meaningful connection between machine and user, whereas I want to claim that these moments – no matter how brief they are – instance a meeting (or non-meeting) that is technologically significant. In this scenario, when I make contact with a technological artefact that is active, its activity does not welcome me into a co-ordinative synthesis where the artefact's movements become an extension of my own. I am moved away from a place and time simultaneous with that of the machine, even though I am still spending time and making contact with it.

I also feel out of time with critical debates in the humanities and social sciences that take interactions between the body and digital media devices as their object of study. Frustration is produced because these debates seem too excited about or have consistently high expectations for these developments. 'With the advent of fast personal computers, digital television, and high bandwidth cable [...] networks, so-called post-industrial societies stand ready for a yet deeper voyage into the "permanently ephemeral"', argues technologies scholar Michael Benedikt, writing in the early 1990s – the period in which widespread personal computer ownership, coupled with the promise of global communications technologies, gave rise to a critical fascination with the possibilities of a techno- or cyber-cultural near future.[2] Benedikt is certain of the reliability of the technological developments he invokes, citing their perpetual availability to consistently transport bodies into an electronically-enabled, networked space of many fast-moving, transitory connections and communications. But I cannot reconcile this assertion with the indifferent relations that often characterize my time spent with machines and technological objects, particularly with my inefficient, irregular computer, which indicates that it would rather remain active without me, or allows me to remain in its company as long I do not expect its activity to take me anywhere. It is therefore common for me to feel out of place when researching the topic in which I am nonetheless most interested.

Feminist critic Elizabeth Grosz argues that there are predominantly two types of technologies scholar in a current time of widespread, general-purpose

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[2] Michael Benedikt, 'Cyberspace: First Steps', in *The Cybercultures Reader*, ed. by David Bell and Barbara M. Kennedy (London: Routledge, 2000), pp. 29-44 (p. 35).

computerization and electronic media. 'On the one hand', Grosz claims, 'are the technophiles [...] who see in this technology the key to new spaces, new identities, and new relations, in short, new worlds, open and available, tailored to one's individual predilections and tastes'.[3] The other group, argues Grosz, comprises 'nostalgic Luddites yearning for days gone by', who 'may lament the replacement of face-to-face contact with connections established only through electronic mediation'.[4] Both groups are 'equally stringent and [...] equally naïve', Grosz asserts, because their respective idealization and revulsion of contemporary electronic technologies shares the assumption that these technologies, for better or worse, represent a major historical break with previous modes of human contact and communication.[5] Grosz refuses this assumption, on the grounds that new technological objects instead allow for a renewed engagement with important philosophical questions of time, space, and relation, the existence of which significantly predates the latest innovations in electronics and telecommunications.

This thesis will similarly claim that technological relations are formed in contemporary society which are not reducible to a chronology of epochal rupture. Grosz and I both seek to locate ourselves outside the technophile/Luddite opposition in order to argue for complex activities that this opposition cannot capture. Indeed, this opposition is insufficient to describe my asynchrony with technological objects and technologies scholarship. These experiences and encounters are not indicative of technophilia as Grosz defines it, because they are

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[3] Elizabeth Grosz, 'Cyberspace, Virtuality, and the Real: Some Architectural Reflections', in *Architecture from the Outside: Essays on Virtual and Real Space* (Cambridge and London: MIT Press, 2001), pp. 75-89 (pp. 76-77).
[4] 'Virtuality', p. 77.
[5] 'Virtuality', p. 76.

premised on technology's failings rather than an investment in technology's endless power and capabilities, although my fascination with – and willingness to dwell on – these failures does reference an abnormal liking of things technological. These asynchronous relations equally resist Grosz's notion of Ludditism, because while I often scold and swear at the computer (or curse at the cursor) for its stubborn slowness, the Luddites want no interaction with the innovations by which they are surrounded, whereas I always return to touching and feeling my machine without reply, and am compelled to read (and write about my experiences of reading) techno-cultural accounts that I know are likely to leave my hopes unfulfilled.

In this thesis I will theorize developments in technology from neither of the dominant positions Grosz identifies, but this does not mean that Grosz and myself posit technological development in exactly the same way. For example, Grosz gives a brief allusion to the role of technological objects in her day-to-day life: 'I must confess that I don't know much about computers. But I know that I like them. I like them not simply because they are incredibly convenient labor-saving tools (I would like my vacuum cleaner if the same were true of it, though in fact we have merely a passing familiarity)'.[6] Grosz asserts that she has a passing familiarity with her vacuum cleaner – that is, she is barely close or friendly with a technological object that nevertheless needs to be held, pushed, and pressed for any amount of time in which it is operated. The movements of Grosz and this electronic device pass each other, which links compellingly to my earlier description of being in a relational place via a missing simultaneity with the technological object in one's company. Grosz distinguishes this relationship

[6] 'Virtuality', p. 78.

from the affinity she has with her computer – she likes the computer because it does more than the purely utilitarian cleaning device – but her fondness for the computer is nonetheless coextensive with the risk of appearing irrelevant to those scholars whose critical approaches have become hegemonic. Grosz feels that she 'must confess' to her non-knowledge of computer function, which is a pre-emptive acknowledgement that her assertion of simply liking (rather than celebrating, fearing, idealizing, or reviling) computers places her outside of the technophile/Luddite positions from which digital and telecommunicative innovation has traditionally been theorized.

Grosz goes on to privilege the computer in the remainder of her essay; indeed, the labour-saving vacuum cleaner is not mentioned again after this instant. There is an implication here that while the computer's capacities for Internet connectivity and simulation are not as revolutionary as we might think, these capacities nevertheless engage us with critical issues in ways that are beyond our boring, repetitive, single-purpose or one-dimensional artefacts. My point, however, is that the relations Grosz has with the computer and the vacuum cleaner are more similar than Grosz realizes. Contact with both enacts a confrontation with the unremarkable: Grosz and the vacuum cleaner are put into a relation through indifference, and Grosz can say no more than that she likes the computer despite being compelled or addicted to using it.[7] I argue that this contact opens an interpretative space for alternatively questioning the implications of contacting and communicating technologically. Grosz's own assertions come under scrutiny in this space. For example, is Grosz suggesting partly that the restricted, repetitive activity of the hard working cleaning device

[7] Grosz discusses addiction to computer use in 'Virtuality', p. 19.

reduces this technological object to its material components (such as plastic and wire as opposed to Internet and simulation)? Is this why she dislikes the device – because it is more a hard immutable shell than a sophisticatedly circuited portal to a variety of other spaces? Does Grosz's passing familiarity not reinstate a mind/body dualism (which Grosz says has structured body-computer interaction in technophilia and Ludditism), whereby Grosz becomes the multiply mobile computer, or intelligent processor, burdened by and always ready to take flight from something too enmeshed in the matter with which it left the factory? Or perhaps Grosz's comments are important simply for demonstrating that the most powerful, interactive and exciting of innovations can be discussed alongside the dullest, most uninviting and unnoticeable technological objects, which might enable us to advance a critique based on glimpsing aspects of the latter in the former.

Grosz does not elaborate on these questions and possibilities after implicitly introducing them. In other words, Grosz's article misses the opportunity to construct a position that subverts, or complexifies, the conceptual pair to which Grosz cannot relate. Thus, even after Grosz's important essay – in which Grosz indicates that the technophile/Luddite opposition is not universally explanatory – there appear to be no categories, other than 'technophile' and 'Luddite', for understanding relations with technological objects. There is a danger, then, that my encounters will be read as a form of Ludditsm. But I strongly reject this potential interpretation. To be asynchronous in the way I have described does not mean simply having bad feelings towards the technological objects with which one lives. Instead, it is an affective state that reveals as meaningful the mundane moments that punctuate time spent technologically:

these moments seem to be resistant to interpretation not only in Ludditism and technophilia but in critical attempts, such as Grosz's, to move away from these stances. Further, in my opinion, technological development covers both the always-already-technological function of bodies and any artefact with which the body comes into contact.

As I have intimated, the historical narrative that I use these asynchronous relations to critique begins in the late nineteenth century. This period saw the development of techniques – known collectively as Taylorism – for measuring and determining the separate movements made by a human body at work (predominantly with machines or in machine environments) in any given amount of time. These methods of technologically appointing a body, fixing it to a standardized set of discrete, calibrated movements, played a key role in the implementation of early-to-mid-twentieth-century industrial mass production and consumption – commonly referred to as Fordism – which unavoidably linked technology to the control and domination of western societies.[8] My main critical appraisal in this thesis, though, is of the shift from Fordism to post-Fordism. This is an event narrated primarily in social history and cultural geography, and describes the change, in the late 1960s and early 1970s, from one type of capitalist system to another. It also – and in the context of this thesis, more importantly – incorporates the many changes in technological objects, society, work relations, and bodily mobility that were corollary to this shift.

The Fordist-to-post-Fordist shift is an important framework for understanding how we reached the technological present. Yet I find Fordism-to-post-Fordism a highly problematic narrative, because it is premised on

[8] I clarify my use of the terms 'technology' and 'machine' in the opening stages of chapter 1.

technological change but does not comment on the specific developments and concepts by which it is motivated. We learn very little from this narrative about the meaning of notions such as automobility, computerization, the digital, and information technology, even though the narrative regularly invokes these notions to demonstrate that we live in a time much different to that of the first half of the twentieth century. Moreover, the narrative is based on technological intimacy – bodies being materially and representationally brought together with machines and electronics across time – but rarely offers a close reading or localized example of these processes in action, preferring instead to proclaim, in my opinion always over-abstractly and reductively, that technological development corresponds with a change in the means by which bodies are oppressed. Of course, as a social history, Fordism-to-post-Fordism is concerned primarily with tracking the movements of capital accumulation rather than with explicating the broader philosophical implications of technological development. It could be argued therefore that this periodizing account is of limited relevance to cultural theorists and philosophers who wish to study the rhetoric, representational strategies, and bodily affects of a technological existence. However, I argue that the Fordist-to-post-Fordist shift does have critical and philosophical value, precisely because of its failure to address matters of body-technology interaction in any detail. In other words, rather than rejecting the narrative on the basis of my asynchrony with it, I argue that feeling out of time can be the basis for remaining with the Fordist-to-post-Fordist framework, which in turn adds a greater historical and political significance to an experience that I have thus far introduced anecdotally.

The Fordist-to-post-Fordist shift can be read as a history of place fixity and displacement. In Fordism, one is appointed to a position or role in the workforce, which corresponds with being appointed to a place in the mechanized, automated factory. (Fordism was founded upon the Ford Motor Company's simplified, standardized processes of automobile assembly in the early twentieth century.) In this place, one carries out the same set of machine assembly tasks continuously throughout the working day. Place and repetitiveness characterize Fordist activity, in which one is always making contact with, and is always in the company of, artefacts and automated machinery. Furthermore, in Fordism this activity anchors and co-ordinates the movements of capital, domestic life, and leisure time, as well as the use of products in these spheres. Grosz's vacuum cleaner is Fordist.

In post-Fordism, however, the factory loses its central status within western nation-states amid globalization, forcing bodies to take on the qualities of adaptability and flexibility that this new societal structure requires. To be an eligible subject of post-Fordism, one must move adaptively between the many different jobs that one might hold at the same time, the majority of which are unlikely to be in the manufacturing or hard industry sector. Jobs in all sectors rely on computers, which have also become widely owned consumer durables, facilitating global communications networks that significantly alter the experience of time and space: one instantaneously makes contact with others transnationally, in a space with no clearly defined location and co-ordinates, and one's actions at work are subject to the changing calculations and decisions relayed instantly across a management hierarchy. In these senses we can say that post-Fordism signifies temporariness as a social dominant, whereby one is

unable to remain in place for any sustained period of time. Grosz's computer is post-Fordist.

These links are useful for broaching the key issues that 'Fordism' and 'post-Fordism' designate, but the Fordist-to-post-Fordist framework is meaningful in a much more complex sense, not only as a history of place fixity and placelessness but as a history of failure and unreliable connections. As I proceed to study in greater depth the technological concepts and developments to which the Fordist-to-post-Fordist narrative tentatively introduces us, we will discover that technological change and activity cannot be reduced to the logic of temporal succession that the formulation 'Fordist-to-post-Fordist' implies. Indeed, I will demonstrate that an explication of critical concepts such as automobility, digitization, computerization, and virtuality reveals a series of deferrals, failed attempts to move decisively into the future, and an inability to separate technologically 'old' place fixity from technologically 'current' placelessness. I want to show that it is possible, in the post-Fordist present, to be in a time and place that feels Fordist, or which is related experientially to the qualities and activities that the Fordist-to-post-Fordist narrative consigns to an obsolete epoch. It is not enough for a social historian to proclaim, or for a scholar of any critical discipline to assume, that we are now living in a post-Fordist time. Feeling Fordist in the present does not mean turning away from a history whose logic of forward movement and technological advancement remains intact. Instead, it refers to a body's re-appointment to a different place within this history, where a body's activity is not contemporaneous with the ways in which this history unfolds. Dwelling with a crashing computer exemplifies this. In

short, it is possible in this place to question whether the shift from Fordism to post-Fordism ever fully and properly happened.

1: Hard Working Bodies

This chapter establishes the key historical developments in the West's intelligibility of movement that emerged alongside significant changes in the organization of work practices within western nation-states. The starting points of this thesis are the factory environments of late-nineteenth- and early-twentieth-century America, and the rhetoric of industrial management – the discipline of time and motion study that determined what took place in these spaces.

I choose to begin the thesis in the factories of this particular time because I wish to underscore the significance of industrial management as a philosophy of movement. Industrial management, I will demonstrate, made the significant assertion that the activity of the factory – which, importantly within the context of my research, included bodies continually coming into contact with technological objects and artefacts – provides the occasion for discovering hitherto unnoticed bodily movements, and thus for multiplying the possibilities for action. Concerned as it was with the organization of bodies at work, industrial management used these possibilities to create a more efficient workplace, and to more effectively control the bodies in the spaces it was surveying. Industrial management's methods and principles remain highly important to any discussion of interaction between bodies and technologies, and underlie the majority of issues explored in this thesis. I will use this chapter, though, to claim that one of industrial management's most significant achievements was its revelation that bodies are hard working. Industrial management is important, I will argue, because it asserts that a hard working body is not necessarily the same as a body

that strenuously labours. In other words, while industrial management sought to increase labour productivity and employee exploitation, this was not its only purpose: it also sought to define the eligible body as that which functions properly, and did so through representational strategies that we can call hardening – the breaking down or freezing of bodies into many discrete movements, which were then put together as evidence of what a body was capable of doing in any given time frame.

I begin this chapter by giving another name to the processes I have thus far only schematically outlined. The industrial management techniques that I have been discussing are known as Taylorism. I will provide a more detailed analysis of Taylorist procedures, highlighting the particular motives and logics that inform Taylorism's determination of proper bodily function. I will then chart Taylorism's centrality to the formation of Fordism, the socioeconomic system that dominated western nation-states throughout the first half of the twentieth century. I discuss Fordism as a system by which bodily movements are controlled, but I also explicate the work of cultural critic Walter Benjamin to argue that it is possible to theorize Fordism as something other than an order of domination. I conclude by analysing at length one of Fordism's key concepts: automobility. I will claim that all bodies under Fordism are automobiles, and I take issue with a particular social history that cites Fordism as a disappointing period of the past in which human action and machine action should have been but were not separated.

Body-Machines

The term 'body-machine' is central to this thesis, and I must explain my use of the term before proceeding. A body-machine, as I define it and will elaborate in many different ways throughout this thesis, is a system of co-ordinative components that move in relation to one another. A body-machine is formed by a domain of knowledge in which bodies and machines share, and are posited according to, the same model of proper function or timely movement/operation.[1] 'Body-machine' thus serves as a theoretical framework for studying the (always technologically affected) movements that a body makes in time in order to be intelligible. The 'body' in 'body-machine' does not simply represent the human: equally it signifies social bodies, theoretical bodies, artefactual bodies, and the spaces in which humans use and interact with technological objects. In subsequent sections and chapters, I will explicate not only the body-machine of human bodily function and the body-machine of machine function, but also, among many others, the body-machines of Taylorism, Fordism and post-Fordism, the body-machine of feminism, the body-machine of theory, and the body-machines of car use and computer use. While I give this theoretical model many different historical situations, my eventual aim in this thesis is to demonstrate that body-machine discourse undoes ideas of temporal advancement premised on successive technological developments.

I am not the first to articulate a theory through the hyphenation of body and machine. Literary scholar Mark Seltzer has theorized a technological field of

[1] As we will see in chapter 3, I am indebted to the critical discipline of cybernetics for the specific notion of 'machine' that I use throughout this thesis.

intelligibility that he calls 'the body-machine complex'.[2] For Seltzer, the body-machine complex describes 'how persons, bodies, and technologies are made and represented in turn-of-the-century American culture and beyond: [...] the "discovery" that bodies and persons are things that can be made and its implications'.[3] Seltzer locates his research within the context of 'the control revolution', the period 'from the 1870s to the 1930s' in which the emergence of machine technologies, and machine methods of manufacturing associated with mass production, mass consumption, and standardization, engendered 'a rethinking of [...] processes of representation [...] as production, and the understanding of production as processing, programming, and systematic communication'.[4] For Seltzer, the 'complex' of which the discovery of bodily artefactuality is an effect concerns the shifting, unstable (or, as Seltzer claims, 'unnatural') position of 'nature' in a culture whose representational strategies were profoundly affected by the advent of these machine methods.[5] In a 'machine culture', Seltzer argues, the concept of nature is bound up with the machine processes in which bodies are immersed: the body continues to be posited as that which has natural properties and capacities, but only to the extent that what counts as natural has intersected with and shifted within discourses of

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[2] Mark Seltzer, *Bodies and Machines* (New York and London: Routledge, 1992), p. 3.
[3] *Bodies and Machines*, p. 3.
[4] *Bodies and Machines*, p. 159. In the following section, I explicate Taylorism as a key aspect of the machine culture that Seltzer invokes. While the control revolution is an important precursor to the Taylorist notion of 'inspection' that I will discuss, it is outside the scope of my thesis. My concern in the following section is with the invocation of Taylorism as a major historical point in which bodies were redrawn within body-machine discourse. For a detailed account of the control revolution, see James R. Beninger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge: Harvard University Press, 1986).
[5] *Bodies and Machines*, p. 155.

machine technology.[6] The key implication of Seltzer's study – which we will consider in more detail when I critically appraise Taylorism – is that the raw, given physicality of bodies cannot command or precede machines, because the intelligibility of bodily movement and machine processes are coextensive, regardless of whether a natural, living body and a lifeless machine are opposed as an effect of this schema. A lifeless machine, Seltzer suggests, is represented according to a domain of intelligibility in which 'machine' or, more specifically, 'body-machine', determines the parameters of the living and the inert.

A more recent example of technologized bodily knowledge is provided by gender and sexualities theorist Nikki Sullivan. Sullivan's research is based on the notion of 'somatechnics', which she explains in the following passage:

> This term [somatechnics] was recently coined in an attempt to articulate [...] the always-already technologised character of bodily formation and transformation, and the necessarily material (or enfleshed) character of technology. The term somatechnics thus aims to supplant the logic of the 'and', suggesting that modes and practices of corporeality are always-already, and without exception, in-relation and in-process: they necessarily transect and/or transgress what dominant logic conceives as hermetically sealed categories (of practice, embodiment, being, and so on).[7]

Sullivan understands technology not as something made by and for human bodies, but as a constitutive and creative network of relations and processual activity, in which the body is always already in a state of modification. In other words, Sullivan argues that having a body is way of modifying the world in turn. Every example of bodily life, Sullivan suggests, is an effect of a culturally specific configuration of 'conceptions of, debates around, and questions about' how technology affects bodies, which 'are themselves technologies that shape

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[6] *Bodies and Machines*, p. 152.
[7] Nikki Sullivan, 'Transsomatechnics and the Matter of "Genital Modifications"', *Australian Feminist Studies*, 24:60 (2009), 275-286 (p. 276).

corporeality at the most profound level'.[8] Thus, for Sullivan, this technical (modificatory) discursivity has always been the means for instantiating categories such as the human, the machine, and the body. Moreover, the different ways in which technical/discursive relations come together to constitute subjectivities across time reveals the instability, and transformativity, of these categories at the very moments in which these categories are formed.[9] The notion of somatechnics is important, then, because it demonstrates that bodies are always already technological, and also because it emphasizes, to a much greater extent than Seltzer's theorization, that this always-already status resists a logic of temporal succession and historical specificity. In other words, we do not have to wait for some developments or innovations in technology to succeed others, Sullivan suggests, or do not have to study a specific period in which technological development or innovation took place, in order to represent bodies as technological bodies.

While I acknowledge and take inspiration from Sullivan's more sustained engagement with technology as a generalizable and constitutive condition, I will in fact align more closely with Seltzer's approach in this thesis, because I am studying a different kind of technological body than the ever-changing, dynamic,

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[8] Nikki Sullivan, 'The Somatechnics of Intersexuality', *GLQ*, 15:2 (2009), 313-327 (p. 314).

[9] Sullivan calls this 'tracing the specificity of particular modes and practices of bodily (un)becoming thus invoked, and of troubling their alleged essence, their separateness and/ or self-sameness' ('Transsomatechnics', p. 276). Joanna Zylinska gives a similar account of technology: '[t]he Greek etymology of the term "technology," in which one can hear echoes of both art and craft, brings to the fore the productivity of the technical relation, which sets up, or creates, the human in the world by differentiating the human from his or her constitutive surroundings – tools, language, memory, environment. This relation between human and technology is posited here as originary, although it acquires specific cultural inscriptions in different historical periods' (*Bioethics*, p. xii). I discuss the differentiation of human from environment in chapters 3 and 4 of this thesis.

and fluid complex that Sullivan emphasizes. Sullivan argues that 'technologies are never simply "machinic" as they so often appear to be in the popular imagination. Rather, technés are epistemic'.[10] Machines are not the same as technologies, Sullivan asserts, and the conflation of the two results in a misunderstanding of technology in terms of its wider implications for bodily life. For Sullivan here, machines are the descriptive and very specific content of technology discussed commonsensically, whereas technology is that which enables us to posit machines in the first place (and which enables the differentiation of a human 'us' from the machines, tools, and artefacts in our surrounding environments). As long as machines and technologies are conflated, Sullivan implies, machines constitute – to borrow a phrase from sexualities scholar Elizabeth Freeman – a 'temporal drag' on technics, or detract from the dynamism of (and slow down or set back our engagement with, and understanding of) a body of knowledge whose technicity (both temporally and spatially) moves beyond the predictability and narrowness of a machine/technology/body association.[11] I agree completely with Sullivan that

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[10] 'Transsomatechnics', p. 314. Techné refers to the Greek etymology that Zylinska describes, and underscores Sullivan's use of 'technics'. For more on technology in terms of technics, see Bernard Stiegler, *Technics and Time, 1: The Fault of Epimetheus*, trans. by Richard Beardsworth and George Collins (Stanford: Stanford University Press, 1998), and Stiegler, 'Technics of Decision: An Interview with Peter Hallward', trans. by Sean Gaston, *Angelaki*, 8:2 (2003), 151-168. I discuss Stiegler in chapter 3 of this thesis, but in relation to the digital rather than the technical.

[11] See Elizabeth Freeman, 'Packing History, Count(er)ing Generations', *New Literary History*, 31 (2000), 727-744 (p. 728). Freeman invokes 'temporal drag' within the context of sexuality studies rather than technology, but Freeman's association of the term 'drag' with 'retrogression, delay, and the pull of the past upon the present' can be used to draw out the implications of machines or the machinic in Sullivan's essay ('Packing', p. 728). In Sullivan's description, when it is not being pulled back by a machine/technology conflation, technics moves beyond the machinic in a temporal sense, because technics is irreducible to its specific historical contexts; in a spatial sense, because it applies to more aspects

simultaneously invoking 'machine' and 'technology' can be reductive. However, I want to exploit and appropriate the connotations of predictability and regularity that 'machine' calls forth here, to demonstrate how a critical engagement with the machinic in fact enables us to comprehend technology in its philosophical-theoretical sense. In other words, I will argue that the machinic can indeed be epistemic: 'body-machine' can offer an alternative approach to understanding the ways in which technology creates bodily knowledges.[12] I proceed, then, by analysing Taylorism as a significant historical example of body-machine formation.

Taylorism: Representation as Work/Working Out

Mechanical engineer Frederick W. Taylor was an important participant in the discursive reconfiguration of the relationship between, and the meaning of, bodies, machine technologies, and work in late-nineteenth- and early-twentieth-century industrial America and beyond. Taylor's essay 'Principles of Scientific Management' proposed new methods for improving the efficiency of factory labour.[13] Through the implementation of various techniques of representation

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of bodily action than the machinic does; and in another temporal sense, in that Sullivan posits somatechnics as a means of distinguishing historically reductive and (by now) repetitive notions of technology from recent accounts that recognize technology's epistemological significance.

[12] Significantly, Sullivan does not consider cybernetics when making this claim and when formulating somatechnics. As I will explicate in chapter 3, cybernetics neither claims that humans are machinic, nor adds a pre-existent category 'human' to a pre-existent category 'machine'. Instead, cybernetics demonstrates that machines are body-machines – machines (and/or bodies) cannot be posited apart from a model of inter-and intra-communicative function that underscores the impossibility of making a definitive distinction between the human and the machinic.

[13] Frederick W. Taylor, 'The Principles of Scientific Management', in *Scientific Management* (Connecticut: Greenwood Press, 1977), pp. 30-144. Taylor's principles influenced work management practices in western Europe, particularly

into the factory environment, including photographic and written records of observation that were themselves constantly overseen and updated, Taylorist organization painstakingly broke down the physical motions of each worker, and calibrated these gestures to maximize the efficiency of each working body undertaking each factory job. Taylorist techniques of observation, measurement, and timing established a standardized set of simplified bodily motions required to complete any job satisfactorily.[14] If workers performed these calibrated motions, then the time taken to complete each individual job was reduced, which in turn increased labour productivity. The Taylorized working body thus worked not only in terms of labour, but in terms of functioning properly: the properly functioning body, or a temporally-specific set of gestures and attributes, is the measure of corporeal intelligibility in Taylorist management.

France, and were taken up in eastern Europe by Joseph Stalin in the formative years of the Soviet Union. See Henri Fayol, *General and Industrial Management*, trans. by Constance Storrs (New York: Pitman, 1987), pp. xi, 66, 69; and Peter Wollen, 'Cinema/ Americanism/ The Robot', in *Modernity and Mass Culture*, ed. by James Naremore and Patrick Bratlinger (Bloomington and Indianapolis: Indiana University Press, 1991), pp. 42-70 (pp. 44-47). While it is important to note Taylor's influence, I am more interested in Taylor's principles themselves and how they shaped human contact and action with technology.

[14] I say that Taylor 'participated' in the reconfiguration of bodies and machines, because Taylor was not the only pioneer of methods for breaking down individual bodily movements. Photographer Eadward Muybridge devised innovative and highly influential processes of motion-capture in the late nineteenth century, whereby he used a camera to record the normally imperceptible movements of humans and animals. See Eadward Muybridge, *The Human Figure in Motion* (New York: Dover, 1955). Taylor also had notable contemporaries within the field of Scientific Management, namely Frank and Lillian Gilbreth, whose management and motion-study business used methods of determining bodily efficiency that were partly based on but not identical to Taylor's. See Frank B. Gilbreth, *Primer of Scientific Management* (New York: Elibron, 2005). I focus on Taylorism, however, because my thesis is concerned with critiquing the shift from a Fordist society to a post-Fordist society, and as we will see in what follows and in subsequent chapters, a knowledge of Taylorism is crucial to understanding the meaning of Fordism.

In 'Principles', Taylor recounts his management and systematization of an American bicycle ball bearing factory, in order to demonstrate the efficacy of his time and motion study of working bodies. Out of 'the twenty or more operations used in making steel balls' in the factory, 'perhaps the most important', Taylor asserts, 'was that of inspecting them after final polishing so as to remove all fire-cracked or otherwise imperfect balls before boxing'.[15] Before detailing the activity of the ball bearing factory, Taylor explains the specific qualities needed to be an inspector in a factory under his systematization, and the measures taken to determine these qualities. The suitability of a worker to the Taylorist workplace is established by determining beforehand what Taylor calls 'the "personal coefficient" of the man [sic] tested':

> This is done by suddenly bringing some object, the letter *A* or *B* for instance, within the range of vision of the subject, who, at the instant he [sic] recognizes the letter has to do some definite thing, such as to press a particular electric button. The time which elapses from the instant the letter comes into view until the subject presses the button is accurately recorded by a delicate scientific instrument. [...] Some individuals are born with unusually quick powers of perception accompanied by quick responsive action. With some the message is almost instantly transmitted from the eye to the brain, and the brain equally quickly responds by sending the proper message to the hand. Men [sic] of this type are said to have a low 'personal coefficient'.[16]

A 'low personal coefficient' is the measure by which bodily knowledge is determined in Taylor's rhetoric, which positions the body between a symbiotic enmeshment with technology and a reassertion of the human capacity to harness technology. The body is represented above as a series of terminals or workstations that can be isolated in order to assess the most efficient means of

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[15] 'Principles', p. 86.
[16] 'Principles', p. 89. Emphasis in original.

transmitting a message.[17] Brain, eye and hand are each figured as workers completing specific tasks, machine-like, in a required timeframe along a systematized, Taylorized labour programme. In other words, the body's intelligibility is produced by its contact with the electric button of the personal coefficient test, which is simultaneous with the enactment of a body-machine complex. From this perspective the Taylorist body-machine indicates the discursive co-dependence of body and technology, without implying the mastery of one over the other.

However, Taylor's figuration of the brain and sense organs as systematized work terminals is distinctly hierarchized. Taylor's explanation of the personal coefficient test is premised on the subordination of hand to eye. Even though the personal coefficient test attempts to close the distance between bodily functions through mechanistic calibration, it is still a means of perfecting a temporality in which hand follows eye, movement follows perception, and body follows mind: in the passage above Taylor asserts the primacy of the eye on account of its closer proximity to the brain, which for Taylor justifies the need for it to be the first stage in message transmission.[18] The presence of the body is announced in Taylorism only after the privileged eye-brain transmission has taken place: only once a purely optical space has been established. When Taylor describes above the process of 'bringing some object [...] within the range of vision of the subject, who, the instant he [sic] recognizes [it] has to do some

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[17] I borrow the notion of the 'terminal' from film theorist Scott Bukatman's *Terminal Identity: The Virtual Subject in Post-Modern Science Fiction* (Durham and London: Duke University Press, 1993). For Bukatman, 'terminal' refers to the end of traditional notions of identity within technologized nation-states, and to the new subjectivities constituted by the increasing co-dependence of humans and new technologies.

[18] I discuss the bodily transmission of messages and information at greater length in chapter 3 of this thesis.

definite thing', recognition certifies the seamlessness between and the primacy of seeing and knowing: seeing serves to ground knowing, and this process appears to be a precondition of bodily awareness in Taylorism. In other words, the optical mind space supported by the seeing-knowing dyad appears to establish the conditions for what the body can do: the body is prompted into a definite action by the eye-brain relationship that began the mechanistic transmission Taylor describes.[19] The body works or functions like and as a machine, but only insofar as this coextensive body-machine intelligibility is taken to be apprehended, or 'worked out', in a purely optical space, where 'body' designates the mind-determined eligible shapes or contours this body-machine symbiosis can take in order to continue using technology over time. Working out here references the rational, masterful harnessing of technologies specifically for what can be done with them. The most machine-like and technologically redrawn bodies in Taylor's rhetoric, the ball bearing factory workers, are redrawn in this way according to a temporal logic which implies that for the body to matter – to be intelligible and eligible, or to count as an intelligible body – it must 'possess the quality of quick perception *followed by* quick action'.[20]

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[19] The implications of Taylor's description of the body positioned at the personal coefficient test can, I argue, apply to the notion of the body positioned at a computer station clicking a mouse. The mouse-clicking body, like the personal coefficient body that presses the electric button, supports a theorization of a conjunctive synthesis of body and machine parts, but can equally support a disembodied invocation whereby engagement with the computer screen is assumed to take place in a primarily optical space, where the hand on the mouse follows the eye immersed in the space of the screen. For a further discussion and critique of disembodied accounts of mouse clicking, see J. Macgregor Wise, 'An Immense and Unexpected Field of Action', *Cultural Studies*, 18:2/3 (2004), 424-442 (pp. 434-435). I return to the issue of mouse clicking, and to the body stationed at the computer screen, in the final chapter of this thesis.

[20] 'Principles', p. 90. My emphasis. I invoke 'matter' here in accordance with Judith Butler's assertion of the term's reflexivity in relation to the processes of bodily intelligibility: 'to be material means to materialize, where the principle of

This logic of work/working out extends into Taylor's description of the work process itself. After explaining how the personal coefficient test determined those eligible to work in the ball bearing factory, Taylor recounts the measures he took to ensure that the specifically selected, calibrated bodies continued to function as efficiently throughout each working day. As I have stated, Taylor isolates the work of 'inspecting' the ball bearings as the most important task carried out in the workplace under his systematization.[21] The factory girls inspect each steel ball bearing for imperfections, which for Taylor is a far more important task than one based on brute force, because it enables a more detailed demonstration of Scientific Management. Put simply, inspection, in Taylorist terms, leads to a greater understanding of how the body functions.

But, as I also asserted above, inspection does not merely refer to the work carried out by the body on the factory floor: it more importantly refers to the ways in which the concept of work is bound up with the processes of representing bodies and technologies. Taylor describes how to ensure the continuing efficiency of the machinic, functioning body, he introduced a measure called 'over-inspection', in order to 'make it impossible for [the ball bearing inspectors] to slight their work without being found out'.[22] As Taylor continues to explicate the programme of over-inspection, it is clear that he is articulating not a top-down method of coercion, but the closing of the distance between work and its representation:

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that materialization is precisely what "matters" about that body, its very intelligibility. In this sense, to know the significance of something is to know how and why it matters, where "to matter" means at once "to materialize" and "to mean"'. See Judith Butler, *Bodies that Matter: On the Discursive Limits of "Sex"* (New York and London: Routledge, 1993), p. 32.

[21] 'Principles', p. 86.

[22] 'Principles', p. 90.

> Each one of four of the most trustworthy girls was given each day a lot of balls to inspect which had been examined the day before by one of the regular inspectors; the number identifying the lot to be over-inspected having been changed by the foreman so that none of the over-inspectors knew whose work they were examining. In addition to this one of the lots inspected by the four over-inspectors was examined on the following day by the chief inspector, selected on account of her especial accuracy and integrity. An effective expedient was adopted for checking the honesty and accuracy of the over-inspection. Every two or three days a lot of balls was especially prepared by the foreman, who counted out a definite number of perfect balls, and added a recorded number of defective balls of each kind [...] An accurate daily record was kept both as to the quantity and quality of the work done in order to guard against any personal prejudice on the part of the foreman.[23]

A compulsion to represent the work process, signified by inspection, spreads throughout the workplace to the point that the representation of the work process is indistinguishable from the work process itself. The 'regular' workers, whose job is to inspect the steel ball bearings, are inspected by the over-inspectors, who are inspected by the chief inspector, who is inspected by the foreman, who is inspected by the 'accurate' – and therefore perpetually inspected – daily record. Taylor's rhetoric of inspection instances a crucial rethinking of the work process, whereby work does not merely involve representing and inspecting, but *is* representing and inspecting. There is not simply a body that inspects at work: rather, inspection, or the seemingly never-ending process of representing work, is constitutive of the body and the different ways in which the body functions in a machine culture. The ability to make reference to a distinctly physical or natural bodily aspect within the work process is problematized here, because it is only through what Seltzer terms '[t]his potentially infinite regress in the work of looking and sorting', the forms of representation that redraw the 'natural' body in

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[23] 'Principles', pp. 90-91. Seltzer briefly discusses Taylorist work as representation in *Bodies and Machines*, p. 159.

body-machine discourse, that the body can be accessed.[24] Body-machines are sorted, are set parameters and have their contours apprehended, within a space of looking that, as I demonstrated in Taylor's personal coefficient test, is determined as being primarily optical.

Thus, Taylorism's renegotiation of the body as body-machine not only posits the working body as a site of labour but as a site of mechanical function, where the line between living and non-living is redrawn. The Taylorist body is not like a machine, but is a machine or a component of factory machinery. Within the context of Taylorism, then, 'body-machine' signifies contact between human bodies and technologies, in terms of both the surrounding of bodies by machinery in a technological space (in this case, the surrounding and positioning of bodies by the machinery of the factory), and the touching or manipulation by bodies of the machine components and artefacts that are moved around this space (that is, the operating of machinery and the assembling of whatever is being made and/or inspected in the factory). 'Body-machine' here also references the way in which, under industrial management, this contact reveals that bodies are as artefactual or constructed as the technological things by which they are accompanied. Taylorism uses the activity of the workplace as an opportunity to make bodies according to criteria of eligibility that it has determined in advance, by calibrating its multifarious recordings (representations) of bodily activity, and permitting bodies into a technological space on the basis of their fidelity to the movements it had already put together.[25]

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[24] *Bodies and Machines*, p. 221 n. 25.

[25] I return to the issue of bodies, technologies, and things in the final chapter of this thesis. When Seltzer claims that the body-machine complex is significant 'in turn-of-the-century American culture and beyond', he invokes 'beyond' in a temporal rather than a spatial sense, which distinguishes this assertion from my

So far this section has focused on how in Taylorism, hard work signifies the calibration and systematization of physical effort, the determination of a model of function in which bodies must act as machines in order to operate machines. However, there are other connotations of hardness that are equally important to Taylorism's representation of bodies, and I must clarify these meanings before proceeding. It is unclear at this point whether we should conceive of Taylorist body-machines as having a hardness that equates to a rigid solidity. Because Taylorism is based on motion-capture and calibration, it seems logical to assume that in Taylorism a hard working body is hard because, as I asserted in the introduction to this chapter, it has been frozen by this regime of representation, and has had its range of motion severely restricted by those techniques of stoppage and segmentation that aim to hone its machine-like efficiency.

But this assumption is inaccurate because Taylorism in fact required its body-machines to move continuously. In none of the passages of Taylorist rhetoric in this section do the body and technology stop. The personal coefficient test measures individual response times in order to determine who, at the

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earlier statement that Taylorism influenced body-machine relations in other countries. For Seltzer, the body-machine complex has had a profound but largely unacknowledged influence on the approaches of contemporary cultural theory. Seltzer argues that when theory posits the cultural constructedness of bodies against the intelligibility of a body's natural properties – the propagation of a notion Seltzer calls 'the unnaturalness of nature' – it does not progressively break with prior conceptions of bodily movement, but rather repeats the methodologies found in industrial management (*Bodies and Machines*, p. 155). The body-machine complex may indeed naturalize certain ideas about what constitutes an eligible body, Seltzer suggests – and later in the chapter I will show how Taylorism achieves this – but it nevertheless constructs this eligible form, partaking in the discourses of artefactual bodily constructedness that were prevalent in the machine culture in question. See *Bodies and Machines*, pp. 155-157. I discuss the relationship between theory, nature, technology, and the body at greater length in chapter 3 of this thesis.

appropriate moment, can activate or do something with technology without waiting, and these select bodies then proceed to the factory floor to comprise the tireless Taylorist workforce. Ball bearing inspection is framed by a never-ending procedure of organization, in which metal spheres are constantly picked up, put down, and – if they pass their inspection for hardness and smoothness – are passed on to another department where they are fitted to a machine (a bicycle) that will move them to a number of spaces outside the workplace. Hands and writing tools also enter into this arrangement of constancy, in the production of the written record that oversees this activity.

Thus, in Taylorism, bodies are broken down so that they, and the materials with which these bodies come into contact, can be kept in motion. Taylorism uses procedures of stoppage to eliminate the possibility of fixity that it cannot countenance. Scientific Management is based on reducing the time taken to finish a job, to complete an action – which in Taylorism equates to a movement with something technological – so that another action can be made, and therefore its representations of body-machines are simultaneously representations of fluidity, not rigidity. This is a very particular type of fluidity, however: in Taylorism, the continuous movement of bodies, machines, and technological objects is bound up with planning and direction. In other words, Taylorism keeps bodies moving in order to harness technology for future purposes: Taylorism captures, times, and segments movements not only to ensure that bodies and machine components are never motionless when proximate, but also in an attempt to control the potentially unruly qualities upon which its

representational strategy relies: namely physical activity, speed, and processual change.[26]

These qualities are not automatically conducive to systematization – physical activity can refer to any number of voluntary and involuntary actions; speed is defined as much by increase as it is by the determination of a rate – and Taylorism brings bodies and machines into contact to materialize its principle of predetermined continuousness and transformation. In other words, when Taylorism represents bodies, it assumes to have captured planning, direction, and motivation in the discrete bodily movements it makes visible and measurable.[27] Seltzer calls this machine culture's 'dream of directed and nonstop flow', an ideal whereby bodies and technologies move infinitely in unison, 'channelling' that which naturally tends towards an uncontrolled fluidity.[28] We can thus summarize by stating that while hardness is crucial to Taylorism, it is not antithetical to movement within the Taylorist logic: hardness does not describe the making-rigid of movement in a machine culture. Instead, Taylorism, as a philosophy of movement, is concerned with regulating the fluidity of flow; it

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[26] See *Bodies and Machines*, p. 166.

[27] Seltzer asserts that the effect of Taylorist time-motion management 'is to transform interior states, such as seeing, thinking, planning, and feeling, into visible and measurable movements of the body' (*Bodies and Machines*, p. 166). I discuss the measurement and calibration of bodily feeling in chapter 3 of this thesis.

[28] *Bodies and Machines*, p. 164. Seltzer discusses the notion of channelling within early-twentieth-century discourses of civil engineering: 'the channeling of "floodlike forces" describes at once the regulation of bodily flows and identities and the work of civil engineering. I have in mind here the range of turn-of-the-century work that includes, for instance, the culture-work of channelling, bridge-building, and canalization' (ibid). For Seltzer, civil engineering is premised on the continuous movement of bodies and machines through 'natural processes and landscapes', and represents technology in order to naturalize male purposefulness: engineering, Seltzer claims, posits 'the transcendence of "the natural" and "the female" both, [...] the transcendence of a female/nature, identified with liquid interiors and flows' (ibid).

hardens fluidity to the point that all aspects of life in a machine age are plotted as a knowable and progressive trajectory.

Fordism

Fordism is the major period of economic and social restructuring that took place in early-twentieth-century America and which subsequently spread throughout western nation-states, fully implementing the Taylorist principles of standardization, calibration, measurement, and timing into a way of life.[29] Fordism transferred the calibrated bodies of Taylorism into a far greater and more elaborately co-ordinated system of mass production, in which standardized movements became components in the manufacturing of standardized objects. As film theorist Peter Wollen explains, the Fordist factory system incorporated the Taylorist workforce into 'a hierarchy of standardized segmented and subsegmented [machine] parts, all interchangeable, plus a parallel hierarchy of machine tools (themselves made up from standardized parts) which both formed and assembled the parts into the finished product', and into 'a continuous, sequential assembly line, with a tempo determined by time and work studies, which transferred the parts through the whole process, designed so that the worker never had to move, even to stoop to pick something up'.[30] The finished

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[29] For a detailed study of Fordism as a way of life, see Martha Banta, *Taylored Lives: Narrative Productions in the Age of Taylor, Veblen, and Ford* (Chicago and London: University of Chicago Press, 1993), pp. 125-140.

[30] Wollen, 'Cinema', p. 43. Wollen should provide some clarification here regarding the movement of the Fordist worker. It is incorrect to claim that the Fordist body 'never had to move': as I have explained, the Taylorist body that Fordism appropriated is only intelligible as flow; a body in complete stasis is meaningless within time-motion studies. A more accurate assertion is that the Fordist factory body moved continuously while *remaining in place* on the assembly line. Movement in place is central to my thesis; we will begin to see the importance of this notion in the concluding stages of this chapter.

product of this simplified process of formation and assembly symbolized the Fordist ethos of making technology accessible and comprehensible to the masses. In its formative years in the 1920s, Fordism 'provided one standard and constant manufactured object', the Model T automobile, which was designed specifically for function and was made in one colour only.[31] The Fordist factory, composed of 'both human and mechanical parts', released mobile machinery among the working classes on the condition that accessible machines carried no marks of excess and luxury.[32] These measures did not mean that Fordism delimited the mobility of its principal object. The Fordist car was a product of absolute control, but Fordism reduced what could be done with the automobile by reducing the automobile to movement. Fordism was founded on making a machine with a barely noticeable exterior, a machine that did not invite admiring glances or touches: the quintessential Fordist object was to be experienced as continuous purpose and usefulness, movement perpetuating the endeavour of the factory worker.

Fordism's system of mass production enabled Taylorist time management and work principles to become more effectively realized not only productively but also socially. Cultural geographer and historian David Harvey outlines the social implications of Fordism's implementation:

> The symbolic initiation date of Fordism must, surely, be 1914, when Henry Ford introduced his five-dollar, eight-hour day as recompense for

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[31] 'Cinema', p. 43.

[32] Ibid. Henry Ford, industrialist and pioneer of Fordist production, comments on the Model T's design and production in his autobiography: 'I thought that it was up to me as the designer to make the car so completely simple that no one could fail to understand it. [...] We made no provision for the purely "pleasure car." We were just as much a pleasure car as any other car on the market, but we gave no attention to purely luxury features. [...] We did not make the pleasure appeal. We never have. [...] we showed that a motor car was a utility'. See Henry Ford, *My Life and Work* (London: Filiquarian, 2006), pp. 80, 75, 63.

> workers manning the automated car-assembly line he had established a year before at Dearborn, Michigan. [...] The purpose of the five-dollar, eight-hour day was only in part to secure worker compliance with the discipline required to work the highly productive assembly-line system. It was coincidentally meant to provide workers with sufficient income and leisure time to consume the mass-produced products the corporations were about to turn out in ever vaster quantities.[33]

Thus, Fordism demanded that Taylorist principles extended beyond the workplace and into the home and public life. For the body to keep in time with the demands of the Fordist factory of mass production, it must, according to Fordism, behave like a machine outside of working hours in order to be fit for the following day's labour on the continuous assembly line. To support this implementation, Henry Ford deployed a team of social workers into the homes of his workers to ensure that the workers' domestic conduct, and consumption of products, was as calibrated as their conduct on the factory floor. In his autobiography, Ford recounts his creation of a 'Social Department' to maintain standards of hygiene, marital discipline, and general self-control among assemblers: Ford explains that his factory workers received a higher wage 'on conditions. The man and his home had to come up to certain standards of cleanliness and citizenship. [...] It was expected that in order to receive the

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[33] David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford: Blackwell, 1990), pp. 125-126. For Harvey, Fordism as an effective, fully implemented capitalist system dates from 1914 to 1973, but can be read as the realization of major industrial developments implemented throughout the nineteenth century. Harvey argues that Fordism became 'less [...] a mere system of mass production and more [...] a total way of life' after World War II (*Condition*, p. 135). I discuss post-war Fordism later in this chapter, but it is still possible at this stage to call Fordism a way of life, because Fordism from its inception was an exponentiation of Taylorist principles into spaces outside the factory. Harvey points out that Fordism was '[s]low to develop outside the United States before 1939', and that it did not automatically and singularly transfer to other industrialized nations after World War II (*Condition*, p. 136). Within the context of this thesis, though, it matters only that Fordism did eventually spread to multiple nations in the first half of the twentieth century.

bonus married men should live with and take proper care of their families'.[34] Here we see the gendered and sexual logic of Ford's model of social organization: Ford overlooks female machine work (the type exemplified by Taylor's ball bearing girls) by assuming the maleness of his employees, and sees the routine of the heterosexual family as being crucial to the tempo of the segmented production process.

It was not only Ford who promulgated these requirements for social restructuring. In his *Prison Notebooks*, political philosopher Antonio Gramsci discusses the mechanization of everyday life devised by Taylorism and implemented by Fordism.[35] Gramsci claims that Fordist production signals the inexorable demise of the skilled craftsman and the intellectual capacities demanded of that position, but that Fordism also provides the conditions for a progressive reorganization of the working class. For Gramsci, although the mechanization of the body at first appears to be a coercive means of anti-intellectualizing against which workforces must struggle, mechanization's extension outside of the workplace in fact provides the discipline needed to enact the proletariat's wholesale rationalization: 'It seems possible to reply that the

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[34] *Life*, p. 146. Ideas of race and ethnicity also informed Ford's deployment of social workers. It is important to note that a large number of Fordist assemblers were immigrant employees, and Ford used the socialization programme to propagate notions of uncivilized 'foreign' others. Ford comments on the need to 'break up the evil custom among many of the foreign workers of taking in boarders – of regarding their homes as something to make money out of rather than as a place to live in' (ibid). This aspect of Ford's socialization programme is discussed by Harvey in *Condition*: 'in 1916, Ford sent an army of social workers into the homes of his "privileged" (and largely immigrant) workers to ensure that the "new man" of mass production had the right kind of moral probity, family life, and capacity for prudent (i.e. non-alcoholic) and "rational" consumption to live up to corporate needs and expectations' (*Condition*, p. 126).

[35] Antonio Gramsci, *Selections from the Prison Notebooks*, ed. and trans. by Quintin Hoare and Geoffrey Nowell Smith (London: Lawrence and Wishart, 1971).

Ford method is rational, that is, that it should be generalized; but that a long process is needed for this, during which a change must take place in social conditions and in the way of life and habits of individuals [...] A forced selection will inevitably take place; a part of the old working class will be pitilessly eliminated from the world of labour'.[36] Gramsci is claiming that any failure on the part of the working class movement will be attributed to those sections of the working class that were unable to keep in time with mechanized temporality. Untimely progress is inconceivable for Gramsci, because the untimely is the irrational remnant of a former working class that an efficient, machine-like working class can surmount in a mechanized Fordist temporality structuring all conditions of society. Gramsci's valorization of Fordist machine time is based on the assumption that the now-pervasively implemented machine efficiency of everyday life will install a robotically precise heterosexual temporality. Gramsci asserts that this temporal frame is needed to maintain a new working class shorn of excess in the Fordist era: 'It might seem that in this way [of a Fordist way of life] the sexual function has been mechanized, but in reality we are dealing with the growth of a new form of sexual union [...] The exaltation of passion cannot be reconciled with the timed movements of productive motions connected with the most perfected automatism'.[37] Gramsci therefore argues in favour of Fordism here because, in his view, Fordism can produce a mechanically efficient working class that is as rational – as logically programmed – as a regularly serviced machine. Indeed, 'service' is a productive metaphor of body-machine discourse.

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[36] *Prison*, pp. 312, 303.

[37] *Prison*, p. 305. Peter Wollen discusses Gramsci's valorization of Fordist time and importantly comments on Gramsci's gendered rhetoric, whereby the 'fully perfected automatism' is premised on the properly functioning body of the 'new (assumed-to-be-male) worker' of Fordism ('Cinema', p. 45).

The term 'service' demonstrates how representations of bodies are bound up with how bodies are represented working with machines and like machines, which intersects with the term's use as a verb for intercourse to reveal the logic of Gramsci's rational temporality. For Gramsci, within the mechanized Fordist time that services everyday life, the serviced (assumed to be male) worker services machinery and machine components for eight hours, then returns home to service the domestic-bound female who, by being serviced and, as a useful component of mechanized time, has in turn serviced the (male) worker by assisting the reproduction of the working day, which is required for the continued drive and purposefulness of the (male, assumed to be heterosexual) working class.

The Fordist imperative to avoid excess is elaborated on by cultural anthropologist Emily Martin. Martin acknowledges the types of body that necessarily constitute any positing of a Fordist temporality, describing what she terms 'the Fordist body' and the ways in which this body affects 'imagery in reproductive biology':

> Men continuously produce wonderfully astonishing quantities of highly valued sperm, women produce eggs and babies (though neither efficiently) and, when they are not doing this, either produce scrap (menstruation) or undergo a complete breakdown of central control (menopause). The models that confer order are hierarchical pyramids with the brain firmly located at the top and the other organs ranged below. The body's products all flow out over the edge of the body, through one orifice or another, into the outside world. Steady, regular output is prized above all, preferably over the entire life span, as exemplified by the production of sperm.[38]

Martin's assertion that Fordist body-machines are represented according to 'hierarchical pyramids' is significant, because it reveals the implications of gender and sexuality that inform the logic of directed flow outlined in the

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[38] Emily Martin, 'The End of the Body?', *American Ethnologist*, 19 (1992), 121-140 (pp. 121-122).

previous section. For Martin, efficient Fordist production is modelled on the male body as the exemplar of continuously controlled activity. At one with the co-ordinated assembly line, in this imagery the male body keeps moving via central control commands that regulate and direct its fluid deposits. The brain determines/orders the mass production of a single product, sperm, whose quality never fluctuates; the imputed longevity of this production is paramount to the maintenance of male privilege in the rhetoric Martin studies; sperm is 'highly valued' as the key to creation, a valuation that posits male production as the vital cause of all future activity. The representation of sperm is used to equate maleness with a continuousness that keeps shape, a bodily form that flows insofar as its fluidity is managed. The female is subordinated by Fordist bodily imagery, Martin asserts, because its flow of productivity is seen as insufficient to the demands of a society based on (re)productive regularity: the female is that which sporadically overflows with a fluid substance that cannot be put to use, or is that which undergoes a transformation too far, one that ceases flow entirely. Martin's argument complicates the notion that the Taylorized Fordist body is worked out by a logic of disembodiment. In Martin's model of Fordist biology, embodiment is achieved through disembodiment: body and machine are brought together as a means of transcending a 'natural' femaleness that is presented as uncontrollably bodily.[39]

Not all writings on Taylorist Fordism can be categorized as either naively celebrating Fordism's hard working body, in the case of Gramsci, or rigorously critiquing this body as an effect of a powerful (and powerfully gendered)

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[39] The Fordist body is thus another example of the attempted naturalization of male control as discussed by Seltzer – machine culture's use of motion study to transcend a 'Nature' constructed as disorganized.

representational regime of control, in the case of Martin. The hard working body is a crucial figure in Walter Benjamin's classic essay 'The Work of Art in the Age of Mechanical Reproduction'.[40] Originally published in 1936, 'Work of Art' is a seminal treatise on the cultural implications of early Taylorist Fordism. Benjamin discusses the advent of Fordism in the light of similar changes that had been taking place within the film industry since 1913, whereby film studios gained centralized control over the distrubution and screening of their products, and implemented standardized systems of production based on job specialization and consistent and efficient output.[41] Benjamin argues in favour of standardized cinema but not on the basis of its mass commodification: rather, Benjamin draws on Taylorist rhetoric to claim that industrialized film is capable of mobilizing the masses by providing them with a critical consciousness.

The comparison between Taylorized Fordist working practices and the technical aspects of cinema is understandable: both are based on recording movement; indeed, the term cinema is derived from the Greek *kinesis*. Benjamin moves beyond this basic association, however, by equating a screen actor being filmed with a worker having a personal coefficient test. For Benjamin, because the screen actor performs to a camera instead of an immediately present public

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[40] Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', in *Illuminations*, ed. by Hannah Arendt, trans. by Harry Zohn, 2nd edn (London: Fontana Press, 1992), pp. 211-243.

[41] Post-1913 changes to the film industry are marked by the establishment of major film studios that formed unprecedented relationships with other media, which enabled these studios to disseminate information about their latest, precisely timed releases into the public via multi-platform advertising. From this period, the major film studios worked like Fordist factories, constantly managing and controlling the publicity of their stars, creative content, and creative staff, and attempting to own as many aspects of the production process of their films as possible. These changes gave rise to classic Hollywood cinema. For an introduction to these developments, see *Critical Dictionary of Film and Television*, ed. by Roberta Pearson and Philip Simpson (New York and London: Routledge, 2000), p. 181.

audience, and because the actor's movements are meticulously broken down by the camera's ever-shifting positions and are recalibrated by editing techniques, the film in its completion 'comprises certain factors of movement which are in reality those of the camera, not to mention special camera angles, close-ups, etc. Hence, the performance of the actor is subjected to a series of optical tests'.[42] Moreover, Benjamin asserts, when audience members view the film, they identify with the techniques by which the on-screen body is tested rather than with the actor in person, and subsequently become over-inspectors themselves: 'The film actor lacks the opportunity of the stage actor to adjust to the audience during his performance [...] This permits the audience to take the position of a critic, without experiencing any contact with the actor. [...] Consequently the audience takes the position of the camera; its approach is that of testing'.[43] Thus, the camera's inspection of the moving body is over-inspected by the film audience, which simultaneously tests/critiques that which appears on screen.

This discussion exemplifies Benjamin's argument for mass industrialization, whereby the machine technology of film enables Taylorist principles to be taken up as the basis for participatory, mass action in response to exploitative class relations. Film is the 'most powerful agent' of mass mechanical reproduction, Benjamin argues, because it brings the 'liquidation' of the bourgeois aura of authenticity that has traditionally framed the work of art; the

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[42] 'Work', p. 222.

[43] Ibid. Benjamin makes explicit the link between movie-making and coefficient testing within Fordist time: 'The expansion of the field of the testable which mechanical equipment brings about for the actor corresponds to the extraordinary expansion of the field of the testable brought about for the individual through economic conditions. Thus, vocational aptitude tests become constantly more important. What matters in these tests are segmental performances of the individual. The film shot and the vocational aptitude test are taken before a committee of experts' ('Work', p. 239 n. 10).

cameraman's assembly and re-assembly of segmented movements offers the public 'precisely because of the thoroughgoing permeation of reality with mechanical equipment, an aspect of reality which is free of all equipment'.[44] In other words, film's reproduction of bodily movement through Taylorist systematization – a reproduction that makes every individual a critic/tester/inspector – and the status of film itself as a mass-produced art object, present in many locations simultaneously, obliterates the distance between a work of art and its audience. For Benjamin, the ability in film to make identical copies of the same art object – copies that contain bodily movements copied for mass inspection – shows the potential for mechanical reproduction to involve art in widespread political change, because these processes always already put into question the qualities of originality and scarcity that enable the ruling classes to determine artistic value.[45]

Consider the following passage, which further underscores Benjamin's fascination with Taylorist techniques:

> of a screened behaviour item which is neatly brought out in a certain situation, like a muscle of a body, it is difficult to say which is more fascinating, its artistic value or its value for science. [...] By close-ups of the things around us, by focusing on hidden details of familiar objects, by exploring commonplace milieus under the ingenious guidance of the camera, the film, on the one hand, extends our comprehension of the necessities which rule our lives; on the other hand, it assures us of an immense and unexpected field of action. Our taverns and our metropolitan streets, our offices and furnished rooms, our railroad stations and our factories appeared to have us locked up hopelessly. Then came the film and burst this prison-world asunder by the dynamite of the tenth of a second, so that now, in the midst of its far-flung ruins and

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[44] 'Work', pp. 215, 227.

[45] The 'copy' for Benjamin is that which designates a closeness between working body and technological object, whereas the 'original' refers to an image that is dissociated from the time of the machine and which demands studied contemplation from afar. See Wollen, 'Cinema', p. 55.

> debris, we calmly and adventurously go travelling. With the close-up, space expands; with slow motion, movement is extended.[46]

Here film is presented as Scientific Management; Benjamin acknowledges that the mechanical reproduction of art is bound up with Taylorism's pictorial and written calibrations of separated, discontinuous bodily positions. But in Benjamin's version of Scientific Management, subjects are provided with the conditions for outmanoeuvring their oppression and manipulation within working life where the home and modes of transport are extensions of the meticulously timed, concentrated workplace. The camera focuses on segmented movements within movements, according to Benjamin, movements made in 'the tenth of a second' which, by being isolated by the camera as having taken place, proliferate the possibilities of originally singular actions when reassembled into the completed film. This focus reveals entirely new levels of activity, Benjamin suggests, which can be appropriated to explore alternative, politically progressive ways of living in an age of mass production.[47] This does not imply a departure

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[46] 'Work', p. 229.

[47] To reiterate, Benjamin's essay is not a valorization of Hollywood cinema. The post-1913 changes provide an important historical context within which to consider 'Work of Art', but Benjamin is more interested in the political possibilities of film's technological aspects than the economic structure of film studios. Benjamin indeed warns against the 'cult of the movie star, fostered by the money of the film industry', claiming that celebrity 'preserves not the unique aura of the person but the "spell of the personality," the phony spell of a commodity' ('Work', p. 224). 'Under these circumstances', Benjamin argues, 'the film industry is trying hard to spur the interest of the masses through illusion-promoting spectacles and dubious speculations' ('Work', p. 226). Benjamin favours the films of the Soviet Union, on the grounds that 'work itself is given a voice' in these productions: 'the players whom we meet in Russian films are not actors in our sense but people who portray *themselves* – and primarily in their own work processes' ('Work', pp. 225, 226. Emphasis in original). 1936 saw the release of Charlie Chaplin's film *Modern Times*, which does not assimilate into Benjamin's theorizations, because it exemplifies the use of film to comment on and critique the Taylorized Fordist system. In *Modern Times*, Chaplin is unable to adapt to the routinized movements of the assembly line. Chaplin cannot stop repeating the same work-related actions, which drives

from the temporality of the assembly line, however. On the contrary, for Benjamin movement out of factory space is enacted by the factory time of film. The film's subversion of a seemingly restrictive, singularly efficient socioeconomic system enacts an *automobility*; the regular/regulated temporality of Ford's assembly line extends into Benjamin's alternative society, in that bodies are moved 'calmly' en masse over the Fordist space that the camera has expanded and opened for a greater number of actions. These bodies survey a type of industrial ruin – the destruction of Fordism lived one way – from the multiplicity of discontinuous positions that mechanical art has uncovered for these bodies.[48] Benjamin's evocation of 'far-flung ruins and debris', then, does not indicate his resistance to, or wish to see the ruination of, Fordist industrialization. Instead Benjamin, like Gramsci, favours widespread mechanization on the basis that it is ultimately beneficial for mass movement.

Again echoing Gramsci, Benjamin is not critical of the worker's standardization or de-skilling in the systematized factory. Indeed, Benjamin's automobility is premised on the body that works hard according to Taylorist principles. In the following passage, Benjamin explains how the demands of Fordism reconfigure bodily function into a new sensory schema, which he calls 'tactile appropriation'. Film prepares bodies for this shift, Benjamin explains, in which bodies remain Taylorist but do not inspect optically:

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him to insanity, causing Chaplin to throw himself into the factory machinery. This contact results in Chaplin himself being turned into an assembly device (*Modern Times*. Dir. by Charles Chaplin. Warner Home Video. 2006). Also see Wollen, 'Cinema', p.44. Although we can distinguish *Modern Times* from Benjamin's discussion of film, I will shortly explain that Benjamin's approach does in fact provide the opportunity to critique Fordism, despite initially appearing to uncritically accept and celebrate it.

[48] 'The one best way' is an infamous phrase of Taylor's, referring to Taylor's belief that time-motion studies can reveal a single, harmonious state of coexistence between workers and managers. See Banta, *Taylored*, p. 4.

> Tactile appropriation is accomplished not so much by attention as by habit. [...] For the tasks which face the human apparatus of perception at the turning points of history cannot be solved by optical means, that is, by contemplation, alone. They are mastered gradually by habit, under the guidance of tactile appropriation. The distracted person, too, can form habits. More, the ability to master certain tasks in a state of distraction proves that their solution has become a matter of habit. [...] Reception in a state of distraction [...] finds in the film its true means of exercise. The film with its shock effect meets this mode of reception halfway. The film makes the cult value recede into the background not only by putting the public in the position of the critic, but also by the fact that at the movies this position requires no attention. The public is an examiner, but an absent-minded one.[49]

Here Benjamin explains how the hard, unskilled work of the factory body involves repeatedly touching and manipulating the identical objects that are constantly brought within one's range at regular intervals. Benjamin's emphasis on the tactile is significant: while the Taylorized Fordist task of inspection initially suggests a collective optical examination, in which hand and finger work is secondary to – and merely supportive of – a fixed, uninterrupted gaze at machine components, Benjamin interprets inspection as a reversal of this process. For Benjamin, inspection is not mastered through attention; the timed conveyer belt serially jolts or 'shocks' factory bodies into the action of touching whatever is put in front of them; each interval does not demand a renewed effort of mind or rapt intellectual prowess, argues Benjamin, because the workers will gradually perfect a set means of automatically touching and feeling their way around each task's completion.[50]

Benjamin represents Taylorized Fordist workers perpetually moving in a state of distraction, or automobility – moving in a particular way without thinking – while they accomplish their repetitive inspections on time and without

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[49] 'Work', pp. 233-234.

[50] The notion of the task is more significant in the following chapter of this thesis, particularly for the way in which 'task' becomes dissociated from repetition in the texts I analyse.

fail; hard working bodies are thus already critics out of habit, Benjamin implies. Cinema both prepares us for these impending technological and bodily changes, and informs us of the democratizing effects of remaining with these changes in the long term; the discontinuous shots comprising a film, (re)assembled or retouched copies of 'original' bodily movements, similarly shock the viewing public, Benjamin asserts, in that film offers the masses a form of escapism by which they distractedly examine/critique/participate in (or come into contact with) the sequences unfolding before them.[51] To an extent Benjamin's rhetoric is as prescriptive as that of Scientific Management. Benjamin works out a type of non-excessive, hard working body eligible to move with the mechanical age; note his fascination with 'neatly brought out' bodily lines and borders that echoes Gramsci's approval of the masses being shorn of excess in the Fordist era.[52] However, Benjamin's advocacy of tactile appropriation reconfigures Taylor's method of determining eligible bodily intelligibility. Benjamin's conviction that Fordism will progress – will work out – via a collection of tactile shocks and feelings indicates that his theory of bodily function is not determined in the primarily optical space that Taylor establishes.

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[51] There is thus another point to be made about Benjamin's notion of the copy and the original: the copy is tactile, close enough to be touched and manipulated, whereas the original is optical, always to be looked at, distanced from those who study it with absorbed contemplation. See Wollen, 'Cinema', p. 55. I return to the issue of touch, tactility, and technological objects in the final chapter of this thesis.

[52] Wollen gives a persuasive account of Benjamin and Gramsci, citing their commonality in 'looking for a new kind of psycho-physical complex in the worker' ('Cinema', p. 56). Wollen makes an important distinction between the fragment and the segment in Benjamin, stating that the fragment is 'the waste products of the economy' and that the segment is 'the detail isolated for scientific analysis' ('Cinema', p. 58). For Wollen, Benjamin is fascinated with the segment in 'Work' and thus, like Grasmci, accepts Taylorized Fordist technology with a minimal degree of criticism. I contest this latter argument in the closing stages of this chapter.

It is more difficult, though, to relate Benjamin's theory to Emily Martin's discussion of the gendered and sexual implications that are bound up with the Fordist body's representation. We have seen how these implications are perpetuated in Gramsci's text. Gender and sexuality do not feature in 'Work of Art', however, and a logical inference would be to assume Benjamin's support of Gramsci's 'rational' Fordist subject, on account of the similarities that already exist between both authors' writings on Fordism. But this is not how I think we should read Benjamin in this context. In Benjamin, Fordism is felt in bodies as a speed-up that jars, an instruction to complete tasks at a pace for which the body is not quite ready; these shocks occur before any purposeful action is taken in Fordist time, and in any case are the basis upon which purposeful action is gradually achieved.[53] Thus, we should not be concerned with aligning Benjamin's framework and Martin's critical agenda, because Benjamin's essay can in fact be used to critique Martin: Benjamin's argument for feeling Fordism, where 'feeling' references a strange sensation that forces the hand to lead while the mind wanders, questions the inevitability of Martin's pyramidal model. If bodies were as controlled by Fordism as Martin claims, they would not have experienced this stubborn, incongruous sense of unpreparedness in speeding up,

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[53] Put simply, Benjamin maintains that the shock-effect of film conditions the body for a technologized society based on a series of shocks. It is important to note here that Fordism was not the first time in which bodily shocks followed technological advancement. Benjamin inherits theories of trauma formulated in the nineteenth century amid the popularization of rail travel. See Roger Luckhurst, 'Traumaculture', *New Formations*, 50 (2003), 28-47 (p. 34). Luckhurst explains how 'trauma' was posited in this period as the name for disorders of the nervous system without obvious external bodily injuries following high-speed train crashes. Most notable, Luckhurst asserts, was the emergence in the 1860s of a condition called 'railway spine', which 'implied that the repeated physical shocks of travel might induce cerebral injury' ('Traumaculture', p. 34). We can therefore interpret railway spine as another body-machine formation or complex that is out of time or not controlled by the speed-up of innovation.

and I favour Benjamin's model because it provides a concretely – but not deterministically – bodily account of how hard working bodies moved, instead of making assembly line temporality metaphorize for a societal structure whose order is never interrupted.

Automobility and For(war)dist Time

Benjamin's belief in Fordism is based on the dynamics of mass production. Although he posits the experience of being 'at the movies' as a key means of understanding the integration of bodies and machines amid Fordist automation, in Benjamin's terms the cinema audience views the film as a mass of workers, moving and sensing as they would if stationed collectively at the factory conveyor belt. Thus for Benjamin, the consumption of film tells us that factory production techniques are the most important feature of the Fordist socioeconomic system. However, Fordism had changed significantly by the time Benjamin wrote 'Work of Art'. As Harvey asserts, the five dollar, eight hour day introduced by Ford in 1914 provided workers with more leisure time and higher wages, creating a vast number of new consumers for the ever increasing amount of durables to be produced on the assembly line in subsequent years. These measures were also introduced to compensate body-machines for the particular type of hard work demanded by the automated factory: the intensely repetitive jobs that workers needed to complete to remain contemporaneous with meticulously timed machinery. In late 1920s America, one consumer durable in particular emerged as the most suitable to enact the escapism sought by hard working bodies in the leisure time they were allocated. From this period onwards, automobility is associated not with the movement of the assembly line

and the factory time of film, but with the movement of the Fordist factory's principal product: the mass produced car, the consumption of which became synonymous with the idea of freedom from boredom and rigidity as the Fordist system expanded its model range beyond the basic Model T.[54]

Sociologist David Gartman explains the most important factors that informed the car's affinity with escapism in Fordism's new phase. It is worth citing Gartman at length in order to understand the car's 'escape function' in this period:

> The rectilinear, fragmental homogeneity of mass-produced cars was a symbol of the rigid, boring, heteronomous production process workers sought to escape. By molding the surface of these cars into the smooth, rounded, varied shapes of luxury cars, car stylists [...] covered over the offending reminders of work and allowed them to perform their escape function unobtrusively. [...] But auto consumers wanted their goods not merely to obscure work but also to fulfill needs denied them there. And one of the most important of these was individuality. The mass-production process reduced work to standardized, repetitive tasks with little room for the expression of personal uniqueness and difference. Not surprisingly, therefore, people subjected to this process sought to compensate in their consumption lives by buying goods that were individual and unique [...] Consequently, it became the policy of [...] mass producers to build many different types of cars to accommodate consumer demand for individuality [...] There were few differences of real quality between [these cars]. All were mass-produced [...] and the different makes shared some of the same components. But styling allowed automakers to differentiate these models and still meet the high-volume demands of mass production.[55]

Gartman is describing the time in which various aspects of styling were more fully integrated into Fordism to balance mass production with mass consumption. These included advertising, marketing, packaging, regular introductions of new car models, and the greater prominence of product designers within Fordist

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[54] For a book-length narration of the car's cultural logic in relation to both Taylorism and Fordism, see Cotton Seiler, *Republic of Drivers: A Cultural History of Automobility in America* (Chicago: University of Chicago Press, 2008).

[55] David Gartman, 'Three Ages of the Automobile: The Cultural Logics of the Car', *Theory, Culture & Society*, 21 (2004), 169-195 (p. 178).

companies. Overseeing the processes of production, extra-Fordist styling departments offered the car as the best way of satisfying workers who, owing to the Fordist economy's exponentiation, were provided with a newfound affluence on the condition that they worked harder than ever on the factory floor. As we see from Gartman's rhetoric, in this emerging era of mass consumerism the car is represented as a type of hard working body – practical, functional metal bodywork – that is used by the hard working body of the factory employee in order to make factory time bearable. The Fordist car is a moulded surface or shell that, by resembling hand-crafted luxury models unaffordable to the masses, covers over exploitative working conditions, and whose components and adornments are infinitely interchanged to supply a fantasy of upward mobility to every worker. In other words, the singularly moulded car of Fordism is styled and restyled until it provides workers/consumers with a feeling of individuality, 'a sense of progress and mobility', in a socioeconomic system that required these subjects to move uniformly in the workplace, and purchase products that had no qualitative differences whatsoever; 'a society whose fundamental structure remained the same'.[56] For Gartman, this process marks Fordism as 'the era of

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[56] 'Automobile', p. 180. Roland Barthes comments on the shaping of the automobile in his essay 'The New Citroën', in *Mythologies*, trans. by Annette Lavers (London: Vintage, 2000), pp. 88-90. Originally published in 1957 (although not translated into English until 1972), 'The New Citroën' provides a semiotic analysis of the Citroën DS, an innovative, futuristic-looking vehicle whose curvaceous appearance has influenced automobile design from the mid-twentieth century to the present. Barthes argues that the moulded, rounded DS marks the beginning of the car's transition into a 'more object-like' mythology ('New', p. 89). The DS enacts a 'great tactile phase of discovery', Barthes claims, in which consumers are compelled to touch the car's interior and exterior in order to familiarize themselves with the product, testing the car for comfort as they would an instrument or utensil for the middle class home: '[the] bodywork, the lines of union are touched, the upholstery palpated, the seats tried, the doors caressed, the cushions fondled; before the wheel, one pretends to drive with one's whole body' ('New', p. 90). For Barthes, these touches signify a 'kind of

mass individuality' within the history of western automobility.[57] This era, Gartman states, is legitimated by reifying human attributes and needs, 'providing consumers of all classes with the illusion of free choice between seemingly different goods, while beneath the surface the mass-production process levels the real qualitative differences between things as well as people'.[58] In Gartman's logic the Fordist car is the exemplar of this reifying function; it is a steel surface on wheels, making accessible a machine mobility that offers individual, uninhibited movement within leisure spaces that reproduce the worker's exploitation in standardization.[59]

The Fordist era of mass consumption reached its apotheosis in America in the 1950s – commonly referred to as Fordism's 'golden age' – as a result of a post-war economic boom.[60] Gartman narrates this period as one of increased car styling amid unprecedented levels of consumer individualism: 'Working-class consumers, anxious for symbols of their new prosperity, clamored for the look of individuality exemplified by the pricier makes. [...] Under competitive pressure to quickly bring prestigious traits to the lucrative lower market, [car] stylists

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control exercised over motion' ('New', p. 89), an appropriation and mediatization of an object for 'petit-bourgeois advancement' ('New', p. 90).

[57] 'Automobile', p. 177.

[58] 'Automobile', p. 181. Gartman's account of Fordism – and his account of Fordism as reifying – is based on Theodor Adorno and Max Horkheimer's theory of consumption and mass culture. Adorno and Horkheimer argue that consumption legitimates the class system by completely obscuring the real differences between classes; all consumers are put into relations with quantitatively differentiated products, and due to their essential artificiality and sameness, these relations cover over the qualitative differences and material conditions that structure society. Thus, class structure becomes reified; unequal relations of power become hidden behind commodified things. See Theodor Adorno and Max Horkheimer, *Dialectic of Enlightenment* (New York: Herder and Herder, 1972).

[59] Car consumption also makes the individual a property owner, thus distinguishing car automobility from the automobility of public transport.

[60] For more on Fordism's golden age or post-war years, see Wollen, 'Cinema', p. 61, and Harvey, *Condition*, pp. 129 -140.

abandoned incremental changes in the late 1950s and vied with one another by making bold innovations'.[61] The innovations Gartman invokes consisted of carmakers adding significantly increased amounts of size, power, accessories, and luxury design features to cheaper models; design features signifying 'technological progress and escapism'.[62] Gartman argues that the increased prosperity of the 1950s working class, combined with Fordist production systems newly strengthened after years of economic depression and war, enacted a time of 'style wars', in which one automaker would mould the bodies of its mass-produced cars into streamlined shapes, and accentuate these shapes by covering them with the hard shininess of chrome, only for other car companies to appropriate these features, usually by augmenting and then adding them to their own vehicle designs.[63] Competition between designers gave rise to a process whereby particular styles were introduced directly into the lower market, eliminating the hierarchical system of the 1920s in which cheaper cars resembled luxury models. It was a time, Gartman asserts, in which car 'bodies lengthened and chrome proliferated in an unprecedented orgy of automotive change'.[64]

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[61] 'Automobile', pp. 183-184.

[62] 'Automobile', p. 183. For Gartman, the most important – because most replicated – design feature of this period was the 'tail fin, a feature introduced on the 1948 Cadillac to borrow the connotations of technological progress and escapism associated with aeronautics' (ibid).

[63] 'Automobile', p. 183.

[64] Ibid. Dick Hebdige provides an important study of Fordism's golden age, articulating its impact in post-war Britain. See Dick Hebdige, *Hiding in the Light: On Images and Things* (London: Routledge, 1988). Hebdige calls the above process of automotive change 'streamlining' (*Hiding*, p. 72), in reference to metal 'stamping technology that made it easier to produce curved forms' (*Hiding*, p. 63) in car production, and to the quantitative differentiation processes that 'streamlined' the amount of vehicles available to consumers. Hebdige focuses on how the reshaping of the automobile in post-war consumer society 'acted as a catalyst for a clash of values and interests' between Europe and America, 'which had been building up since the development in America in the first two decades of the twentieth century of mass production technology': the

In-keeping with his theory of car consumption as reification, Gartman sees no opportunities for agency or subversive bodily acts in this period of automotive shaping and reshaping. Fordist style wars did reshape gender relations in the 1950s, Gartman argues, but only in the service of maintaining mass individuality:

> As the benefits of automobility became clear, more and more women took the wheel. By the post-Second World War era in America, the suburbanization of the population facilitated by the car also made it an essential tool for fulfilling women's domestic role in the newly dispersed landscape. The suburban housewife who did not drive was a rarity. Further, as styling and beauty became the primary means of competition in an increasingly oligopolistic automotive market, it became difficult to maintain the notion that women alone were concerned with aesthetics. This did not mean that notions of automotive gender differences disappeared, just that they were redefined as quantitative rather than qualitative. [...] More accessories, brighter paint, more multi-coloured upholstery – this was what women were thought to want. So the qualitative, social differences between the genders in power, occupation, opportunity were reified, reduced to merely different quantities of the same commodities so as to better capture them for the marketplace.[65]

Thus, women's entry into post-war prosperity – the upward (auto)mobility bound up with the consumption of the car – is determined by the quantitative differentiation processes of Fordist production, Gartman argues.[66] For Gartman,

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streamlined car, Hebdige claims, 'represented the concretisation in form of conflicts between' American and European 'definitions of legitimacy and taste. It was an object which *invited* strong reactions' (*Hiding*, p. 66. Emphasis in original). Hebdige comments positively on the car's reactive exterior – its activation of a transatlantic contest over the meaning of taste and legitimacy – on the basis that the post-war Americanization of British culture enabled the formation of youth subcultures that resisted established cultural norms: 'early fears about the homogenising influence of American culture were unfounded. Rather, American popular culture [...] offers a rich iconography, a set of symbols, objects and artefacts which can be assembled and re-assembled by different groups in a literally limitless number of combinations' (*Hiding*, p. 74).

[65] 'Automobile', pp. 182-183.

[66] Gartman is referring to a significant period in the history of American machine work, in which a large number of female machine labourers returned to the domestic sphere in the 1950s having worked in World War II factories throughout the 1940s, producing weapons and aircraft. This wartime female workforce was popularly represented by 'Rosie the Riveter', a cultural icon that

this means that every woman's car journey, no matter how individually styled, streamlined, or personalized each woman's vehicle appears to be, is a trajectory bearing the timed regularity of factory machinery, and the boring sameness of movements and commodities made in this milieu. Suburban housewives' traversals of a spatial expanse represent non-movements, Gartman explains, because they are expressions of gender prearrayed quantitatively for capital accumulation; these women buy into Fordist mobility via the consumption of products that confer individual identity by number (specifically a greater amount of features and accessories), but which are, in fact, exact replicas of one another beneath their multiply stylized surfaces. Subsequently, according to Gartman, these subjects assume the inertial repetitiveness borne by the Fordist car's hard working body – a process Gartman calls 'identity in sheet metal' – and thus fail to collectively critique, or move progressively against, the gender inequalities underpinning a static way of life.[67] Thus for Gartman, the continuous movement

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appeared predominantly as a poster illustration of a female worker dressed in overalls and holding a riveter, or mechanical fastener. For more on Rosie the Riveter and women's return to domesticity, see Marxist feminist Susan Willis's essay 'Work(ing) Out', in *A Primer for Daily Life* (London and New York: Routledge, 1991), pp. 62-85. Willis argues that the role of the Fordist housewife, established in Fordism's post-war boom, has participated in naturalizing a male relationship with machine production throughout the latter half of the twentieth century, causing post-Fordist societies to forget women's wartime appropriation of machinery: 'Even if she works a forty-hour week, a woman will probably never be thought of as having anything to do with machinery other than labor-saving kitchen devices [...] and the family car' ('Working', p. 73).

[67] 'Automobile', p. 193. I will return to the issue of whether technologized bodies move quantitatively or qualitatively in chapter 3 of this thesis. There is a much longer history of women and the car that is not mentioned in Gartman's essay. Of course Gartman is referring specifically to Fordism, but Gartman's argument nevertheless creates the impression that the post-war years brought women and cars together for the first time. Feminist historian Virginia Scharff shows that this was certainly not the case, in her book *Taking the Wheel: Women and the Coming of the Motor Age* (Alburquerque: University of New Mexico Press, 1992). Scharff notes that in '1899, Mrs. John Howell Phillips of Chicago established herself as the first American woman to receive a driver's license'

of Taylorized Fordism is futile, because it is incapable of producing change despite (and indeed because of) its constant changing of surface materials.

The most significant factor Gartman ascertains from these style wars is not their feminization of the lower car market, but their inadvertent contribution to Fordism's eventual decline. Gartman explains that the insertion of styles directly into this market created 'excesses' of 'newness', because streamlined designs were no longer controllably released downwards from luxury vehicles.[68] So many new styles – each more outlandishly streamlined than its predecessor – were introduced at such an increased rate, says Gartman, that Fordism's sign of free movement became mistrusted and parodied by the driving public: the car 'became a lightning rod for the growing discontents with the automotive excesses of' 1950s Fordism and 'consumers were beginning to see through the aesthetic disguise of mass production'.[69] Gartman ends his assessment of Fordism at this point, recalling it as a time of failure owing to style over substance, in which the process of car consumption this period inaugurated was bound eventually to reveal how oppressively boring and unchanging the Fordist

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(*Wheel*, p. 25). For Scharff, the car 'opened up the possibility of independent mobility for those who used it. Extending that potential to women meant both expanding the private sphere into the realm of transportation and, paradoxically, puncturing woman's "sphere" by undermining the [...] notion that woman's place was in the home' (*Wheel*, pp. 24-25). Feminist and technologies scholar Anne Balsamo cites Scharff's indication of the first woman driver's license record, claiming that it 'suggests that women have been involved with the automobile (a "high-technology" at one point) from the beginning of its history'. See Anne Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham and London: Duke University Press, 1996), p. 200 n. 1. Balsamo uses this point to articulate the technologically informed agency of her immigrant Grandmother in early-twentieth-century, industrial Chicago: 'Grandmother was an order clerk in a predominantly male warehouse; she did all the driving for the family, having learned to drive almost before she learned to speak English; her first car was a 1916 Model-T Ford equipped with a self-starter' (*Technologies*, p. 133).

[68] 'Automobile'. P. 184.

[69] Ibid.

life really was. It is only when individuals stop consuming streamlined Fordist cars, Gartman suggests, that some semblance of a critical consciousness is raised among the subjects of Fordism, albeit in a temporary form and as a result of industrial capitalism's own failings, rather than being fashioned by these subjects themselves; post-war car consumption is a useful field of analysis, Gartman implies, only because it leads to an understanding of how Fordism 'ultimately foundered due to the inability of this thing [the car] to satisfy human needs, to provide [...] autonomy in movement'.[70] Fordism could have been wholly subverted (or 'ended'), Gartman suggests, if 'humans' had taken 'the actions [...] to reclaim their fate from their own machines' in or before this period.[71] This is a particularly ambiguous claim, however; it is not clear whether Gartman wishes humans had simply destroyed all 'things' car-related in an act of neo-Ludditism, used machinery for alternative purposes, or sought other, more 'human', means of moving that were completely removed from automobility (as Gartman makes unequivocal throughout his essay, automobility is bound up with machine reification).[72]

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[70] 'Automobile', p. 193. I say temporary agency here because Gartman sees Fordism as one of three stages of 'automotive folly' ('Automobile', p. 193) that have dialectically superseded one another from the late nineteenth century – the moment the 'automobile entered American society' ('Automobile', p. 171) – to the present. In the late 1960s and early 1970s, Gartman argues, shortly after the style wars enabled consumers to glimpse, and critique, the sameness of the machines underlying Fordism's streamlined disguises, a 'new era of production, consumption and use' emerged out of these struggles to 'carry the automobile into the new millennium' ('Automobile', p. 184). This new era, Gartman claims, represents not mass individuality's demise but mass individuality's 'transcendence into a higher form' ('Automobile', p. 191). I explicate post-Fordism, and post-Fordist (auto)mobility, in the following chapter, although the car will not be central to my discussion.

[71] Ibid.

[72] Gartman is not alone in theorizing against automobility; 2006 saw the publication of a collection of essays debating the purpose of automobility in the

We can question the tenability of Gartman's alternate Fordism regardless of this confusion. Gartman does not realize the impossibility of this task after Taylorism. From Taylorism onwards one joins in the activity of work by representing it, and Gartman repeats this process: Gartman urges us to look again at Fordism having *sorted* human autonomy from machine automobility, but the work of looking and sorting requires that Gartman enter Taylorism's infinite representational regress, which we know is based on the limited, routine bodily movements that he criticizes, and which underpinned the Fordist automation that he wishes had been revolutionized. Gartman necessarily takes up the position of the Taylorist overseer, then; he is at work, meaning that the autonomy of human action from machine function is far from certain in his rhetoric. The key point here is that I am not convinced Gartman proposes anything other than automobility as the process by which Fordism could have been overturned. Gartman argues that there is absolutely no agency created by consuming the car, suggesting instead that there is another way of mobilizing – another 'action', vaguely referred to as 'human' – that will automatically produce self-determination by revealing the 'real [...] relations of class, gender and race' concealed by automotive artifice.[73] In other words, Gartman's human mobility must always be automobility, because it achieves agency by adopting Taylorist principles; with the utmost efficiency, Gartman implies, human actions sort real relations from artificial relations, and sort meaningful axes of oppression from meaningless contact with steel and chrome. It is not a question of assessing

——(Oxford: Blackwell, 2006).——————————————————————
twen[73] 'Automobile', p. 193. *st Automobility*, ed. by Steffen Böhm et al. (Oxford: Blackwell, 2006).

[73] 'Automobile', p. 193.

whether or not Gartman moves away from automation, then; instead, we need to identify the type of automobility that frames Gartman's history.

One consequence of Gartman's sorting is that sexuality is excluded from the history of automobility. Gartman does not cite sexuality as one of the axes obscured by the car's streamlined steel body; he briefly alludes to the sexual on two occasions in his essay, describing it as a 'nonclass political' identity formed in 'the social movements of the [post-Fordist] 1960s', and commenting on the car's role in 'the ascendancy of heterosexual marriage' in Reagan-era America.[74] Gartman introduces the 1950s apotheosis of automotive change as an 'orgy', but he is describing the frenetic activity of designers and molten metal, and clearly sees no reason to make any connections between the car's popularization, the car's arrangement of bodies into an intimate space, and the sexual acts made possible by this intimacy.

It is a serious oversight to assume that sexuality did not inform Fordism's golden age. Gay and Lesbian studies scholar Tim Retzloff underscores this point in his study of 1950s industrial, blue-collar Michigan.[75] Retzloff articulates the significance of automobility in the car-manufacturing town of Flint, the 'birthplace' of automotive firm General Motors, amid the post-war years of prosperity signalled by widespread working-class car ownership.[76] The post-war

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[74] 'Automobile', pp. 187, 190. The social movements of the 1960s were manifold, comprising civil rights protests, student uprisings, and second wave feminism. I discuss second wave feminism in the following chapter. For a detailed critique of the cultural politics of Reaganism, see Susan Jeffords, *Hard Bodies: Hollywood Masculinity in the Reagan Era* (New Jersey: Rutgers University Press, 1994).

[75] Tim Retzloff, 'Cars and Bars: Assembling Gay Men in Postwar Flint, Michigan', in *Creating a Place for Ourselves: Lesbian, Gay, and Bisexual Community Histories*, ed. by Brett Beemyn (London: Routledge, 1997), pp. 227-252.

[76] 'Cars', p. 229.

proliferation of steel and chrome was 'exaggerated' in Flint, Retzloff argues, because of the town's affinity with American automobility; those who consumed the 'wide range of differently priced' cars in Flint were likely to be automobile assembly workers, and were in any case constituents of a 'civic culture' that 'celebrated' the car as a symbol of progress and solidarity.[77] 'Not surprisingly', says Retzloff, 'the rate of car ownership in Flint was much higher' than the U.S. average.[78] But instead of reading Flint as the centre of artifice and reification, Retzloff points to the unprecedented opportunities afforded by this proliferation for the city's sexual minorities to cruise – to search for casual sex partners by car:

> By the 1950s, despite persistent social policing, a distinct gay male culture had assembled in this Midwestern automotive center. Homosexual men, and bisexual men interested in homosexual encounters, met in locations marked as gay, locations largely determined and significantly shaped by privately owned motor vehicles. A homosexual milieu nearly invisible to heterosexual Flint took shape not only in newly accessible gay and semi-gay bars, but literally *on* the streets, in moving and parked cars. In forging a gay life in Flint, men [...] used the very product that they and their heterosexual coworkers manufactured.[79]

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[77] Ibid. The link between the car, progress, and solidarity in Flint was secured in part by the formation of United Auto Workers, a key union that negotiated higher wages for working class car assemblers before World War II. See 'Cars' p. 229.
[78] 'Cars', p. 230.
[79] 'Cars', p. 228. As Retzloff makes clear, social policing in Flint was an effect of 'the virulent anticommunism' of the mid-twentieth century McCarthy era, which was concurrent with 'a powerful "breadwinner" ethic [dominating] American society which glorified traditional gender roles and stigmatized same-sex sexuality, with right-wing ideologues engineering a campaign to purge gays from the government, military, and public sphere' ('Cars', pp. 230-231). Flint's sexual subcultures are important to my critique of Gartman, but it is not only sexual minorities who sexualized the car. As Retzloff says, the car has always been sexualized by automakers and marketing personnel, and is an established site for heterosexual relations: 'Sexualized since its inception, the automobile has long been acknowledged as a ready avenue for heterosexual passions' ('Cars', p. 235). The car and heterosexual dating are commonly represented together in popular culture, and one also thinks here of the drive-in movie theatre, which was especially popular in the 1950s. It is strange, then, for Gartman to narrate a

Retzloff uses metaphors of car making – assembling, shaping, and forging – to demonstrate how, in the static regularity of mass production/mass consumption, newly accessible means of moving and stopping helped to communalize actions that were excluded from an industrial town's mainstream spaces. For Retzloff, the hard working body of the car comes into contact with the hard working body of the factory employee in Fordism's post-war stage, resulting in the creative reconfiguration of a production/consumption binary. Flint's privately owned cars indeed may have borne traces of boring and inertial production processes; these vehicles were quantitatively differentiated versions of a product put together with standardized parts and procedures. For the subjects in Retzloff's study, driving the car restarts the Fordist production process, but this process creates body-machines that do not act as referents for workplace exploitation. Shaping, assembling, and forging are all implicated in the trajectories of those who participate in Flint's gay male car cultures; in this sexually significant car consumption, bodies are shaped anew (that is, they become part of a sexual-technological space composed of metal, glass, rubber, textile, and flesh, all of which moves while suspended in mid-air); are assembled at the various locales or meeting places made available by a now popular mode of transport; and subsequently forge a community around the multiple acquaintances and fleeting contacts that converge on these places: forging here implies both creating and being shaped.[80]

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century-long history of the car's cultural logic without mentioning the importance of sexuality to the car's meaning.

[80] The ability to enter this form of sexual automobility was largely determined by gender, however. Gartman acknowledges that in 1950s Flint, car-enabled 'gay space' was 'typically dominated by men': 'in a city with around-the-clock automobile production, it was not unusual to see cars on the street at all hours, and since the automobile was traditionally considered to be a male domain, gay

Gartman's criticism of Fordist 'identity in sheet metal' is put into question when we consider Retzloff's account. In Gartman, we recall, the hard shiny surface – or bodywork – of the 1950s Fordist car attracts the subject, becomes the basis for that subject to form an identity, or narrate a coherent sense of self, in a society modelled on replication, and in doing so conceals the exploitative relations underpinning the car's production. But this one-way procedure of reification is never evident in the case studies Retzloff provides. For example, Retzloff documents the arrest in 1950 of 'P.M.', a 'twenty-five-year-old African-American auotoworker' in Flint, for 'having anonymous sex on the sofa-like seat of a parked Chevrolet coupe' with another male.[81] 'The surviving details of the incident', Retzloff continues, 'suggest that P.M. [...] had appropriated the automobile for covertly acting on his sexual identity': in this instance, 'the painted steel body of the' car was 'intended to shield' same-sex encounters 'from social agents [...] who were hostile toward homosexuality'.[82]

The hard working body of the Fordist car certainly conceals here, but we can validly interpret this concealment as protection, a gesture of companionship, rather than the blocking of human acts of freedom.[83] The car acts when it is acted

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men driving at night would not be seen as suspect in the way that lesbians, as women, would. Gay men could thus use their male privilege to transgress the bounds of accepted sexuality' ('Cars', p. 235). Lesbian cultures were present in Flint, Retzloff states, but these cultures converged on drinking bars and clubs rather than automobile consumption. I return to the issue of women and the factory in the following chapter. For another exploration of the sexual-technological space of car use, see J.G. Ballard's 1971 novel *Crash* (New York: Picador, 2001).

[81] 'Cars', pp. 228, 227.

[82] 'Cars', p. 228

[83] Retzloff's study can be read as a response to Marxist critic Herbert Marcuse's scepticism of sexual automobility in his book *One Dimensional Man* (London: Sphere, 1968). Marcuse recognizes the industrially produced car as site of sexual significance, but argues that car sex is an effect of capitalism's channelling and restriction of libido, the total available energy of the sexual instinct. For

upon ('appropriated') by Flint's gay and bisexual autoworkers; the car is privy to the humans' sexual acts, indeed it *supports* these acts ergonomically and approvingly: a sofa-like seat, concealed by hard metal bodywork, accommodates positions of intimacy denied expression in Fordist space, and at these moments works to prevent human oppression, not inflict it.[84] Indeed, these relations are configured in more ways than Retzloff realizes: they involve three participants rather than the human couples Retloff privileges, a point to which I will return shortly.

Retzloff importantly points out, however, that 'the sense of privacy' offered by the car 'was often illusory', because Flint's homophobic social agents were aware of the car's protective role in cruising cultures: the 'Flint police routinely contested' same-sex automobility, Retzloff asserts, 'and most of the local arraignments [sic] for consensual sodomy and gross indecency' in the area 'involved cars. [...] cars might have been a convenient vehicle for sex, but they

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Marcuse, the car represents a cramped mechanical zone that prevents individuals from forming the more dynamic, transformative attachments that follow sexual contact in wild, unpredictable natural environments: 'compare love-making in a meadow and in an automobile [...] In the former [...], the environment partakes of and invites libidinal cathexis and tends to be eroticized. In contrast, a mechanized environment seems to block such self-transcendence of libido. Impelled in the striving to extend the field of erotic gratification, libido becomes less "polymorphous," less capable of eroticism beyond localized sexuality, and the *latter* is intensified' (*One*, p. 70. Emphasis in original). In Retzloff, the car blocks encounters with homophobic social agents in order to facilitate new, technologically-mediated environments based on new ways of bringing together and moving between the places of the city.

[84] Sexual automobility, or what Retzloff calls 'auto-eroticism' ('Cars', p. 235), in fact produces some of the 'real relations' that Gartman claims automobility destroys, particularly relations of class. Inter-class contact dominates Retzloff's case study: the car's protected interior functioned as a site 'for fleeting, risky, anonymous sex and provided opportunities for cross-class socializing, becoming a means for teachers to interact with autoworkers, salesmen with college students, and factory supervisors with grocery clerks' ('Cars', p. 235). There is no reason to argue that these relations were not real, other than to claim that these real relations were manufactured by human-car contact in quite complex ways in particular locales.

did not shield gay men from danger. On the contrary, they often made them more vulnerable'.[85] Albeit from very different perspectives, then, Retzloff and Gartman both argue that the car's ability to conceal was ultimately limited. At each stage of their lives outside the factory, Gartman claims, Fordist cars carry their marks of quantitative differentiation, meaning that eventually, after subjects had driven their Fordist automobiles for some time, sameness was bound to show through the pretence of individual escapism and adventure, temporarily becoming open to critique before capitalism found another way of making the car channel its hegemony. It is this predictability that makes identity in sheet metal pointless in Gartman's opinion. In Retzloff, though, identity in sheet metal is not a linear process that initially succeeds, becomes increasingly vulnerable, and then fails. The Flint autoworkers' appropriations of the car were always affected by vulnerability: when the workers' bodies entered the bodies of cars and enacted homosexual automobility, these body-machines did not automatically become self-determining agents; indeed, they were susceptible to being stopped and moved against their intentions, in the form of arrests, inspections, warnings, and other institutional procedures.[86] Vulnerability did not bring the demise of these car cultures, however: same-sex auto-eroticism could take place only as a continuous openness to danger. The car intensified the precariousness of acting on a sense of self that was informed by same-sex relations, but for Flint's gay

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[85] 'Cars', pp. 235, 236.

[86] The notion of being affected by technology becomes more complex in chapters 3 and 4, where I discuss the body and computer use. Retzloff cites cyberspace as an extension of automotive eroticism: 'The entry of lesbian, gay, and bisexual people into bars, into automobiles, and more recently into cyberspace shows that stigmatized sexual groups have an uncanny ability to commandeer different kinds of spaces, quickly "queering" those sites to make them their own' ('Cars', p. 244). My discussion of the World Wide Web in chapter 4 of this thesis will show that Retzloff's assertion of quick sexual-technological agency and appropriation is naïvely celebratory.

and bisexual autoworkers, car automobility was the key means of community building in a society whose dominant constituents attempted to 'purge gays from the public sphere'.[87]

Because these subjects risked their livelihoods to engage in auto-eroticism, drawn to these machines despite their fallibility, we should reassess what it means to reference hardness in the context of Fordist bodies, technologies, consumption, and working practices. In non-normative sexual automobility, solid steel and chrome are two components of a vulnerable process. An inanimate, material hardness is retained in this body-machine configuration – the car's forged bodywork subsists while the car is being driven – but we cannot separate these densities of matter from auto-erotic practice and the mistreatment that often followed this practice. In other words, steel and chrome (and glass, and so on) are not inert properties that become meaningless once they give way to a struggle between dominant and oppressed, or give away the ineligible actions they house to the social agents of homophobia patrolling Fordist space. As I have said, there is no auto-eroticism without the automobile's hard but fragile exterior; human bodies must enter this bodywork in order to partake in car cruising, meaning that when auto-eroticism is apprehended by social agents, the car's surface is also given away as a conspirator in these ineligible intimacies. The surface does not merely cover activity; it is a part of this activity, an agent in a process never defined by concealment alone.[88] We learn from Retzloff's account

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[87] 'Cars', p. 231. For more on the car's capacity to move bodies affectively as well as mechanically, see Mimi Sheller, 'Automotive Emotions: Feeling the Car', *Theory, Culture & Society*, 21:4/5 (2004), 221-242, and Nigel Thrift, Driving in the City', *Theory, Culture & Society*, 21:4/5 (2004), 41-59.

[88] I am not simply advocating a naïve animism here: obviously the car was not interrogated, discriminated against, and subjected to violence and humiliation. But because it is a constitutive condition of sexual automobility, we cannot say

of cruising, moving, parking, and arresting that the bodily form of the car is as significant as the car's capacity for freedom of movement; that there is more to car automobility than the wheel, or, more specifically, the escapism and freedom that the wheel symbolizes. In Retzloff's Fordist history, the hard working body names a conjunctive synthesis of flesh, car components, and Taylorist principles and practices (that is, life lived according to the time of the factory – a point to which I will return shortly), in which neither human nor machine is deterministically appropriated. The moulded metal exterior indeed allows the car to 'perform its escape function', in Gartman's words, but by joining this synthesis forged steel is both a protective means of escape and a porous liability, a second bodily surface that advances and sets back at the same time.[89]

I invoke Retzloff not to make particular claims about sexuality in 1950s America. While this is a highly important aspect of his research, I am more interested in what Retzloff's study implies about Taylorized Fordism as a time of technological and bodily change. For Gartman, the principal changes made in Fordism were to cars in post-war factories. As we have seen, Gartman implies

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that the car is simply a lifeless material barrier between stigmatized sexual subjects and social agents.

[89] Wollen argues that the Fordist factory is a space of signifiers, material shapes (of car components and regulated assembly line workers) whose meanings are deferred, whereas the car that leaves the factory is a signified, a fully intelligible product for a consumer: 'Fordism introduces an industrial regime, for the worker, of pure signifiers. [...] The assembly line proceeds like an algorithm, carrying out a predetermined sequence of formalized instructions. Meaning is suspended until the process is completed and there is an output which can be interpreted – in the case of the Ford factory, a fully assembled automobile with a meaning for its purchaser. Gramsci's argument was that this very formalization, this reduction of work to a series of empty signifiers, made it possible to think about something else, left a space for other signifieds' ('Cinema', p. 57). In Flint's auto-eroticism, however, we see the fully assembled car operating at the level of the signifier; a material vehicle of meanings that exceed the car's stabilization within the binary relations of consumer/product, subject/object, or active interpreter/passive artefact that Wollen posits. I problematize the relation between interpreter and artefact in chapter 4 of this thesis.

that these changes were incommensurate with meaningful human transformation, because for Gartman human transformation is based on moving beyond the processes of production, consumption, and reification inaugurated by Fordism. I call the temporal frame of Gartman's essay *Forwardism*. In this framework, technological developments from Fordism onwards are represented according to a succession-logic of forward movement and development. For example, Gartman is concerned only that Fordist technologies were outmoded and replaced in the passage of time; he narrates Fordism only to support his general thesis that technology develops by exhausting itself and then regenerating into a later phase, and that because this regeneration perpetuates the same structures of domination, humans must collectively find a means of moving forward from this 'folly', with or without automation.

The automotive intimacies in Flint – in which a chance to determine one's fate is worked by moving with machine automation, not away from it – allow us to see that Benjamin's appraisal of factory time remains relevant after Fordism's early stages, and provides a way of resisting the Forwardist logic. Fordist factory time is not revolutionized by the creativity of Flint's hard working bodies. Flint's non-normative agencies came not only from the automobility of the car, but also the automobility of the conveyer belt, to 'subvert the societal norms which sought to deny' gay and bisexual men 'social and sexual outlets'.[90] As if replicating the stop-start schedule of assembly line workers, gay cruising cultures were formed in Flint through the co-ordination of moving and parking, of being mobile and being stationary, and more negatively

[90] 'Cars', p. 235.

(although still necessarily), being moved on and being arrested.[91] Contra Gartman, then, and to borrow from Benjamin, it was possible to 'adventurously go travelling' in Fordism – to experience the new and uncharted by moving through spaces that automobility not only expanded but put into discreteness, separated into multiple unexplored places – without summoning the effort to leave or overthrow this social system on account of its mechanical sameness and inertia. Retzloff does state that sexual automobility 'provided an important escape from the tedium of the assembly line and the social expectations' of Fordism.[92] But this escape from tedium was still closely tied to Fordist production processes; Flint's 'around the clock automobile production' enabled sexual automobility to proceed without suspicion. Auto-eroticism was therefore factory time lived differently rather than an escape from Fordism.[93]

This possibility is foreclosed by Gartman's periodizing assertion that Fordism once happened and destroyed human relations, and his claim that the only meaningful action in Fordism is that which breaks with Fordist automobility, either by breaking contact with, or simply breaking, the machines perpetrating the work of mass culture. A key point underscored by Retzloff's research is that when studied as something other than a stage of capital domination, Fordism, or Fordist automobility, reports on the possibility of agential action and adventurous movement in *breaking down*: of getting somewhere by stoppage and segmentation. Fordist automobility is not reducible to Forwardism; the contacts in Flint's subcultures were indeed fleeting, but they

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[91] Retzloff points out that besides 'being a popular, mobile site for sexual activity, cars interacted dynamically with fixed spaces such as bars and other geographic landmarks' in the Flint area ('Cars', p. 236).
[92] 'Cars', p. 233.
[93] 'Cars', p. 233.

resulted from a more general approach where one takes time to survey a technological space for the places it makes available, and where one multiplies the possibilities for action, by using these technologically-enabled places to form other kinds of relations in this space. Forwardism cannot tolerate this approach, because in its logic all places evidence Fordism's stifling oppression of all meaningful bodily actions. In other words, Gartman surveys Fordist space, and the places he discovers in this space – bodily activities always characterized as localized examples of capital domination – compel him to survey a subsequent space for signs of real relations and community-based action.

Benjamin's model of automotive bodily function therefore persists despite the socioeconomic changes that suggest its unsuitability as an explanatory framework, and in the remaining chapters I will argue for the importance of seeing bodies broken down with technology in the decades following Fordist society's demise. I want to advance even further into body-machine time whilst calmly, adventurously remaining in a Taylorized Fordist temporal frame, in order to discover alternative interactions between bodies and technologies that social histories – and, we will see, critical debates in the humanities – do not afford us the time to consider. Each of these interactions is based on some or all of the qualities that Gartman claims are antithetical to proper human conduct in technologized nation-states; namely stasis, inertia, exhaustion, and boredom; these are qualities that Gartman constructs as essentially Fordist and thus as the reasons for moving into another (potentially technology-free) technological time. Discovering these non-Forwardist movements will not be straightforward, though, because we must initially confront the social reality of Fordism's supersession: it appears impossible to

continue living Fordism in the knowledge – provided to us by social history – that Fordism was replaced by an alternative socioeconomic system over thirty years ago. The purpose of the following chapter is precisely to interrogate the taking-place of the Fordist-to-post-Fordist shift.

2: Flexible Bodies

This chapter critiques the notion, which has widespread scholarly and popular currency, that meaningful bodies move flexibly after Fordism. I will study texts from disciplines similar to those considered in the previous chapter – work management studies, social history, and cultural theories of the body and technology. But in the subsequent sections it will become clear that the texts I analyse in this chapter imply a widespread change in bodily function, one that distinguishes a current time and space of body-machines from a Taylorized Fordist time and space that is presented as being uninhabitable in the present. Flexibility is the attribute that marks this change. I use this chapter to map the discourses within which flexibility becomes defined as a distinctly non-Taylorized Fordist quality. More importantly, I will argue that these discourses limit our ability to understand the complexity with which body-machines have moved in a so-called post-Fordist era.

I do not use the term 'automobility' in this chapter, and I must clarify this move before proceeding. In chapter 1 we saw that automobility is crucial to Fordist time, because it relates to the body's inclusion within the timed, automated regularity of the factory assembly line, and to the automobile/car as the principal consumer durable that keeps bodies within a Fordist temporal frame when they are not immediately within the factory space. In this chapter, however, we will see that such a notion of automobility does not apply to a discussion of non-Taylorized Fordist time and qualities. This is because the idea of post-Fordism – a notion with which flexibility is coextensive – is based on the certainty that the time of the assembly line, and the production and consumption

of durables that supported the societal implementation of this temporality, no longer anchor the movements of bodies in western machine cultures and technologized societies. It is possible to consider flexibility as an example of automobility: indeed, one of my main points of analysis in this chapter is the claim, within physiology, that post-Fordism makes us aware of the human body's innate biological capacity to move flexibly by itself, or autonomously. But I emphasize flexibility over automobility because even if we can theorize flexibility and automobility together, this theorization still implies a break with the Taylorized Fordist model of mobility that I have explicated, and I want to emphasize the ways in which flexibility signifies the obsolescence of this model.

The first half of this chapter links the temporal frame of flexibility with representations of post-Fordist changes in the meaning of work and technology, and also with the claim within social histories that only flexible movements are made in Fordism's decline. The second half will consider the degree to which this concept of movement in Fordism's obsolescence affects representations of feminist mobility in certain social histories, which argue that feminism only becomes meaningful as a movement in Fordism's supersession.

Post-Fordism

A central topic of social history and socioeconomic theory from the early 1970s to the present, post-Fordism represents the unprecedented shift in work relations and in the degree and speed of technological innovation, alongside and through which newly established socioeconomic principles of acceleration, disorganization, and unpredictability signal the obsolescence of the Fordist way of life. These new principles both emerged out of and provided a means of

overcoming the period of economic and cultural-political crisis that Fordism had fully entered by the early 1970s.[1]

From an economic perspective, the system of mass consumption that Fordism inaugurated eventually exceeded the coexistent Fordist principle of ordered and organized body-machine efficiency. The timed, regular mass consumption of mass-produced commodities is the structuring and mobilizing condition of Fordist society. But Fordism's ethos of consumption had by the late 1960s introduced a structural instability within Fordist society, whereby the demand for mass-produced products had waned on account of the widespread household ownership of consumer durables. Put simply, many households owned a car along with the many other products mass produced on the Fordist assembly line, but these products proved too durable for a Fordist way of life that demanded, as a corollary to mass production, the constant, reinvigorated consumption of products.[2] Thus economically, after almost thirty post-war years Fordism undermined the urgency of consumption as a constitutive condition, because its durables lasted too long.

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[1] Among the most influential socioeconomic accounts of post-Fordism are, chronologically, Alain Touraine, *The Post-Industrial Society; Tomorrow's Social History: Classes, Conflicts and Culture in the Programmed Society*, trans. by Leonard F.X. Mayhem (New York: Random House, 1971); Daniel Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Basic, 1973); Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic, 1984); Scott Lash and John Urry, *The End of Organized Capitalism* (Cambridge: Polity, 1987); and Harvey, *Condition*. A notable contemporary addition to this collection of texts, while certainly not as influential, is Rob Latham, *Consuming Youth: Vampires, Cyborgs, & the Culture of Consumption* (Chicago and London: University of Chicago Press, 2002). I critique Latham's text in this section's introduction.

[2] We saw this happen to the car – Fordism's principal consumer durable – in the latter stages of the previous chapter: cars could not be reshaped quickly enough for the demands of post-war consumer society, prompting designs so outlandishly streamlined – so overtly and parodically futuristic – that consumers began to glimpse and critique the quantitative sameness/differentiation underlying this process.

The corollary to Fordism's impediment to the voracity of consumption was a widespread de-industrialization throughout western nation-states in the late 1960s and early 1970s. Technological innovation, in particular the rise of computerized technologies, participated in the establishment of an alternative, post-Fordist socioeconomic system that refigured the relationship between work and consumption. This alternative system can be read as a key factor in making consumption, as a metaphor, work again after the Fordist crisis – the recentring of consumption as a metaphor for properly functioning and timely bodies. Within a post-Fordist way of life, bodies are kept on time and of time – time is naturalized through being felt *as* a body that moves in specific ways – not through factory-based organization and steady temporal oscillations between input and output, but, as David Harvey explains, through 'flexibility with respect to labour processes, labour markets, products and patterns of consumption'.[3]

Harvey refers to the unprecedented ability of bodies to conquer space through new experiences of time, which are enabled by the onset of computerization, increased transnational travel, and the global flow of capital in Fordism's decline.[4] Fordist factories of mass production, once the exemplary

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[3] *Condition*, p. 147.

[4] See *Condition*, p. 165. I take issue with the supposed onset of computers in post-Fordism in chapter 3. An early description of post-industrial time as flexible is given by Piore and Sabel, who claim that a society based on industrial labour is giving way to an era of 'flexible specialization' (*Second*, p. 3). Claiming that 'machines are as much a mirror as the motor of social development', Piore and Sabel argue for machine technologies based on mass production, standardized labour, and unskilled workers to 'be modified, perhaps even discarded, if the chronic economic diseases of our time [the early 1980s] are to be cured' (*Second*, p. 3). Piore and Sabel instead call for a modern-day socioeconomic adoption of the principles of nineteenth century industrial craftsmanship, in which 'skill and flexible equipment' produce 'a wide and constantly changing assortment of goods for large but constantly shifting markets' (*Second*, p. 3). It is important to note that the socio-cultural dominance of flexible movement did not suddenly appear after post-war Fordism. There was an early post-war report on academic

signifier of bodily time within western nation-states, are relocated to third world nations as more fragmented, sub-contracting or temporary patterns of labour take precedence in western nation-states over the jobs for life that symbolized Fordism's machine-serviced twenty-four hours. Whereas Fordism signifies the servicing of time by machines, post-Fordism signifies a temporal frame in which machines (of industry) are serviced by computer-enabled office spaces. In other words, 'computer' designates the privileged loci of time's flexible domination of space via technological innovation. The notion of flexibility is thus paramount to post-Fordism: in post-Fordism, the temporality of Fordist production lines is subjected to the variable, constantly fluctuating decisions transmitted instantaneously from the computer terminals of retail service economies.[5] The flexible temporality enabled by technological innovation also enables jobs that were previously integrated within the factory milieu, such as advertising and marketing, to separate and adapt into alternative industries that, Harvey argues, lead to 'a shift of emphasis from production of goods (most of which, like knives and forks, have a substantial lifetime) to the production of events (such as spectacles that have an almost instantaneous turnover time)'.[6]

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beliefs in bodily flexibility: the United Nations Educational, Scientific, and Cultural Organization's document *The Race Concept: Results of an Inquiry* (Paris: UNESCO, 1952). Originally issued in 1950, UNESCO's report aims to disprove the scientific racial theories that had strongly influenced the policies of Nazism in previous decades. UNESCO posits a universal human subject who is naturally pliable or adaptable, as a means of responding to scientific racism's attempts at fixing difference in physical characteristics: 'The normal individual, irrespective of race, is essentially educable. It follows that his intellectual and moral life is largely conditioned by his training and by his physical and social environment' (*Race*, p. 14).

[5] See Harvey, *Condition*, pp. 156, 284.

[6] *Condition*, p. 157. I interrogate Harvey's account of post-Fordism at length later in this chapter, but it is interesting to note here that Harvey invokes 'knives and forks' – a key signifier of household life, the stability of which is crucial to Fordism's socioeconomic efficiency – in opposition to the production of lifeless

The decline of trade union power, a surge in female and racial and ethnic minority labour participation, and the emergence of counter-cultural movements mobilized away from the predominantly white male domain of union organization, including second wave feminism and civil rights movements, comprise the cultural-political perspective of Fordist time's obsolescence.[7] Harvey, for example, synthesizes the 'civil rights movement in the United States' which 'spilled over into a revolutionary rage that shook the inner cities', and the 'surge of women into low-paying jobs' which 'was accompanied by an equally vigorous feminist movement', with a 'criticism of the blandness of the quality of life under a regime of standardized mass consumption'.[8] Harvey's attempt here to provide a commentary on Fordist time's obsolescence, by connecting socioeconomic theory with cultural politics, is exemplary of his general

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and ephemeral images as a way of critiquing life after Fordism. In short, Harvey suggests that stable politics is equated with the (gendered and sexual) stability and longevity of heterosexual domestic arrangements, whereby the regularity of body-machine time and the regularity of a laid table are bound up conceptually.

[7] Second wave feminism will be discussed at length in the second half of this chapter. Harvey provides a useful explanation that connects the 1960s civil rights movement to the action taken by racial minorities in response to their disenfranchisement in post-war Fordist consumer society: 'race, gender, and ethnicity often determined who had access to privileged employment and who did not. [...] Denied access to privileged work in mass production, large segments of the workforce were equally denied access to the much-touted joys of mass consumption. This was a sure formula for discontent. The civil rights movement in the United States spilled over into a revolutionary rage that shook the inner cities' (*Condition*, p. 138). For a more detailed history of civil rights and non-white industrial workers, see Robert Cook, *Sweet Land of Liberty? The African-American Struggle for Civil Rights in the Twentieth Century* (London: Longman, 1998), pp. 41, 54.

[8] *Condition*, pp. 138, 139. I frequently cite Harvey in this introductory section over the other cited social histories because Harvey, more than the other authors, wants to demonstrate how the cultural can be accounted for by socioeconomic transformations, whereas the other cited works concentrate more specifically on the constitution of socioeconomic systems. Of the other cited social histories, sociologists Lash and Urry provide arguably the most cultural-political account of post-Fordism, linking what they term 'the end of organized capitalism' with the burgeoning lifestyles of newly enfranchised classes (see *Organized*, pp. 285-300).

commitment to a neo-Marxist theoretical approach – a commitment towards acknowledging gender and race alongside class as social sites of difference and oppression. The capacity to fully account for social movement away from Fordist time, Harvey argues, is coextensive with the theoretical capacity to determine the 'treatment of difference and "otherness" not as something to be added on to more fundamental Marxist categories (like class and productive forces)'.[9] This is because the 'importance of recuperating such aspects of social organization', such as race and gender, 'within the overall frame of historical materialist enquiry (with its emphasis upon the power of money and capital circulation) and class politics (with its emphasis upon the unity of the emancipatory struggle) cannot be overestimated'.[10] Harvey thus acknowledges that post-Fordist time's flexible domination of space – the flattening out of global space by technologically altered time, allowing capital accumulation to move everywhere – both de-industrializes and draws attention to multiple types of working body. But also for Harvey, this transition provides the occasion for Marxism to become more flexible, to keep up with this acceleration by incorporating gender and race, so that Marxism can theorize everywhere.

Technologies scholar Rob Latham continues the neo-Marxist approach of invoking post-Fordism to map cultural transformation onto economic transformation. Latham argues that flexibility, as an ideological imperative 'animating all persons' and as a naturalized category of bodily attributes, has been the condition of machine culture from Taylorized Fordism onwards,

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[9] *Condition*, p. 355.

[10] Ibid. For more neo-Marxist writings that invoke post-Fordist time as a motivational factor, see the essays collected in *New Times: The Changing Face of Politics in the 1990s*, ed. by Stuart Hall and Martin Jacques (London: Lawrence and Wishart, 1989).

because flexibility compliments the more general notion of 'youth' that has mobilized the body-machine ethos of perpetually new, reinvigorated consumption that Fordism first implemented.[11] Latham summarizes his argument of youth's importance to body-machine time:

> 'youth', in the Fordist industrial-cultural regime, ceased to be a quality inextricably attached to quantifiably aged bodies and instead became a set of values desirable both as a means of production and the end of consumption. Further, these values inhered in bodies no longer as purely natural properties, but as artificially attached prostheses facilitating incorporation into a techno-economic system. Thus, from the outset of modern consumer culture, youth was implicitly a cyborg identity.[12]

Latham invokes Taylorist rhetoric to support his assertion of youthful cyborg bodies. Latham's prime examples are the principles of 'quick reflexes' and adaptability on the assembly line, which are suggestive of flexibility and youthfulness and were central to Taylor's personal coefficient test.[13] Latham claims that all post-Fordist socioeconomic change, and any theorization of a post-industrial society, participates in mobilizing youth as an animating and constitutive discursive field, into a present era in which post-industrial technologies have brought an unprecedented intimacy between body and machine:

> As in the original Fordist cultural-theoretical nexus, youth circulates within postindustrial discourse in a dual fashion [...] postindustrial theorists argue that the massive technological change associated with the information revolution necessarily privileges youth as social subjects, since they are [...] best prepared to respond to its challenges. [...] On the other hand, these theorists use metaphors of youth – curiosity, pliability, and so forth – to depict the socioeconomic and cultural possibilities

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[11] *Consuming*, p. 141.

[12] *Consuming*, p. 15. The notion of the cyborg – cybernetic organism – has been extensively theorized within various disciplines, including technoscience and cybernetics. But it suffices here to read the term in Latham as simply a reference to a part-human, part-machine synthesis. I discuss cybernetics in the following chapter.

[13] *Consuming*, p. 14.

> enabled by information processing [...] in terms evocative of adolescent energy and enthusiasm.[14]

Although Latham provides an engaging means of theorizing Fordism's socioeconomic decline, I argue that there is a significant temporal logic constituting Latham's rhetoric, which problematizes the authority of the position from which Latham gives, as it were, a social history comprised of the arguments of social historians. The metaphors of youth that Latham describes, including flexibility and pliability, are specifically temporal, referencing the mobility that has accelerated to an unprecedented degree within a post-Fordist way of life. It appears therefore that Latham is simply commenting on the 'flexible' and 'pliable' mobility over time that informs bodily intelligibility in post-Fordism, and the rhetoric of multiple 'postindustrial theorists' who participate in and reinforce this shift.

But the subject-position occupied by Latham-as-commentator requires Latham himself to partake in flexibility as a temporal frame for representing bodies and cultural activity. In other words, I argue that positing flexible mobility over time as the only means of representing bodies and technologies requires, in Frederick Taylor's terms, 'the right man for the right job': a (male) social historian whose flexible mobility allows him to connect past, present and future by subsuming post-Fordist temporal and technological flux under total critique.[15] Latham's historical overview depends on Latham's ability to definitively map cultural agency and activity of varying times and places onto previous

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[14] *Consuming*, p. 144.

[15] 'The right man for the right job' is a maxim frequently employed in Taylorist rhetoric. See 'Principles', p. 126. My assertion of 'the (male) social historian' is a significant point of discussion: all of the cited social histories and socioeconomic theories are by male authors, a factor that raises the question of who speaks for and who speaks as flexibility. I return to this issue throughout this chapter.

socioeconomic patterns. Consequently, a body that participates in and is to a degree constituted by post-Fordist mobility over time, but whose intelligibility within flexible temporality also attests to and demands a certain immobility or rigidity, is not eligible to materialize and mean in Latham's narrative. A body at once flexible and rigid, whose intelligibility does not precisely move with and according to the inexorable temporal acceleration and transmutation articulated by metaphors of youth, must necessarily be excluded by Latham's narrative of bodies and machines, because Latham's text indeed *is* an effect and naturalization of this temporal frame of technological and bodily movement. A body not mobile enough will be an impediment to Latham's history: Latham's text, in order to function as a social history of post-industrialism, is produced by a temporal frame that requires a mobile and flexible (and thus eligible) critic to keep in time with the mobile and flexible content being analysed, by utilizing a theoretical approach so flexible that it can claim that all forms of cultural agency are variable effects of an overarching schema of accelerating, body-machine mobility.

It is this issue, of the act or the doing carried out in Fordist time's obsolescence and post-Fordism's hegemony, that I will address in the following two sections, in relation to theorists of post-industrialism and to scholars who have subsequently attempted to apply these socioeconomic claims to an analysis of cultural production. I will begin by analysing physiological studies of post-Fordist working conditions, and the technologies relevant to these conditions, in order to consider what it means to be a body-machine after Taylorized Fordism. I will then apply this analysis to a more detailed discussion of flexibility as a

temporal frame that animates social histories of post-Fordist work, and post-Fordist technological and bodily change.

Ergonomics: 'Fitting the Task to the Human'

'Taylor was the pioneer of what we now know as ergonomics', argues Peter Wollen in his cultural history of Fordism.[16] In this section I will argue that the temporal shift from Taylorism to ergonomics is significantly more complex than the linear taxonomical updating or coming-to-know implied in Wollen's remark. Ergonomics (derived from the Greek *ergon* 'work'), the study of people's efficiency in their working environment, is undoubtedly Taylorism in another time, or is that which marks the continued influence of Taylorist principles in the present. But instead of simply invoking ergonomics in order to project back to a Taylorist time that becomes the main point of discussion, which is Wollen's intention, my aim is to explore the temporal implications of the notion that Taylorism is now known under another name.

From one perspective, Wollen's statement implies that knowing Taylorism as ergonomics 'now' provides the occasion for analysing Taylorism's contribution to certain epistemologies – Taylorism's important role in the establishment of 'machine' as a field of knowledge in which bodies participated and were produced. From another perspective, now knowing Taylorism as ergonomics implies that through the course of time the signifier 'Taylorism' is no longer exemplary of the knowledges of bodily function. It appears that 'ergonomics' is the signifier of body-machine discourse now. But if knowing Taylorism here involves knowing that Taylorist rhetoric contributed to a field of

[16] 'Cinema', p. 43.

knowledge in which certain types of body were meaningful, knowing ergonomics is simply another means by which the critic, writing in a post-Taylorist/post-Fordist time ('now'), can know Taylorism in this reflexive sense. In other words, Wollen implies that ergonomics signifies a shift in body-machine discourse (we no longer know Taylorism as Taylorism, and Taylorism is no longer exemplary of body-machine knowledge systems that constitute properly functioning bodies), which must mean that ergonomics participates in an alternative body-machine field of knowledge that organizes a different time of bodily eligibility. But for Wollen ergonomics is another name, alongside Taylorism, for a set of instructions on how bodies should move in a machine culture and society, whether Fordism or post-Fordism. Wollen essentially presents Taylorism and ergonomics as the same, and any critical engagement with ergonomics as an effect of a temporal modification or alteration of Taylorism appears to be unnecessary. Refusing this assumption, I will demonstrate the ways in which the post-Fordist practice of ergonomics aims not to continue from Taylorism but to show that Taylorism is largely meaningless as an interpretative model of bodily timeliness.

The notion that ergonomics represents a departure from Taylorized Fordist bodily time informs a particular ergonomics textbook that has been regularly revised and reprinted since its initial release in the mid-1960s: physiologists Karl Kroemer and Etienne Grandjean's *Fitting the Task to the Human.*[17] Kroemer and Grandjean's text continues to advocate the Taylorist calibration of bodies into healthy and efficient 'human-machine systems', but

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[17] K.H.E. Kroemer and E. Grandjean, *Fitting the Task to the Human: A Textbook of Occupational Ergonomics*, trans. by Etienne Grandjean, 5th edn (London: Taylor and Francis, 1997).

with an emphasis on constant change – of bodies, technologies, workspaces, and jobs – which the authors embrace by frequently updating their methods of measuring and assessing proper bodily function:

> Our working conditions have undergone rapid and fundamental changes during the last few years. One example is the widespread use of the individual computer in the shop, office and home. Another major development is that women now hold many jobs that used to be in the male domain, and that many more women choose a life-long occupational career. Workforces, tasks, conditions and tools are changing! Many office and industrial workers are tied to human-machine systems. Repetitive work can create cumulative health problems such as reported visual strains, mental stress and physical injury. Proper ergonomic measures can avoid such harmful effects and instead promote healthy conditions which are both efficient and agreeable. [...] In this new edition to *Fitting the Task to the Man* [...] Kroemer has revised and updated the text and data while remaining true to the spirit of [...] earlier editions.[18]

This excerpt is exemplary of the ways in which change is figured as coextensively temporal, technological, and corporeal. It is significant that the very title of the body-machine textbook is representative of this logic of change. Until this edition, body-machines have been calibrated by 'fitting the task to the man' – a continuation of Taylorized Fordism's regulation of flow, in which bodies and machines are represented according to the male body's status as the privileged form of function. According to the above passage, 'women' and 'the individual computer' constitute a change in this body-machine temporality towards 'human' as a signifier of more accommodating and mobile forms of working bodies. 'Human' thus becomes the privileged form of post-Fordist flexibility, technological change, and acceleration, precisely because the term appears to negate the privileges and exclusionary implications of Fordist pyramidal hierarchies. In Kroemer and Grandjean, the computer's supplanting of industrial machinery has placed a traditionally male-led workforce alongside a

[18] *Fitting*, back cover. Emphasis in original.

new, predominantly female labour pool, and 'human' captures a post-Fordist body-machine time in which gender relations are altered and white male hegemony loosened.

The transition from *Fitting the Task to the Man* to *Fitting the Task to the Human* can therefore be discussed in relation to de-industrialization and workforce changes that are undoubtedly important to any account of post-Fordism. But I find another notion within Kroemer and Grandjean's rhetoric more provocative in relation to representing this shift in time; that of the 'task'. Within the above passage of ergonomics rhetoric, 'task' is a distinctly temporal notion that synthesizes bodily and technological movement. 'Task' at once represents a body doing something or being committed to an action, and the technologies or machinery that perform tasks and that require operation as part of the body's commitment to doing. Kroemer and Grandjean's emphasis on 'task' instead of the Taylorized Fordist 'job' is significant. It appears that in post-Fordism 'job' is an effect of 'task' as a more general temporal economy rather than another name for the same temporal frame, because 'task' signifies a general, less place-bound commitment to mobility within which work has become subsumed. In other words, Taylorism's 'job' becomes anachronistic as a temporal frame of body-machine representation because it is too work-specific: because in post-Fordism, 'work' no longer signifies manual factory labour, 'job' (as a Taylorist/Fordist term for body-machine movement) is a remnant of an outmoded industrial time. 'Task' appears to be the preferred term for body-machine time because it is exemplary of mobility everywhere: body-machine time has moved out of the factory and out of the factory-inflected socioeconomic

system of Fordism, and is therefore now too mobile to be gleaned from the assembly line temporality that constituted the Fordist job for and way of life.

This generality of 'task' as a temporal frame is instanced in the above extract from Kroemer and Grandjean, whereby 'task' is subject to the same potentially infinite representational regress that looking and sorting is in Taylorism. Representation is Kroemer and Grandjean's task, in that 'task' – a particular way of organizing bodily and machine movements in time – is the structuring condition of Kroemer and Grandjean's rhetoric. This temporal frame or representational mode affects not only Kroemer and Grandjean's rhetoric of post-Fordist bodies at work, but also the movement of the *Fitting* textbook itself – Kroemer and Grandjean's body of work. In other words, Grandjean's death in 1991 has presented Kroemer with the task of compiling a fifth edition of *Fitting*, which, the text claims, will represent tasks by 'remaining true' to, and therefore representing, Grandjean's previous tasks of representing tasks. The key point here is that 'task' is not attributable to the actions from any single locus, but can be located only as a constitutive temporal frame through which body-machine mobility is posited. This ergonomic textbook is an effect of what I call *task temporality*, the time of the task, as the condition for representing post-Fordist bodily function: the textbook constantly changes (title, length, principles); its data are in a perpetual state of mobility; a new author replaces an old one. Mobility ('task') rather than factory regularity ('job') is in this way the organizational principle of post-Fordism.

Kroemer and Grandjean's rhetoric of ergonomics is premised on demonstrating the insufficiency or uselessness of Taylorism as an explanatory framework for moving bodies. In a section titled 'Medico-biological aspects of

boredom', Kroemer and Grandjean describe the untimeliness of a Taylorist model that no longer tells us how the body works:

> Until a few decades ago the science of work physiology was mainly interested in finding out how to relieve the worker of excessive physical load. *Increasing mechanisation and automation, as well as the tendency to divide up work into as many simple operations as possible (Taylorism), has now led, in many occupations, to a new problem: insufficient demands on physical and mental capacities.* Unused physical and mental capacities characterise a state which we call 'underload'. Nearly all the organs of the human body have the important biological characteristic of being able to respond to demand by stepping up their performances [...] Human development from childhood onwards is heavily dependent upon this ability to adapt to the stresses of life. Conversely, if an organ is not exercised, it atrophies [...] Cessation of development, followed by decline, takes place on a mental level as well as a physical one. It is known from experiments on animals that the brain becomes better developed, functionally, morphologically, and biochemically, when the animal is subjected to various mental demands and stresses than when it is allowed to grow up in a quiet situation with few external stimuli.[19]

Implicit in this passage is the suggestion that Taylorism is unable to account for the break in time effected by post-Fordism and its alternatively working bodies. Taylorism is figured here as being insufficient to the time of body eligibility, or what I have termed the schema of work/working out, because in post-Fordism Taylorism engenders boredom. Taylorism is represented by Kroemer and Grandjean as a closed set of timed movements within which body-machines are spatially restricted, creating repetition that in turn gives rise to the untimeliness of boredom or 'underload', in which bodies become disorganized – listless, uncomfortable, and thereby unintelligible. Taylorism's directives for using technology produce '*un*used physical and mental capacities', Kroemer and Grandjean argue. Bodies waste away, literally for Kroemer and Grandjean, if corporeal intelligibility is not posited according to the constant mobility, adaptability and flexibility of 'nearly all the organs'. Thus boring Taylorism,

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[19] *Fitting*, pp. 223-224. Emphasis in original.

which in post-Fordism has a propensity to make nothing happen, is Kroemer and Grandjean's evidence for the need to reconceptualize the means of calibrating body-machines so that the break with Fordist time can be more fully comprehended. In ergonomics, Taylorism – represented as static, immobile, and boring – signifies the need to make a move, or to take up the task of making the body move with a more flexible, changeable temporal frame in Fordism's decline.[20]

It is significant that Kroemer and Grandjean advocate a flexible, adaptable calibration of body-machines by claiming that Taylorism is too physically orientated and fails to take into account the mental as well as physical capacities of the working body. This claim is particularly contentious, given my demonstration in the previous chapter that within Taylorist rhetoric the body works or functions not through the possession of innate physical prowess or raw material strength that precedes machinery, but as an effect of body-machine systems of knowledge through which it is set mind-determined parameters and a time of eligibility. The body is made to work through being worked out. But for Kroemer and Grandjean, a mentally deficient Taylorism has failed adequately to exercise or work out the brain, which they imply is the main reason for Taylorism's inability to exemplify proper bodily function. It appears that bodies are out of time in Taylorism because, through the boredom of repetition and stasis, the brain is not adequately conditioned to assume its privileged role in the enactment of body-machine sense organ temporality, in which the brain is key to organizing and ordering the sense organs most present to body-machine

[20] Remaining with the theoretical framework of the previous chapter, I argue that the eligible body does not precede this 'new' temporal frame of the task but is made intelligible through it.

consciousness. For Kroemer and Grandjean, in post-Fordist ergonomic time it is only by flexing the brain, subjecting it to varied, flexible, non-linear stimuli and movement, that it can be 'better developed morphologically', be in better shape, in order to restart or make a renewed move towards bodily timeliness exemplified by the message transmission carried out by hierarchized organs.

It is interesting to consider this logic alongside the status of ergonomics as a profession *with human in mind.* In one sense, 'human in mind' references the benevolence of ergonomics as a practice, its attendance to the every need of the working body's continued efficiency. In another sense, 'human *in mind*' references the ways in which 'human' is constructed within body-machine discourse as a mind-determined form: 'human' becomes the privileged designation in predetermining the eligible time of bodily intelligibility in a time too quick and flexible for Taylorized Fordism. This problematizes Kroemer and Grandjean's contention that ergonomics presents a break with Taylorism: it appears on the contrary that ergonomics is another means of working out the morphologies a body can assume in time in order to be intelligible, a process of which Taylorism itself is an effect.

The notion of better shape through flexible movement extends to Kroemer's and Grandjean's case studies of post-Fordist working conditions. Kroemer and Grandjean assess ergonomic measures for bodies working in post-Fordist factory environments and in the office spaces that now outmanoeuvre factory time. In their factory case study, Kroemer and Grandjean claim that the assembly line must now be conducive to flexible movement if the factory is to continue offering insight into how bodies work: 'Sitting along a straight assembly line is bad: it is much better if the line follows a semi-circle or is

sinuous. Any arrangement is good as long as it brings several workers within conversation distance of one another'.[21] A flexible assembly line will keep up with post-Fordism's time of bodily eligibility, because it provides the conditions for varied stimulation that safeguard against the boredom, the non-movement or ineligible movement that threatens the process of work/working out.[22] In their study of office space, the authors devote a substantial amount of rhetoric to 'workstation design', which, they claim, 'should facilitate movement of the body instead of promoting maintained static postures'.[23] To facilitate greater movement of the body at the workstation, Kroemer and Grandjean prescribe a computer 'keyboard designed in accordance with ergonomic principles'.[24] The authors provide the following description of this flexible piece of technology: 'The two keyboard halves show an opening (slant) angle of 25° in order to avoid a sideways twisting (ulnar deviation) of the hands. They tilt sideways down at 10° below horizontal to lessen the inward rotation (pronation) of the forearms and wrists'.[25]

This description foregrounds task temporality's signification of non-Taylorist movement – of mobility everywhere, and of a variability that the keyboard anticipates. But the description also demonstrates the ergonomic logic of human in mind: the representation of the ergonomic keyboard is an effect of 'human' as a mind-determined bodily form of a flexible, task temporality that is never permitted to engender the uncomfortable. The 'opening', 'slanting' and

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[21] *Fitting*, p. 236.
[22] My description of boredom here as ineligible movement points towards the possibility of reading boredom as a transgressive temporality, in which a doing is not premised on a task or a movement forward. This will become an important argument as this chapter proceeds.
[23] *Fitting*, p. 237.
[24] Ibid.
[25] Ibid.

'titling' of the equipment *counters* the 'twisting' and 'rotation' that may move against or impede ('deviate') a flexible mobility already set parameters. In short, amidst post-Fordist technological change and shifts in the meaning of working bodies, the logic underwriting task temporality – the temporal frame through which these changes and shifts are predominantly represented – is that there is a certain way of being flexible, a certain time for bodily flexibility against which some movements will fail to mean and therefore be prevented from materializing.

The Task of Narrating Postmodernity

Task temporality informs other representations of post-Fordism. In this section, I analyse academic texts that in varying ways present post-Fordist technological, workforce, and economic change as the cause of a flexible, ephemeral and tumultuous time of cultural production. Whereas Kroemer and Grandjean articulate post-Fordist change in the context of the workplace, in this section I consider the argument that post-Fordist change is symptomatic of a particular 'global' phase of capitalism, the permutations of which are explanatory of flexibility as a requisite at the level of culture. David Harvey is among the principal proponents of this argument. For Harvey, the key signifier of the cultural permutations of capital accumulation is 'postmodernity'.[26] Harvey

[26] Another seminal synthesis of capitalism's cultural permutations is Fredric Jameson's *Postmodernism, or, the Cultural Logic of Late Capitalism* (London and New York: Verso, 1991). Jameson claims that 'every position on postmodernism in culture – whether apologia or stigmatization – is also at one at the same time, and *necessarily*, an implicitly or explicitly political stance on the nature of multinational capitalism today' (*Postmodernism*, p. 3. Emphasis in original). To maintain a consistent argument I have chosen to focus specifically on Harvey in this section, although by no means are Harvey's and Jameson's texts reducible: Harvey, for instance, accuses Jameson of exaggerating the

interprets postmodernity as a crisis in the stability of form and meaning, arguing that the term mistakenly implies a radical break in time and should instead be seen to represent capitalism's movement towards a flexible and global domination and fragmentation of space, and the cultural conditions and logics necessary for capitalism to enter this later phase. In response to this method of narrating postmodernity, and following the theoretical framework outlined in the previous section, I argue that for Harvey the analysis of postmodernity is a task – an urgent imperative to do something in and with post-Fordist time, borne out of an anxiety over *nothing happening* in Fordism's obsolescence. I will explicate and critique Harvey's theorizations by focusing specifically on the ways in which the notion of flexibility enables Harvey to claim that postmodern time's condition, its shape or morphological intelligibility, can be definitively mapped.

Unlike the socioeconomic theorists cited in the introductory section who forecast and assert the prevalence of a post-industrial or post-Fordist time, Harvey does not use the terms 'post-industrial' or 'post-Fordism' to chart Fordism's supersession. Harvey prefers the term 'postmodernity' because it allows for a theorization of the contradictory tendencies of capitalism, which for Harvey determine all cultural activity, in addition to social movement away from Fordism.[27] To demonstrate this point, Harvey provides a brief chapter in

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'uniqueness and newness' of postmodern cultural forms (*Condition*, p. 305). Jameson's assertions do however feature intermittently throughout the remainder of this chapter.

[27] 'Post-industrial' and 'post-Fordism' would be limiting terms for Harvey, because in Harvey's logic they would signify a definite break with the capitalist relations established under Fordism, and thus the redundancy of the class-based theories and activism formed out of historical struggle with the Fordist system. Thus for Harvey, post-Fordism would represent an abandonment of history, a hasty dismissal of collective resistances and activisms of the past, which were organized against modes of production that have not altered as radically as the term post-Fordism implies. Jameson is more explicit in arguing against the

Condition titled 'Fordist modernism versus flexible postmodernism, or the interpenetration of opposed tendencies in capitalism as a whole'.[28] Harvey uses this chapter to display a certain theoretical flexibility, whereby he evinces nostalgia for Fordist time, expresses pessimism towards a current time of flexible mobility and ephemerality, and claims an ability to subsume both times within a theory of capital's historical propensity towards flux and irregular movement:

> It seems as if postmodernist flexibility merely reverses the dominant order to be found in Fordist modernity. The latter achieved relative stability in its political-economic apparatus in order to produce strong social and material change, whereas the former has been dogged by disruptive instability in its political-economic apparatus [...] But what if [this opposition] constitutes a structural description of the totality of political-economic and cultural-ideological relations within capitalism? To view it this way [...] helps us dissolve the categories of both modernism and postmodernism into a complex of oppositions expressive of the cultural contradictions of capitalism [...] Within this matrix of internal relations, there is [...] a swaying back and forth between [...] permanence and flexibility [...] the flux of internal relations within capitalism as a whole.[29]

Here we witness Harvey multitasking, doing three things at once, in order to assert capitalism's flexibility. Harvey applies an oppositional logic of flux and

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notion of post-industrial time, claiming that 'such theories of ['a whole new' post-industrialism] have the obvious ideological mission of demonstrating, to their own relief, that the new social formation no longer obeys the laws of classical capitalism, namely, the primacy of industrial production and the omnipresence of class struggle'. Jameson instead sees 'this new society [...] as a third stage or moment in the evolution of capital [...] if anything, a purer stage of capitalism than any of the moments that preceded it' (*Postmodernism*, p. 3). Here Jameson is influenced by Marxist economist Ernest Mandel's work *Late Capitalism* (London: Verso, 1988). Jameson's refusal of 'post-industrial' can in fact be read as a change of direction in his work, considering that in his 1971 book *Marxism and Form* he argues for a 'postindustrial [...] Marxism' to address the decline of the 'visibility and continuity of the class model'. See Fredric Jameson, *Marxism and Form* (New Jersey: Princeton University Press, 1971), pp. xvii-xix, xvii. Against Jameson, I do not reject the term 'post-industrial': instead I retain it in order to argue for unexplored movements and relations between bodies amid de-industrialization. This argument will become clearer in the following chapters of this thesis.

[28] *Condition*, pp. 338-342.

[29] *Condition*, pp. 339-342.

permanence to a current postmodern time, maps this time onto capitalism as a constitutive and analysable totality or continuum, and claims that in its present phase this continuum is not conducive to the 'strong material change' it produced in the Fordist era.[30] To narrate a time after Fordism, Harvey must move flexibly, to show that any activity in any place is graspable by a theory of capitalism as a flexible whole, or as a system that reaches and determines all cultural life. For Harvey, representing capitalism as a determining, flexibile mobility is coextensive with demonstrating that he can keep in time or keep up with this mobility.

Harvey's flexibility, demonstrated by his abstract theory of capital that purports to account for culture, is determined not simply by Harvey's assumption that capitalism moves flexibly, but also by his assumption that capitalism has or is a pre-discursively flexible body. Harvey assumes that capitalism, or 'flexible accumulation', is always already flexible, has already taken meaningful shape, and has predetermined, eligible movements that mark its integrity and enable its signification.[31] It is this body, the flexible body of capitalism, that holds accountable, suffuses, thwarts, outmanoeuvres, stymies, violates and destroys all other bodies both economically and culturally. Harvey indeed confirms this assumption of a mobile capitalist body outside all other movement:

> Capital [...] continues to dominate, and it does so in part through superior command over space and time, even when opposition movements gain control over a particular place for a time. The 'othernesses' and 'regional

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[30] Harvey organizes Fordism and 'Flexible postmodernity' into a table of numerous oppositions including, respectively, mastery/exhaustion, trade unions/individualism, single task/multiple tasks, and relative space/place (*Condition*, pp. 340-341). We can equate Harvey's assertion of the Fordist 'single task' with the term 'job', which Kroemer and Grandjean subordinate to the post-Fordist body's 'natural' need to do something different ('multiple tasks') at every opportunity.

[31] For Harvey on flexible accumulation, see *Condition*, pp. 141-172.

> resistances' that postmodernist politics emphasize can flourish in a particular place. But they are all too often subject to the power of capital over the co-ordination of universal fragmented space and the march of capitalism's global time that lies outside of the purview of any particular one of them.[32]

Harvey's notion of 'othernesses' refers to the strategies whereby members of minority groups – women, non-whites, non-heterosexuals – creatively draw attention to their subordinate positions within societies, and to their positioning as 'other' to the ways in which dominant societal structures have traditionally been resisted. Regional resistance is Harvey's term for describing how these strategies occur: for Harvey, the weakening of unionization after Fordism has significantly restricted the opportunities for oppressed groups to co-ordinate subversive action over a wide area. Only capital accumulation can move dynamically over the globally fragmented communications networks in Fordism's decline, argues Harvey, and those minority subjects who in the first instance were excluded by union power are afforded only a place, a disconnected region, from which to act against their situation in post-Fordist postmodernity. Place, region, and body are equivalent terms for Harvey, because they each reference the negligible impact of critical expression in post-Fordist time and space: Harvey is clearly suggesting here that politics is meaningless if given over to a localized and immobile focus on bodies instead of a new form of communal, globalized activity. But whereas Harvey implies that keeping up with capitalism's flexibility involves a transnational transcendence of place-bound body politics, we have seen that the processes of bodily intelligibility indeed constitute Harvey's task of contemporaneousness. The movements of minority bodies in a disorganized way of life may, Harvey claims, 'at times' transgress

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[32] *Condition*, pp. 238-239.

and resist the power structures of society, but will always ultimately be left behind or kept in place by the more mobile body of capitalism, which is able to march through the Fordism-to-post-Fordism shift as part of its maturation.

There is an implicitly gendered, sexual, and normatively temporal logic to Harvey's claim that capitalism is the most flexible and most powerfully conditioned of all bodies. For Harvey, flexibility is the notion enabling us to map capitalism's historical stages through time. In the two above excerpts from his text, it appears that Harvey invokes post-Fordist mobility and flexibility in order to claim that capitalism is recognizable within a temporal frame of growth or upbringing. This representation of capitalism is dependant on the capacity to show that capitalism, as a body, has passed through successively timed phases that subsume and are expressive of flux and mobility in Fordism's decline. Harvey also asserts that this flexible growth endows the capitalist body with the power and prerogative of 'penetration' to invade, outmanoeuvre and subordinate all post-Fordist activity.[33]

These attributes exemplify the implication pervading Harvey's rhetoric that the flexible body of capitalism is also white and male. This implication particularly informs Harvey's dismissal of the agency of female, non-white, and

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[33] *Condition*, p. 239, 285. Jameson also assumes the inevitability of 'late' capitalist penetration: 'One is tempted to speak [of late capitalism in terms of] a new and historically original penetration [and] destruction of precapitalist Third World agriculture, and the rise of the media and the advertising industry' (*Postmodernism*, p. 36). We can connect this claim with Jameson's endorsement of Mandel's model of capitalist development, which sees post-Fordist society as 'a third stage or moment in the evolution of capital' (*Postmodernism*, p. 36). Here we can see how capitalism is made intelligible by Jameson according to a normative temporality of bodily and sexual maturity: meaningful (flexible) capitalism has a period of infancy (a first stage), a period of adolescence (a second stage), before maturing into a later third stage by which time it is able to penetrate most effectively (*Postmodernism*, p. 3).

non-western subjects who participate in post-Fordist transformations of the meaning of work:

> While it is true that the declining significance of union power has reduced the singular power of white male workers [...] it does not follow that those excluded from those labour markets have achieved sudden parity (except in the sense that many [...] white male workers have been marginalized alongside them). While some women and some minorities have gained access to more privileged positions, the new labour market conditions have [...] re-emphasized the vulnerability of disadvantaged groups.[34]

Harvey forecloses the possibility that informal labour markets may have brought women and minorities together in ways that diminish the relevance of achieving parity with white male workers. Harvey figures Fordist unionization as a male bonding experience, and sees the strength and purposefulness of this formation as the standard by which all activity in the disorganized workplace is measured, or as the key objective for bodies coming into contact with one another in post-Fordism. The stable (Fordist) conditions for building resistance no longer exist, Harvey claims, and the majority of working bodies in contemporary societies are vulnerable to exploitation and subordination as a result of these changes. For Harvey, the place-bound activity of women and minorities does not help work out a way for bodies to move meaningfully after Fordism, and what takes place among these disadvantaged groups is not worthy of examination. Subsequently, Harvey can describe only what capitalism does – inevitably defeat minorities. I am not convinced by Harvey's claim that white male dominance has been marginalized, though: Harvey has told us, in his advocacy of union power, that white maleness is the quality that constitutes a meaningfully formed, active body, and placeless late capitalism is the only total body that remains in Harvey's rhetoric. Moreover, white maleness – in the form of either past union activity, or

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[34] *Condition*, p. 152.

(the white male) Harvey's critical endeavour – is constructed as the only reference point for responding to this dominant formation. To summarize, the potentially multiple forms of agency created by increased female and non-white labour participation, in alternative body-machine ways of living not adjusted solely to a reductive conception of the hard working bodies of the white male working class, are useless for Harvey, because these subjects are always already penetrated by the superior flexibility of a superior form with which they cannot keep in time.[35]

This assumption, of a supremely flexible capitalist body that will always penetrate and thus dominate on a global scale, is the subject of an important critique by feminist J.K. Gibson-Graham, who with acumen interrogates 'left discussions', such as Harvey's, 'in which globalization is represented as the penetration (or imminent penetration) of capitalism into all processes of production, circulation, and consumption, not only of commodities but also of meaning'.[36] The capitalist body's flexible propensity to penetrate everywhere,

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[35] A crucial point must be made here in order to underscore my assertion that Harvey provides a reductive conception of the white working class. I do not criticize Harvey's text simply on account of his specific focus on the working class as a site of oppression. This would be a reductive and dangerous dismissal of class analysis in preference of employing apparently more dynamic and less narrowly focused categories such as gender, race, and sexuality. Instead, I criticize Harvey because he assumes that the white working class is a securely recognizable entity that never creatively intersects with the above sites as body-machine time changes. For a crucial discussion of academic hostility towards working class analysis, see Eric Lott, 'All the King's Men: Elvis Impersonators and White Working-Class Masculinity', in *Race and the Subject of Masculinities*, ed. by Harry Stecopoulos and Michael Uebel (Durham: Duke University Press, 1997), pp. 192-227.

[36] J.K. Gibson-Graham, 'Querying Globalization', in *Post-Colonial, Queer: Theoretical Intersections*, ed. by John C. Hawley (Albany: State University of New York Press, 2001), pp. 239-276 (p. 239). Emphasis in original. J.K. Gibson-Graham is the pseudonym for feminists Katherine Gibson and Julie Graham, whose collaborations have contributed to an important rethinking of Marxist critique.

Gibson-Graham asserts, is not the directive of a pre-discursive force but is 'bound up with the lack of an economic imaginary capable of conceiving economic development that is not *capitalist* development (with its inherent globalization tendency), just as conceptions of sexuality that are not dominated by a phallocentric heterosexism (in which the act of penetration, whether called rape or intercourse) are difficult to muster'.[37] Thus, capitalism's flexible domination does not occur outside and beyond the place-bound movements of bodies, as Harvey assumes, but is posited according to a heteronormative temporal frame of eligible bodily movement.

The Fordism-to-post-Fordism shift, and finding a way of alternatively theorizing this transition, is central to Gibson-Graham's critique. Gibson-Graham represents the transition using poststructuralist critiques of identity and signification: 'For those interested in historical periodizations of capitalism, this development [of global credit and finance markets] signifies the demise of capitalism in its "second nature" [Fordism], when the productive base anchored the movements of credit and money. Today, the whole relation between signifier,

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[37] 'Querying', p. 265 n. 2. Emphasis in original. The link between globalization and rape is a key theme of Gibson-Graham's essay. In challenging the naturalized morphology of capital domination, Gibson-Graham cites the notion of the 'rape script' identified by feminist Sharon Marcus – a '"language of rape" which assumes that "rape has always already occurred and women are always either already raped and rapable [sic]"' ('Querying', p. 240). Gibson-Graham draws inspiration from Marcus's subversion of the rape script, which involves both 'refusing to accept the victim role' and challenging 'the discourse of sexuality that the rape script inscribes and from which it draws its legitimacy' ('Querying', p. 244). Marcus's interventions enable Gibson-Graham to identify and interrogate a 'globalization script', in which 'capitalist social and economic relations are scripted as penetrating "other" social and economic relations but not vice versa. (The penis can penetrate or invade a woman's body, but a woman cannot imprint, invade, or penetrate a man)' ('Querying', p. 245). For an explication of the rape script, see Sharon Marcus, 'Fighting Bodies, Fighting Words: A Theory and Politics of Rape Prevention', in *Feminists Theorize the Political*, ed. by Judith Butler and Joan W. Scott (London: Routledge, 1992), pp. 385-403.

signified, and referent has been ruptured thereby unleashing capitalism's "third nature," "the spectacle" [...] in which the "economic real" is buried under the trade of risk, information, image'.[38] We can say that Gibson-Graham equates the regular temporal oscillations of the mechanized Fordist factory – and the regular temporal movements of bodies and objects that supported the required turnover time of Fordist production – with the notion of Fordist identity. Fordism's identity coheres because the intelligibility of the sign 'money' coheres with the working time of the Fordist factory in an objective motivation: the system of exchange by which Fordism's products circulate within society corresponds with an identifiable referent – the factory system located within that society.[39] Fordist

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[38] 'Querying', p. 254. When referring to capitalism's 'second nature' and 'third nature', and the spectacle, Gibson-Graham is citing situationist philosopher Guy Debord's critique of post-World War II consumer life, *Society of the Spectacle* (London: Rebel, 1992). For Debord, representation replaces direct experiences in a social relation mediated by images as commodities. 'The economic real' is coined by media theorist McKenzie Wark in his book *Virtual Geography: Living With Global Media Events* (Bloomington: Indiana University Press, 1994), pp. 194-203.

[39] I borrow the term 'objective motivation' from linguist Emile Benveniste, who problematizes and expands the seminal account of the linguistic sign given by Ferdinand de Saussure. See Emile Benveniste, 'The Nature of the Linguistic Sign', in *Debating Texts: A Reader in 20th Century Literary Theory and Method*, ed. by Rick Rylance (London: Open University Press, 1987), pp. 77-81 (p. 80), and Ferdinand de Saussure, *Course in General Linguistics*, ed. by Charles Bally et al., trans. by Wade Baskin (London: Fontana, 1974), pp. 111-122. In Saussurian linguistics, signifiers (phonetic sounds and graphic marks that constitute words) and signifieds (the concepts or images associated with these elements) that together form signs are arbitrarily linked in a system of differences. Benveniste argues that the critical significance of Saussure's theory lies not in Saussure's mistaken belief that the bond between signifier and signified is arbitrary (mistaken because it detracts from the symbiosis of concept/image and sound, thus implying that 'empty' concepts are contained in the mind), but in the arbitrariness of the relationship between the linguistic sign and the extra-linguistic referent or '*material* object' ('Nature', p. 80. Emphasis in original). Benveniste terms this arbitrariness 'the unnecessary and unmotivated character of the bond which unite[s] the sign to the *thing* signified' ('Nature', p. 80. Emphasis in original). Benveniste's model of signification enables us to theorize identity as the changeable and conventional bonding of signs to real objects or materialities.

or capitalist identity is subverted, Gibson-Graham argues, because it has moved from referentiality to signification: the global mobility of capital accumulation becomes too mobile and fluid to cohere with a secure referent of production (the conditions apparently needed to form 'stable' politics and resistance), thus enabling capitalist identity to be articulated at the level of the signifier. But whereas Harvey interprets this crisis in the stability of form and meaning as a crisis in political possibility, Gibson-Graham interprets crisis as simultaneously an opportunity:

> Globalization, it seems, has set money free of the 'real economy' and allowed capital to seep if not spurt from the productive system, but the implications of this unboundedness, this fluidity, for the identity of capitalism remain unexplored. Having set the signifier free from the referent, theorists of the global economy are loath to think about the effects of seepage, porosity, uncontrollability, that is, to feminize economic identity. The global economy may have been opened up by international financial markets, but nothing 'other' comes into or out of this opening. It would seem that the homophobia that pervades economic theorizing places a taboo on such thinking.[40]

This important criticism draws further attention to the implications of gender and sexuality that are bound up with Harvey's narration of capital domination. One could justifiably claim that Harvey is articulating capitalism at the level of the signifier: the purpose of Harvey's text is to make the reader aware of capitalism's formlessness after its Fordist stage. But Harvey negates the subversion of capitalist identity in favour of crisis rhetoric that is anchored by a bodily referent – a white, male heterosexual capitalist body that always penetrates but is never penetrated.[41] Harvey's task is not possible without this referent of bodily

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[40] 'Querying', p. 255.

[41] Gibson-Graham works a space for thinking capitalism differently, but we should not assume – and I do not think Gibson-Graham assumes – that a non-heterosexual capitalism always represents a subverted capitalism. Indeed, cultural theorist Rosemary Hennessy has argued that late capitalism relies on non-normative sexualities for its hegemony. See Rosemary Hennessy, *Profit and*

intelligibility. Gibson-Graham asserts that in order to resist this dominant strategy of representation, we must refuse to keep in time with the normativizing leftist task: 'Making global capitalism lose its erection becomes a real possibility if we reject the naturalization of power and violence that is conferred [...] by the globalization script [...] We may attempt to make globalization less genital, less phallic, by highlighting various points of excess in its inscriptions – places where the inscription can be seen as uncontrollable or indeterminate, or as potentially inscribing noncapitalist identity'.[42]

Gibson-Graham's assertion of global capitalism's erection enables us to critique the flexibility of the subject position of the male leftist critic. The notion of penetration indeed adds complexity to my earlier assertion of Harvey's flexibility, which can now be read as follows: within Harvey's text, the representation of a capitalist body that flexibly penetrates all economic and cultural practices is coextensive with Harvey's own contention that, by affirming the prevalence of this flexible accumulation, he is able to flexibly penetrate all cultural and economic practice in a theoretical capacity. My above assertions that Latham and Harvey must keep up with their post-Fordist subject matter can also

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Pleasure: Sexual Identities in Late Capitalism (London: Routledge, 2000). Hennessy asserts that 'open, fluid, ambivalent sexual identities [...] are quite compatible with the mobility, adaptability, and ambivalence required of service workers today [...] While they may disrupt norms and challenge state practices that are indeed oppressive, they do not necessarily [...] disrupt capitalism', because 'they de-link sexuality from its historical connection to the human relationships of exploitation capitalism relies on' (*Profit*, pp. 108-109). Hennessy's argument is important, but she echoes Harvey in emphasizing capital's domination over bodily acts, even though she contests the inevitability of capitalism's heterosexuality. I do not elaborate on Hennessy in this thesis because the question of whether or not capital dominates bodies is not my main concern: we saw in chapter 1 and will see in subsequent chapters that I am more interested in how bodies and technological objects form relationships within post-Fordist time and space.

[42] 'Querying', p. 264.

be explicated in relation to capitalism's erection. Keeping up, as another term for 'task' as an urgent imperative to move or do in time, references both the temporal frame that produces Harvey's text and the discourse of sexuality that task temporality naturalizes. Because capitalism's erection is the constitutive condition of Harvey's text, I argue that Harvey's theoretical project or task of keeping up with capitalism's flexible body can be read as a requirement, on the part of the theoretically flexible and mobile male social historian, to keep an erection in time with capitalism's. Keeping up is refigured here in the euphemistic sense of keeping (it) up – a phrase that provocatively points to the mutually reinforcing imperative of flexible penetration that underwrites Harvey's narration of life after Fordism.[43] Keeping (it) up is not simply a play on words provided as a point of relief after a period of earnest and dense analysis. I instead offer the phrase as an important means of interrogating the alarmingly masculinist and heteronormative implications of left attempts to theorize a 'postmodern' post-Fordist time.[44]

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[43] I also invoke 'it' here in the sense described by gender and sexualities scholar Mandy Merck: as 'the flitty parataxis that [...] calls the speaker's manhood into question'. See Mandy Merck, 'Figuring out Andy Warhol', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 224-237 (p. 227).

[44] My interrogation of Harvey adds to the number of critiques of *Condition* that have been provided by other, predominantly feminist authors. Perhaps the most significant of these is cultural theorist Meaghan Morris's essay 'The Man in the Mirror: David Harvey's "Condition" of Postmodernity', in *Identity Anecdotes: Translation and Media Culture* (London: Sage, 2006), pp. 127-150. Morris exposes many limitations of *Condition*, including the fact that Harvey pays 'scant attention in his own text to any but the major white male theorists of postmodernity – and none at all to postcolonialism (subsumed as "geo-politics")' ('Mirror', p. 131). Also see Rosalyn Deutsche, 'Men in Space', *Strategies*, 3 (1990), 130-137; 'Boys Town', *Environment and Planning D: Society and Space*, 9 (1991), 5-30; Doreen Massey, 'Flexible Sexism', *Environment and Planning D: Society and Space*, 9 (1991), 31-57; 'The Political Place of Locality Studies', *Environment and Planning A*, 23 (1991), 5-30; Angela McRobbie, 'New Times in Cultural Studies', *New Formations*, 13 (1991), 1-17; Massey,

The connection between hegemonic masculinity and Harvey's imperative to be up to the task can be located alongside early-1990s popular literature that sought to compensate for the hard working body's decline in post-Fordism. It is possible to appropriate the periodizing imperative of Harvey's rhetoric here, in order to demonstrate the ways in which Harvey's narration of post-Fordism intersects with popular men's studies or self-help texts of the same period, which attempt to re-centre and recuperate white, male, heterosexual masculinity as the exemplar of bodily movement over time. The principal example of these self-help texts, and arguably the most influential, is poet Robert Bly's *Iron John*, published in 1990, the same year of publication as Harvey's *The Condition*.[45] Bly provides a chronology of male masculine development from the Fordist 1950s to his time of writing, charting a series of post-Fordist periods of 'feminization' that, Bly claims, have in part benefited males but have more significantly comprised the ultimately detrimental, grief-stricken 'journey many American and Western men have taken into softness, or receptivity'.[46] Bly shares

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'Power-Geometry and a Progressive Sense of Place', in *Mapping the Futures: Local Cultures, Global Change*, ed. by Jon Bird et al. (London and New York: Routledge, 1993), pp. 59-69; Judith Halberstam, *In a Queer Time and Place: Transgender Bodies, Subcultural Lives* (New York and London: New York University Press, 2005), pp. 5-12.

[45] Robert Bly, *Iron John: Men and Masculinity* (London: Rider, 1990). *Iron John* is one of a cluster of men's studies self-help books released in the early 1990s. Others include Guy Corneau, *Absent Fathers, Lost Sons: The Search for Masculine Identity* (Boston: Shambhala, 1991), and Sam Keen, *Fire in the Belly: On Being a Man* (New York: Bantam, 1992). It is not my intention to provide a precise reason for these books' dates of publication, but I argue that critical insight can be gained by linking 'the "fall of socialism" in 1989', which Gibson-Graham asserts fuelled 'references [...] to the inevitability of capitalist penetration and the naturalness of capitalist domination', Harvey's task of narrating postmodernity, and the above self-help attempts to reassert the power of maleness ('Querying', p. 240).

[46] *Iron*, p. 4. The homophobia implicit in Bly's invocations of softness and receptivity is unsurprising, given that Bly's timeline of male development is based solely on heterosexual relations. Parallels can be drawn between Bly's

Kroemer and Grandjean's imperative to show that Taylorized Fordist bodies no longer have the mobility to exemplify proper function. Bly asserts that the Fordist 'Fifties male [...] laboured responsibly, supported his wife and children,' and 'had a clear vision of what a man was', but could not move maleness forward in time because 'underneath the charm and bluff [of 'strong', 'positive', 'aggressive' qualities] there was, and there remains, much isolation, deprivation, and passivity', a 'dangerously' unreceptive 'personality [that] lacked some sense of flow'.[47] Again echoing Kroemer and Grandjean, Bly argues that women constitute the movement away from the stasis of Fordist working time. From the 1960s to the present, Bly claims, increased intimacy with women and increased participation in 'women's history' and 'women's sensibility' – which Bly attributes to 'the feminist movement' – has importantly provided males with the stimuli necessary to develop through and leave behind the dangerous immobility of 1950s masculinity.[48] But Bly also asserts that this feminine post-Fordist shift in mobility, while important, is increasingly leaving the male body entropic and out of time, deprived of the 'fierce' qualities and 'decisiveness' needed to resolve life problems.[49]

Within this time shift led by 'energetic women', the 'soft male' – Bly's term for the problematic body produced by this time shift – possesses a 'lack of energy' and is thus not mobile enough to 'carry through' the 'troubled times' of marriage and familial relations, in particular the relations between father and

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rhetoric and the aforementioned leftist assumptions of a penetrating but impenetrable capitalist body. For a detailed critique of the misogyny and homophobia informing Bly's text, see Susan Jeffords, *Hard Bodies*, pp. 9-13.

[47] *Iron*, pp. 1, 2.

[48] *Iron*, p. 2.

[49] *Iron*, p. 4.

son.[50] In direct relation to Harvey's rhetoric, then, Bly implies that increased mobility is of little use unless it can move in time with the male heterosexual body as the privileged form of time. 'The journey [...] men have taken into softness, or receptivity, or "development of the feminine side"', Bly claims, 'has been an immensely valuable journey, but more travel lies ahead. No stage is the final stop'.[51] For Bly, constant mobility must be rethought as an energizing force that addresses 'the increasing monotony and barrenness in contemporary men's lives'.[52] Post-Fordist time travel is synonymous here with men's movement – not coincidentally the name of the all-male self-help collective that Bly established to eradicate male entropy in this period.[53]

Both Harvey's urgent task to flexibly narrate flexible postmodernity, and Bly's energizing imperative to make a man move, can be read as effects of the same recuperative logic. This logic frames representations of a post-Fordist time where global information technologies, and the blurring of the sexual division of labour, ensures 'working body' no longer signifies in terms of an efficient, white-male-defined vigour in relation to a recognizable capitalist identity.[54] The

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[50] *Iron*, pp. 3-4.
[51] *Iron*, p. 4.
[52] *Iron*, ii.
[53] Bly is credited as the founder of the Mythopoetic Men's Movement, a collection of psychological male self-help organizations active since the early 1980s. Many popular and academic works discuss Bly's instrumental role in the Men's Movement. For an account that posits Bly as the father of this movement, see Andrea O'Reilly, *Mothers and Sons: Feminism, Masculinity, and the Struggle to Raise Our Sons* (London: Routledge, 2001).
[54] Indeed, the energetic doing that conditions both Harvey's and Bly's rhetoric can be interpreted as affirmations of determination from both authors that white, heterosexual maleness is up to the task of keeping up with a time in which it does not have the same privileges. We can say that Bly and Harvey share a particular type of 'can do' attitude in response to the widespread disorganization of white, male, hard working bodies. This attitude correlates with the activities of the UK fathers' rights organization 'Fathers 4 Justice'. A veritably post-Fordist collective, Fathers 4 Justice elaborately demonstrate against a perceived lack of

significant point here is that the projects of Harvey and Bly can be termed *ergonomic*: the post-Fordist body-machine time that threatens hegemonic masculinity is subsumed and obscured as part of a capitalist-historical form or condition that never stops moving and which, unless kept up with, will prevent human agency and action in its postmodern phase. I compare Harvey and Bly with Kroemer and Grandjean not simply to suggest that their texts correlate with a theory of ergonomics. More importantly, critiquing Harvey and Bly in this way draws our attention to an ergonomics of theory: for Harvey, doing theory is the occasion for outlining a programme of flexibly adaptive action in response to the rise of global communication technologies and their channelling by capitalism. For Bly, forming a men's movement is a similarly energetic response to this history of technology. Doing masculinity in late capitalism is a performance of ergonomics, which is bound up with attempts to attune critical theory to technological change. These attempts are established against other types of action – movement in place, regional movement, bodily or localized movement – that are represented as deviations from a close and comprehensive knowledge of contemporary technologized society, and from a detailed understanding of how to move meaningfully in this society. In the following sections of this chapter I explore the ways in which this ergonomics of theory affects the rhetoric of certain critics who claim to speak for particular post-Fordist social movements.

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legislative privilege accorded to the father by family court judges. Demonstrating fathers display flexible qualities in an attempt to prove their continued societal eligibility and use, scaling buildings and donning an array of superhero costumes in order to recuperate the father as a causal agent in (and of) time. See Matt O'Connor, *Fathers 4 Justice: The Inside Story* (London: Weidenfeld & Nicolson, 2007).

Flexible Feminism

Harvey's account of flexible accumulation has inspired an important feminist investigation into the meaning of bodily flexibility in relation to historical discourses of health and immunity. Emily Martin's *Flexible Bodies* draws on Harvey's social history to argue that flexibility is 'one of our new taken-for-granted virtues for persons and their bodies', emerging out of a shift in Fordist to post-Fordist discourses of the bodily immune system, or from 'the days of polio' to 'the age of AIDS'.[55] Analysing academic and popular medical literature, medical guidebooks, magazine articles, and advertisements from the Fordist 1940s and 1950s, Martin argues that the body is represented in Fordism as 'a factory' or 'a machine [...] made up of parts that can break down' and that 'sometimes require [...] overhaul'.[56] The Fordist body, Martin argues, is a unit of very little complexity, a 'seamless whole' defined by and 'defended at its surface', maintaining proper function via 'regular, predictable habits [...] of personal hygiene as well as the good habits learned by cells to produce antibodies'.[57] Martin connects Harvey's assertions of a shift from Fordism to flexible accumulation, including the 'acceleration in the pace of product innovation' and the 'unimpeded', global flow of capital, with a shift in medical discourse from the body being represented as a factory to the body being posited as an adaptable, flexible system that 'can hardly rely on mere habit any longer'.[58]

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[55] Emily Martin, *Flexible Bodies: The Role of Immunity in American Culture from the Days of Polio to the Age of AIDS* (Boston: Beacon Press, 1994), p. xvii.
[56] *Flexible*, p. 29.
[57] *Flexible*, pp. 26, 29. Regular habits of good hygiene were a central requirement of Henry Ford's factory workers, and were enforced throughout workers' households by Ford's social department. See Ford, *Life*, pp. 145-146.
[58] *Flexible*, pp. 33, 40.

Martin asserts that 'the increasing importance of the concept of immunological specificity' within medical discourses over the 1960s and 1970s, occurs alongside a new set of assumptions about the body in biology and health books from this period to the present: 'What we see emerging through the immunologists' eyes by the late twentieth century [...] is a body that actively relates to the world, that actively selects from a cornucopia of continually produced new antibodies that keep the body healthy and enable it to meet every new challenge. Possessed of agile responses, and flexible specificity, our [...] innovative bodies are poised to anticipate any conceivable challenge'.[59] For Martin, these assumptions do not exemplify economic or scientific causality but are rather effects of a shift in the discourses constituting eligible bodily movement. Inadequate attention to the processes of this shift, Martin argues, will perpetuate the 'neo-social Darwinism' enacted by flexibility as a post-Fordist cultural norm:

> Fresh from these experiences [of the Fordist body's rigid postures and movements], it is no wonder that moving gracefully as an agile, dancing, flexible worker/person/body feels like a liberation. [...] But can we simultaneously realize that the new flexible bodies are also highly constrained? They cannot stop moving, they cannot grow stiff and rigid, or they will fall off the 'tightrope' of life and die. We need to examine the social consequences of these constraints.[60]

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[59] *Flexible*, pp. 36-37.

[60] *Flexible*, pp. 247-248. Martin gives a number of examples of the ways in which post-Fordism is informed by social Darwinism. Arguably her chief analysis is of the hierarchization of immune system cells within biology and health texts. Martin demonstrates how the representation of proper bodily function within these texts is bound up with asserting the superior flexible mobility and penetrative prowess of the white-male-coded 'T cells', which are 'ranked above' the flexible upper-class female-coded 'B cell', which in turn ranks above the gender, class, and racially marked 'macrophage' cell with its 'housekeeping', 'engulfing', and 'cannibalistic' functions (*Flexible*, pp. 49-53). Other examples include the high-risk, high-octane team-building exercises organized by post-Fordist office companies to determine flexible members of staff, and an alarmingly homophobic implication within discourses of AIDS that

Martin calls for a feminist politics of temporal rigidity, in order to articulate the agency of those bodies excluded by post-Fordist flexibility, across sites of class, race, gender, and sexuality. But this argument for rigidity is problematic given Martin's strong, if ambivalent, reliance on Harvey's narrative of flexible capitalism. Martin does indeed acknowledge the possible limitations of building upon Harvey's representation of capitalism's flexible body for a feminist project. This is most clearly instanced in Martin's essay 'The End of the Body?', the article which preceded the publication of *Flexible Bodies*. In this essay Martin often uncritically cites Harvey's assertions of flexible accumulation's disorientation of time and space, in order to emphasize 'the wrenching effects of a new mode of being' and the types of body eligible and ineligible to keep up with and profit from this shift.[61] On one occasion, however, Martin qualifies her use of Harvey with the following: 'I am obviously indebted to the kinds of [capitalist-determined] patterns [...] Harvey [...] [sees] in architecture and other forms, even though I prefer not to see the economic realm as so simply determinant of cultural forms'.[62] There is a tension, Martin acknowledges, in arguing for untimely, minority bodies by using as a theoretical template a social history that has no time for those bodies in the first place.

But Martin's noticing of this methodological difficulty does not significantly disrupt her reliance, from 'The End of the Body?' to *Flexible Bodies*, on Harvey as the critical authority on flexibility. Martin admirably provides a detailed focus on post-Fordist cultural forms, using a variety of research bases crucially missing from Harvey's abstract theory of economics.

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only certain types of immune system will survive the disease (*Flexible*, pp. 207-225, 229-235).

[61] 'End', p. 133.

[62] 'End', p. 134 n. 6.

However, Martin's theorization of alternative agencies and resistances in post-Fordism is structured by the same task temporality that determines Harvey's narrative. Consider the following passage:

> In the face of the incitement to be nimble and in constant motion, we need to remember the common human need for stability, security, and stasis. The challenge is to sustain our critical perceptions in a culture that prizes being flexibly adaptive without allowing our perceptions to become so flexibly adaptive that they can only compliantly perpetuate – instead of calling attention to – the order of things.[63]

Martin thus appears to express caution about the flexibly adaptive critical approach assumed by Harvey. But I am unconvinced by Martin's claim that a politics of stability, security, and stasis will engender recognition of a 'common human need'. As critic, Martin surely must sustain a flexibly adaptive perception in order to maintain that her varied case studies all exemplify post-Fordist time's domination of bodies, bodies that in turn can all be shown to otherwise share a temporal stubbornness. Martin is proposing a flexible theory of stasis, as does Harvey when he implies that bodies, as sites of resistance and analysis, are commonly place-bound and thus out of reach of the more urgent movements of flexible capitalist domination.

The following section addresses the type of methodological problem found in Martin, by arguing for feminist practices that resist being made intelligible through the binaries of flexible/rigid and global/local. Put differently, I argue that considering feminism in terms of post-Fordist technological change and mobility requires us to pose the following question: what happens if feminism, *as a task*, is not taken up? This should be read not as a refusal to do

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[63] *Flexible*, p. 249. Martin's invocation of 'the order of things' is an implicit reference to political philosopher Michel Foucault's cultural study of knowledge, *The Order of Things: An Archaeology of the Human Sciences* (New York: Pantheon, 1970).

feminism, but as a call to examine the temporal frames that we assume when feminist movement is invoked.

Factory Girls

In Kroemer and Grandjean's terms, boredom motivates post-Fordist movement, a more flexible mobility over time. Basing society on the factory produces rigid postures and limited external stimuli, qualities that, in a successively quicker way of life, tell us nothing about bodies. Kroemer and Grandjean at once claim that the implementation of Taylorism into a flexible socioeconomic system makes bodies motionless, progressively brainless, and uninterested, and that positing bodies according to motions that research shows are out of date is uninteresting and brainless, in terms of foolishness, pointlessness, and irrationality. The logic here is that something is pointless precisely because it is uninteresting, boring, and rigid. Taylor himself had attempted to prevent his factory girls from becoming bored from the monotony of sorting ball bearings. Taylor introduced (or, as Mark Seltzer suggests, 'invented') the factory work break because walking and talking around the factory for brief periods was perceived by Taylor and his associates to vary stimulation and conserve energy, which supported the principle of continual bodily efficiency, or timeliness, over competitive physical exertion and subsequent exhaustion.[64] While sharing the same general imperative of efficiency, Kroemer and Grandjean proclaim Taylor's attempt to avert boredom to be obsolete or indeed boring: the work break, rigid because confined

[64] *Bodies*, p. 221 n. 25. This principle of body-machine efficiency can be read as an effect of what historian Anson Rabinbach calls a discursive shift, at 'the end of the nineteenth century', from idleness to fatigue 'as the predominant mode of conceptualizing resistance to labour'. See Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic, 1990), p. 35.

to a single space and devised according to an outdated, fixed meaning of work, is no longer of interest because it is no longer able to exemplify the break in time that tells us how the body works.

This rhetoric of boring Taylorized Fordism and mobile, ergonomic post-Fordism informs Harvey's representation of feminism. Recalling my earlier citation, Harvey invokes feminism and civil rights as 'equally vigorous [...] movement[s]' made as part of a cultural-political 'criticism of the blandness of the quality of life' and 'rigidity in labour markets' under the Fordist everyday.[65] It appears here that feminism is a flexible movement constructed out of a shift in body-machine time. For Harvey, feminism emerges when Fordism becomes outmoded, and is a transgressive energy produced out of Fordism's socioeconomic failings that offers new, more varied positions in machine culture, which enable us to realize just how boring and rigid Fordism is. Thus, it appears pointless to continue locating feminist agency in relation to the factory girls whose calibration was so crucial to Taylorist discourse, and therefore to the inauguration of twentieth-century body-machine time. Apart from serving as a marker of a past industrial capitalist system whose supersession enriches an understanding of how movements are made 'now', factory girls ostensibly cannot affect feminism in the present. This is because the meaning of feminism appears to be coextensive with cultural-political shifts that, taken together, tell us that Taylorized Fordist bodies are produced by rigid, boredom-inducing movements (non-movements, indeed) that are no longer made.

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[65] *Condition*, pp. 138, 139. Harvey asserts that Fordism produced 'a rigidity in labour markets' due to its 'division between a predominantly white, male, and highly unionized work-force and "the rest"'. This division 'made it hard to re-allocate labour from one line of production to another' because 'the exclusionary power of the unions strengthened their capacity to resist de-skilling' in the workplace (*Condition*, p. 138).

The 'vigorous' feminist movement to which Harvey refers is more commonly known within the academy and beyond as second wave feminism. Developed in the late 1960s, second wave feminism is characterized by its emphasis on the shared oppression of women as the fundamental condition of societal function. Throughout the late 1960s and early 1970s, second wave feminism drew inspiration politically and theoretically from the radical feminist critique of the liberal and socialist positions comprising feminism's first wave. This radical position resisted liberal feminism's abstract emphasis on sameness and freedom of choice, and the traditional socialist subordination of gender to class within male-led labour movements, in order to argue that societies are organized by a patriarchal gender system through which women are universally dominated.[66] The formative years of second wave feminism were thus animated by this radical movement that drew attention to the social fact of women's oppression, and which motivated universal theories of patriarchy that were perceived to create the basis for the oppositional logic of sisterhood, through

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[66] Liberal feminism has a long history, dating from the beginning of the eighteenth century. Radical feminism's assertion of universal male domination of women, in terms of both mind and body, is formed in critique of liberalism's focus on women's claims to rationality, and thus its negation of the body and the ways in which the body grounds truth-claims regarding female sexual difference. Radical feminism's emphasis on the societal pervasiveness of patriarchy can also be read as a critique of liberalism's failure to politicize the divide between public and private. Foundational liberal texts include Mary Astell, *The First English Feminist Reflections upon Marriage and Other Writings*, ed. by Bridget Hill (Aldershot: Gowe/Maurice Temple Smith, 1986), and John Stuart Mill, 'The Subjection of Women', in *On Liberty and Other Essays*, ed. by John Gray (Oxford: Oxford University Press, 1998), pp. 471-557. Influential radical feminist texts include Shulamith Firestone, *The Dialectic of Sex: The Case for Feminist Revolution* (London: Paladin, 1972), and *Sisterhood is Powerful: An Anthology of Writings from the Women's Liberation Movement*, ed. by Robin Morgan (New York: Random House, 1970).

which women could unite on a global scale.[67] This late-1960s and early-1970s change, which aimed to extend feminism's reach to an unprecedented universality, is synonymous with the characterization of the second wave by the tenet of 'doing' – of feminism being able to do something, able really to achieve social change. The notion of activism – energetic action – signifies this process whereby meaningful feminism is bound up with greater mobility. Flexibility is a key implication of second wave energy: second wave feminism becomes intelligible as a movement because it is inspired, in part, by radical feminism's claim that the theorization of women as a class is an effective, movement-inducing modification of more rigid socialist feminisms (rigid because of their subordination of gender to class).[68] Second wave feminism's key concept 'woman' signifies flexibility in terms of knowing, through a theory of universal patriarchy, that patriarchy is so mobile that it exploits and oppresses women transhistorically, globally, and in all areas of society.[69] Thus, it appears that

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[67] Other early second wave texts motivated by radical critique include Mary Daly, *Gyn/Ecology: Metaethics of Radical Feminism* (London: Women's Press, 1979) and Adrienne Rich, 'Compulsory Heterosexuality and Lesbian Existence', in *Desire: The Politics of Sexuality*, ed. by Ann Snitow et al. (London: Virago, 1984), pp. 212-241.

[68] I must stress here that 'second wave' does not signify a uniform set of feminist practices. From the early 1970s onwards, and in response to radical feminism and theories of sisterhood, second wave socialist feminisms have made attempts to better accommodate gender and race alongside class. The 1980s saw the development of standpoint theory, which sought to theorize the interrelation between multiple sites of oppression whilst retaining a materialist approach. See Nancy Hartsock, *Money, Sex and Power* (New York: Longman, 1983).

[69] Harvey never discusses the complexity of this 'vigorous' movement and the important political transformations achieved by second wave feminism throughout the 1970s, in particular its critique of the gendered logic of the public/private binary: the creation of separate spheres that restricted women to domesticity while making politics and trade specifically male domains. A detailed analysis of this process would undoubtedly have benefited Harvey's discussion of the naturalization of time and space. Judith Halberstam identifies this problem in Harvey's analysis in *Queer*, pp. 8-9. It must also be noted that the 1970s saw feminism's entry into the academy through the discipline of women's

within its second wave – which is distinguished by a cultural-political critique of Fordist rigidity – feminism is meaningful as that which *completes tasks*. Indeed, the completion of tasks – doing something – is a key implication of the praxis of activism that characterizes second wave feminism and which, according to Harvey, emerges in response to Fordism's mundanity and exclusionary organization of working bodies.[70] Harvey instructs us to read 1970s feminism as an effect of the same task temporality that conditions the narration of post-Fordism's emergence. Meaningful feminism, Harvey suggests, is determined by taking up the task – that is, the urgently energetic, flexible, non-place-specific mobility of female subjects everywhere, or the taking up by these subjects of (non-Fordist) qualities that signify better movement through more movement.

Since the beginning of the 1980s, the efficacy of the flexible mobility of sisterhood has been critiqued by subjects who claim marginalization due to its premise of unity-through-universal-oppression, particularly on the grounds of racial and class difference. Critique by radical women of colour in particular comprises this interrogation of feminism's internal politics. The notion of movement that for the early second wave determined feminism's intelligibility – movement in the sense of mass-based, social activism – was importantly revealed by radical women of colour to be premised on the experiences of predominantly white, middle-class female subjects. Multiple, intersecting, and ambivalent sites of oppression and agency across racial, sexual, class, and age difference were thus shown to be excluded – indeed left behind – by the second wave's concept

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studies. This is perhaps another example of the mobility that characterizes the second wave – feminism's ability from the 1970s to move through both activist and academic spaces.

[70] I invoke praxis in the Marxist and neo-Marxist sense, where theory is taken as that which is transformed into political activity.

'woman'.[71] From the late 1980s through to the early 1990s, the notion of feminist movement received a thoroughgoing critique from anti-foundationalist feminist scholarship. The anti-foundationalist debates are, in part, comprised of poststructuralist feminist critiques of the necessary exclusions constituting 'woman' and 'women' as signs that ground and motivate eligible feminist movement. A crucial assertion from the anti-foundationalist debates is that the category women is not simply exclusionary but participates, through its exclusionary call to coherency, in the naturalization of gender relations made intelligible by heterosexual practice.[72]

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[71] Poet, writer, and activist Audre Lorde critiques the concept of feminist movement in her anthology *Sister Outsider: Essays and Speeches* (Freedom: Crossing Press, 1984). Lorde argues that 'within the women's movement today, white women focus upon their oppression as women and ignore differences of race, sexual preference, class, and age. There is a pretense to a homogeneity of experience covered by the word sisterhood that does not in fact exist' (*Sister*, p. 116). Other critiques of feminist movement by women of colour include bell hooks, *Ain't I a Woman: Black Women and Feminism* (London: Pluto Press, 1982); *This Bridge Called My Back: Writings by Radical Women of Colour*, ed. by Cherrie Moraga and Gloria Anzaldua (New York: Kitchen Table Press, 1983); *Home Girls: A Black Feminist Anthology*, ed. by Barbara Smith (New York: Kitchen Table Press, 1983).

[72] Key works from the anti-foundationalist debates include Denise Riley, *Am I that Name? Feminism and the Category of Women in History* (New York: Macmillan, 1988); Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York and London: Routledge, 1990); Judith Butler, 'Contingent Foundations: Feminism and the Question of "Postmodernism"', in *Feminists Theorize the Political*, ed. by Judith Butler and Joan W. Scott (London: Routledge, 1992), pp. 3-21; Monique Wittig, *The Straight Mind and Other Essays* (Boston: Beacon Press, 1992); Diane Elam, *Feminism and Deconstruction: Ms. en Abyme* (London: Routledge, 1994). In *Gender Trouble*, Butler calls for 'the task of *a feminist genealogy* of the category of women' in order to show how 'the unproblematic invocation of that category may *preclude* the possibility of feminism as a representational politics' (*Gender*, p. 9. Emphasis in original). The task that Butler incites is one that questions feminism's intelligibility within task temporality (as a body eligible to make a move or to do something). The issue of feminist movement is also discussed in the interview between Jacques Derrida and Christie V. McDonald, 'Choreographies', in *Between the Blinds: A Derrida Reader*, ed. by Peggy Kamuf (New York: Columbia University Press, 1991), pp. 441-456.

Although the above periodization serves as a useful reference for multiple feminist interventions, I am wary of the way in which it leaves untheorized the assumption of feminist energy. Indeed, I am adopting a flexibly adaptive approach by fitting almost forty years of feminism's internal differences, conflicts and struggles into a serviceable narrative that moves this chapter and thesis into a new direction. In other words, I am using feminist history as an energizing force without examining the significance of energy as an effect of machine culture. Energy is prized within Taylorist and Fordist rhetoric as a quality synonymous with the machine-like regularity of bodies, a precious attribute that must be conserved in order for the body to be known. But within task temporality, energy undergoes a discursive shift to represent the quality that marks Taylorized Fordism as outmoded and superseded, appearing as a precious attribute that cannot be conserved in any set of specific postures for any length of time.[73] Hence the importance of energy within the rhetoric of Kroemer and Grandjean as that which supports the ergonomic principle of constant, varied, flexible movements in avoidance of the dead waste of stasis and rigidity: entropy equals atrophy is Kroemer and Grandjean's key principle.

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[73] Anson Rabinbach concludes his study of the human motor by claiming that the coextensive disappearance of 'the work-centredness of the metaphor of the human motor' and 'the work-centred society' is 'a consequence of the declining power of an intellectual discourse that placed energy and fatigue at the center of social perception' (*Motor*, p. 300). I have shown via Harvey and Bly, and will show in this section with regard to feminist chronology, that energy and fatigue remain central to task temporality's framing of representations of bodies 'after' a work-centred society. Indeed, literary critic and historian Elizabeth Goodstein criticizes Rabinbach for failing to acknowledge the ways in which his methods of discourse analysis are bound up with the rhetoric of energy he so thoroughly analyses: '[Rabinbach's analysis of] subjectivity as an effect of power bears a family resemblance to evaluating people in terms of their susceptibility and resistance to fatigue; to regard "modalities of knowledge" associated with the science of work as effects of power effectively elevates those modalities to timeless truths'. See Elizabeth Goodstein, *Experience Without Qualities: Boredom and Modernity* (Stanford: Stanford University Press, 2005), p. 149.

Therefore while it is possible to map a shift in time from Fordism to post-Fordism, it is equally possible that energy, as a rhetorical device, will go unnoticed as the naturalized means of representing time and the societal shifts it subsumes. It is precisely this uncritical acceptance of energetic action – a key construct of body-machine time – that informs the periodization of feminist politics. I recognize that periodizing narratives draw attention to multifarious internal feminist critiques and interventions, but I think that because of a concern with tracking feminism's movement over time, such narratives present these internal critiques as having redirected feminism's energy – the quality that apparently always already makes feminism recognizable as feminism – towards alternative forward movements. These constantly renewed waves of energy that subsume and outmode internal debates, such as those introduced by women of colour and poststructuralist feminists who critiqued the very concept of movement, reinforce a logic whereby it is meaningless to think of feminism outside of an appointed time.

This logic underlies a particular social history of post-Fordist feminist movement presented by Marxist feminists Susan Archer Mann and Douglas J. Huffman.[74] Mann and Huffman claim that the 1980s critiques by women of colour, and the poststructuralist accounts that followed from these critiques, constitute an updated, third wave of feminism, 'a *new* discourse on gender relations' emerging out of the interrogation and thus outmoding of the second

[74] Susan Archer Mann and Douglas J. Huffman, 'The Decentering of Second Wave Feminism and the Rise of the Third Wave', *Science & Society*, 69:1 (2005), 56-91.

wave.[75] The authors give the following justification for their employment of the wave metaphor:

> we think a wave approach has merit when it is used to describe the existence of mass-based feminist movements. This does not mean that there were no feminists or feminist activism before or even after these waves, but simply that their ideas and actions did not materialize into a mass-based, social movement. Indeed, we think the wave metaphor only makes sense when it is used to describe mass-based movements that ebb and flow, rise and decline, and crest in some concrete, historical accomplishments or defeats [...] waves are simply those historical eras when feminism had a mass base.[76]

Thus for Mann and Huffman, feminism is analysable from the moment it has energetic movement, the invocation of which is bound up with task temporality rhetoric of unpredictable, flexible mobility over time ('ebb and flow', 'rise and decline', 'crest in [...] accomplishments or defeats'). Moreover, the authors use the term 'mass-based movement' to construct feminism as an eligible body moving in time: feminisms 'before and after' this wave schema do not warrant analysis because they do not move and do not 'materialize', do not exemplify the flexible movements of ebb and flow that determine materialization. Therefore knowing feminism not only involves knowing its body but participating in the temporal frame through which the body is eligible to materialize.

Mann and Huffman use this schema of inherent energy to interpret critiques by women of colour and poststructuralist feminists, determining their

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[75] 'Decentering', p. 56. My emphasis. Indeed, it is apparent from this citation that, for the authors, to critique something is to outmode it, to render it out of date and demonstrate its inflexibility – its inability to move with the times. It must be stressed here that there are many different academic and non-academic interpretations of third wave feminism. For a non-academic and rather celebratory account of the third wave, see Jennifer Baumgardner and Amy Richards, *Manifesta: Young Women, Feminism, and the Future* (New York: Farrar, Straus and Giroux, 2001). A collection of critical perspectives on the third wave is *Third Wave Feminism: A Critical Exploration*, ed. by Stacy Gillis, Gillian Howie and Rebecca Munford (Hampshire: Palgrave Macmillan, 2004).

[76] 'Decentering', p. 58.

value solely in terms of their novelty or their re-energizing of an abstract feminist movement. These critiques, the authors claim, comprise 'the early third wave'.[77] According to Mann and Huffman, women of colour activists and writers 'were truly the *pioneers* of the third wave in that they were the *first* to provide an extensive critique of second wave feminism'.[78] The logic here is that women of colour matter because they were the first to move matters on from a second wave in which – in the opinion of Mann and Huffman – eligible feminist movement was first made. Put differently, women of colour critique is useful because it contributed to an energetic movement that is ultimately greater than its specific interventions. For Mann and Huffman, feminism's abstract energy is more flexible than the critical positions comprising feminism, because this energy can accommodate ever-newer critiques at an exponential rate. Thinking ergonomically, it appears meaningless to stay in any theoretical position for too long: to continue asserting the salience of the critiques, by women of colour, of feminism's flexible movement is to become rigid – as rigid as these outmoded critiques – by missing the key point that these critiques have made their contribution to a feminist body with which they cannot keep up.[79]

According to Mann and Huffman, the 'new feminism' emerging from activism and writing by women of colour inspired poststructuralist feminist accounts, which provided the means of overcoming the identity politics in which

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[77] 'Decentering', p. 59.
[78] Ibid. My emphasis.
[79] This assumption that women of colour necessarily cannot keep in time alarmingly repeats the gesture within racial discourse of positioning non-whites behind the curve of history. Judith Halberstam raises this issue in Carolyn Dinshaw et al., 'Theorizing Queer Temporalities: A Roundtable Discussion', *GLQ*, 13:2-3 (2007), 177-195 (pp. 190-191).

women of colour critique had become mired by the late 1980s.[80] The authors go on to claim that in time, as the flexible trajectory of feminism moved forward, this poststructuralist shift 'ushered in' a 'politics based on non-identity', 'a full-scale critique of binary or dualistic thinking that undermined oppositional analyses of oppression. The central idea is that identity is *simply* a construct of language, discourse, and cultural practices'.[81] The adverb 'simply' is revelatory of the authors' contention that poststructuralist feminist critiques of identity have had their time. By framing the poststructuralist destabilization of feminist movement into 'simply' a 'central idea', which took place and is thus able to be periodized, Mann and Huffman imply that feminism is bored with poststructuralism, that poststructuralist critique once energized feminism but is now going nowhere. Poststructuralist feminism here produces an energy that

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[80] 'Decentering', p. 60. The authors are referring here primarily to the feminist epistemology of 'situated knowledges' formulated by critic Patricia Hill Collins. Situated knowledges emphasize partial feminist perspectives, taken up within an overarching schema of domination that produces multiple, coexisting identities and locations. This approach problematizes the degree to which one can claim to speak from a stable position in debating feminist politics. See Patricia Hill Collins, *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment* (Minneapolis: University of Minnesota Press, 1990).

[81] 'Decentering', p. 63. My emphasis. This citation is part of an extremely poor reading of the critique of identity within poststructuralist feminist scholarship. Mann and Huffman make two prominent queer theorists – Judith Butler and Eve Kosofsky Sedgwick – stand in for a project of 'non-identity' that neither Butler nor Sedgwick supported. The term 'non-identity' which the authors cite refers to a claim made by political philosopher Michel Foucault in his discussion of the memoirs of Herculine Barbin, a nineteenth-century hermaphrodite. If Mann and Huffman had read Butler's *Gender*, they would have realized that Butler is extremely critical of Foucault's premise of 'non-identity'. See *Gender*, pp. 119-135, and Herculine Barbin, *Herculine Barbin: Being the Recently Discovered Memoirs of a Nineteenth Century Hermaphrodite*, trans. by Richard McDougall (New York: Colophon, 1980). Mann and Huffman frequently conflate 'postmodernist and poststructuralist' without explaining how these positions are alike ('Decentring', pp. 2, 3, 7, 9, 20, 21). This is a glib theorization of which Butler is very critical: 'in recent discourse, the terms "postmodernism" or "poststructuralism" settle the differences among those positions in a single stroke, providing a substantive [...] that includes those positions as so many of its modalities or permutations' ('Contingent', p. 4).

enables its practices to be outmanoeuvred and outmoded by the perspectives comprising what Mann and Huffman call 'later challenges to the second wave'.[82] Resistance to boredom thus animates this social history, placing a certain demand on the reader to expect a more mobile – thus more interesting – feminism from page to page. Indeed, within the logic of this social history that demands a flexible reader, page turning becomes an exercise in ergonomics: each successive page presents a feminism that, in order to be eligible *as* feminism, provides more stimuli by accommodating more positions in an increasingly mobile ('global') society.

The practices comprising the 'later [that is, more interesting and politically useful] challenges' are grouped by Mann and Huffman under the category 'feminist postcolonial theory' which, the authors claim, gave 'more theoretical coherency and political potency' to a formerly rudimentary feminist understanding of globalization.[83] This 'new theoretical perspective that draws from [...] poststructuralism' but which carries a greater awareness of world change 'transcends dilemmas encountered in these earlier perspectives', Mann and Huffman claim.[84] Mann and Huffman's valuation of feminism in terms of its ability to transcend dilemmas can be read as an effect of the same task temporality that structures the ergonomics principle whereby movement is motivated by avoiding the uncomfortable. The schema of feminist energy thus appears to be a convenient means of overlooking those critiques of movement, by women of colour and poststructuralist scholars, which uncomfortably persist

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[82] 'Decentering', p. 65.
[83] 'Dencentering', p. 66. Mann and Huffman assert that feminist postcolonial theory 'transform[ed] the macro-unit of [feminist] analysis from a societal to a global level' ('Decentering', p. 11).
[84] 'Decentering', pp. 66-67.

in a global societal system where bodies must not stop in order to mean and materialize.[85]

Mann and Huffman provide the following programme for contemporary feminist practice: 'Clearly, in a world where our everyday lives are increasingly affected by a global economy, the rapid growth of transnational economic and political units, and an unprecedented flow of people and information across international borders, our levels of analyses must reflect these new realities'.[86] For the authors, the realities with which feminism must keep in time, and which ground the schema of feminist energy or waves, are post-Fordist technological and workplace shifts:

> Features of poststructuralist thought are mirrored in the forms of work that have come to characterize the new global economy as work sites become more organized along post-Fordist lines. For example, a cornerstone of post-Fordist management practice is the belief that loose networks are more open to innovation than are the more structured, pyramidal hierarchies that ruled the Fordist era. A deceptive feature of this team-work is that lines of authority appear to be flattened, even though control from the top still exists [...] Moreover, because these teams are constantly breaking apart or continually being redefined, they require a more flexible, elastic and chameleon-like orientation to work [...] These features of the post-Fordist workplace echo the blurred lines of authority and the non-hierarchical view of power espoused by post-

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[85] The association between past feminist debates and the uncomfortable is discussed with acumen by feminist critic Jane Elliott in her important essay 'The Currency of Feminist Theory', *PMLA*, 121:5 (2006), 1697-1703. Elliott critiques the temporal logic underwriting feminist attempts to transcend 'the debates of the 1980s and 1990s' and feminist attempts to avoid 'unmodified Marxism', asserting that 'the production of the new as a signal intellectual value can be used to dismiss uncomfortable insights, which don't have to be disproved as long as they can be made to seem passé' ('Currency', p. 1700). Elliott also emphasizes the importance of considering feminist critics who wrote outside of the appropriate moments that the waves paradigm designates, most notably Simone de Beauvoir, who in 1949 explicated the constructedness of the category 'woman'. See Simone de Beauvoir, *The Second Sex*, trans. by H. M. Parshley (New York: Vintage, 1973), p. 301. Also see Julia Kristeva, 'Women's Time', in *New Maladies of the Soul*, trans. by Ross Guberman (New York: Columbia University Press, 1995), pp. 201-224.

[86] 'Decentering', p. 66.

> structuralism, as well as its more fluid and chameleon-like views of identity.[87]

By making an extremely reductive view of poststructuralist critique metaphorize for the 'reality' of a post-Fordist society, Mann and Huffman can claim that poststructuralism's use to feminism is also the basis for its supersession by feminism.[88] In other words, for Mann and Huffman poststructuralist critiques of identity enable feminism to better mobilize in a post-Fordist societal real because they are an effect of this societal real: poststructuralism, as a 'mirror' of material conditions, apparently provides feminism with a better understanding of the world we inhabit, which seems to be the key directive of feminism under the waves schema. If feminism remains with these critiques for too long, Mann and Huffman imply, it will have failed to comprehend poststructuralism's apparent complicity with exploitative labour relations in post-Fordism, and feminism itself will become complicit in these relations.

But I want to question the certainty with which Mann and Huffman reference the apparent social facts of post-Fordism that ground and constitute intelligible feminist movement. Mann and Huffman's periodization of feminist theory and politics is characterized by an inability to think through flexibility, movement, or post-Fordism other than as affirmations that feminism should be current, constantly re-energized, moving with the times. I see no critical difference between these affirmations and the logic of keeping up discussed in this chapter, through which both Harvey and Bly appropriate feminism's perceived mobility to make claims that subordinate feminist critique. Harvey

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[87] 'Decentering', p. 82.

[88] Poststructuralism's use to feminism is debated in the anthology *Coming Out of Feminism?*, ed. by Mandy Merck, Naomi Segal, and Elizabeth Wright (Oxford: Blackwell, 1998).

invokes feminism's vigour but offers no commentary on the important gains made by feminism in the early 1970s, citing its immobility compared to the flexibility of both capitalism and his interpretative capacities, while Bly interprets feminism's energy as being useful for the flow of a hegemonic masculinity that is ultimately more important for the sustenance of (heterosexual) human relations. Similarly, the feminist waves paradigm argues for multiple feminisms through mass-based movement, but in doing so constantly outmodes critical positions that forcefully move feminist subjects out of an ergonomic comfort zone.[89] Considering that feminism's flexibility is useful here for the negation of feminism's complexity, I want to formulate a response, within post-Fordist time, that locates powerful feminist agency in female subjects who in Fordism's decline do nothing, are both boring and bored. This will involve arguing for the factory – that figure of dead movement and meaningless bodies – as an affective disruption in the linear temporal scheme that grounds Fordist-to-post-Fordist activity.

The factory to which I am referring is the Factory: the New York studio of Pop artist Andy Warhol. From 1962 to 1968, the Factory housed Warhol's

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[89] bell hooks occupies one such critical position in her book *Feminist Theory: From Margin to Center*, 2nd edn (London: Pluto, 2000). hooks describes a recurring scene of discomfort whereby 'a group of white feminist activists who do not know one another may be present at a meeting to discuss feminist theory. They may feel they are bonded on the basis of shared womanhood, but the atmosphere will noticeably change when a woman of color enters the room. The white women will become tense, no longer relaxed, no longer celebratory. Unconsciously, they feel close to one another because they shared racial identity. The "whiteness" that bonds them together is a racial identity that is directly related to the experience of non-white people as "other" and as a "threat"' (*Feminist*, p. 56). We can certainly say that an ergonomic accommodation of bodily positions is disrupted in this scene. However, the tense feelings that hooks describes and by which she is affected are produced by a certain ergonomics: a fitting together of bodies – in the name of feminism – that is based on white society's dominant ways of experiencing blackness, in which the black body is attributed as the cause of white bodies becoming tense.

filmmaking and production of silkscreen prints, along with the predominantly gay male actors, the multitude of female subjects including precocious 'superstars' such as Edie Sedgwick and influential artists such as Brigid Berlin, and the various members of New York's art scene who either starred in these artworks or, as studio assistants, contributed to their constant production.[90] Warhol's Factory has also been popularized for its sex parties and drug culture, which reinforces its status within the popular imaginary as a site of constant, regular activity. We can read this popular conception alongside the machine processing of silkscreen images as examples of Warhol's appropriation of Fordist societal function into art making. Indeed, Warhol can be called a quintessential construct of body-machine time: he began his career in the Fordist 1950s producing commercial drawings of shoes whose fine detail drew attention to the technical precision of sewing machines, and by the early 1960s had come to prominence through serializing (mass producing) silkscreen images (predominantly of mass produced products).[91]

Given his intimacy with machine production from the early stages of his working life, it is perhaps unsurprising that Warhol could equate establishing himself as an artist with managing a factory. Here Warhol can be likened to

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[90] For biographical accounts that give a more detailed history of Factory constituents and activities, see Andy Warhol, *The Philosophy of Andy Warhol* (New York: Harcourt Brace Jovanovich, 1975); Warhol and Pat Hackett, *POPism: The Warhol Sixties* (New York: Harcourt Brace Jovanovich, 1980); Warhol, *The Andy Warhol Diaries*, ed. by Pat Hackett (New York: Warner Books, 1989).

[91] Feminist critic Jennifer Doyle remarks on the machine-like detail of Warhol's commercial drawings, suggesting that the 'dainty and precious detail of these drawings references machine-made fingerwork and engages a confusion of hands and machines'. See Jennifer Doyle, 'Tricks of the Trade: Pop Art/Pop Sex', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 191-209 (p. 200).

Frederick Taylor in that both, as prominent figures in body-machine time, extol the hermeneutic qualities of factory life: for both, machine processes are bound up with and enable interpretation. But whereas Taylor manages the factory in order to participate in the determination of eligible bodily timeliness, Warhol manages the Factory – if by 'manage' we mean co-ordinate bodies and machines into an intimate co-dependency – in order to challenge dominant assumptions of authorship, work, and use that are crucial to the working out of the body in Scientific Management discourse. Warhol's machine-produced artworks, and his employment of Factory assistants who, variously stationed along a photomechanical assembly line, processed the silkscreens and thus contributed to a critique of the originary presence of the master artist's human hand, have been attributed within art criticism to what feminist critic Jennifer Doyle terms Warhol's 'blank affect'.[92] Doyle highlights art criticism's linking of Warhol's machine-mediated work and his apparently passive demeanour, or what Doyle calls his 'performance of cosmopolitan boredom'.[93] Certain members of the art

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[92] Jennifer Doyle, '"I Must be Boring Someone": Women in Warhol's Films', in *Sex Objects: Art and the Dialectics of Desire* (Minneapolis: University of Minnesota Press, 2006), pp. 71-96 (p. 93). For a specific account of Factory assistants and procedures, see Steven Watson, *Factory Made: Warhol and the Sixties* (New York: Pantheon, 2003).

[93] 'Boring', p. 93. I realize that I have moved swiftly from a discussion of non-whiteness and feminism to a discussion of feminism, the white male Warhol, and the predominantly white female subjects of the Factory. However, we will see in the remainder of this chapter that Warhol, and Warhol's Factory, inspires a critical approach based on the qualities that Mann and Huffman automatically resist when moving away from women of colour critique. Also, Warhol's demeanour and whiteness do relate to racial politics: see Eve Kosofsky Sedgwick, 'Queer Performativity: Warhol's Shyness/Warhol's Whiteness', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 134-143. Sedgwick interprets Warhol's passivity as a shyness or shame that is 'closely intertwined' with whiteness; white shame being a key factor 'in the exacerbated race relations around urban space, civil rights, sexuality [...] in the United States by the early 1960s' ('Shyness', p. 139). For Sedgwick, Warhol's

history canon, Doyle affirms, have established this connection to equate Warhol's homosexuality with machine-mediated sexual practices that they see as preventing access to life, progressive action, true pleasure and passion. For example, consider art historian Thierry de Duve's critique of the Factory:

> Warhol, an American immigrant of working class origins, wanted to be a machine [...] He called his bohemia the Factory. But that's precisely *his* bohemia. It is a simulacrum of bohemia, having nothing any longer to do with the place of literary myth whose historical meaning and necessity was tied to giving a voice to proletarian hopes and despair. In his factory there were no proletarians [...] In the Factory one led the bohemian life, played at it, but never submitted to it as destiny. Drugs and sex, eccentricities and gestures of the accursed inflicted those who assumed them and wreaked more than their share of personal tragedies. But that was the price of a life-style that was beautiful only in its coherence, that wasn't a life, and was in no way the life of the species-being.[94]

Some telling assumptions are made here that connect bodily function to 'real' work and activity. For de Duve, nobody properly works at the Factory – 'there were no proletarians' – and thus Warhol does not produce proper *works* of art, insofar as art is meaningful only as work dedicated to giving voice to those who work properly. If Warhol's art is going nowhere, because it is not 'tied' to the trajectory of proletarian 'hope', then neither are those Factory constituents whose eccentric gestures and life-styles move contrary to 'the life of the species-being'. Those non-working bodies that do not produce works of art also do not reproduce, which is evidence that heterosexuality informs de Duve's invocation

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peculiarly white or '*un*blushing' skin subverts one of the historical assumptions of scientific racism, whereby the colour of the blush is identifiable only on white skin, meaning that whites were 'normalized' and 'universalized' as the only subjects capable of blushing ('Shyness', p. 139. Emphasis in original). Warhol's unblushing shyness/shame, Sedgwick asserts, instead provides a point of identification for non-white subjects who carry 'particular histories of expertise in negotiating indignity with dignity' ('Shyness', p. 139). I discuss shame at length in the following chapter.

[94] Thierry de Duve, 'Andy Warhol, or The Machine Perfected', trans. by Rosalind Krauss, *October*, 48 (1989), 3-14 (p. 3). Emphasis in original. Doyle draws attention to the homophobic implications of de Duve's article in 'Tricks', p. 193.

of 'proletarian'. de Duve implies that non-heterosexual Factory bodies go nowhere because their coherent movements do not partake in futurity, or do not participate in the hope of proletarian movement away from exploitative factory conditions. Factory bodies stay in the Factory and therefore die through 'personal tragedies' brought by non-reproductive movement: for de Duve, entropy equals atrophy. Warhol's apparently passive submission to machine processes is seen by de Duve to privilege queer consumption over the politically active or urgent principle of (re)production.

It may appear that de Duve's claims belong in the previous chapter on hard working bodies. But I include his commentary in this chapter on flexibility because Warhol clearly unsettles the notion of Fordist-to-post-Fordist movement or movement away from factory time that, as a social fact, motivates Mann and Huffman's feminist waves paradigm. I shall come on to the feminist aspects of Warhol's Factory shortly, but first it is necessary to emphasize the degree to which Warhol's work occupies an uneasy position between Fordist and post-Fordist time. For de Duve, Warhol, as 'an immigrant of working class origins', had the potential to deliver a meaningful critique of Fordist society, but betrayed the (male, heterosexual) working-class cause by taking pleasure from staying in the factory indefinitely. De Duve thus sees Warhol's useless work as being useful for one purpose: making the reader aware of the 'real' struggles of Fordist time to which art ought to relate.

For Fredric Jameson, however, Warhol's work provides the occasion for discussing late capitalism, or 'the purest form of capital yet to have emerged', because it is symptomatic of this stage of capitalist development.[95] Jameson

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[95] *Postmodernism*, p. 35.

chooses Warhol's 1980 painting *Diamond Dust Shoes* to exemplify late capitalism's 'cultural logic'. In reference to the painting's inability to act as a hermeneutic for the conditions of production and real, toilsome ('hard') work, Jameson claims that *Diamond Dust Shoes*, as 'a random collection of dead objects hanging together on the canvas', 'does not really speak to us at all,' is conferred the 'deathly quality' of 'the photographic negative'.[96] Here it is Jameson's turn to assume the position of flexible critic, whose analyses of cultural forms coexist with an endeavour to keep up with the exponential flexibility of capitalism's global phase. Warhol's creations enable Jameson to claim that 'every position on postmodernism in culture [...] is also at one and the same time [...] an implicitly or explicitly political stance on the nature of multinational capitalism today'.[97]

But Factory work is not reducible to task temporality and indeed disrupts this temporal frame, revealing Jameson's homophobic negation of non-heteronormative histories. Queer theorist Mandy Merck points out that *Diamond Dust Shoes*, far from saying nothing, can be seen to reference Warhol's 1950s shoe drawings and his silkscreen technique implemented in the Factory of the 1960s.[98] These prior works already instance a confusion of hands and machines, and therefore already question the degree to which we can locate the hard work of the artist. The 1950s and 1960s productions thus connect with *Diamond Dust Shoes* but in a way that critiques the necessity, and possibility, of definitively connecting the artist's hard work with the hard work of white, heterosexual working class struggle. Merck studies Warhol's biographies in order to connect

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[96] *Postmodernism*, pp. 8-9.
[97] *Postmodernism*, p. 3.
[98] 'Figuring', p. 230.

Diamond Dust Shoes to a history of queer activity: 'Who would wear such shoes? Cinderella and the Drag Queen [...] femininity and masculinity, brought together by work [...] And what is the "perverse usage" to which the *Diamond Dust Shoes* will be put? [...] the dick's disguise, the equipment that some boys employ in the hard work of "trying to be complete girls"'.[99] Warhol's work connects to hard work, but to the type of hard work – sex work and transvestism – that Jameson does not consider while making his capitalist-historical proclamation of Warhol's muteness.[100] The crucial point here is that the Factory always comments on and reveals the exclusionary implications of one's invocation of the factory, or 'the primacy of industrial production and the omnipresence of class struggle' for which the factory metaphorizes.[101] With *Diamond Dust Shoes* an older, outmoded Factory accompanies Warhol's work into the post-Fordist 1980s, and in doing so reveals why Jameson refutes the notion of post-industrial society. For Jameson, the historical transmutation but continued relevance of 'traditional [white, male, working class] [re]production' provides us with the political urgency to do something with queer non-works such as Warhol's by enabling us to say something about them: by enabling us to say that they always capitulate to (female, bourgeois) consumption in capitalism's later stage.[102] My coinage 'factory/Factory' articulates this interruption in the logic of capitalist-historical flexibility.

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[99] 'Figuring', pp. 231-232. Merck here takes inspiration from Jacques Derrida's important interrogation of the methods of interpreting art. See Jacques Derrida, *The Truth in Painting*, trans. by Geoff Bennington and Ian McLeod (Chicago: University of Chicago Press, 1987).

[100] For more on the homophobia of Jameson's critique, see Halberstam, *Queer*, p. 100.

[101] *Postmodernism*, p. 3.

[102] *Postmodernism*, p. 53.

The lingering presence and force of the factory/Factory also intervenes in feminism's energetic avoidance of boredom. If there is one aspect that links Warhol to the flexible, it is the varied, unpredictable but pervasive presence of female subjects in his work. In her important essay on feminism and Warhol's 1960s Factory films, Doyle considers 'the flexibility of women's relationships to Warhol's cinematic practice'.[103] Doyle asserts that to understand these flexible relationships, one must be aware of the simultaneous optimism and discomfort that locates female subjects within the gay male films of the Factory:

> While one could say that there is no place for feminism in Warhol's films because their dominant erotic economy is gay (authored by gay men, aimed at largely gay male audiences), one might also say that many of these films create an alternative cinematic space for women insofar as the films read as 'gay' [...] That alternative context, however, is not one in which we see 'happy' representations of women – meaning, for example, positive representations of women, women free from violence and oppression, at ease with their femininity, and valued by their on-screen counterparts as full human subjects [...] As often as they assert a liberated, antipatriarchal position, women also find themselves subject to hostility and abjection and are not often able to convert that negativity into something glamorous. In fact, many of the performances in Warhol's films can be painful to watch (for this reason, for some, the films are distinctly *un*feminist).[104]

The flexibility for which Doyle argues is markedly different than the flexibility asserted by the feminist waves paradigm as a societal ground. Mann and Huffman's post-Fordist waves paradigm is supported by the notion that each wave of feminism is more flexible than the last, as if political and theoretical dilemmas have been continuously superseded since second wave feminism's movement in factory time's decline. Doyle, on the other hand, argues that flexibility can instance multiple positions of female agency but certainly not the transcendence of dilemmas. For Doyle, eligible feminist movement is produced

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[103] 'Boring', p. 75.
[104] 'Boring', p. 72. Emphasis in original.

not in factory time's decline but in the Factory's critique of the mandate to be energetic in body-machine time. This critique requires that feminism stay with or in the factory/Factory in order to deconstruct feminism's mass materialization and formation over time. The Factory's inclusion of female subjects in gay male spaces must not be read as accommodation. This co-presence does not offer feminism another perspective that enables it to energize and move away from the hostility directed at female subjects in Factory space.[105] Appropriating the rhetoric of energy, Doyle asserts that important feminist insights can be gained from moments in which oppression cannot be converted into a more comfortable experience.

In George Hickenlooper's 2006 film *Factory Girl*, the Factory is made to exemplify the notion that 'uncomfortable' and 'unfeminist' mean the same.[106] *Factory Girl* provides a retrospective on 'Superstar' Edie Sedgwick's time as Warhol's muse in 1960s Factory life. The film charts Sedgwick's rise from art student to celebrity, and her rapid descent into drug addiction, which the narrative presents as being exacerbated by Warhol's machine-like indifference to Sedgwick's plight. Interestingly, a rhetoric of energy informs invocations of Sedgwick both in the academy and in popular culture. Jameson, for example,

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[105] Feminism's problematic place in the Factory is exemplified by Warhol's fraught relationship with radical feminist writer Valerie Solanas, who in the late 1960s wrote the feminist pamphlet *SCUM Manifesto* (New York and London: Verso, 2004). (SCUM is an acronym for Society for Cutting Up Men.) Solanas and Warhol became acquainted in this period, when Warhol agreed to produce a feminist play Solanas had written. In 1968, shortly after completing *Manifesto*, Solanas shot and seriously injured Warhol: the reason Solanas gave for her actions was that Warhol – mimicking Taylor, we could say – was too controlling of her artistic input into the Factory space. See Marcie Frank, 'Popping Off Warhol: From the Gutter to the Underground and Beyond, in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 210-223.

[106] *Factory Girl*. Dir. by George Hickenlooper. Paramount. 2006.

cites Sedgwick as one of 'the notorious cases of burnout and self-destruction of the ending 1960s' who characterizes the 'fragmentation' of the subject in postmodern culture.[107] Echoing Harvey, Jameson implies here that post-Fordist movement ('fragmented' movement everywhere) occurs after an irreversible decline or 'burnout' of energy. Similarly, promotional text for *Factory Girl* reads as follows: 'In the 1960s, no star burned brighter than original "it" girl Edie Sedgwick'.[108] Expenditure or burning of energy characterizes Sedgwick's ascent towards celebrity and her status as 1960s female icon, which is the aspect of Sedgwick that both texts present as the most meaningful.[109] Over-expenditure or burnout, presumably caused by remaining in the Factory for too long, which produces entropy, characterizes Sedgwick's deterioration within a space of drugs and queers, and her eventual death. The *Factory Girl* narrative clearly frames non-heteronormative body-machines, most notably Warhol, as the cause of this burnout: Hickenlooper's film suggests that Warhol's passive or unenergetic submission to machine processes prevents Warhol from feeling Sedgwick's specifically human plight.[110]

Doyle however provides a much more complex reading of female presence within the Factory's gay male economy. Doyle analyses scenes from

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[107] *Postmodernism*, p. 14.
[108] Back cover of cited DVD edition of *Factory Girl.*
[109] Sedgwick's entropy is meaningful for Jameson, but only as a symptom of capitalism's movement into a third, even more penetrative stage. Sedgwick's entropy is thus the occasion for Jameson to expend energy by displaying his ability to co-ordinate all cultural practice with capitalism's ever-flexible properties.
[110] The film unequivocally presents Sedgwick as a reject of the Factory, a body ruined by the Factory's lifestyles and excesses. *Factory Girl* views as an injustice Sedgwick's death before Warhol's: in an interview scene in the film's closing stages, a blank looking Warhol (played by Guy Pearce) is shown robotically dismissing the significance – and being unable to recall any meaningful memory – of his relationship with Sedgwick.

Warhol's 1968 film *Bike Boy*, which consists of gay male hustler 'Bike Boy' and Factory girl Ingrid Superstar exchanging insults and generally partaking in strained, meaningless conversation. Because both are being filmed, Doyle asserts, there is a tacit acknowledgement from both participants that they should do something despite Bike Boy's conviction that his sole interest on screen is in enticing a gay male spectatorship. Bike Boy is the acknowledged star of the film (because it is authored by gay males for a predominantly gay male audience), and so the impulsion to do translates as an onus on Superstar to be of interest to Bike Boy while he continues his job of appealing to an intended audience. But, Doyle asserts, Bike Boy prioritizes his role to the extent that he is never interested in Superstar's attempts to initiate conversation, which results in Superstar repeatedly talking to herself throughout the film, erratically commenting on the most mundane aspects of household life 'when she realizes [Bike Boy] will never respond to her.'[111]

Like the burnout rhetoric informing invocations of Sedgwick, *Bike Boy* appears to exemplify the entropy suffered by female subjects amidst the blank affect of non-heteronormative body-machines. But Doyle argues against the transcendence of Factory girl entropy:

> The queer frame of [Bike Boy's and Superstar's] encounter is perhaps the only thing that keeps the scene on the funnier side of the tragic. Her performance is enabled by Bike Boy's, the perfect 'trade' object of homosexual desire; his presence unmoors hers from the seduction narrative and allows our attention to wander [...] So Superstar kills time, emptying out her speech until the viewer can hardly stand it because the dynamics of interest in the scene have become so perverse [...] Her passive resistance to the demand that she interest Bike Boy becomes fascinating as a performance of the desire to be boring, of, even, the production of boredom as a critical mode.[112]

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[111] 'Boring', p. 90.
[112] 'Boring', pp. 93, 91.

The uncomfortable onscreen Factory pairing of Bike Boy and Superstar, which engenders Superstar's *active* doing of boredom, also engenders boredom in the viewer. But the viewer's boredom, because it allows for a critical engagement with Superstar's boredom, precisely enables the viewer to understand how interesting the factory/Factory girl's boredom is, particularly for the critique it produces, out of entropy, of the way in which feminism's imperative to move flexibly is bound up with its imperative to be interesting.[113] In the case of Mann and Huffman, we see an endeavour to find more interesting feminist positions than the poststructuralist and queer feminist debates that allegedly went nowhere after the 1990s. But Warhol's film comments on the possibility of queer/feminist coalitions formed out of continued pain, discomfort, and stasis: the (im)possibility of coalition that will be of no interest to the task of feminist epistemology and activism. In other words, the factory/Factory, as an outmoded site of female agency *before* eligible feminist movement has taken place, enriches our understanding of feminist and queer intersections *after* the waves paradigm has had the opportunity to subsume and transcend these positions in the passage of flexible time. *Factory Girl* wants to claim that there can be no factory girls in post-Fordism; they are dead or will die, out of time in a world of queer body-machines who see and have no time beyond the factory/Factory. Resisting this recuperative, heteronormative logic of body-machine time after Fordism, I argue for the lingering presence of Factory/factory girls in factory time's obsolescence, which can offer an untimely interrogation of feminism's appropriate mo(ve)ment.

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[113] For more on the relationship between work, female subjects, and entropy, see David Staples, 'Women's Work and the Ambivalent Gift of Entropy', in *The Affective Turn: Theorizing the Social*, ed. by Patricia Ticineto Clough and Jean Halley (Durham and London: Duke University Press, 2007), pp. 119-150.

This chapter has shown that we should not assume the inevitability of every body's movement into a time that is no longer Fordist. In chapter 3, I will apply my assertions of an untimely Fordism to a more specific discussion of the technologies that are supposed to have emerged with post-Fordism's hegemony.

3: Digital Bodies

This chapter is primarily one of returns – a return to the Fordist 1940s and 1950s, a return of body-machine movements excluded by technologically determined temporal frames, and a return to theoretical modes apparently outdated in the twenty-first century. That this chapter continues such a temporal lag is perhaps surprising given its title. As an exploration of bodily function and the digital, it might be expected that this chapter is or should be the most technological or most technologically developed of the thesis thus far: a chapter about new times, located within new times, where newness is supported by 'digital' as a signifier of epochal rupture – a 'digital age' or a time in which technologized societies are moving ever closer to full digitization. But it is precisely this logic of expectation that I will argue against: the Forwardist expectation that a chapter on the digital will focus on how we expect the digital to move us forward. I do not intend to dispense with the notion of the digital. On the contrary, I will show that each of these returns is simultaneously a *return to the digital*, where the digital is theorized as that which enables communication, signification, and bodily knowledges.

I will begin by arguing that for the digital to be meaningful, we did not have to wait for advancements in mass, general-purpose computer technologies. I draw on mid-twentieth-century cybernetic theory – the study of communication and control in animals and machines – in order to problematize leftist representations of computers and bodies in post-Fordism. I argue for the retention of cybernetics' theorization of the body as a (partly) digital computer, against the leftist assumption that computerization heralds the newest form of

bodily exploitation by capital accumulation. The cybernetic body-computer, I will show, is inextricably bound up with body-machine discourse, but is not reliant on the temporal frame of technological determinism. I extol the value of *waiting with* cybernetics, as a means of understanding that we did not have to wait for new technologies to validate discussions of the body's digitization.

The second section of the chapter focuses on recent scholarship that criticizes the digital, on account of its reductiveness as a theoretical model of bodily movement. This scholarship calls not for a return to the digital, but for a return to the analogue as a communicative mode that persists in and subverts a so-called digital epoch.

The chapter concludes by assessing the limitations of this analogic turn. Reusing the theoretical models that the analogic turn deems insufficient to body-machine function, I draw attention to the normative temporal logic informing the notion, implicit in this recent scholarship, that we should not believe in the digital in light of the analogue's imputed superiority.

Computers

In the 1989 leftist anthology *New Times: The Changing Face of Politics in the 1990s*, economist Robin Murray describes the reorganization of the working body in post-Fordism: 'Even hourly-paid workers are trained in statistical techniques and monitoring, and register and interpret statistics to identify deviations from a norm [in products and processes] – tasks customarily reserved for management in Fordism. Quality circles are a further way of tapping the ideas of the workforce. In post-Fordism, the worker is designed to act as a computer as

well as a machine'.[1] Murray's description echoes Susan Mann and Douglas Huffman's scepticism towards post-Fordist workplace and workforce shifts, discussed in the previous chapter. Mann and Huffman claim that de-unionized, post-Fordist workforces are manipulated by the non-hierarchical 'loose networks' required by a global economy.[2] According to Mann and Huffman, these networks appear to democratize work relations but in fact perpetuate an established order of authority, fragmenting the workforce to the extent that meaningful worker resistance is prevented. Murray provides a similar interpretation of post-Fordism's delegation of formerly hierarchized information-processing jobs, into the more participatory milieu of 'quality circles'. For Murray, post-Fordist working bodies are encouraged to interact with one another and with the products and services of their working environments, but the constant reallocation and reorganization of these participatory circles ensures that the ideas or information they generate are restricted to ephemera that serve only the interests of flexible accumulation, and are thus prevented from forming a critical consciousness.[3]

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[1] Robin Murray, 'Fordism and Post-Fordism', in *New Times: The Changing Face of Politics in the 1990s*, ed. by Stuart Hall and Martin Jacques (London: Lawrence and Wishart, 1989), pp. 38-53 (p. 46).

[2] 'Decentering', p. 82.

[3] Note here the similarities between Murray's 'quality circles' and Kroemer and Grandjean's flexible, semi-circular ergonomic assembly line. Of course Murray, as a leftist economist and critic, is critical of the disempowerment implicit in the post-Fordist workplace, and of the social implications of such disempowerment, whereas Kroemer and Grandjean prescribe flexible movement as an advancement of physiology's understanding of the body at work. But linking both accounts is the assumption that bodily function is posited through a trajectory of increasing information or external stimuli (information that interests, which enables the body to 'process', in terms of work – interpreting – and bodily function – going on, living). Murray suggests that his scepticism towards a computer network society will be overturned once it provides, through political struggle (hard work), the conditions for 'an alternative socialism adequate to the post-Fordist age' ('Post-Fordism', p. 53).

But whereas Mann and Huffman attribute the working body's exploitation to the superior movement of global capital, Murray invokes the computer to explicate this newest phase of capitalist domination. Murray claims that body-machines or working bodies are also computers in post-Fordism, because they constantly process information; workers 'monitor', 'interpret', and 'register' statistics (or registers – lists of electronically stored data) in the disorganized workplace. Although Murray appears to be using the term 'computer' only to represent the worker, we can read a more pervasive rhetoric of computerization influencing Murray's description of the exploitation that results from the worker's new role. Murray asserts that the post-Fordist capitalist 'tap[s] the ideas' of the informational workforce. It is possible to see working time figured here not only as a loose network but a network of computer terminals: reticular working time consists of worker-computer terminals and, metaphorically, a terminal of superior computation: capital accumulation. The superior terminal continually intercepts the information transmitted between the proletariat processors, redirecting and co-opting this quality before it can create collective action.[4] 'Tapping' here signifies access to information in the sense of secretly listening or witnessing and in the sense of keyboard operation facilitating this access.[5] Murray implies that in a socioeconomic system called an

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[4] Reversing but preserving this idea of the terminal, Murray argues elsewhere in his essay for '[n]ew technology networks [to] be set up' to facilitate post-Fordist collective action, forming 'a new model of the public economy made up of a honeycomb of decentralised, yet synthetic institutions, integrated by a common strategy' ('Post-Fordism', p. 52).

[5] Murray's use of 'tapping' alongside 'computer' is noteworthy for the way in which it alludes to the sense of touch in tapping – the skilful programming of computers, and the use of this skill to gain unauthorized computer access (the practice referred to as 'hacking') – alongside the sense of sound more traditionally associated with tapping, in terms of discreetly listening to a telephone conversation. In this chapter's concluding stages and particularly in the

'information society', the capitalist body will always have more information than other bodies functioning in this society. Murray presents a dominant, post-Fordist order whereby the capitalist master-computer is positioned to receive information that will always inevitably arrive, from body-machine-computers for whom information at once represents a means of living – these bodies *cannot not* process – and the means by which they are kept place-bound and inactive.

Murray's use of 'computer', particularly in arguing for the novelty of bodies-as-information-processors, is erroneous both socio-historically and theoretically. A brief return to my analysis of Taylor's ball bearing factory demonstrates the reductiveness of invoking computation as a signifier of new development. Taylor's role of inspecting and sorting bodies at work, bodies whose work is also to inspect and sort (ball bearings, and each other sorting ball bearings, and so on), participates in a discursive shift dating from the nineteenth century: the closing of the distance between work and its representation. Work here becomes redrawn *as* representing via the action of information processing. Thus, from a socio-historical perspective, it is inaccurate for Murray to claim that the worker becomes a computer after Fordism. Following a critique of Taylorist rhetoric, we can call Taylor's factory girls computers (who are caught in an infinite regress of computation), which suggests that the worker was a computer not only in Fordism but in the Taylorist Scientific Management that preceded Fordism.[6] Anne Balsamo gives a more concrete example of this link to

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following chapter, I will use the concept of the digital to problematize the sense of touch in post-industrial time.

[6] Beninger's *Control Revolution* provides a detailed investigation into the historical formations of an information society – a project that further underscores the glibness of Murray's call to action amid impending computerization. See *Control*, pp. 224, 269.

computation, pointing out that in 1930s and 1940s America, clerical labourers – predominantly female – were indeed referred to as 'computers'.[7]

From a theoretical perspective, we can deconstruct Murray's participation in what Mark Seltzer calls the 'resistance to the understanding of information-processing as "real work"', which 'persists [...] in the notion of a move from an industrial to a post-industrial society or "information society" or in the denigration of "paper-pushing"'.[8] Murray – as a leftist economist – wants to tell us how real work has been mediated by information processing, so that we can know how to resist it. It follows from this that Murray himself is not 'really' working (that is, he is not a member of the workforces he cites), but is instead representing – in terms of both proxy and portrait – those who 'really' work prior to their manipulation by and for information.[9] Because for Murray the worker *becomes* a computer, Murray also implies that he is certain of what 'real' work is: bodies already work without or prior to information. But because, within body-machine discourse, representing *is* work, in the coextensive sense of labour

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[7] *Technologies*, p. 133. A discussion of this history leads Balsamo to her dictum, '[m]y mother was a computer' (ibid). Juxtaposing Balsamo's clerical worker-computers and Taylor's factory girl-computers reveals the gendered logic implicit in Murray's rhetoric. Murray's equation of the computer with the new erases these rich histories of female work. Murray posits 'computer' in the hope that it will provoke 'new' transnational political movement in the wake of socialism's decline, presumably led by those (male) bodies whose history of work is able to constitute a movement.

[8] *Bodies and Machines*, p. 221 n. 25.

[9] Gayatri Spivak provides a detailed explanation of representation as proxy and portrait, describing how the former signifies 'tread[ing] in someone's shoes' or 'political representation', and how the latter signifies the act of 'placing' those whom one represents politically into a single, homogeneous group: 'the thing to remember is that in the act of representing politically, you actually represent yourself and your constituency in the portrait sense, as well. You have to think of your constituency as working class [...] and so on'. See Gayatri Chakravorty Spivak, 'Practical Politics of The Open End', in *The Post-Colonial Critic: Interviews, Strategies, Dialogues*, ed. by Sarah Harasym (New York & London: Routledge, 1990), pp. 95-112 (pp. 108-109).

(work) and participation in naturalizing a certain temporal frame in which bodies function (working out), then Murray *is* a worker-computer or information processor, as the necessary condition of being able to posit capitalism's insidious computerization of hard working bodies. Murray's argument is contradictory precisely because Murray is already working as a computer before an appropriately periodized information age and, like the capitalist body-computer he represents and derides, is always already 'informatizing' those bodies he is attempting to defend from information.

Cybernetic (Im)patience, or, Waiting for Information

My initial critique of Murray enables us to observe a particular quality of task temporality: impatience. As my critique of David Harvey revealed, a characteristic leftist assumption is that capitalism waits for no-body; its superior speed and flexibility is an inevitability with which place-bound bodies have no option but to try to keep in time. Murray's metaphor of bodies as computers continues this assumption. The computerization of society, Murray claims, provides the latest occasion for affirming capitalism's impatience: the messages (composed of the workers' labour: interpreted information) that are always sent from the worker-computers to the capitalist computer only aid capitalism's growth, increasing its inability to remain in a particular place for any length of time. Thus, for Murray this message transmission does not draw working bodies closer to the body of capitalism: on the contrary, by facilitating capitalism's acceleration it prevents a stable, enduring relation between the two, which in the leftist logic would be the necessary ground for meaningful political action.

By 'impatience', then, I am referring to an unwillingness to endure, which informs Murray's rhetoric of capitalism's co-optation of worker information or ideas. It also motivates Murray as a leftist critic writing at the end of the 1980s. The impatient capitalist body-computer, the body-computer that will not wait, is a construct of Murray's own impatience. Unwilling to endure the 1989 fall of socialism, Murray is impatient for information that 'New Times' have arrived, 'New Times' for which 'computer' metaphorizes. Murray equates 'computer' and 'new' in order to outline a programme of eligible political movement at a moment when the future of political movement is uncertain. Impatience describes Murray's participation in a succession-logic that affects the notion of an information age. This is a legitimization of the temporal frame I have previously referred to as the task.

In order to resist the simplistic notion of computers posited by Murray, we must consider information in its technical sense, and engage with the genealogy through which 'information' emerged as a theorizable entity. In the late 1940s, the discipline of cybernetics proposed that understanding the body as a machine is coextensive with understanding a specific theory of information. Derived from the Greek *kybernetike* 'steersmanship', cybernetics is the study of control and communication in the animal and the machine, and was established by mathematician Norbert Wiener in the years preceding, during, and immediately after World War II.[10] Wiener defines information as a probability function that enables communication in a chaotic, disorganized existence. Wiener's notion of disorganized existence refers to his belief that the physical

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[10] Wiener has published extensively on cybernetics: arguably his most important publication, in which the principles of cybernetics are outlined, is *Cybernetics or Control and Communication in the Animal and the Machine* (Cambridge: MIT Press, 1961).

capacity to measure, access, and determine 'initial positions and momenta' is fundamentally inaccurate and unstable.[11] Beneath the domain of physical measurement, Wiener maintains, are molecular microstates that perpetually, randomly collide and reposition, and which thus always undermine the intelligibility of movement. For Wiener, because movement can never be precisely determined, we can only *control* the uncertainty of movement through the use of probabilistic methods: a movement can be determined only in relation to other movements that might be made.[12]

Wiener's notion of 'information' concerns the application of probabilistic methods – established at the level of molecular states – to the level of communication. For Wiener this is a logical application because communication intrinsically involves movement: the transmission or movement of messages. Because movement is immeasurably chaotic, and because physical comprehension of movement is inaccurate and uncertain, within communication 'information' ceases to refer to the meaningful content of a message (as it does commonsensically, in the sense that a sign conveys a reality), referring instead to the containment of an uncertain situation by representing this situation as a set of mutually excluding alternatives. Thus, the transmission of any one message is dependent on the probability of other messages being sent: not as things-in-themselves but as relational differences within a system.[13] As Wiener states, 'the transmission of information is impossible save as a transmission of

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[11] Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society*, 2nd edn (New York: Doubleday, 1954), p. 8.
[12] See *Cybernetics*, pp. 10-11.
[13] I draw here on technologies theorist N. Katherine Hayles's detailed explanation of Wiener's probabilistic methods. See N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago & London: University of Chicago Press, 1999), pp. 88-92, in particular p. 91.

alternatives'.[14] In short, information implies the deconstruction of essence in the communicative domain.

By distinguishing information from semantics, cybernetic research posits information as a dimensionless, meaningless property that relates human, animal, and machine as probabilistically controlled communication systems. Dimensionless information relates directly to the concept of analogy, which importantly informs cybernetics' view of body-machines. Cybernetics rejects the claim that the organism *is like* a machine or that the machine *is like* an organism, because this claim presupposes essential characteristics of objects prior to body-machine discourse. Instead, information moves from context to context in order to demonstrate that organism and machine have analogous functions cybernetically, and that organism and machine cannot be posited apart from the differential transmission of information that encloses and relates them both.[15]

Cybernetics' redrawing of the working body also stresses the importance of the relationship between body-machine function and entropy. In the previous chapter, I demonstrated how entropy is crucial to body-machine time, by connecting the fundamental maxim of ergonomics – entropy equals atrophy – to neo-Marxist rhetoric of energetic post-Fordist action (which frames and naturalizes eligible bodily movement). In cybernetics, entropy equals atrophy, but resistance to entropy cannot be achieved by energetic action. A key premise underlying Wiener's notion of a twentieth-century age of communication and control is that the advent of this age marks a shift away from an industrial,

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[14] *Cybernetics*, p. 10.
[15] Hayles provides an important discussion of cybernetic analogy in *Posthuman*, p. 91.

eighteenth- and nineteenth-century 'economy of energy'.[16] For Wiener, the economy of energy of course participated in body-machine discourse, by positing the body according to rhetoric of engine dynamics and fuel combustion. But Wiener importantly asserts that this body-machine epoch retained the metaphysical concept of 'life': within this period, the body is represented as 'a glorified heat engine, burning some combustible fuel instead of the glycogen of the human muscles'.[17] There body-machines act energetically in relation to their environments, functioning as conservative units that move by expending their own internally stored power. The energetic action implied by the body-machine representation of fuel combustion thus presupposes the body as the source of power, a unit that moves volitionally through space.

Wiener announces the inadequacy of this model of body-machine function in a twentieth-century age of electrical communications engineering: 'we are beginning to see that such important elements as the neurones – the units of the nervous complex of our bodies – do their work under much the same conditions as vacuum tubes, their relatively small power being supplied from outside the body's circulation, and that the bookkeeping which is most essential to describe their function is not one of energy'.[18] Here Wiener equates the working body-machine with the vacuum tube – a glass, metal, or ceramic tube or envelope evacuated of air in order to control the flow of an electric current

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[16] *Cybernetics*, p. 50.
[17] *Cybernetics*, p. 51. For more on these body-machine epochs, see David Tomas, 'Feedback and Cybernetics: Reimaging the Body in the Age of the Cyborg', in *Cyberspace, Cyberbodies, Cyberpunk*, ed. by Mike Featherstone and Roger Burrows (London: Sage, 1995), pp. 21-44.
[18] Norbert Wiener, 'Cybernetics', *Scientific American*, 179 (1948), 14-19 (p.15).

(whereby the vacuum draws the current into a controlled, unidirectional path).[19] In cybernetics, the body – which is without, or is evacuated of, an internal power source – does not act energetically but *controls* energy, regulating and maintaining its energy levels as its environment changes, a changing environment here mirroring the concept of the alternating flow of a current. This process of self-regulation describes the cybernetic notion of homeostasis, the maintenance of a consistent bodily state via an input/output or negative feedback function, by which the body learns and adapts. Cybernetically, then, energy, as an alternating flow external to volition, is controlled by information: neural decisions sort and regulate energetic release, because uncontrolled energy (positive feedback) will lead to a system's entropy or burnout. This is precisely the sense in which Wiener invokes body-machine function as 'bookkeeping': cybernetic systems constantly monitor, sort, statistically evaluate, are paper-pushers rather than combustors. The key point here is that the advent of the 'Information Age', in the Fordist 1940s, is distinctly *un*energetic, which problematizes Murray's general argument regarding an information society. Murray ignores the computer's unenergetic history, because he claims that computers, or information processors, emerge with the newest phase of capitalism's energetic movement in the late 1980s, and therefore that computers are constitutive of post-Fordist 'new times' of oppression that ought to inspire a new time of energetic activism.

An important question dominating cybernetic research was that of the extent to which the properly functioning, homeostatic body functions as a digital computer and as an analogue computer. A seminal essay that develops

[19] For more on the significance of vacuum tubes to representations of the body, see Hayles, *Posthuman*, pp. 100-108.

cybernetics' articulations of the analogue and the digital is literary critic Anthony Wilden's 'Analog and Digital Communication: On Negation, Signification, and Meaning'.[20] This essay is part of Wilden's 1972 book *System and Structure*, in which Wilden attempts to connect the above principles of cybernetics with humanities-based studies of communication and representation.[21] Wilden defines an analogue computer as 'any device which "computes" by means of an analog between real, physical, CONTINUOUS quantities and some other set of variables. These real quantities may be the distance between points on a scale [...] a quantity of some liquid, or the electrical current in a conductor. Examples of the analog computer thus include a number of common devices: the map, the clock, the ruler, the thermometer'.[22] To use one of Wilden's examples, the analogue clock – whether a sundial or a display with hour, minute, and second hands – is analogue because it represents a continuum (time experienced as continuous) using a scale analogous to this continuum: dividing an hour with its hands, for example, enables visible comprehension of an amount of time remaining and an amount of time past, thus approximating an experience of time's continuous movement. 'The digital computer,' Wilden states, 'differs from the analog in that it involves DISCRETE elements and discontinuous scales. Apart from our ten fingers, the abacus was probably the first digital computer invented [...] Any device employing the on/off characteristic of electrical relays or their equivalents (such as teeth on a gear wheel) is a digital

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[20] Anthony Wilden, 'Analog and Digital Communication: On Negation, Signification, and Meaning', in *System and Structure: Essays in Communication and Exchange* (London: Tavistock, 1972), pp. 155-196.

[21] For a useful explanation of the importance of cybernetics to Wilden's project, see Gary Lee Stonum's review of *System and Structure* in *Modern Language Notes*, 91:5 (1976), 1116-1120.

[22] 'Analog', pp. 155-156. Emphasis in original.

computer'.[23] Wilden's principal example of a digital computer is 'the thermostat, [because] although [the thermostat] depends upon continuous analog quantities (the bending of its thermocouple in response to temperature) [it] involves a digitalization at a second level, because the thermocouple is connected to a switch which either turns the furnace off or turns it on'.[24] In other words, proper, homeostatic function depends on a digital intervention, distinction, and decision within a variable analogue continuum. For the analogue clock/computer to become digital, it must shift from *measuring* time – the employment of a device that follows or keeps up with a continuous experience, enabling one to imprecisely (or variably) 'see' this experience – to *calculating* time – the employment of a device that intervenes in a continuum using several discrete, discontinuous elements, enabling one to precisely calculate the micro-variations within this experience that are inaccessible to human perception and knowledge.[25] We can thus summarize Wilden's distinctions: the analogue is the domain of the continuous, the 'more or less', the variable or fluctuating. It is the domain exemplary of 'bending', to recall Wilden's description of thermostat

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[23] 'Analog', p. 156.
[24] Ibid.
[25] This distinction between (analogue) measuring and (digital) calculating is a fundamental maxim of cybernetics. For a detailed description see Wiener, *The Human Use of Human Beings*, p. 64. See also Tiziana Terranova, *Network Culture: Politics for the Information Age* (London: Pluto, 2004), pp. 32-33. Wilden's distinction is of course complexified by the fact that many digital clocks have analogue-style displays, but this does not preclude Wilden's guiding principles on analogue and digital characteristics. Indeed, the liquid crystal display representation of an analogue clock face is still digital, because the LCD area has a pre-set number of possible positions in which the represented 'hands' can move, unlike a mechanical clock.

function.[26] The digital is the domain of the discrete, the discontinuous. It is the domain of opposition, decision, control, and the constitution of borders.

For Wilden the analogue/digital distinction, as well as describing the way in which information is transmitted in computers, 'is equally applicable to or derivable from the way information is transmitted within the human organism [...] or from the way it is transmitted between human organisms'.[27] Wilden goes on to claim that the analogue/digital distinction is not made as clearly when describing information transmission in and between bodies. To demonstrate the distinction's more complex applicability to information transmission *within* bodies, Wilden refers to 'the constant switching between the analog and the digital in the behaviour of the message systems of the body' at the level of the human nervous system. A 'digital command', Wilden claims, 'releases a chemical compound which performs some analog function or other, this release or its result is in turn detected by an internal receptor neuron which sends a digital signal to command the process to stop or sets off some other process, and so on'.[28] Wilden here posits the working body as a chain of discrete, digital

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[26] Wilden describes a key characteristic of the analogue as 'the release of "more or less" of something' ('Analog', p. 156).
[27] 'Analog', p. 155.
[28] 'Analog', p. 158. Wilden here is drawing upon the work of mathematician and cybernetician John von Neumann, whose 1958 book *The Computer and the Brain* argues that the brain operates part digitally, part analogically, as a computational system but with probabilistic methods that distinguish it from man-made machines. See John von Neumann, *The Computer and the Brain* (New Haven: Yale University Press, 1958), pp. 2-11. The cybernetic theorization of the brain is important, because it posits the brain as a sorting mechanism that has little power over incoming messages, and which thus cannot assume a determining position within the nervous system. Philosopher Henri Bergson aptly summarizes this theorization, when he describes the brain as a form of inessential office worker: 'In our opinion [...] the brain is no more than a kind of central telephone exchange: its office is to allow communication or to delay it. It adds nothing to what it receives'. See Henri Bergson, *Matter and Memory*, trans. by

(on/off) commands borne by the analogue chemical processes that these digital commands continuously 'set off'. Therefore the digital always takes on characteristics of the analogue: a fully digital body is never achieved because a digital intervention only refers, continuously (analogically), to another digital intervention. Wilden thus implies that bodies work *analogico-digitally*, rather than through the imposition of one definable command or computer onto another.

In Wilden's discussion of information transmission *between* bodies, the overlapping of analogue and digital communication is emphasized further. Wilden begins with some guiding distinctions within the domain of human communication:

> The analog computer [...] is directly or indirectly related to 'things', whereas the 'language' of the digital computer is essentially autonomous in relation to 'things' [...] The analog computer is an icon or an image of something 'real', whereas the digital computer's relationship to 'reality' is rudimentarily similar to language itself [...] The analog is pregnant with MEANING whereas the digital domain of SIGNIFICATION is, relatively speaking, somewhat barren. It is almost impossible to translate the rich semantics of the analog into any digital form for communication to another organism. This is true both of the most trivial sensations (biting your tongue, for example) and the most enviable situations (being in love). It is impossible to precisely describe such events except by recourse to unnameable common experience (a continuum). But this imprecision carries with it a fundamental and probably essential ambiguity: a clenched fist may communicate excitement, fear, anger, impending assault [...] or revolutionary zeal. The digital, on the other hand, because it is concerned with boundaries and because it depends upon arbitrary combination, has all the syntax to be precise and may be entirely unambiguous. Thus what the analog gains in semantics it loses in syntactics, and what the digital gains in syntactics it loses in semantics.[29]

N.M. Paul and W.S. Palmer (New York: Zone, 1988), p. 31. I discuss Bergson at length later in this chapter.

[29] 'Analog', p. 163. I am aware that the analogue 'sensations' that Wilden invokes and engages with here would be subject to a more thoroughgoing critique within poststructuralism. A poststructuralist perspective would arguably criticize Wilden's invocation of analogue communication that is 'directly or indirectly related to things', and of digital communication that is 'arbitrary in relation to things', because even this guiding distinction implies the possibility of engaging with affect in a pre-discursive capacity. Wilden is careful to note that

Wilden uses these distinctions as the basis for a discussion of subjectivity and identity. Within Wilden's logic, subjectivity, as the domain of shared meaning, concerns the accessing of an analogue, undivided, unmediated (prediscursive) continuum of experience via (digital) signification – language as a system of *discrete* elements, finite in number. These digital elements combine arbitrarily ('autonomous in relation to things') to enable analogue meaning to be accurately communicated from organism to organism. But as the accurate communication of the analogue, the digital entails a loss of analogue sensation in its complexity and singularity: functioning at a distance from 'things', digital accuracy always implies the inability to be accurate about the analogue 'rich[ness]' of an experience.[30] Identity, which Wilden interprets as the assumption of a coherent self from subject position to subject position, is essentially more digital than subjectivity, Wilden asserts, because it acts as a form of second-order digitization. Wilden indeed calls identity 'a pure digital concept. That is to say, it is [...] a rule about digitalization, like "not"': in other words, a digital (on/off or

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'without the digital, we could not speak of the analog', that is, to posit the analogue as an undivided continuum is still to posit and therefore signify (digitize) an undivided continuum. But from a poststructuralist perspective, this statement can be extended in order to problematize the temporal logic that constitutes Wilden's rhetoric, by which the analogue is still spoken of as that which always comes first: for Wilden, something is always analogue before it is digital, despite his acknowledgement that the analogue must be signified. There is thus the possibility of arguing, contra Wilden, for the (analogico-)digital as the necessary condition of an analogue continuum, in order to counter the problematic assumption that there exists an indivisible, unmediated continuum for us to speak of, free of digitization. I will not pursue this debate at this stage, because the issue of whether affect is always already discursively constructed is central to the later stages of this chapter.

[30] Elsewhere, Wilden extends this argument to claim that in 'human communication, translation from the analog to the digital often involves a gain in information (organization) but a loss in meaning' ('Analog', p. 168). The argument that a 'barren' digital misses, as it were, the complexity of the analogue, informs the essays discussed in the following section of this chapter, which argue for the analogue as that which inspires our notions of movement in a so-called digital age.

either/or) *distinction* that, in subjectivity, introduces discontinuity into an analogue continuum, becomes a binary *opposition* in identity, because identity negatively distinguishes between the poles of a distinction (that is, either/or becomes further digitized or organized by what Wilden calls the 'analytical logic' of 'A and non-A').[31] Thus, even though they involve varying degrees of analogue and digital communication, both identity and subjectivity depend on the analogue's digitization. Wilden however stresses that this should not imply a general subordination of analogue to digital: 'The digital [...] has greater "semiotic freedom" [than the analogue], but it is ultimately governed by the rules of the analog relationship between systems, subsystems, and supersystems in nature. The analog (continuum) is a set which includes the digital (discontinuum) as a subset'.[32] Wilden here aims to locate linguistic communication within a wider context of general ecosystem survival. For Wilden, a digital intervention marks an individuation in an analogue continuum, but this individuation is a 'subset' employed to organize against a system's entropy: 'system' here refers to nature conceived cybernetically, as a set of co-ordinative levels in continuous relation to one another. Nature, in Wilden's logic, functions analogico-digitally and incorporates inter-organismic communication as a component of this function, meaning that nature cannot be described simply as a biological domain that becomes mechanized in digitization. In short, linguistic (digital)

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[31] 'Analog', p. 186. This formulation underwrites Wilden's general argument that in the digital, one is able to say 'no', a function not available in the analogue because, for Wilden, the analogue can only 'refuse' or 'reject' (the manifestation of which includes, for example, the persistent return to a perilous or threatening state without ever being able to finally negate the occurrence of such circumstances). See 'Analog', p. 163. These distinctions importantly inform the theory of shame that I will discuss in this chapter's final section.

[32] 'Analog', p. 189.

communication is employed to ensure survival, which is analogue – a *continuous* relation between bodies and an environment.

My purpose here is not to determine the scientific or anthropological veracity of Wilden's assertions, nor is it to locate Wilden's rhetoric of the nervous system, inherited from Wiener, within the body-machine discourse of hierarchized organs and an eligible time of bodily representation.[33] Instead I wish to underscore Wilden's implication that bodily intelligibility is coextensive with the inability of the digital to supersede and nullify the analogue. The crucial point to be drawn from Wilden's study is that within communication, full digitalization is forever deferred: a distinction between the digital and the analogue is made only to name the two communicative components that relationally enable bodily awareness and function. This point is significant because it problematizes the succession-logic informing the notion that, in the twenty-first century, bodies are moving inexorably towards (or have inexorably entered) a 'digital age'. I am referring here to the rhetoric of a transition from analogue to digital; at the time

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[33] The critique of cybernetics' prioritization of the nervous system is nonetheless important. Although cybernetics posits the nervous system as levels of control that include the brain as a localized sorting mechanism, it can be argued that this theorization does not do enough to destabilize the brain's originally differentiated status as that which hierarchizes the sense organs. As David Tomas points out, Wiener's model of cybernetic organization is indeed posited 'as if structured according to sophisticated systems of control with its brain serving as a top-level co-ordinator' ('Feedback', p. 26). It is thus valid to argue that Wiener and Wilden do little to trouble the temporalized hierarchy of organ function that I have discussed from the beginning of this thesis, because both claim that cybernetic organization is exemplified by a model of the nervous system that, as Tomas shows, is the same as Taylor's logic of the personal coefficient. The interrogation of this cybernetic logic is found in early poststructuralist thought. Jacques Derrida highlights the anthropomorphism still implicit in Wiener's theory of meaningless information: 'Wiener, for example, while abandoning "semantics", and the opposition, judged by him as too crude and too general, between animate and inanimate etc., nevertheless continues to use expressions like "organs of sense", "motor organs", etc. to qualify the parts of the machine'. See Jacques Derrida, *Of Grammatology*, trans. by Gayatri Chakravorty Spivak (Baltimore and London: Johns Hopkins University Press, 1974), p. 324 n. 3.

of writing, governments worldwide are enacting policies designed to facilitate the transition from analogue media to digital media. Accompanying these policies is the distribution of information that prepares body-machines for imminent digitization: households are instructed to replace analogue technologies with digital technologies in time for this shift in communicative type. In the United Kingdom, this policy is referred to as the 'digital switchover'.[34] The premise here is that, owing to technological development, a digital (on/off) decision and intervention is capable of bringing analogue communication to an end, switching off the analogue and thus inaugurating a new time of bodily relations.

But the information of the switchover, whereby information designates the content of messages about this change of communication – namely, we shall not wait long for a new (that is, digital) time that more appropriately describes our function – is rendered problematic by the informational cybernetic systems that wait, patiently, for a fully digital that can never arrive. The patience I ascribe to cybernetics is patience in a peculiar form. Cybernetic systems or body-machine-computers work, analogico-digitally and homeostatically, *without* the technological 'development' – the succession of one body-machine time by another – that in switchover rhetoric legitimates a body-computer equation. In other words, cybernetic systems do not require Forwardism in order to function: Wiener raised an awareness of bodies as cybernetic systems between the late 1940s and mid-1960s, after which widespread, powerful general-purpose computerization would go on to (in part) define the advent of post-Fordism, and

[34] See <http://www.digitaluk.co.uk> [accessed 10 March 2009]. This website includes the explanation that 'between 2008 and 2012 the UK is switching to Digital [television] and the old Analogue signal will be switched off': this text is accompanied by the tagline 'Get Set for Digital'.

in part frame the function of bodies in post-Fordism (as we see in Murray, where a body can legitimately be called a computer only after announcing post-Fordism's presence). Cybernetic systems sort and self-regulate without the impatience for technologically determined new times. This is not to deny that cybernetic systems are articulated *in anticipation* of powerful computerization: the possibility of advanced, general-purpose computers provides cybernetic imagination with its impetus. But Wienerian cybernetics anticipates a technological development whose advent will render its body-machine-computer representations obsolete. The Wienerian cybernetic moment, in other words, is neither destined nor required to survive the introduction of the actual technology it anticipates, because it anticipates computers powerful enough to make its imaginations and speculations unnecessary – a 'development' that will in part validate, in part invalidate and thus streamline Wiener's richly imagined body-computers according to the realizations of a superseding time.[35] This notion of body-computers *not surviving* the development of computers is particularly significant. It enables us to argue that informational cybernetic systems wait, in homeostasis, for nothing to happen: a movement forward into actual computational power will result in their death or switch-off, forcing them to wait

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[35] In arguing that this cybernetic moment is 'neither destined nor required to survive the introduction of the actual technology', I am paraphrasing critics Eve Kosofsky Sedgwick and Adam Frank's important claims for cybernetic significance in 'Shame in the Cybernetic Fold: Reading Silvan Tomkins', in Sedgwick, *Touching Feeling: Affect, Pedagogy, Performativity* (Durham & London: Duke University Press, 2003), pp. 93-122 (p. 105). The cybernetic moment I invoke is referred to by Sedgwick and Frank as the 'cybernetic fold': 'the moment [roughly from the late 1940s to the mid-1960s] when scientists' understanding of the brain and other life processes is marked by the concept, the possibility, the *imminence*, of powerful computers, but the actual computational muscle of the new computers isn't available yet' ('Shame', p. 105. Emphasis in original). I discuss Sedgwick and Frank's essay in the concluding sections of this chapter.

indefinitely as their patience, their homeostasis-in-anticipation, remains continuous. We can name this quality (im)patience: an untimely waiting that forces/is forced by a movement that goes nowhere.

The unenergetic, overbearing (im)patience of cybernetic systems is provocatively articulated in Sam Mendes' 2008 film *Revolutionary Road*.[36] Set in Fordist 1955 Connecticut, *Revolutionary Road* narrates the marital breakdown of Frank and April Wheeler, a breakdown prompted by the couple's dissatisfaction with the way in which their entry into heteronormative, upward class mobility (marriage, children, Frank's job for life, and April's suburban housewife status) has thwarted their attempts to mobilize their life aspirations. In the film's concluding stages, Frank and April are sat at their kitchen table having breakfast, the morning after a violent confrontation in which the pair announced their hatred for one another. This breakfast is an involuntary reconciliation: Frank has rejected his and April's impulsive move to Paris by choosing to stay in the job he hates, accepting a promotion to a new department selling newly developed, powerful general-purpose computers, leaving April stranded in the boredom of domesticity and pregnant with their (unwanted) third child.

As April pretends to show an interest in Frank's new job before he leaves for his first day, she asks Frank to explain precisely what this new post entails. Frank obliges by providing a sketch of the new computer on his breakfast napkin, supplementing the drawing with a valorization of the computer's power: 'It's full of vacuum tubes!'. As this demonstration proceeds, the scene cuts to April's face as she reaches the shattering realization that (like the girls in Warhol's Factory)

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[36] *Revolutionary Road*. Dir. by Sam Mendes. Dreamworks and BBC Films. 2008. Mendes's film is an adaptation of Richard Yates's 1961 novel of the same name. See Richard Yates, *Revolutionary Road*, 3rd edn (London: Vintage, 2008). I focus on the film version for reasons that will become clear later in this chapter.

she is bound for a life of inertia. Frank's sketching of vacuum tubes, which announces a Forwardist movement – the transition from Fordist car or Wheel(er) to computer, despite the fact that, following Wiener, these two Fordist bodies can already be posited as body-machine-computers – engenders a temporal vacuum that forces April's (im)patience. Devastated by her suspension-in-non-aspiration caused by Frank's technologically determined mobility, April decides to make something happen: after Frank has left for work, April uses what can only be described as a form of vacuum – a crude, unsafe, manual contraceptive device – to forcibly abort her unwanted baby. But the movement prompted by this Forwardist succession leads nowhere: the abortive vacuum draws too much blood, and April dies.[37] *Revolutionary Road* thus draws out the key critique offered by my notion of (im)patience: the positing of bodies according to an appropriate, technologically determined age perpetuates a normative temporal

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[37] Another intriguing aspect of *Revolutionary Road* is what we can call the appearance, in the narrative, of Wiener in allegorical form. Throughout the film, Frank and April are questioned and criticized for joining the trajectory towards 'the good life' by their elderly friends' son John, a mathematician suffering from schizophrenia who is permitted leave from a psychiatric institution to visit the Wheelers on a regular basis. An uncomfortable, disruptive presence at the dinner table and in the living room of the Fordist household, John's ill-timed outbursts against family time force Frank and April to confront the contradictions inherent in the promise of upward class mobility. Thus John, the malfunctioning mathematician unable to join with computer-enabled upward mobility (like Wiener the mathematician, who, in thinking cybernetically, will be left behind or whose formulations will be made to malfunction by mass computer technology's introduction), remains in place importantly to make marriage malfunction. John is important because he reveals the fault lines of a future-bound temporal schema that makes certain movements and emotional responses appear natural. It is important to note however that Wiener often anticipated powerful computerization with trepidation. Wiener warily predicted the automatic, robotized factory, and after playing an important role in the design of American anti-aircraft weaponry in World War II, assumed an anti-war stance over fears that such technology would be used against humanistic values. In both cases, Wiener was anxious to ensure that his concept of homeostasis protects the boundaries of the liberal humanist subject. For an important discussion of the racial, gendered, and sexual implications informing Wiener's anxiety, see Hayles, *Posthuman*, pp. 84-113.

logic, which impatiently moves past those bodies or cybernetic systems that do not survive such a reduction or streamlining into succession. Those bodies, in their analogico-digital function, are no less computerized than those inaugurated by a technological advancement and, in having their intelligibility bound up with a cybernetic moment of thought that waits patiently for an advancement it does not require, continue to offer us a means of interrogating the Fordism-to-post-Fordism shift that grounds such a reductive notion of computers.[38]

Moving

Since Wilden's theorization of analogue and digital communication over thirty years ago, other scholars have warned against the reductive assumption of digital bodies, or of bodies that function in a digital age. The two principal essays that I will discuss in this section – from 2002 and 2005 – each call for the analogue and the digital to be thought relationally, in order to subvert the normative temporality of technological and bodily change that a digital age implies.

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[38] I realize that cybernetics is not reducible to the theories of Wiener and Wilden. After the cybernetic fold, there was a 'second wave' of cybernetics, which was characterized by the concept of 'autopoesis' or 'self-making'. Autopoesis emphasizes that an ecosystem cannot be observed as a totality or a functional whole from a position outside this totality. Instead, all such observations are made within the system itself, by yet more discrete – individually closed – systems that each create their own environments, as a result of the highly specific ways in which each system's closed (or constantly and discretely maintained) co-ordinative relations permit the environment to affect/transform its internal structure. See Hayles, *Posthuman*, pp. 131-159, and Zylinska, *Bioethics*, pp. 38-42. Thus, autopoesis demonstrates that the observer's totality – their comprehension of a reality or world – is but one among multiple, 'partial, fragmentary', self-made totalities, which together constitute the system in a broader sense (*Bioethics*, p. 40). It is important to acknowledge this second wave, because it disrupts Wiener's attempts to distance himself from his theorizations in order to make them support a liberal humanist worldview. However, the chronology of cybernetics is outside the scope of my thesis, and my principal aim in this section has been to explore the critical significance in the present of the cybernetic fold's conservatism, or, as Zylinska describes, its foregrounding of 'the importance of maintaining the system's status quo' (*Bioethics*, p. 41).

However, there is a more notable issue linking these essays: the need for the authors to re-emphasize the analogue alongside the digital is a response to the perceived inadequacy of poststructuralist theory to account for bodily movement and sensation.

In his 2002 essay 'On the Superiority of the Analog', philosopher Brian Massumi juxtaposes a dynamic, transformative analogue mode and a digital mode devoid of life and change:

> The analog is *process*, self-referenced to its own variations. It resembles nothing outside itself. [...] Sensation, always on arrival a transformative feeling of the outside, a feeling of thought, is the being of the analog. It is matter in analog mode. This is the analog in a sense close to the technical meaning, as a continuously variable impulse or momentum that can cross from one qualitatively different medium into another. Like electricity into sound waves. Or heat into pain. [...] *Or outside coming in.* Variable continuity across the qualitatively different: continuity of transformation. [...] sensation is the analog processing by body-matter of ongoing transformative forces. [...] The digital is a numerically based form of codification (zeros and ones). As such, it's a close cousin to quantification. Digitization is a numeric way of arraying alternative states so that they can be sequenced into a set of alternative routines. Step after ploddingly programmed step. Machinic habit.[39]

For Massumi, the technical definition of analogue communication provides a framework for radically rethinking how bodies move and feel in a new media existence. Massumi here collapses the distinction between moving and feeling. Within the mode of the analogue, Massumi asserts, sensation is a type of continuous movement: sensation does not simply give rise to an awareness of bodies and objects but rather references the body's ability to keep up with its 'own variations' or self-deformations. To speak of bodies and objects is thus, in Massumi's logic, to detract from the contemporaneous flux of sensation; continuously variable, shape-shifting 'body-matter' is Massumi's preferred term

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[39] Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham and London: Duke University Press, 2002), pp. 133-143 (pp. 135, 137). Emphasis in original.

for describing how the complexity of movement can be more fully comprehended. To understand Massumi's assertion of 'analog processing by body-matter of ongoing transformative forces', we can return to the problem of micro-variations of movement occurring beneath the level of human perception, which Wiener addressed by controlling these microvariations with a probabilistic theory of cybernetics. Massumi argues that the body is united with its own unquantifiable momenta if it is theorized as an analogue computer: body-matter, as unmotivated variation, can closely 'process' or compute 'ongoing transformative forces' and thus provide a fuller, more accurate understanding of bodily movement and change.

Massumi is implicitly against Wiener here. Wiener's theory that a single movement is constituted in relation to other, alternative movements that are possibly made, would be viewed by Massumi as being lifelessly programmatic. Massumi would interpret Wiener's claim that bodily intelligibility is produced probabilistically, at a distance from variable movements that cannot be accurately measured, as a 'ploddingly' 'numeric way of arraying alternative states', because for Massumi this theory is incapable of accounting for the movements that occur in between each of the alternative positions it quantifies and accounts for. In short, within Massumi's logic, Wiener's cybernetics is *too digital*: it accounts for movement by excluding movement as a fully continuous variability.

Although he juxtaposes the mobile fluidity of the analogue and the static clumsiness of the digital, Massumi stresses that the digital is immobile only insofar as we mistakenly continue to think the digital apart from the analogue, as that which replaces analogue communication. Thus, despite the title of his essay

('On the Superiority of the Analog'), Massumi insists that the question of the analogue and the digital is not one of subordination. In the following passage, Massumi considers the ways in which Internet use refuses the periodization of a digital time:

> While it is still true that everything on the Web is [digitally] preprogrammed, the notion of a dictatorship of the [hyper]link carries less weight. [...] The open architecture of the Web lends itself to the accumulation of analog effects. The increase in image and sound content alongside text provides more opportunities for resonance and interference between thought, sensation, and perception. A crucial point is that all the sense modalities are active in even the most apparently monosensual activity. [...] When the hyperlink surfer moves from one link to the next, the conditioning synesthetic fringe of sensation moves with the flow. At the next link, the complexion of its vagueness will have changed. One sense may stand out more from the perceptual infusion of the always accompanying fringe-flow of sensation. The vagueness may sharpen into a selective perceptual focus or a clarity of thought that strikes the foreground of consciousness in a flash of sudden interest or even revelation. Or the vagueness may thicken into a lull or daze. Boredom. Who hasn't experienced that on the Web? The boredom often comes with a strange sense of foreboding: a sensing of an impending moreness, still vague. Next link. [...] Given the meagerness of the constituent links on the level of formal inventiveness or uniqueness of content, what makes surfing the Web compelling can only be attributed to an accumulation of effect, or [...] momentum, continuing across the linkages.[40]

Here Massumi is claiming that the digital aspects of technology are not enough to exemplify the function of body-machines in computerized societies. The World Wide Web is architecturally digital, in that it is programmed to anticipate all possible links, but Massumi argues that it is both reductive and deterministic to assume that bodies become digital by participating in this medium. Against this assumption, Massumi asserts that when bodies interact with the Web, the Web's 'programmatically prearrayed' links give rise to the analogue process of 'vagueness'.[41] Vagueness is Massumi's term for the body's continuously unmotivated navigation of cyberspace, produced by cumulatively moving

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[40] *Parables*, pp. 140-141.
[41] *Parables*, p. 140.

through links that, by virtue of their *multi*media content, distract conscious reflection and obfuscate the distinction between thought, vision, and sensation. The Web surfer's perceptions, Massumi states, cannot privilege Internet use as a cerebral activity, because the surfer's vision and thoughts are always 'accompanied by a physical sensation of effort or agitation,' whether 'a knitting of the brows, a pursing of the lips' or 'scratching [and] fidgeting'.[42] In line with his definition of the analogue as 'process [...] self-referenced to its own variations', Massumi describes these sensations of attention and distraction as 'self-referential actions' that engulf thought and vision, enacting 'the turning in on itself of the body' by not allowing bodily movement an objective motivation.[43] Body-matter's self-referential variability therefore explains for Massumi why the notion of a digital identity is wholly glib, and also aptly describes the vaguely interesting, compellingly boring activity of Web surfing, whereby momentary attention is fostered by 'click[ing] ourselves into a lull'.[44] Massumi's notion of vagueness thus deconstructs the oppositions of interest/boredom and movement/stasis: a body goes nowhere *because* it is in dynamic flux, in which interest is, to use Massumi's term, 'fold[ed]' into a more general compulsion for that which does not stimulate.[45]

Clearly influenced by Massumi, feminist critic Elizabeth Grosz also expresses concern over the implications of a world conceived digitally. Grosz builds on Massumi's assertions of programmatic habit and predictability to represent the digital in terms of inaccuracy, congealment, and loss:

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[42] *Parables*, pp. 138-139.
[43] *Parables*, p. 139.
[44] Ibid.
[45] *Parables*, p. 140.

> While the intellect masters what we need from the world for our purposes, it is fundamentally incapable of understanding what in the world, in objects and in us, is fluid, innumerable, outside calculation. [...] The intellect functions to dissect, divide, atomize: contemporary binarization and digitalization are simply the current versions of this tendency to the clear-cut, the unambiguous, the oppositional or binary impulses of the intellect, which are bound by the impetus to (eventual or possible) actions. The technological, including and especially contemporary digital technologies, carries within it both the intellectual impulse to the division of relations into solids and entities, objects or things, ones and zeros, and the living impulse to render the world practically amenable. Digitization translates, retranscribes, and circumscribes the fluidity and flux by decomposing the analogue or the continuous into elements, packages, or units, represented by the binary code, and then recomposing them through addition: analysis then synthesis. But these activities of recomposition lose something in the process. The sweep and spontaneity of the curve, represented only through the aid of smaller and smaller grids [...] represent[s] a diminution of the fullness of the real performance; the analogue continuum is broken down and simplified in digitization.[46]

This discussion of digitization is notable for the ways in which it echoes my theorization of the hard working body, and of Fordism's co-ordination of bodies and machines into a planned, predetermined (or less fluid) flow. For Grosz, the digital reinforces normative conceptions of bodily movement: digitally, bodies function by hardening or solidifying – 'function' here being determined by the ability to make use of technology, or to affirm the usefulness of technology as the basis for life-making, which for Grosz is the primary purpose of digitization. An intelligible body is one that is pixellated, increasingly broken down into more discrete elements ('smaller and smaller grids'), which are then added together to recompose movement according to a logic of accurate measurement. Thus for Grosz, the meaningful body is hard not simply in terms of being bounded or having taken shape, but in terms of being a synthesis of already congealed or

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[46] Elizabeth Grosz, *Time Travels: Feminism, Nature, Power* (Durham and London: Duke University Press, 2005), p. 141. I say 'clearly influenced' because Grosz cites and advocates Massumi's notions of bodily movement. See *Travels*, pp. 145, 226 n. 1, 229 n. 17. Grosz also makes an explicit connection to Wilden's 'Analog' (*Travels*, p. 233 n. 5).

frozen movements: the claim that digitization brings a more advanced, accurate understanding of movement is misleading, Grosz claims, because when we witness bodies moving in the digital we are witnessing bodies whose movements are constituted by discrete non-movements, positioned petrifications of movement which support technological and scientific imperatives to analyse and put to use. Digitization is significant, in Grosz's terms, only as a contemporary example of how the body's hardness or intelligibility is bound up with a type of forward movement that confers an eligible means of travelling in time. A digital body's travels are only ever realizations of movements that have been determined in advance via stoppage, emplacement, and analysis.

While we can relate their assertions to Wilden's theorization, Massumi and Grosz's arguments for the analogue draw more explicitly on the work of philosopher Henri Bergson. Bergson's critique of 'Zeno's arrow' – the paradox posited by ancient philosopher Zeno whereby the concept of an arrow's flight confirms that the arrow cannot move at all – exemplifies Massumi and Grosz's attempts to theorize beyond digital interventions in analogue continuums:

> Take the flying arrow. At every moment, says Zeno, it is motionless, for it cannot have time to move, that is, to occupy at least two successive positions, unless at least two moments are allowed it. At a given moment, therefore, it is at rest at a given point. Motionless in each point of its course, it is motionless during all the time that it is moving. Yes, if we suppose that the arrow can ever *be* in a point of its course. [...] But the arrow never *is* in any point of its course. [...] The truth is that if the arrow leaves the point A to fall down at the point B, its movement AB is as simple, as indecomposable, as the tension of the bow that shoots it. [...] [T]he arrow which goes from A to B displays with a single stroke, although over a certain extent of duration, its indivisible mobility. Suppose an elastic stretched from A to B, could you divide its extension? [...] The course of the arrow is its very extension; it is equally simple and equally undivided. You fix a point C in the interval passed, and say that at a certain moment the arrow was in C. If it had been there, it would have been stopped there, and you would no longer have had a flight from A to B, but *two* flights, one from A to C and the other from C to B, with an interval of rest. To suppose that the moving body *is* at the point of its

> course is to cut the course in two [...] [and to] admit *a priori* the absurdity that movement coincides with immobility.[47]

Thus for Zeno, when an arrow is in flight it moves successively from one discrete position to another discrete position. The problem with conceiving of such a trajectory, Zeno claims, is that between one position and another are infinitely smaller positions; before the arrow can move from point to another it must take up each of these micro-discrete positions, which are forever divisible and thus prevent the arrow from moving anywhere.[48] Also, the arrow is immobilized by its own measurement: at each point it occupies in its trajectory, the arrow is equal to its own length, meaning that the arrow's travel is constituted by the arrow-in-analysable-stasis; put simply, no extra dimensions exist to validate the claim that the arrow moves forward.[49]

Bergson refuses what we can call Zeno's digitization of mobility, arguing that Zeno's crucial error is in conceiving of the arrow as a (digital) *thing*-in-movement rather than as a qualitative (analogue) transformation-in-process. For Bergson, Zeno is never contemporaneous with the arrow's movement as he assumes to be, because Zeno's notion of movement is constituted by positions plotted *after* an indivisible, self-varying flux by which the arrow is qualitatively transformed. The arrow, Bergson argues, is in a state of arrest only once it has hit its target, by which time it has undergone a change in type ('the course of the arrow is its very extension'): it is no longer an arrow but a successfully-shot arrow and thus, however nominally, resists the logic of sameness required by

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[47] Henri Bergson, *Creative Evolution*, trans. by Arthur Mitchell (London: Macmillan, 1911), pp. 325-326, 327. Emphasis in original.
[48] Massumi provides a similar description of the arrow paradox in *Parables*, p. 7.
[49] For more on the arrow's immobilization-in-measurement, see Alan Robert Lacey, *Bergson* (London: Routledge, 1989), pp. 32-33.

trajectory analysis.[50] Zeno's conception of movement is thus limited to retrospective possibilities ('A to C' and 'C to B'), by which the arrow's mobility only confirms its inability to transform. Bergsonian movement, which inspires the rhetoric of Grosz and Massumi, therefore references the analogue compulsion of objects and bodies towards their own undoing as digital things. Massumi invokes the critique of Zeno to extol the virtues of '[f]luidifying with Bergson' within the context of bodies and new media.[51] Massumi's concept of vagueness exemplifies this incitement: when we retrospectively plot our visited links as the sum of our navigation through the World Wide Web, we fail to understand that the fluid 'analogue effects' of this navigation changed the body beyond the recognizable form it maintains when the surfing process is digitized into several stopping points.[52]

Massumi and Grosz's calls to fluidify and fluctuate with Bergson bring a sophisticated and important critique of digitization-as-succession, and of the celebratory and apocalyptic valorizations popularly attached to this notion.[53] But

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[50] The description of the transformation from arrow to successfully-shot arrow is made by Massumi in *Parables*, p. 7.

[51] *Parables*, p. 6.

[52] A similar claim is made for the gaming body in David Cronenberg's 1999 film e*XistenZ*. Protagonists Allegra Geller and Ted Pikul become so immersed in virtual reality game 'eXistenZ' that it becomes impossible for them to distinguish between the game and the real world, and between their actions and those determined by the game's prearrayed points of navigation. Geller and Pikul continually stop to ask one another, 'are we still in the game?', as the narrative proceeds, but these attempts to attribute a purposeful motivation to their trajectory are always interrupted, as the pair are abruptly transported each time to a newly perilous situation that requires them to acquire new skills (or to 'transform' in Massumi's sense) in order to move on. Thus the cumulative (analogue) effects of gaming prevent the ability to locate a solid, definitively bounded body that stays the same in the course of its navigation. See *eXistenZ*. Dir. by David Cronenberg. Momentum. 1999.

[53] Massumi argues that '[a] commonplace rhetoric has it that the world has entered a "digital age" whose dramatic "dawning" has made the analog obsolete. This is nonsense. The challenge is to think (and act and sense and perceive) the

a far less critical temporal logic frames rhetoric in which the turn to Bergson is explained as an important move in the time of theory. Before I discuss how Massumi in particular participates in this logic, I want to refer to an analysis by literary critic Suzanne Guerlac. Guerlac suggests that philosopher Gilles Deleuze inherits Bergson's affinity with technological change, which for Guerlac enables Deleuzian thought to overcome the ennui produced by obsolete modes of criticism at the end of the twentieth century:

> However compelling the force of deconstruction, and however fruitful it has shown itself to be in investigations of cultural studies, by the 1990s the textual paradigm (Derrida, Barthes) and discourse analysis (Foucault) appeared to have done much of the critical work that they could do. I would suggest that the interest in Deleuze increased because he was less limited by a textual/discursive framework and, as Bergson had been before him, more attuned to developments in science and technology.[54]

For a project titled *Thinking in Time*, Guerlac here presents a remarkably simple, unsubtle model of temporal supersession: the notion of 'Thinking in Time' appears to be posited on the assumption that thought is only useful if it is contemporaneous with a world primarily compelled by (a glibly stated) technological 'development'. I must stress that my concern with the rhetoric of theoretical timeliness does not represent a departure from the issue of body-

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co-operation of the digital and the analog, in self-varying continuity. Apocalyptic pronouncements of epochal rupture might sell well, but they don't compute. [...] The analog and digital must be thought together, asymmetrically. Because the analog is always a fold ahead' (*Parables*, p. 143). Grosz makes a similar argument against celebratory accounts of computers and the Internet in *Travels*, pp. 93-94, and also in 'Virtuality', pp. 75-90.

[54] Suzanne Guerlac, *Thinking in Time: An Introduction to Henri Bergson* (Ithaca: Cornell University Press, 2006), p. 187. Deleuze's affinity with Bergson is most expressly articulated in Deleuze's book *Bergsonism*, in which Deleuze draws out Bergson's arguments for self-varying transformation using the concepts of the virtual and the actual. I discuss Deleuze briefly in the following chapter, when I explicitly address the issue of virtuality. I want to separate the digital and the virtual at this stage for clarification, although the following chapter will show that they cannot be separated as such. See Gilles Deleuze, *Bergsonism*, trans. by Hugh Tomlinson and Barbara Habberjam (New York: Zone, 1991), pp. 96-98.

machines. On the contrary, my point here is that Guerlac's assessment of critical responses to techno-scientific change instances the process whereby theory takes on meaningful body-machine-computer form. As with the feminist waves paradigm in the previous chapter, Guerlac interprets the 'interest[s]' of subjects as the catalyst of a more abstract body of theory that cannot tolerate stasis: when interest 'increase[s]', this body discards outmoded critical frameworks that have inhibited its movements by staying with it for too long. Also, the 'machine' aspect of Guerlac's theoretical body reveals parallels with flexible feminism: the waves paradigm posits a body of feminism compelled by waves of energy out of the untimely Fordist factory, and similarly for Guerlac the unquestionable fact of 'developments in science and technology' suffices to theorize theory ergonomically.

Guerlac's analysis undermines the nuanced theorizations of the analogue and the digital drawn from Bergsonism. Bergson's critique of the arrow – a technological development – demonstrates that analogue transformations occur across (and disrupt the intentions underlying) digital distinctions, thus preventing the complete digitization of movement. Bergson's critique implies that technological development cannot serve as the basis for forward motivation: an arrow is developed, but (in analogue terms) its function requires that it qualitatively redevelops; an arrow fired is no longer an arrow, which frustrates the digital attempt to make sense of a thing through the analysis of its trajectory. Considering Bergson's advocation of unmotivated change, it is reductive for Guerlac to posit a Bergsonian 'attune[ment]' to technological development as an established quality for moving forward in time.

Guerlac makes the claim that textual and discursive theories can do no more work. This claim is significant for the way in which it corresponds with the justification of Taylorism's supersession by ergonomics within the rhetoric of physiology. Just as Taylorism's division of work into discrete movements and positions is deemed by Kroemer and Grandjean to bore, inhibit and atrophy the body's 'biological characteristic' of flexibly adapting to change, Guerlac attributes theory's unwanted stasis in the 1990s to poststructuralist critical modes that, within a cultural studies paradigm, have predominantly emphasized the positions and counter-positions taken up by bodies within an ideological structure.[55] Thus Guerlac's observation of poststructuralism's retirement is

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[55] These assumed positions and counter-positions can be called 'discrete', but discreteness does not mean the same across all areas of poststructuralist theory. This is evident when we consider the theoretical paradigms of the prominent poststructuralists Guerlac cites: Michel Foucault and Jacques Derrida. In Foucauldian terms, discrete or individual subject-positions are produced by power as 'an open, more or less coordinated (in the event, no doubt, ill coordinated) cluster of relations', for example between parent and child, doctor and patient, analyst and analysand, through which discourse is incited and multiplied, and identities are fabricated in the hierarchization of populations. Thus resistance or counter-movement is not external to power, but enabled and constrained by those very mechanisms these movements seek to oppose. See Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings 1972-1977*, ed. by Colin Gordon, trans. by Gordon, Leo Marshall et al. (Harlow: Longman, 1980), p. 198, and Foucault, *The Will to Knowledge: The History of Sexuality: 1*, trans. by Robert Hurley (Harmondsworth: Penguin, 1976). In Derridean terms, discreteness concerns Derrida's critique of Saussurian linguistics, which, as I described above, theorizes language as a system of discrete elements, finite in number. Saussure's assertion that meaning is produced not through the self identity of phonemes – the smallest or most discrete units of sound that constitute words – but through the differences between phonemes, is interrogated by Derrida for continuing a phonocentric/logocentric tendency, whereby writing is mistrusted as that which corrupts speech as the repository of self-present self-consciousness. Derrida counters this phonocentrism by deconstructing the speech/writing binary, arguing that there is not first an oral language and a written copy of that language, but that language is always already a writing or inscription – a system of traces or discrete elements marking that which is forever and foundationally absent. See *Grammatology*, pp. 30-65, and Jacques Derrida, 'Semiology and Grammatology:

affected by two primary Forwardist assumptions: the uncritical prescription of proper bodily function that accompanies the invocation of work-as-labour (bodies fixed in position do not work properly), and the equally uncritical acceptance of material transformation as the propulsion of intellectual endeavour (technology and science have changed, and therefore theory must be relevant to these changes). Paradoxically, then, Guerlac alludes to the crudely digital aspects of critical modes in order to enact the body of theory's trajectory toward a new position, which Bergson and neo-Bergsonists (such as Massumi and Grosz) would surely criticize as precisely the type of succession-logic supported by a crude misunderstanding of, and investment in, digitization.[56]

But Massumi in fact begins his *Parables for the Virtual* by explicating the limitations of '[c]ultural theory of the past two decades [the 1980s and 1990s]':

> 'The Body'. What is it to The Subject? Not the qualities of its moving experience. But rather, in keeping with the extrinsic approach [Massumi's reference to cultural theory's positing of 'a subject "constructed" by external mechanisms'], its *positioning*. Ideological accounts of subject formation emphasize systemic structurings. The focus on the systemic had to be brought back down to earth in order to be able to integrate into the account the local cultural differences and the practices of resistance they may harbour. The concept of 'positionality' was widely developed for this purpose. Signifying subject formation according to the dominant structure was often thought of in terms of 'coding'. Coding in turn came to be thought of in terms of positioning on a grid. The grid was conceived as an oppositional framework of culturally constructed significations: male versus female, black versus white, gay versus straight, and so on. A body corresponded to a 'site' on the grid defined by an overlapping of one term from each pair. [...] Proponents of this model often cited its ability to link body-sites into a 'geography' of culture that tempered the universalizing tendencies of ideology. The sites, it is true, are multiple. But aren't they still combinatorial permutations on an overarching definitional framework? Aren't the possibilities for the entire gamut of

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Interview with Julia Kristeva', in *Positions*, trans. by Alan Bass (London: Athlone Press, 1981) pp. 15-36.

[56] Guerlac undermines her renewal of Bergsonian philosophy by positing theory as a *thing*-in-flight, rather than as body-matter whose arrested position after flight attests to a vague, unmotivated self-variation or becoming-undone that would undermine the preoccupation with where theory is going.

> cultural emplacements, including the 'subversive' ones, precoded into the ideological master structure? Is the body as linked to a particular subject position anything more than a local embodiment of ideology? Where has the potential for change gone? [...] How can the grid itself change? [...] The aim of the positionality model was to open a window on local resistance in the name of change. But the problem of change returned with a vengeance. Because every body-subject was so determinately local, it was boxed into its site on the culture map. Gridlock.[57]

Massumi is more explicitly critical than Guerlac of the overly digital aspects of cultural theory's significatory and discursive frameworks. We can see how the critique of Zeno's arrow influences Massumi's claim that these frameworks are unable to account for bodily movement: 'boxed in' cultural theory, Massumi implies, can only add more positions or arrested movements to account for the body's travels, which means that the body goes nowhere within this disciplinary domain. But Massumi's insistence on the 'local' as a principal target of critique bears an alarming resemblance to Harvey's exclusionary denunciation of place-bound embodiment, in a materially transformed existence where flexible movement is all that means and materializes.[58] Indeed we can elaborate on this complicity, by highlighting Massumi's claim that the positionality model's

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[57] *Parables*, pp. 1, 2-3. Emphasis in original.

[58] Massumi's assertion of 'proponents' of digital positionality who, in resistance to ideology, 'link body-sites into a geography of culture,' is an impoverished generalization of critical theories of place. Massumi assumes that the only form of resistance offered by a cultural studies/positionality model is flexible resistance – the form of utopian global socialism advocated in Harvey's cultural geography – which perpetuates the further assumption that, within culture, capitalism always dominates or wins due to its superior flexibility. Halberstam's *Queer* and Gibson-Graham's 'Querying' are very critical of the 'geography of culture' notion that Massumi uses to summarize all textual practice: both Halberstam and Gibson-Graham remain with a positionality model by alluding to the ongoing opportunities presented, within a flexible 'geography', to disrupt the flexible/rigid binary. Indeed, in a project dedicated to transformation, Massumi worryingly has nothing to say about how or whether his abstract, extra-terrestrial, gridless programme of change will work with those theoretical strategies that continue to offer important political (sexual, racial, gendered, and class-based) claims for subjects both (perhaps even simultaneously) immobilized and mobilized within the positionality model he denounces.

emphasis on 'local cultural differences' provided a means of bringing bodily subjects 'back down to earth'. Because for Massumi this earth-bound strategy has fostered a digitally reductive understanding of bodily movement, Massumi's advocacy of qualitative analogue change amounts to an abstract call to other-worldliness ('How can the grid itself change?'). This is difficult to distinguish from Robert Bly's call for bodily fluidity – a call for (white, male, heterosexual) bodies to lose themselves, or divest themselves of an earthly existence in which 'culturally constructed significations' (namely, for Bly, media portrayals of indecisive fathers and weak males) had momentarily ('locally') displaced their privileges.[59] Thus a digital (that is, succession-bound) body animates Massumi's rhetoric, even as Massumi argues against such a body's existence.

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[59] The introductory chapter of *Parables*, from which this excerpt is taken, is titled 'Concrete Is as Concrete Doesn't' (*Parables*, p. 1). The title refers to a phrase from the song 'Solidify' by Sheryl Crow, and for Massumi aptly summarizes Bergson's critique of Zeno's arrow. For Massumi, a thing *is* – in other words, the qualities and properties of something can be comprehended – only when it is a 'concrete' or indivisible singularity of movement. This concreteness is not the same as digital methods of stoppage or gridlock, Massumi implies, but is rather the means by which the analogue moves ahead of digitization. A thing is solid in its singularity, then, but the continuously variable movement of its singularity ensures that this thing will have solidified, many times over – or, in other words, will have transformed – into something other than that captured by the points of a digital trajectory, from the very moment that these points were plotted. The digital can never keep up with this dynamism, Massumi suggests, because digital representation tries to comprehend a thing by analysing it retrospectively (by trying to determine what this thing was 'doing'). This critique informs Massumi's claim that signification misses this dynamic quality of movement. But as my reading of Bly suggests, the incitement to move past significatory struggle is not new, regardless of the intellectual rigour and original insights offered by Massumi's project. The 'hyperlink' – to borrow Massumi's terminology – from Bly to Massumi thus leads us to assert, against Massumi, that Concrete indeed *does*; that 'concrete', as signifier of the solidification of things, is implicated in a motivated and temporalizing logic, just as 'iron' is for Bly, despite Massumi's claims for the undoing of things and despite Bly's claims for a more flexible masculinity. This reveals a limitation in Massumi's transformative theory of the analogue, by which we can playfully suggest that *Iron John* qualitatively transforms (fluidifies, only to solidify) into *Concrete John*.

Massumi's project assumes a revolutionary tone when it proposes the outmanoeuvring of significatory stasis by theories of qualitative change. As with Guerlac, this proposal to leave signification behind is coextensive with extolling the excitement and propulsion offered by science.[60] Indeed, the cover description of *Parables* claims that Massumi offers 'new paths for the wedding of scientific and cultural theory'. That Massumi's mobile body of theory is described as being inaugurated by a wedding, however, leads me to undertake an avowedly textual critique of Massumi's call to move past textuality. Describing *Parables* through the rhetoric of marriage invites an uncomfortable return to *Revolutionary Road*, which reveals the temporalizing logic underwriting Massumi's belief that science moves us past digital stasis. In order to consider the textual implications of the wedding of science to the humanities, I want to explain the technological untimeliness that is produced by juxtaposing *Parables* and the screen adaptation of *Revolutionary Road*. *Revolutionary Road* was released after Massumi's revolutionary rhetoric and depicts a technological time prior to Massumi. Both

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[60] Massumi provides the following call for science: 'The point [...] is not to make the humanities scientific. The point is to borrow from science in order to make a difference in the humanities. [...] The fact of the matter is that the humanities need the sciences [...] a lot more than the sciences need the humanities' (*Parables*, pp. 19-20). We can problematize this assertion by considering Jane Elliott's assertion of the temporal logic that informs the rhetoric of scientific currency, which echoes my concerns over the automatic resistance to routine in post-Fordism: 'we can now give science a chance because we're tired of hearing that we shouldn't, and science has until now been so far outside [a poststructuralist feminist] purview that it is refreshing rather than routine. While the turn to science may seem more like an abandonment of than a solution to the issues raised by poststructuralism, there may not ultimately be much of a difference between those two concepts' ('Currency', p. 1698). Grosz differs from Massumi in that *Travels* incorporates poststructuralist theory and an argument for the critical significance of Darwinian models of evolution in light of Bergson. But Grosz's project cannot escape location within what Elliott calls 'the temporalization of knowledge' ('Currency', p. 1699) that frames this scientific turn: indeed for Grosz, a project dedicated to time and travel remains the occasion for claiming that science inaugurates a new direction, which is bound up with the call for analogue transformation.

Parables and *Revolutionary Road* narrate the prospect of revolution in technologically affected lives, but after Massumi has asserted that the movement of bodies in new technology is coextensive with the moving on of our intelligibility of movement, *Revolutionary Road* links revolution and technology to the prospect of never reaching a technological time after Fordism.[61]

I emphasize this untimeliness to argue that Massumi's wedding does not lead to revolution as such, but merely to a revolution, based on marriage, that revolves nowhere. My analysis of *Revolutionary Road* brings the realization that Massumi has been, as it were, beaten to the altar in the Fordist 1950s, by a union that testifies not to mobility but to the overbearing (im)patience that accompanies technoscientific change from Fordism to post-Fordism. The Wheelers' decision to stay married, to make their marriage work – to continue on the 'revolutionary road' of upward mobility that their marriage seemingly facilitates – is simultaneously and crucially a decision to stay wedded to the notion of scientific and technological development. But as we see in the scene in which this coextensive decision is confirmed (Frank's sketching of vacuum tubes to indicate his new job), the development from car to computer does not revolutionize bodily movement but violently reinforces bodily stasis, keeping bodies in place until atrophy appears the best way to make something happen. The ergonomic

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[61] Moreover, this movement from revolution to *Revolution* raises questions as to whether new media succeeds and supersedes traditional media. *Revolutionary Road* exemplifies the factory time that Benjamin asserts is immanent to film: the Wheelers' homeostatic relationship is violent and aggressive, but it calmly (patiently) and adventurously moves us around the Fordist spaces that the film represents, or makes it possible to explore Fordism not simply as a restrictively normative time passed, but as a time whose restrictiveness or fixing of bodies in place can be appropriated in the present, as a way of critiquing the technological determinism of the Fordist-to-post-Fordist societal model. This remains the effect of *Revolutionary Road* regardless of whether it is viewed on a new media platform (on the World Wide Web, as a downloaded file, on digital television, or on a digital versatile disc).

principle boredom = entropy = atrophy is reworked in this analysis from a sign of meaninglessness into a critical nothingness in which the processes of heteronormativity are scrutinized, which in turn serves as a pointed reminder that important critiques persist in those critical modes that Massumi and Guerlac denounce as digitally dead to the body of theory. In short, a critical theory of place – in which the opposition mobility/stasis is disrupted – endures to show us that Massumi, in proposing an analogico-digital mandate of moving on, is anachronistically reinventing the Wheel(er).

Moved, to Believing in the Digital

I have argued that the digital has a problematic status in Brian Massumi's analogico-digital theory of dynamically moving bodies. Massumi relies on the concept of the digital that he otherwise criticizes (namely, the switching off and supersession of critical modes which, in their emphasis on positionality, tell us nothing about how bodies move), which motivates his claim that digital positions of stoppage always accumulate unmotivated, qualitative (analogue) bodily transformations. In response to this problem, we can consider the work of Eve Kosofsky Sedgwick and Adam Frank. Sedgwick and Frank's essay 'Shame in the Cybernetic Fold' provides an analogico-digital theory that, although very similar to Massumi's, arguably pays closer attention to (or has more time for) the digital aspects of stoppage, instead of theorizing stoppage solely as testament to a thing's singular self-variation.[62] In particular, Sedgwick and Frank provide an analogico-digital theory of the affect shame: the concept of *moving* bodies

[62] Their essay was originally published in *Critical Inquiry*, 21:2 (1995), 496-522. Unlike Massumi and Grosz, Sedgwick and Frank do not use Bergson in their account of the analogico-digital, which perhaps accounts for this attention to stoppage.

(which Massumi takes to reference the body's constant, incomprehensible mobility) relates specifically here to bodies that have *been moved* – that is, to bodies whose motivations are implicated in 'the lowering of the eyelids, the lowering of the eyes, [and] the hanging of the head'.[63]

It is not immediately apparent from this description that Sedgwick and Frank differ from Massumi in a theoretical capacity. Indeed, that *being moved* testifies to a type of (non)movement which interrupts movement-as-motivation, appears to make this notion indistinguishable from Massumi's Bergsonian claim that a body that has moved from one place to another (or an arrow that has been fired and has hit its target) attests to an indivisible continuum in excess of the motivations of trajectory analysis. But Sedgwick and Frank's work on shame focuses on the ways in which this affect exemplifies the 'layering [of] digital (on/off) with analog (graduated and/or multiply differentiated) representational models'.[64] In emphasizing the 'layering' of the analogue and the digital, Sedgwick and Frank are more closely allied with Wilden's framework of bodily function. To recap, this framework stresses the overlapping of analogue and digital communication at an intra-bodily level (the controlled neural release of 'more or less' amounts of humoral transmission, and vice versa) and an inter-bodily level (signification facilitating a continuous relation between bodies and an environment, and changes in an environment requiring significatory control).[65] While supporting the analogico-digital, Massumi certainly does not ally with Wilden to this extent, because Massumi argues that digital positions

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[63] 'Shame', p. 114.
[64] 'Shame', p. 101. Sedgwick and Frank accordingly cite Wilden's 'Analog' throughout their essay.
[65] For more on humoral transmission – the movement of fluids around the body – see Wilden, 'Analog', p. 156.

accumulate the effects of a 'superior' analogue mode, superior because it opens the possibility of moving past signifying practices.

Shame, according to Sedgwick and Frank, should not be thought of as the negative prohibition of the body's ability to enjoy and to be interested. Sedgwick and Frank instead theorize shame as that which is activated by interest-as-variable-continuum. In other words, there must already be the analogue transmission of interest for there to be shame: when interest (as a variable flow) reduces, shame is activated as a distinction within this continuum. Interest reduces to activate shame, but it does not reduce completely, because this positive transmission is the necessary condition of shame's function, which is an *interest-function*: the determination of the degree to which one can be interested. Thus shame serves as a digital distinction within an analogue continuum, but only in that it maintains a continuous relationship with interest; shame can never decisively, digitally switch interest on or off: '[w]ithout positive affect, there can be no shame: only a scene that offers you enjoyment or engages your interest can make you blush. Similarly, only something you thought might delight or satisfy can disgust. Both these affects produce bodily knowledges: [...] shame, as precarious hyperreflexivity of the surface of the body, can turn one inside out – or outside in'.[66]

Sedgwick and Frank invoke the term 'outside in' in reference to Wilden's assertion that in 'order for a [cybernetic] system to be open to an environment [...] the system must be capable of punctuating itself as distinct from that environment so as to select messages within it'.[67] That is, a cybernetic system that distinguishes itself in order to communicate and control, does so not to

[66] 'Shame', p. 116.
[67] 'Analog', p. 174. Cited in 'Shame', p. 116.

affirm an interior sense of identity but to continuously respond to environmental factors '*outside* the body's circulation' (upon which the system's intelligibility depends), in Wiener's terms. Sedgwick and Frank use Wilden's assertions to posit shame as an analogico-digital process of bodily intelligibility, in which identity (a pure digital concept) is destabilized:

> Shame is one of those affects whose digitalizing mechanism works to 'punctuat[e the system] as distinct'. Perhaps along with contempt and disgust, it can be a switch point for the individuation of imaging systems, of consciousnesses, of bodies, of theories, of selves – an individuation that decides not necessarily an identity, but a figuration, distinction, or mark of punctuation. And unlike contempt or disgust, shame is characterized by its failure ever to renounce its object cathexis, its relation to the desire for pleasure as well as the need to avoid pain.[68]

Thus, because shame – as a constitutive 'switch point for the individuation of [...] bodies, [...] of selves' – never switches interest on or off, bodies and selves are always constituted through interest. But this form of interest, in being regulated by (and thus inextricably tied to) shame, leads bodies and selves to be continuously, variably stopped in their tracks by the painful and uncomfortable feelings that trigger 'the lowering of the eyelids, the lowering of the eyes, [and] the hanging of the head'. In other words, these continual feelings of shame are not negative affects to be avoided in the (wrongly assumed) positive-affect processes of life-making, Sedgwick and Frank suggest. Rather, they are crucial to the openness by which one lives, where openness designates a receptivity to the certain qualities of (analogue, graduated) differences – in this case, the qualities of different affects.[69]

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[68] 'Shame', pp. 116-117.

[69] For more on shame and interest, see Elspeth Probyn, *Blush: Faces of Shame* (Minneapolis and London: University of Minnesota Press, 2005). Probyn underscores the significance of Sedgwick and Frank's essay: '[i]t is totally counter-intuitive to link shame (such a debased feeling) with interest [...] Shame [when paired with interest] illuminates our intense attachment to the world, our

Sedgwick and Frank thus sophisticatedly argue that to be *moving* is coextensive with having been *moved*, or that to be mobile is to have been affected. Shame, which for the authors exemplifies this state, disrupts the distinction between being interested and being uninterested as it simultaneously disrupts the distinction between movement and stasis. It of course also troubles the distinction between analogue and digital, a subversion which the authors pursue in order importantly to critique the assumption that the analogue demarcates aspects of the living organism and that the digital demarcates aspects of the lifeless and machinic: 'we must deprecate [...] the [...] homology that might identify the machine or computer with digital representation, and the biological organism with analogical representation'.[70] This is a significant contestation of Massumi's equation of the digital with lifeless 'machinic habit'.

However, Sedgwick and Frank share Massumi's strategy of using the analogico-digital to argue against theory's digitization. Indeed, Sedgwick and Frank invoke the above homology in order to express their concern over the direction, or indeed lack of direction, that theory has taken: 'The tacit homology machine : digital :: animal : analogical (and concomitant privileging of the machine/digital) is, we argue, a very powerful structuring presumption for current theory and emerges especially strongly as a reflexive antibiologism'.[71] 'Reflexive antibiologism' is Sedgwick and Frank's term for describing how, in their view, critical theory 'after Foucault [...], after Derrida, after feminism'

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desire to be connected with others, and the knowledge that, as merely human, we will sometimes fail in our attempts to maintain those connections' (*Blush*, pp. 14, 15). I discuss bodily – and failed bodily – connections in the following chapter.

[70] 'Shame', p. 101.

[71] 'Shame', p. 101.

treats issues of the biological, the essential, and the natural too digitally.[72] This is an 'after' not in Guerlac's sense of theories that have superseded poststructuralism: 'after' instead refers to the way in which these critical modes – by pervasively 'span[ning] the humanities and extend[ing] into history and anthropology' since the 1960s – have naturalized a certain way of dismissing the pre-discursivity of affects. Thus for Sedgwick and Frank, these critical modes have left an enduring aftermath, namely the uncritical assumption that matters of biology should always be subject to a digital on/off decision:

> at this historical moment any definitional invocation of analogically conceived, qualitative differences [such as individual affects like shame, interest, anger, disgust, and so on], in the form of *finitely many* [...] *values*, does indeed run the risk of reproducing a biologizing essentialism. But that risk is far from being obviated by even the most scrupulous practice of digitalization. The essentialism that adheres to digital models is structured differently from the essentialism of the analog. But, at this moment, it is probably all the more dangerous for that – precisely because, under the current routines of 'theory', it is not recognizable as an essentialism. Essence is displaced, under these routines, from the analogic possibility of *finitely multiple qualitative differences* to some prior place where an *undifferentiated* stream of originary matter or energy is being turned (infinitely) ON or OFF. To see the latter as a less 'essentialist' metaphorics than the former reflects, we argue, only the habitual privileging of digital models wrongly equated with the machine over analog models wrongly equated with the biological.[73]

Sedgwick and Frank make the valid argument that a theory based on the digital decision of unnaturalness is itself an effect of a naturalized, naturalizing schema. For Sedgwick and Frank, the digitally predictable routines of theory are only capable of invoking 'Affect': the authors capitalize the term to underscore the way in which, within these routine approaches, multiply different feelings – which are otherwise differently and complexly related to one another – are grouped together into a singular, homogeneous mass of bodily potential, which

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[72] 'Shame', p. 93.
[73] 'Shame', pp. 111-112. Emphasis in original.

awaits a digital decision for it to become constructed within language.[74] Thus, when theory invokes affects in order to make the principal claim that affect is culturally constructed, all the properties within this affective realm are assumed to move or flow in the same direction, at the same time, and to and from the same places (namely, either in a place prior to representation and switched off, or in a linguistic system where they are switched on and made meaningful).[75]

This model is essentialist, argue Sedgwick and Frank, because it is based on the assumption that the communication of sensation is a purely digital function, by which the analogically natural is converted into the digitally cultural. From this perspective, the approach critiqued by Sedgwick and Frank perpetuates the 'switchover' logic that Wilden's analogico-digital model persuasively argues against: the premise that bodies which sense and feel are inevitably taken over or superseded by a less natural or less biological system that signifies these feelings, and which is more technologically developed or essentially machinelike. Sedgwick and Frank admit that their analogico-digital account of shame is not at all immune from the charge of essentialism: any attempt to provide a more concretely bodily understanding of moving and feeling must contend with the distinct possibility that while all bodies experience affects, not all bodies experience affects in the same way or have done so transhistorically. But it is better, Sedgwick and Frank claim, to 'risk' essentialism – to risk arriving at an essentialist position – by positing bodily affects and sensations as analogically graduated, unpredictably related, and qualitatively

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[74] 'Shame', p. 111.

[75] I return to the issue of undifferentiated bodily movement and energy in the following chapter, when I discuss the body and the virtual.

discrete, than to dismiss the individuation of bodily affects through a logic that is digitally/decidedly essentialist from the beginning.[76]

The authors also show a greater awareness than Guerlac and Massumi of theory's implication within the processes of bodily intelligibility. Elsewhere in their essay, Sedgwick and Frank assert that this reductively digital, mistakenly mechanical schema of anti-essentialism 'round[s] up affect and herd[s] it into [...] what is already understood to constitute the body of Theory. The brand on that body is relentlessly legible: "theory" has become almost simply coextensive with the claim (you can't say it enough) *It's not natural*'.[77] However, I am concerned by Sedgwick and Frank's unquestioned, seemingly self-evident use of the terms 'routines' and 'habitual' in their earlier discussion of essentialism ('essence is displaced, under these routines [...] only the habitual privileging of digital models'), and by their further claim here that theory's body is inscribed with repetition ('you can't say [*It's not natural*] enough'). While they authoritatively argue that crudely digital models of criticism are themselves repeatedly essentialist, Sedgwick and Frank make only a brief reference to the important anti-essentialist or anti-foundationalist exposure of sites of oppression: 'We have no interest whatever in minimizing the continuing history of racist, sexist, homophobic, or otherwise abusive biologisms, or the urgency of the exposures of them [...]. At the same time, we fear, with the installation of an *automatic* anti-biologism as the unshifting central tenet of "theory", the loss of conceptual access to an entire thought realm, the analogic realm of finitely many [...] values'.[78] That is, Sedgwick and Frank identify an immobile ('unshifting')

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[76] 'Shame', p. 113.
[77] 'Shame', p. 109. Emphasis in original.
[78] 'Shame', p. 108. Emphasis in original.

body (of 'theory') that does important but routinized work, and they allow this body to remain in stasis while they make analogic movements automatically more exciting and shifting. Thus a circularity is introduced into Sedgwick and Frank's argument: anti-foundationalism should be critiqued because it is routine and immobile, but it is nonetheless important in its stasis and so will meaningfully remain in place. Yet because it meaningfully remains in place (as that which is criticized for preventing a more shifting thought realm), the critique of anti-foundationalism's stasis is itself routine rather than revolutionary. This circularity affects Sedgwick and Frank's theory of affects, whereby shame takes on the digital function that Sedgwick and Frank claim it eschews. Sedgwick and Frank assert that 'insofar as they are [digitally] "theorized", affects *must* turn into Affect', but we can just as validly assert that shame here must turn into *shaming* – the automatic shaming of anti-foundationalist routine, which Sedgwick and Frank's brief praising of anti-foundationalism only helps to legitimate.[79] Thus the

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[79] 'Shame', p. 111. Emphasis in original. Such (routine) shaming of the routine occurs in Sedgwick and Frank's critique of a poststructuralist work on affect by gender and sexualities theorist Ann Cvetkovich. While Sedgwick and Frank praise Cvetkovich for the intelligent insights she offers in her account, Cvetkovich is shamed by the authors for 'her rather minimal specification that affect is "discursively constructed" rather than "natural" [which] claim[s] the status of a theory' ('Shame', p. 109). It is important to take heed of Sedgwick and Frank's criticism, and Frank and Sedgwick themselves recognize and respond to critiques of their critique ('Shame', p. 120 n. 8). But Sedgwick and Frank fail to account for the possibility that their own method of critique is itself an effect of a certain temporalization whereby, in Jane Elliott's terms, 'the equation of the routine with the impoverished has an apparently self-evidential logic' ('Currency', p. 1698). It must be noted that Sedgwick and Frank do not seek a new means of theorizing bodies. On the contrary, Sedgwick and Frank call for a return to structuralism (which they partly equate with the cybernetic fold) in order to complexify current theorizations of body-machines: 'part of our aim is to describe structuralism, not as *that mistaken thing that happened before poststructuralism but fortunately led directly to it*, but rather as part of a rich intellectual ecology [...] that allowed it to mean more different and interesting things that have survived its sleek trajectory into poststructuralism' ('Shame', p. 105. Emphasis in original). I agree in general with this argument; indeed, it

explication of bodily knowledges, which here is simultaneously a call for more bodily knowledges, remains bound up with the unexamined call for more mobility.

Across the rhetoric of Massumi, Grosz, Guerlac, and Sedgwick and Frank, the digital appears to be an exemplary source of incredulity. Either the digital is invoked by the critic as that which gives us a false belief in how bodies move(d) – and on this basis the critic tells us not to believe in the digital – or, in my critiques of these essays, the concept of the digital which the critic assumes to have moved beyond returns to undermine their assertions of bodily mobility, which causes us to disbelieve the critic's logic of the analogue (or ana-logic). These critics inform us that, contrary to popular belief, bodies are not digital, bodies do not communicate digitally, and that any digital aspect of a body works only to facilitate a continuous analogue relationship (and I too believe in these resistances to full digitization, as a general principle against celebratory rhetoric of technologically determined 'ages'). But the inherent incredulity attributed to the digital, whether animating or disrupting these critics' rhetoric, arguably does nothing to challenge the binaries analogue/digital and continuous/discrete, which privileges the analogue/continuous on account of its greater mobility, and which subsequently accords it a privileged status in the analogico-digital. This always-already-secondary function of the digital prevents us from thinking the digital differently, not as the digital with more movement but as the digital rethought in

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supports my assertion of cybernetic (im)patience. But Sedgwick and Frank's failure to acknowledge their automatic resistance to routine makes this return to structuralism a means of going 'back to the future', so to speak: going back to structuralism is necessary to dislodge a routine present that (inexplicably) cannot stay routine (even if Sedgwick and Frank are willing to leave anti-foundationalism in place), which is (again inexplicably) posited as a crucial move for theory's future.

its stasis and as a mode of positioning. What happens, then, when we do believe in the digital, in what the digital shows us? More specifically, what happens when we believe in a theory of the analogico-digital that accords the digital a more important role than that of the analogue's catalyst? Addressing these questions will enable us to subvert the normative temporal frames that persist in the analogico-digital theories encountered thus far.

Deconstructionist critic Bernard Stiegler offers an important rethinking of the analogico-digital in his essay 'The Discrete Image'.[80] Stiegler considers the knowledges of movement produced in relation to 'the three kinds of images that have appeared since the nineteenth century – analog, digital, and analogico-digital'.[81] For Stiegler, the exemplary analogue images are those of photography and cinema; the digital image refers to 'the computer-generated image [...]: a modelling of the real that can imitate reality quasi-perfectly'; and the analogico-digital image is exemplified by digital photography, and by computer imaging software that catalogues discrete aspects of image transmission.[82] Because images are, Stiegler affirms, among 'the material supports of the bulk of our *beliefs*', the advent of each of these types of image both disrupts established

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[80] Bernard Stiegler, 'The Discrete Image', in Jacques Derrida and Bernard Stiegler, *Echographies of Television*, trans. by Jennifer Bajorek (Massachusetts: Polity, 2002), pp. 145-163.
[81] 'Discrete', p. 158.
[82] 'Discrete', p. 156. Stiegler is the founder of the Institute for Research and Innovation (IRI) at the Centre Pompidou, Paris. The IRI has created *Lignes du temps*, an annotation and analysis software that uses a graphical interface to immediately reveal the discrete shots and sequences comprising 'temporal objects' (most notably film), and which 'allows for a synchronized description and analysis' of these discrete elements 'through textual, audio and video comments, images and Internet links'. See <http://www.iri.centrepompidou.fr/res/media/flyer_ldt_en.pdf> [accessed 19 November 2009].

beliefs and imposes a new kind of belief, which may be a doubt or form of non-belief.[83] Stiegler begins by discussing the analogue photographic image:

> The rule is that every analog photo presupposes that what was photographed was (real). The image-object printed on photosensitive paper as *this was*, Barthes calls the *spectrum*. This spectre is produced by touch – but by a type of touch that is very singular. Nadar took Baudelaire's picture, and between Baudelaire and myself there is a chain, a *contiguity of luminances*: when I look at this portrait, *I know intimately* that the luminances that come to *touch my eye* touched, that they *really* touched Baudelaire. [...] I know that I'm not going to be able to touch Baudelaire by putting my finger on his photographed face: he is dead and gone. And yet, the luminances that emanated from Baudelaire's face at the moment Nadar's camera captured and froze it forever *still touch me, beyond the shadow of a doubt*. This is moving [...] (it arouses, in me, a dull movement): the ghostly effect is, in this instance, the sentiment of an absolute *irreversibility* [...]: it touches me, I'm touched, but I'm not able to touch. I'm not able to be 'touched' and 'toucher' [...]. *Continuity* is the condition of possibility of the [...] *this was*: we must have a *sense* of *continuity*, of the continuity, *not simply of the chain of luminances, but of what is seen as well*. The grain must be effaced in order for the *spectrum* to create unity, in order for it to present itself as individual (indivisible singularity [...]), as this here (*this was*) in its unique character in its unique instant, and not to appear to be treatable [...] as such.[84]

In accordance with Massumi and Sedgwick and Frank, Stiegler is suggesting here that we must always refer to the analogue as the domain of the *moving*, implying not only irreversible movement, which supports Massumi's theory of ongoing qualitative transformation, but also being moved or affected, which supports Sedgwick and Frank's theory of shame's interest-function. However, Stiegler's analysis of touch alongside these aspects reveals the process whereby the analogue necessarily covers over its prior and inescapable digitization. The analogue image brings movement or rupture, Stiegler suggests, by generating a 'chain of luminances' that irreversibly carries a materiality long dead (which therefore cannot be touched) but which, by virtue of this irreversible movement

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[83] 'Discrete', p. 149. Emphasis in original.

[84] 'Discrete', pp. 152, 153. Emphasis in original. Here Stiegler is invoking Roland Barthes's *Camera Lucida: Reflections on Photography*, trans. by Richard Howard (London: Vintage, 2000), pp. 76-78.

of light, persistently physically touches those bodies who come, successively, to view the image in the present, and moves these bodies with a 'ghostly effect' that alters belief.

But this untouchable analogue irreversibility, despite bringing rupture, retains a credulity in a mo(ve)ment that happened once as an 'indivisible singularity', a mo(ve)ment ('this was') at the origin of the analogue chain that was not and thus cannot be discretized, decomposed or 'treat[ed]' (treatment here implying critical analysis, or a critical touch). We find such credulity in Bergson and in Massumi's neo-Bergsonism: both posit movement as an undivided singular continuum untouched or unable to be comprehended by positions plotted and analysed in retrospect. Indeed, we can use Stiegler's discussion of the *this was* to formulate a general principle that compels Bergson and Massumi's rhetoric: *this was* moving, but we are neither quick nor flexible enough to keep up with its singularity in our digital positions. Stiegler challenges this principle by arguing that the *this was* (moving/a moment) is not an indivisible reality, but is always a 'reality-effect' produced by effacing the discrete elements that constitute the analogue chain at its (non-)origin.[85] Discrete 'grains' – atomic silver halides – constitute that which develops on the photosensitive paper and which will be carried irreversibly as the untouchable *this was*, but the photographic development process both conceals and prevents access to these grains in their discreteness.[86] Furthermore, the analogue image is also constituted

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[85] 'Discrete', p. 155.

[86] '[T]he [analogue] photographer *does not manipulate* the grain that is printed on the paper as an effect of the luminances – at least not in a discrete way. Of course, in developing, in "treatment", etc., there is a certain manipulation of the grain, a certain treatment by the photographer. The art must pass through this. However, even if the grain can be massively enlarged or diminished, [...] one cannot *separate different types* of grains [...] [and] one does not have access to

by discrete 'framing operations and choices about depth of field'. 'The continuity of the analog image', Stiegler affirms, 'ought not to conceal the fact that *the analog image is always already discrete*': an indivisible singularity is always already touched/treated by decomposition, irreversible movement by stoppage.[87]

For Stiegler, the analogico-digital image brings this archaic digitization *to light*, insofar as the notion of light is rigorously deconstructed, and can no longer serve as a support for belief in an unmediated taking-place:

> What *else* are we afraid of in the analogico-digital? We are afraid of a *night light*. [...] The light of photography comes to us from the night of a past that I didn't live, but once [...] this night was day [...]. It has irreversibly become night, this is what the past is [...]. But the day has to have touched the silver halides first. With analog light, the silver luminances still have to do with touch and with life – with a past life. With the digital photo, this light, from out of the night, *no longer comes entirely from the day*, it doesn't come from a past day that would simply have become night [...]. [...] In the digital night, touch is blurred, the chain becomes complicated. It [the chain of luminances] doesn't completely disappear: we're still looking at a photo. But something has intervened – treatment as binary calculation – which renders transmission uncertain. Digitization *breaks* the chain, it introduces manipulation *even into* the *spectrum* [...]. Photons become pixels that are in turn reduced to ones and zeros on which discrete calculations can be performed. Essentially *indubitable* when it is analog (whatever its accidental manipulability), the *this was* has becomes essentially *doubtful* when it is digital [...]. For the imprinting of luminances on the photosensitive support [...] the analogico-digital substitutes a deferred time: the time of storage as a calculation that decomposes [discretizes] the *elements* of the spectrum while waiting for the treatments that will end up in the imprinting of *something else* [...], the night in which, analyzed, 'that which was' becomes discontinuous.[88]

I find Stiegler's assertions of a 'deferred time [...] of storage' and a computational 'waiting' time of *discontinued* mo(ve)ments particularly significant, because they imply a connection between the analogico-digital and metaphors of industrial obsolescence. As the previous chapter showed,

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[...] all the elements *which are differentiated therein* in order to constitute the image' ('Discrete', p. 154. Emphasis in original).

[87] 'Discrete', p. 155. Emphasis in original.

[88] 'Discrete', pp. 152-153. Emphasis in original.

Taylorized Fordist spaces are crudely consigned to the nation's past, 'have become night', in order to support a normative succession-logic of body-machine intelligibility: representations of empty factories or empty warehouses (storage spaces), discontinued products on discontinued assembly lines – spaces where nothing happens – underwrite the call for more and thus better mobility amid the discontinuation of entropic bodies fixed in position and place, bodies that *store* too much energy unavailable for conversion into proper function. This Forwardism extends into the work of Massumi, Sedgwick and Frank, and Grosz, in which the digital is the mistrusted component in an analogico-digital schema, mistrusted because without the analogue (and thus as pure positioning) it makes nothing happen for bodies: digital positions must ultimately be transcended as they enable an analogue chain of moving/moving on.

However, a close examination of Stiegler's analogico-digital reveals how a mistrusting of the digital is not superseded by a belief in the analogue. It is worth decomposing Stiegler's theorization in order to demonstrate my point. The analogue, Stiegler argues, is coextensive with credulity in movement (because it effects an uncritical assumption that imprinted movements and moments 'just were'); the digital introduces doubt into movement (because its operations of placing and positioning make it uncertain whether these imprinted moments and movements were true or false). But credulity and doubt are not opposed; in the analogico-digital, they intersect. From the intersection of the analogue and the digital emerges belief. Belief is the effect of the digital mediating the analogue. More specifically for Stiegler, belief is the foundation of an analogico-digital model of representation in which, with conviction, we ask questions of the apparently indivisible origin or source of credulity so crucial to the analogue,

whilst still being affected by images that are transmitted digitally to us. Therefore, Stiegler is not inverting (or, switching over) an analogue/digital binary; an archaic digital is not a pure digital: as Stiegler makes clear, in digital photography the analogue chain still remains in some capacity, because we are still looking at a photo. We are still touched by light that touched the materiality on display. However, in digitization this light has been made to wait, in storage ('as photons become pixels that are [...] reduced to ones and zeros'), for information that marks its analogue transmission with deferral, alteration and doubt.[89] 'Storage' here does not signify the retarding and misunderstanding of an indivisible mo(ve)ment, or that which the analogue always moves past. Storage is rather the necessary condition of transmission, a transmission broken by questions regarding touch: it is uncertain whether 'the analogico-digital luminances really touch[ed] the sensitive plate *once* [...] At the same time, I know this thing has to have touched, but I'm not sure: how much did it touch? To what *point*?'.[90] These are the kinds of questions asked about the analogico-digital, at the intersection of credulity and doubt.

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[89] We can say that this activity is in many ways indistinguishable from the storage of data on a CD, for example. CD data are accessible after the marks imprinted or indented on the disc's material form are read by a laser, and after the laser's movement over these marks has been converted into binary code. Stiegler however focuses solely on the affective aspects of visual media: he is interested in the analogico-digital history of motion-capture and the properties of the images produced in this history.

[90] 'Discrete', p. 154. Emphasis in original. Whereas Sedgwick and Frank argue that the digital negates or switches off an analogue (qualitatively different) engagement with shame, Stiegler calls for the digital to become 'shameless', to enable us to critically navigate through the differentiated aspects that constitute the image, a critical navigation prevented by the reality-effect of analogue movement: 'We must effect a change in attitude in order to be able to see [these differentiated aspects or "multitude of discontinuities"]. They have an effect on us only insofar as we don't see them. The image is always discrete, but it is always discrete, as it were, as discreetly as possible. If it were discrete indiscreetly (*shamelessly* as it were), its discreteness would have no effect on us'

In the doubtful transmission of the analogico-digital, light no longer grounds a credulity in the indivisible mo(ve)ment but is incompletely shut out, as it were, in storage, where it becomes one with a night that marks not what happened (from 'a past day') but that which possibly never happened, never took place as an intelligible mo(ve)ment. This analogico-digital 'light in the night', as termed by Stiegler, transmitting that which (never) happened, attests to the fact that it 'is always on the basis of the irreducibility of a non-knowledge that a knowledge is constituted'.[91] Stiegler argues that because the analogue must always efface its own manipulation while (and as a means of) preserving belief in the *this was*, it carries the danger of exempting manipulation from criticism, denying critical access to discretization.[92] Analogue belief (or, credulity) is politically damaging, Stiegler asserts, because it can engender a form of uncritical doubt or 'panic'.[93] For Stiegler, panic emerges because manipulation must remain untouchable – must be withheld from the viewer – to enable successive analogue transmission, and thus prevents us from *separating* (discretizing or digitizing) reality from fiction, or from acknowledging the

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('Discrete', p. 156. Emphasis in original). For more on discreteness and storage (as memory), see Jacques Derrida, *Archive Fever: A Freudian Impression*, trans. by Eric Prenowitz (Chicago and London: University of Chicago Press, 1996), p. 37. On the digital and touch, see Jacques Derrida, *On Touching – Jean-Luc Nancy*, trans. by Christine Irizarry (Stanford: Stanford University Press, 2005), pp. 123, 162, 179, 300.

[91] 'Discrete', pp. 154-155.

[92] Stiegler's key example of this danger is the 'role of television in the 1989 Romanian "revolution" [...], in which it was initially reported that 40,000 to 60,000 people had been killed [by former communist dictator Nicolae Ceausescu's security forces in Timisoara, on December 16, 1989]. Considerable evidence emerged, after the fact, suggesting that this and other massacres had been carefully staged, and, in some cases, simply invented, and that the so-called revolution was not a popular uprising but a coup' (*Echographies*, p. 172 n. 3).

[93] 'Discrete', p. 151.

processes by which the two become blurred within the temporal objects of film, photography, and television.

This results not only in the viewer's credulous reception of the sequence unfolding before them, but also in the inhibition of a critical mode for retrieving the very movements and moments that visual media transmits. This inhibition can be explained through reference to the production of panic at both a micro and a macro level. At a micro level, the discrete elements of digital media – such as the pixels of a digital photograph or the individual frames of a digital movie – are overlooked and left behind, because they are transmitted at such speed that one senses only the analogue effects of this media. At a macro level, the analogue or continuous way in which transmission is traditionally framed in terms of form and genre – for example, 'rolling' or 'round-the-clock' digital news coverage, and broadcasts generally that organize their output to fit the rhythm of the calendar – has instilled in us a credulous investment in succession, whereby the 'next' transmitted movements and moments are expected to be truer (or more likely to lead us to the truth) than the previous ones. In this ana-logic, 'old news' irreversibly becomes night, in Stiegler's terms, making it impossible for us to engage with the discrete operations, actions, and techniques of positioning through which the transmissive chain is effected. My explication of these micro- and macro-productions thus highlights two aspects of the same claim against credulity in the analogico-digital. That is, as long as the analogue aspect of the analogico-digital continues to hold our interest, it will not feel right for us to believe that technological development should stop, break down/separate, and thus multiply the actions it has recorded – a feeling that causes us to shut out

completely in the present the (im)possibilities of past movement, and to panic about what is coming next.

In response to the threat of panic, Stiegler urges us to believe in the digital within the analogico-digital, in the irreducible non-knowledge that doubts and decomposes the indivisible analogue mo(ve)ment: '*A more knowing belief, and by the same token, a less insipid and credulous one: this is what the things we fear about the analogico-digital would also make possible*'.[94] By positing the analogico-digital as a diacritical storage of positions that defer moving on, Stiegler understands better than the neo-Bergsonists that politics (whether racial, gender, sexual, class) takes time, stays in place often overbearingly, boringly, while positions and counter-positions are repeatedly made for the recognition of those mo(ve)ments that have not registered as meaningful. After all, as Jane Elliot notes, 'things may stay true longer than they stay interesting'.[95] Insofar as the more knowing mode of the analogico-digital can offer a truth or a guiding fact, it is that things may stay doubtful longer than they stay interesting.

I will use the following chapter to identify the body-machine movements and moments that are discovered when we think of the digital as a philosophy of placed positionality rather than as a term for technological advancement. Digital movement in place, I will demonstrate, engages us with the above axes of oppression in ways that question what it means to live in post-Fordism. To uncover these activities, we will need to discuss at length a key argument that

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[94] 'Discrete', p. 152. Emphasis in original.

[95] This assertion is part of Elliott's argument against the 'exciting' scientific turn in feminist theory: 'when we assume that familiar approaches can no longer serve as tools to dislodge the present, we demonstrate a continued affinity for the modern logic that equates the new, the interesting, and the valuable. In so doing, we sidestep the difficult realization that while intellectual work should be exciting, political work may be dull' ('Currency', p. 1701).

underlies Stiegler's essay, to which I have thus far given only a cursory introduction. In short, chapter 4 explores the wider implications of Stiegler's claim that in the digital, bodies move by touching and being touched back.

4: Casting Bodies

Bodies have been casting for as long as there have been technological platforms for transmission, the most obvious of which are radio and television: casting here signifies the assertion of a presence over a wide area, made available (or 'broadcast') for others to see and/or hear. The broadcasting of one's self has of course been one of the main ways of using the Web for several years.[1] In this final chapter, I will propose that bodies cast in a technologized existence. In the sense of broadcasting, though, casting has occurred long before the writing of this piece, through media that considerably predate the technologies of the Internet, mobile telephones, and the World Wide Web. My proposal to cast technologically certainly appears to be anachronistic in the light of this history. However, this is not how casting will be interpreted or, more specifically, argued for in this chapter: instead, I explore the various meanings of the term in order to address the questions raised by the previous chapter on bodies and the digital. Two principal questions remain after chapter 3: if the digital age is such a reductive notion, how can we make sense of the manifold digital technologies whose permeation of contemporary western societies cannot be denied? What are the alternatives to living flexibly in post-Fordism? Using the term 'casting' as the central theme of my response will lead us to bodies that are more hard working than flexible or flexibly present: bodies that work on, or work with, a certain permanence or immutable form in a time of disorganized workforces, mobile technologies, and immersive online worlds. Casting, I will demonstrate, names what (analogico-digital) bodies do in body-machine time when new technologies

[1] Indeed, the tagline of the video networking site *Youtube* is 'Broadcast Yourself'. See <http://www.youtube.com> [accessed 19 November 2009].

stop rather than transport, and when new technologies fix bodies in place instead of providing bodies with navigable space.

Keeping in Touch, or, Casting On and Off

I have outlined the ways in which we can, and the reasons why we should, believe in the digital within the analogico-digital. Stiegler explains that the analogico-digital engenders a new, less credulous form of belief, involving diacritical access to the discrete elements that constitute transmission (the transmission of images in the media). Key to this new form of belief is an uncertainty regarding touch. Stiegler does not want to question the analogue's status as the domain of the moving: continuous movement (transmission) and the capacity to affect are the essential properties of the analogue and, Stiegler shows, remain important to any discussion of the body and technology. It is the particular credulity compelling this double sense of movement that concerns Stiegler, namely the credulity that light *once* touched the materiality displayed in the image. This materiality is carried forward in time as a night that once was light/alive, and takes on a ghostly quality as it continuously comes to touch – via the light by which it was once touched – those who successively look at the image. The transmission of analogue light is unsettling but, as Stiegler shows, it is also one-way: credulity in the singular touch of light supports the concomitant belief in the *this was*, a singular (that is, indivisible, untreated, untouchable) mo(ve)ment whose taking-place sets in motion a chain of luminances that continuously touches bodies in the present, but which prevents the *this was* from being touched back.

Stiegler's key point is that in the analogue image, we are continuously touched by that which has become night, but we do not *keep in touch* with that which has become night. To keep in touch with that which has become night is to have access to the discrete positions constituting the past mo(ve)ments that touch us in the present. In the analogico-digital, we cannot be certain that light once touched the materiality on display, because the light touching the materiality comes from a 'digital night' in which multiple types and degrees of touch have already occurred in the dark, as it were. Photons wait in digital storage to become pixels, which wait to become zeros and ones, which await discrete calculations and prearrayed quantifications. When we come to look at the 'discrete image' eventually imprinted by these treatments, we will be touched in the present by past mo(ve)ments that are kept discreet in order to allow a belief in an unmediated taking-place. In Stiegler's words, these analogico-digital touches come from a 'light in the night [...] still deeper even than that of a past, the night of a past that was *never present*'.[2] Analogico-digital touch is not one-sided but participatory, because it urges us to come into contact with unintelligible movements and ineligible histories, to have a critical awareness of the ways in which discrete positions are kept as discreet as possible when a continuum is posited.[3] Keeping in touch thus transforms touch into a critical mode, or a 'less

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[2] 'Discrete', pp. 154-155. Emphasis in original.

[3] To clarify, I invoke 'continuum' here in accordance with Massumi's theory of the analogue, where 'continuum' refers to continuously *variable* movement, in the coextensive sense of mobilizing and being moved/touched/affected. A continuum in this logic is not movement that is continuously the same: Massumi would undoubtedly see the latter as a continuum figured digitally (lifelessly, programmatically, in fixity). In Massumi's analogue, a continuum is an undivided force that qualitatively changes as it moves from one medium into another. Although Massumi's notion of an analogue continuum differs from Stiegler's concept of irreversible analogue transmission, Stiegler does implicitly equate the analogue with continuously variable movement. The *this was* (once

credulous' form of belief: doubting analogue touch means touching more and to different extents, participating in a pervasive touching that complicates (while still believing in) the notion that the past continuously affects the present.[4]

But this critical mode of touch is not necessarily sustained by believing in the digital. The principal work discussed in this section believes in the digital, but at the expense of a diacritical/digital engagement with the multiple types, degrees, and meanings of touch that must be considered when touch is discussed within the context of technological change. The work to which I refer is technologies scholar Sadie Plant's polemic *Zeros + Ones: Digital Women + The New Technoculture*, a seminal publication within the field of cybercultures that emerged in the 1990s.[5] *Zeros and Ones* is a highly ambitious – and significantly

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light but has since become night), which is in continuous irreversible transmission via the chain of luminances, will move or touch variable viewing subjects variably positioned in variable time periods. Stiegler's analogico-digital critique of the analogue is based on the argument that while there are many touches/movements in the analogue, these touches ultimately refer to a privileged and certain *point*: in the analogue we assume we know the point to which the *this was* was touched; once, by a light that has fixed the *this was* to a particular point in time by subsequently becoming night. It is thus possible to argue that for Stiegler, analogue touching is more a form of persistent prodding or poking from the past, which elicits responses from bodies in the present – 'dull movement[s]', in Stiegler's words ('Discrete', p. 152) – but not the types of response that will question or digitally dissect the origin of continuous movement.

[4] In their classic study of electronic media in the late 1960s, Marshall McLuhan and Quentin Fiore invoke 'the extreme and pervasive tactility of the new electronic environment', theorizing television and general-purpose computers as gateways to 'a mesh of pervasive energy that penetrates our nervous system incessantly'. See Marshall McLuhan and Quentin Fiore, *War and Peace in the Global Village* (New York: Bantam, 1967), p. 77. While there are similarities between McLuhan and Fiore's assertions and Stiegler's call to touch/be touched more, in the course of this chapter it will become clear that touching in new media does not always equate to a pervasive sensory (tactile) environment.

[5] Sadie Plant, *Zeros + Ones: Digital Women + The New Technoculture* (London: Fourth Estate, 1997). Cybercultures, or cyberstudies, is a huge interdisciplinary field, covering analyses of computer-networked societies, and body-machine interactions, in philosophy, cultural theory, popular science, science fiction, film, design and illustration, visual performance arts, and many other areas. It is impossible to provide a definitive bibliography of this field, but key

flawed – project that attempts to assert a continuum of female agency across a long history of technological innovation, while simultaneously introducing a technological theory of touch designed to challenge our conceptions of what it means to make contact and communicate. Because of the breadth and complexity of *Zeros*, we must extensively analyse and clarify Plant's key arguments before considering the limitations of her work.

Plant argues that contemporary communication technologies, and contemporary workplaces and work practices, provide unprecedented opportunities for a female-centred mode of touch to subvert patriarchy's historical harnessing of technological creativity. 'Since the industrial revolution', Plant claims, 'and with every subsequent phase of technological change, it has been the case that the more sophisticated the machines, the more female the workforce becomes [...] and the fears of unemployment which have haunted modern discussions of technological innovation have always applied to male workers rather than their female peers'.[6] Plant asserts that this female affinity with technological change and increasing automation has always been met by 'enormous resistance', particularly within capitalist-historical narratives that

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cybercultures texts include Manuel de Landa, *War in the Age of Intelligent Machines* (New York: Zone Books, 1992); William Gibson and Bruce Sterling, *The Difference Engine* (London: Victor Golancz, 1992); George P. Landow, *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (Baltimore: Johns Hopkins University Press, 1992); and Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1997). Plant is the principal feminist in the cybercultures area – a cyberfeminist – along with Anne Balsamo and Donna Haraway, although Haraway has never written specifically on computers or computer networks as such. The defining cyberstudies anthologies emerged in the mid-1990s, namely Mike Featherstone and Roger Burrows's *Cyberspace/Cyberbodies/Cyberpunk*, and *The Cyborg Handbook*, ed. by Chris Hables Gray (New York and London: Routledge, 1995); these were followed in 2000 by *The Cybercultures Reader*, ed. by David Bell and Barbara M. Kennedy (New York and London: Routledge, 2000).

[6] *Zeros*, p. 39.

privilege a visually based sensory schema supported by a gendered logic of 'hand-eye coordination':

> Manual work and man's work have been more or less synonymous [within modern capitalism and its critiques], both for the workers – hired hands required to work with their hands, hand tools, handles, and other hand-size components – and the bosses – the ones who manage and manipulate the manufactories, and assume it's all in their hands. [...] two hands and two sides of a game which is supposed to be conducted by another single hand: the invisible hand of capital, perfectly integrated with the supervising eye of the state.[7]

Plant presents the workings of a masculinist history of technology based on control: industrial management and male manual labour are related hierarchically but also hand in hand, as it were, according to a single co-ordinative configuration. In Plant's opinion, the notion of worker-management struggle is bound up with metaphors of male hands harnessing machinery, preventing (or keeping at arm's length) an understanding of the disruptive, unruly, female aspects that have always accompanied technological change.

For Plant, these unruly aspects operate at the sensory level of touch rather than hand-eye. Plant describes touch more specifically as a continuous process of body-machine *tactility*, which we can understand in two interrelated ways.[8] First, when technology changes, Plant explains, means of communicating recombine

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[7] *Zeros*, pp. 40, 75. The 'invisible hand' refers to economist Adam Smith's theory of the self-regulatory nature of market capitalism, whereby the exchanging of goods and services is reproduced, and public interest is advanced, by the self-interests of each individual within the market economy. As Smith states, 'every individual [...] intends only his own gain, and he is [...] led by an invisible hand to promote an end which was no part of his intention'. See Adam Smith, *Wealth of Nations*, ed. by Kathryn Sutherland, 2nd edn (New York: Oxford University Press, 1998) p. 292. Mark Seltzer suggests that Taylorized Fordism instanced 'the progressive replacement of the "invisible hand" of the market economy by [...] the "visible hand" of the managerial economy: the general achievement of standardization, programming, and processing of materials, persons, and information' (*Bodies and Machines*, p. 156).

[8] Plant's conflation of touch and tactility is the major problem of her project, which I will explain in detail as this section proceeds. For now, however, I am only concerned with outlining Plant's principal arguments.

unpredictably, acquiring agency and dispersing along lines that exceed the purposes the change was initially intended to serve. Plant argues that this recombination-dispersal is immanent to all technological developments and types of machine work: it is present in the earliest factories, Plant emphasizes, even in forms of pre-factory work before the industrial revolution.[9] Plant provides many examples of technological change to support this argument, one of which is the series of shifts towards automation within telephony from the late nineteenth to the late twentieth century:

> As early as 1889, almost as soon as the telephone network had started to run, a 'girl-less [...]' automatic switching system was devised by a Kansas undertaker, Almon B. Strowger, who had become convinced that the wife of one of his rival undertakers, herself a telephone operator, was diverting calls away from his business. But the explosion of telephony meant that Strowger's system joined the women it had been intended to replace.[10]

For Plant this anecdote exemplifies the communicative redistribution that accompanies and undermines the gendered logic of advancement-through-change. A technological change or development occurs in that the automatic telephone exchange replaces the manual exchange, with the further intention of eliminating the (predominantly female) workforce operating the manual system. But the automatic system's implementation enacted a set of body-machine relations from which women in particular benefited: the massive expansion of the American telephone network in the early twentieth century required the widespread installation of automatic exchange systems across a vast spatial expanse, but this in turn created a widely dispersed network of female operators because the first automatic exchanges were unable to connect calls made over

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[9] The main example Plant provides is that of pre-factory textiles production, which I will discuss shortly.

[10] *Zeros*, p. 122.

long distances.[11] Operators thus remained crucial to telephony's development: automation, Plant claims, enacted not the elimination but the reticulation of female relations to work and technology.

Plant goes on to argue that this form of female connectivity accompanied telephony's full automation, whereby '[r]ecorded female voices became ubiquitous' and, more significantly, the computerization of network operation introduced a standardization of procedure ensuring that (again predominantly female) service sector employees could be flexibly transferred from workplace to workplace:

> [Standardized female service sector workers] weren't only processing data for the boss. If they were pooled with their colleagues, their working environment was a hive of activity [...] and hospitable to a multiplicity of informal networks, grapevine gossip riding on the back of formal working life: birth and death, sex and disease, birthdays and bosses, cosmetics and clothes. [...] The content [of these informal networks] may have been trivial to him, but this was entirely beside the point. It is quite literally *the point* which is subsumed when means of communication begin to communicate with themselves. For these emergent systems of exchange, new lines and links are everything.[12]

The post-Fordist 'multiplicity of informal networks' is tactile for Plant because it is composed of communicative elements that communicate with one another: a telephone exchange connects with and is conducive to various woman-centred collectives (women's 'reading clubs [...] flower and vegetable gardens, and [...] athletic clubs') that are produced from the exchanging of communicative content

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[11] For a detailed account of these changes in telephony and the ways in which they affected the workforce of female operators, see Elizabeth Faulkner Baker, *Technology and Woman's Work* (New York: Columbia University Press, 1966). Plant cites and paraphrases Faulkner Baker throughout *Zeros*. We can see the principal argument that animates *Zeros* in Plant's account of the early telephone network: technological changes give rise to an increasing connectivity and communicability that transmutes into a consciousness-raising tool for women on a global scale.

[12] *Zeros*, p. 123. Emphasis in original.

at work.[13] This communicative content – which Plant describes as flowing, loose network-building 'gossip' – is irrelevant to the formal properties of working life, Plant argues; gossip is produced in the workplace but creates ways for women to network outside the workplace, exceeding management in the Taylorist sense. These communicative elements *keep* in touch, maintaining proximity without merging into an organized whole. The telephone exchange, Plant affirms, exemplifies the ways in which the increasing mobility and connectivity offered by flexible working conditions corresponds with a 'meshwork of [...] women [...] and machines' that is 'dislocated and fragmented, scattered too wide for any form of union'.[14] Female relations with post-Fordist workplace shifts are active, Plant maintains, but not in the sense of collective action: the 'new lines and links' produced by female-to-female contact in service sector economies tend towards disorganization, subverting capitalist-historical narratives that have taken the form of 'a personal argument between the men: [...] a struggle between bosses and workers, firms and unions'.[15]

Plant argues that these informal, interconnected lines of communication are also tactile in that they bear the traces of female finger work from the industrial revolution to post-Fordism. The development of the typewriter in the nineteenth century, Plant asserts, provided the conditions for an immersive, fluid, female mode of touching and feeling to untidily connect female interactions with technology across time. For Plant, the gossiping or networking female employees

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[13] The invocation of 'reading clubs' is made by Faulkner Baker in *Technology*, p. 70, and is cited in *Zeros*, p. 123. I say 'communicative content' here rather than 'information' to avoid confusing the commonsensical understanding of information with its meaning (or meaninglessness, as it were) in a cybernetic context.

[14] *Zeros*, p. 120.

[15] *Zeros*, p. 75.

of post-Fordist office spaces, operating computer keyboards, have taken up and are reworking communicative modes already established by the earliest typists. Over a century ago, Plant emphasizes, the typewriter displaced handwriting as the key means of information processing.[16] This move towards automation resulted in the creation of a huge female labour force, 'new networks of women' whose 'fingers were finer and cheaper' than those of the male handwriting clerks who had formerly dominated the management of statistics.[17] Her account is worth quoting at length:

> Several typewriters had competed for attention in the 1800s, [...] But the machine which caught on the most was [...] developed in 1867 by Christopher Latham Scholes. [...] Later perfected by Remington engineers, its impact was enormous and as fast as the speeds of writing it made possible. [...] If handwriting had been manual and male, typewriting was fingerprinting: fast, tactile, digital, and female. [...] Text was no longer in the grasp of hand and eye, but guided by contacts and keystrokes, a matter of touch sensitivity. An activity which had once been concentrated on a tight nexus of coordinated organs – hand and eye – and a single instrument – the pen – was now processed through a distributed digital machinery composed of fingers, keys, hammers, [...] levers, cogs, and wheels. The noisy tactility of typewriting destroyed the hushed and hallowed status of the written word. [...] In secretarial schools, women were taught to type in rhythmic patterns which had nothing to do with either the meaning or the sounds of words but was more akin to the abstract beat of drumming and dance.[18]

'Digital' here represents the discontinuous scales brought together by the activity of typing (including fingers on a human hand and teeth on a cog), and the female fingers or digits that caress machinery in such perpetuity and with such speed that a subject/object distinction becomes blurred. Women do not use the

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[16] Plant interprets handwriting as a technology of imposition, involving the controlled and co-ordinated hand-eye production of images on a passive surface. See *Zeros*, p. 117.

[17] *Zeros*, p. 117.

[18] *Zeros*, pp. 117, 118. It must be noted that in Plant's counter-history this subversive tactility does not begin with the typewriter's implementation. As I have already noted, Plant privileges another form of female machine work that in her opinion gives a greater historical perspective of 'digital women', to which I will turn shortly.

typewriter for a predetermined purpose, Plant implies. They are instead drawn towards becoming integrated into a synthesis of non-hierarchical components that move with one another; a body-machine 'dance' orchestrated by a particularly female stroking and sensitivity.[19] For Plant, women workers have left 'fingerprints' across the industrialized West – precedents of touching and feeling technological developments that have always instanced the outmanoeuvring of working time's masculinist (hand-eye) imperatives and constraints.[20]

Zeros also attempts to complexify our understanding of the skin. Plant asserts the primacy of the skin within her tactile mode of keeping in touch, but more significantly argues that the skin is an intricate communicative system that cannot simply be described as the sense organ containing a discrete bodily unit. The skin is important to body-machine tactility, Plant argues, but only insofar as we acknowledge that skins are active, agential, dynamically moving (expanding and contracting) networks, composed of sensitive microscopic terminals that communicate independently of a fixed bodily identity. For Plant, skins are

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[19] 'Female' and 'women' are invoked interchangeably throughout Plant's narrative, although it is possible to ascertain Plant's indented use of these terms. In the above passage, we see that 'women' is a signifier of the collective groupings that form when male work is undermined (or 'destroyed') by technological innovation, whereas 'female' signifies the fluid, processual bodily attributes of those who comprise each of these collectives.

[20] Plant's intention is to connect or network these fingerprints with the manipulations of digital media that occur on a global scale in a post-Fordist existence. The world's electronics assembly operatives – a predominantly female workforce – comprise 'dispersed networks' across 'Silicon Valley, Silicon Glen, Bangalore, Jakarta, Seoul, and Taipei', Plant affirms, 'assemble[ing] the circuits, set[ting] up the keyboards and the screens', and 'mak[ing] the chips that make the chips that turn the computers on' (*Zeros*, p. 74). Plant argues that while these jobs are 'low status, poorly paid, sometimes dangerous', they are also agential if we see them as 'the latest in the long and twisted line of microprocessors which emerge from a tangle of telephone lines, dials, operators, cables [...] and plugs; [and] the keys, carriages and cases of typewriters', helping us to realize that if 'she hasn't had a hand in anything' in the history of technological change, 'her fingerprints are everywhere' (*Zeros*, pp. 74-75).

constantly open to new touches or contacts that modify the manner in which their terminals communicate with one another, and thus are fundamentally resistant to localization:

> Touch is the feeling that nothing is safe. While sight is organized around the organs that see and the things that are seen, touch is not a localized sense. It is dispersed and distributed across the skin, every one hundred square millimetres of which is said to have some fifty sense receptors. [...] The skin is both a border and a network of ports; a porous membrane, riddled with holes; perforated surfaces, intensities. [...] Porous, perforated, taut, and transmitting on their own frequencies, skins are continually in touch with the membranes and meshworks of the nets they compose. [...] Touch is the sense of communication in far more than a metaphorical sense. It is the sense of proximity, a nearness that never quite fuses touching elements into one new thing, but which literally puts them all *in touch*.[21]

In relating these assertions to Plant's arguments for female networkers and communication technologies that keep in touch, we must emphasize that Plant does not mean to gender the skin as such. It is not that skin is necessarily more female than male, Plant implies. Rather, Plant is claiming that the always technologically affected representations of the skin's function are bound up with the ways in which women have always touched and moved with machines – touches and movements that do not bind, or fuse 'touching elements into one new thing'.[22]

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[21] *Zeros*, pp. 186-188. Emphasis in original. Plant is clearly influenced here by McLuhan and Fiore's claim that in a new media existence, human skin gives way to a synaesthetic milieu, in which bodies are penetrated and networked by continuously variable, transformative sensory movements: 'touch is not skin but the interplay of the senses, and keeping in touch or getting in touch is a matter of a fruitful meeting of the senses, of sight translated into sound and sound into movement, and taste and smell' (*War*, p. 71). Unlike McLuhan and Fiore, Plant does not dismiss the significance of the skin: indeed, it is one of her main areas of study. But both accounts share the notion that a fluid transformativity is enacted by the sensitive receptivity of bodily surfaces.

[22] To fully understand Plant's theory of tactile keeping in touch (as both communication/coming-into-contact-with and touch-sensitivity/finger stroking), and to understand why Plant uses this schema to make claims for female agency, we must acknowledge previous works that have attempted to discuss touch,

Plant's critique offers a response to the problem I identified in chapter 2, whereby neo-Marxist narratives of post-Fordism foreclose the possibility of factory girls affecting feminism in the present. This foreclosure, I argued, results in the uncritical presentation of twentieth-century feminism as a constantly renewed energeticism. Plant's belief in the digital is based on the implication that past factory (and pre-factory) girls *always* affect feminism in the present. This

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tactility, and skin within a technological context. *Zeros* can be considered a feminist rewriting of physician Lawrence K. Frank's classic essay 'Tactile Communication', in *Communication and Culture*, ed. by Alfred G. Smith (New York: Holt, Rinehart and Winston, 1966), pp. 199-208. Written in the cybernetic fold of the late 1950s, Frank's article argues for the importance of tactility in the healthy development of individuals and in the long-term sustenance of interpersonal relationships. Frank's rhetoric is clearly informed by cybernetic concepts of homeostasis, information, and telecommunicative message transmission. Consider the following passage, in which Frank views touch-sensitivity as a foundational condition of courtship: 'Grooming the skin, bathing of all kinds, anointing, oiling, perfuming the skin, plucking hair, shaving, are patterns for modifying communication by the skin, [...] relying upon visual cues to indicate tactual readiness for communication (actual or symbolic). [...] Here the skin serves like a carrier wave upon which the particular message is imposed as a modification or patterning of that wave, as in telephoning. Thus admiring glances, indicating approval of the individual's clothing, body arts, and grooming, serve as surrogates for invitations to actual tactile contacts' ('Tactile', p. 207). In this description vision becomes embroiled in a more pervasive mode of touching and feeling: the sensitivity of the individual's skin to the individual's touches – prosthetically enacted by the razor, the brush, the chemical compounds of perfumes and oils, and so on – is the precondition of eye contact with a prospective partner, in which visual cues (if decoded properly as messages of tactile significance) draw the individual and admirer into an intimate, tactile reciprocity. To this extent the critical positions of Frank and Plant are indistinguishable: Plant indeed cites a section of Frank's description in her discussion of the skin (see *Zeros*, p. 187). However, Plant appropriates Frank's theoretical model of tactility in order to demonstrate that it more aptly describes a form of female connectivity, in excess of the discourses of medical expertise and the male-led, heterosexual relationships that frame Frank's account (although Plant fails to provide a detailed or sophisticated critique of sexuality). Plant is not the first scholar to draw significantly on Frank's essay. Citing the 'brilliance' of Frank's model of tactile communication, anthropologist Ashley Montagu argues for the skin as an 'especially good electrical conductor' that possesses a 'mind' of its own, by virtue of 'the sensory capacities of the fingertips alone'. See Ashley Montagu, *Touching: The Human Significance of the Skin*, 3rd edn (New York: Harper & Row, 1986), pp. 172, 183, 186.

occurs via a process that Plant calls 'weaving'.[23] Weaving refers primarily to the sophisticated and elaborate techniques by which women have historically produced textiles. Plant claims that these techniques can be traced to ancient Egypt and China, and have provided the basis for women to technologically keep in touch in the factory and beyond:

> Textiles themselves are very literally the software linings of all technology. [...] the production of textiles always seems to put some kind of surplus in play. [...] There is an obsessive, addictive quality to the spinning of yarn and the weaving of cloth; a temptation to get fixated and locked in to processes which run away with themselves and those drawn into them. [...] the introduction [via the industrial revolution] of technology to more primitive textiles techniques is both a break with the old ways and a continuation of the lines on which the women were already at work. [...] The weaving of complex designs demands far more than one pair of hands, and textiles production tends to be communal, sociable work allowing plenty of occasion for gossip and chat. Weaving was already multimedia: singing, [...] telling stories, dancing, and playing games as they work, spinsters, weavers, and needleworkers were literally networkers as well. [...] As the frantic activities of generations of [...] weaving women makes clear, nothing stops when a particular piece of work has been finished off. The only incentive to cast off seems to be the chance completion provides to start again, throw another shuttle, cast another spell.[24]

Plant introduces the term 'cast' to emphasize the processual quality that defines weaving. Casting is invoked here in the sense of throwing or projecting: the throwing or projecting of threads by woman-specific techniques – threads into which the women workers themselves are thrown or projected by dint of the inability to distinguish 'the process of weaving' textiles from 'the woven design' of textiles.[25] 'Cloths persist', Plant argues, 'as records of the processes which fed into their production: how many women worked on them, the techniques they

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[23] *Zeros*, p. 65.

[24] *Zeros*, pp. 61, 62, 64, 65, 67. A shuttle is a textiles storage device that holds a cylinder of wound thread, which is passed or 'thrown' through machine-separated lengths of fibre to weave cloth. See *An Encyclopaedia of the History of Technology*, ed. by Ian McNeil (London: Routledge, 1990), pp. 821-822.

[25] *Zeros*, p. 66.

used, the skills they employed'.[26] In weaving, then, casting off is an indication not of stoppage but of the excitement of continuous movement-in-process and infinite communicability – the 'frantic' renewal of connections between women whose touches guarantee immersive tactile communication, the addictive feeling of being in touch.

Plant points out that the historical privileging of visual arts in the West – art forms that involve writing on paper and painting on canvas, which 'reduce the complexities of weaving to raw materials on which images and signs are imposed' – has hitherto disengaged us from the female agency absorbed and carried in woven materials that are meaningful prior to being used or imposed upon.[27] But for Plant there are always opportunities for contemporary interactions between bodies and technologies to 'reconnect with the tactile depth of woven cloth'.[28] This is because weaving never casts off: in other words, textiles 'persist', are active and alive with the touches and movements of female fingers, and the conviviality of the open networks into which weaving factory (and pre-factory working) women were woven as a result of this finger work. Threads of the past, Plant suggests, are tactile communicative lines able to reach continually into the present, and the abundance of tactile technologies in post-Fordism presents a significant opportunity for a reticulation of unprecedented scale: a global, transhistorical network of working women enacted by the similarities between computer networks and fabric.[29] In short, Plant foresees the

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[26] Ibid.
[27] *Zeros*, p. 67.
[28] *Zeros*, p. 69.
[29] The stroking of keyboards is important to this project of reconnection, but for Plant the technology most able to enact this reticulation is computer graphics software, because the coding and pixelation of images on computer screens replicates textiles production processes: 'If the conventions of the visual arts had

realization of a tactile/textile technoculture in which women are cast (dispersed, networked by a process that never stops) but are never cast (put into a fixed shape or form, solidified or moulded collectively or individually into a bodily identity).

Plant's concept of weaving women certainly resists the 'crisis' rhetoric that frames the representations of post-industrialism in Harvey and Jameson. Weaving figures industrial decay as a feminist opportunity: a chance for service workers to take up past collective female movements that (contra Jameson) never suffered from burnout and which (contra Harvey) were vigorous before the decline of Fordism. But Plant's description of weaving as casting leads to a questioning of the associations Plant makes between the digital, the human finger, and networking. To reiterate, Plant claims that weaving casts: the touch-led finger work (weaving) of females who comprise informal labour forces – whether this involves the production of textiles, typing on a keyboard, or the

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activated artists and their tools and divided them from pacified matrices, digitization interweaves these elements again. On the computer monitor, any change to the image is also a change to the program; any change to the programming brings another image to the screen. This is the continuity of product and process at work in the textiles produced on the loom. [...] Digital fabrications can be endlessly copied without fading into inferiority; patterns can be pleated and repeat, replicated folds across a screen. Like all textiles, the new softwares have no essence, no authenticity' (*Zeros*, p. 189). Plant's assertions are technically incorrect, however. In computing, files referred to as 'executables' are digitally programmed or coded to make a computer carry out specific, predetermined tasks. Examples of executables include word processing applications such as Microsoft Word, and imaging software such as Apple iPhoto. Contrary to Plant, changing an image or a document using an editing tool does not change the executable application file: for example, editing an image in a relevant software package does not transform the way in which this software works or follows instructions. Also, access control or Digital Rights Management (DRM) technologies have been created since Plant's time of writing. DRM uses methods of encryption in an attempt to limit the ways in which digital media applications and content can be used: in other words, DRM coding tries to determine the authenticity of the digital. In both of these examples we see that tasking is a crucial aspect of computer language. I discuss Plant's implication within ergonomics and the time of the task later in this chapter.

assembly of microprocessors – is simultaneous with the dispersal (casting) of tactile communication; a *feeling*-proximate to (or a keeping in touch with) other finger workers past and present. This simultaneity is captured in Plant's assertion that 'touch is the sense of communication', an assertion that contains a significant conflation: the conflation of touch and tactility. Before Plant relates touch and communication, Plant has already stated that 'touch is the sense'. Thus, Plant's principal argument is based on the assumption that the action of touching or making contact with surfaces guarantees, or is simultaneous with, a tactile sensitivity to that action. The presence of this assumption is confirmed by Plant's further assertions of 'touch sensitivity' and of 'touch' as 'the feeling'.[30] Touch is always tactility, Plant implies, and because women touch more, women must necessarily be more sensitively receptive to contact. Moreover, this touch-sensitivity emerges from technological change, meaning that women in particular can benefit from – and can more effectively cast in – the decline of heavy industry and the proliferation of flexible, service sector employment.

This conflation of touch and tactility is found most significantly in Plant's discussion of the skin. As we have seen, Plant invokes the skin as a metaphor for (and to an extent, a literal example of) electronic communication networks that operate informally and with agency. Key to the skin's agency here is its sensitivity to modification. The touches the skin receives are simultaneous with the transformations that occur as a result of this contact: the skin changes each time its abundant 'sense receptors' are activated by touch, reconfiguring its communicative paths. Thus for Plant, sensitivity is transformative and the skin is

[30] It will become clear in this chapter, however, that tactile sensitivity is not necessarily the same as a moving feeling, or a feeling that transformatively transports a body.

constantly sensitive. The skin's tactile sensitivity to contact, then, provides a seemingly self-evident physiological basis upon which Plant can make claims for the ever-possible connectivity and communicability between touch-sensitive female body-machines.[31] Because of its acute tactility, Plant suggests, we cannot rely on the skin to localize and formalize a bodily schema, but we can certainly rely on the skin as a signifier of change.

However, Plant's description of touch as a sense raises a fundamental question about her work. If Plant's theory of digital women is to rely on the skin by way of asserting the skin's self-evident physiological characteristics, then Plant surely must acknowledge that skins are not always sensitive to touch. In a recent article on touch and time, gender and sexualities scholar Iain Morland draws attention to the configurations of action and sense negated by the touch/tactility conflation:

> Touch and tactility are not the same: the former is an action, whereas the latter is a sense. Hence a body can touch without tactility, for instance, if one's hands are numb from exposure to cold weather. Likewise, a tactile body is not necessarily a body that is touched [...] Then again some bodies are indeed tactile, touching, and touched, all at once. My point is that touching and tactility are different, so they do not always coincide, although [...] for many bodies they do.[32]

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[31] To clarify, connectivity refers to the joining or proximate contact of surfaces (in Plant, bodies becoming networked by being technologically close to one another), whereas communicability signifies a sensate receptivity to this contact (in Plant, an awareness of technological contact, caused by sense receptors communicating with the central nervous system, which in turn communicates cultural transformation).

[32] Iain Morland, 'What Can Queer Theory Do For Intersex?', *GLQ*, 15:2 (2009), 285-312 (p.296). One of Morland's principal examples of an untouched tactile body is the 'stone butch', the term for a strongly masculine-identified lesbian who pleases her feminine ('femme') partner sexually without seeking reciprocation, or without wanting to be touched back. The principal work on the stone butch and touch is Judith Halberstam, *Female Masculinity* (Durham and London: Duke University Press, 1998), pp. 111-140. Halberstam argues that the stone butch does receive 'genital manipulation' in this contact, and remains

It is precisely this type of diacritical encounter with touch and tactility that is absent from Plant's project, an encounter not only with different types and degrees of touch – which we can say Plant achieves, by discussing the rhythmic touching of keyboards, and skins touching and readjusting themselves – but with touches of different degrees of tactility, ranging from simultaneous to non-existent. Touch separated from tactility might indicate diminished tactility, but equally might index a localized tactility that, as tactility, does not require touch or, in Plant's terms, an awareness of proximity. In any case, this scale of qualitative differences – which is not unlike Sedgwick and Frank's analogico-digital 'shame-interest' – makes evident the problem of assuming the simultaneity of contact and a sensitivity to that contact. If, as Plant implies, touch-sensitivity is the condition of female agency in post-Fordism, then doubt emerges as to the reach of casting as a cyberfeminist movement.[33] Plant

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tactile through highly mediated forms of touch, including rubbing, friction, and dildo wearing (*Female*, p. 124).

[33] Morland proposes 'reaching' as a temporal frame that accommodates bodies excluded from a touch/tactility conflation ('Intersex', p. 287). But reaching does not solve the problems of touch-sensitivity in Plant's work: contrary to Plant's expectations, it is doubtful whether tactile cyberfeminism is able to reach all women, because it does not follow that the tactility of each of Plant's intended subjects will be configured with touch in the way that Plant's theory requires. There is also a significant problem with Plant's claim that cyberfeminism, or a cyberfeminist technoculture, is inhabited by 'digital women'. Within the context of the digital as the domain of discrete positionality and local place, Plant's 'women' are notably more analogue than digital, and not in the sense of the analogico-digital for which Massumi, Wilden, and Sedgwick and Frank so complexly argue. By committing to a logic of casting as continuous (analogue) inclusiveness – a processual movement that never casts off and which produces no cast-offs, or which leaves no women behind – Plant's rhetoric deconstructs itself, because Plant's notion of the digital in fact metaphorizes for an analogue mode that in no way accommodates the digital. From the perspectives of Wilden and Sedgwick and Frank, there are no digital punctuations in Plant's continuum of casting/weaving, because for Plant weaving has never stopped or paused and is incapable of stopping or pausing. Plant assumes that a punctuation in casting/weaving ('casting off') will restrict the movement of female networkers by anchoring this movement in a fixed bodily identity. Any degree of stoppage,

maintains that weavers disperse and persist in textiles, typewriters, keyboards, and general-purpose computers (in other words, they are cast), implying that it is possible for female body-machines from various, seemingly disjunctive, times and technologized societies to connect and communicate. But in fact Plant's casting can only be enacted in a single temporal frame: the time of touch/tactility. Bodies belonging to other temporal registers, namely the time of touch and the time of tactility, must be both unfeminist and unintelligible according to Plant's logic, because the touch and tactility of these bodies operates without the contact/sense that for Plant is productive of oppositional consciousness and cultural transformation.[34] A significant question thus arises from Plant's inability to make skins metaphorize for the global, consciousness-raising possibilities of contemporary technology: how can digital women cast or keep in touch using an unreliable connection, or with means of contact never guaranteed to produce (tactile) communication?[35]

Plant implies, will arrest and give definite shape to fluidity, making a process 'passive' and thus mappable within a hand/eye schema. But Sedgwick and Frank's theory of shame demonstrates with acumen that non-fixed bodily knowledges are produced by a digital punctuation (shame) in an analogue continuum (interest). However, there is another aspect of Plant's work that I want to interrogate: Plant's assumption that solidification is passé, an unwanted remnant (cast-off) of fluid movements. In the course of this chapter, and in the conclusion to this thesis, I take issue with automatic rejections of bodily and identity fixity.

[34] My phrase 'the time of touch' is inspired by Morland, who coins 'The Time of the Touch' in 'Intersex', p. 285.

[35] Feminist critic Stacy Gillis also questions the possibility of cyberfeminism, on the grounds that Plant's 'essentialist position' contributes to a cybercultures study of 'Internet as metaphor, not a materialist examination of the Internet', which results in 'an apolitical and dehistoricised cyberfeminist consciousness'. See Stacy Gillis, 'Neither Cyborg Nor Goddess: The (Im)Possibilities of Cyberfeminism', in *Third Wave Feminism: A Critical Exploration*, ed. by Stacy Gillis, Gillian Howie and Rebecca Munford (Hampshire: Palgrave Macmillan, 2004), pp. 185-198 (p. 188). I agree that Plant's work is overly celebratory, but Gillis includes only a very brief citation of Plant before proceeding to dismiss cyberfeminism. Despite its flaws, Plant's work is much more complex and

Technologies theorist Cathryn Vasseleu addresses problems of contact and communication in her important essay 'Touch, Digital Communication and the Ticklish'.[36] 'A criticism that must be directed towards Plant's account', Vasseleu asserts, 'is that it implies that touch is a sense that universally guarantees women a hitherto unacknowledged technological advantage in the digital domain'.[37] Against Plant's claims that a touch-sensitive mode of keeping in contact enacts fluid, unmotivated and specifically feminist movement, Vasseleu argues that the unmotivated movement of digital women does not necessarily equate with agency, or with contact and communication that endures over time. Vasseleu posits ticklishness as a 'conceptual metaphor' for exploring these limitations of touch-sensitivity:

> Rather than touching anything, tickling elicits the sensation of touch feeling or affecting itself uncontrollably [...] Instead of making meaningful contact with, or forming a lasting impression of, any thing, one is stirred or animated or convulsed by tickling. The perpetuation of this disruption taken to the extreme may result in such excessive convulsion that the person being tickled cannot draw breath and is in danger of being tickled to death. To tickle another can be an aggressive act, and those who are most commonly tickled are children and women. As well as being an innocent pleasure, tickling can end in hysteria and humiliation. To be ticklish is to be easily moved, easily affected. We can be tickled to the core of our being – tickling is said to thrill the heart, lungs, blood, and spirits. By the same token, to be ticklish is to be uncertain, unreliable, delicately balanced, in unstable equilibrium. A ticklish condition or situation is one whose parameters are so labile as not to be depended on. If being in contact is the perception that one is in touch with someone or something, tickling is a touching that is out of self-coordinatable control. [38]

Here Vasseleu presents a more provocative account of tactility than that found in Plant's representation of the skin. We cannot say that contact is made with

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provocative than Gillis acknowledges, and must be paid greater attention to if a more critical cyberfeminism is to emerge.

[36] Cathryn Vasseleu, 'Touch, Digital Communication and the Ticklish', *Angelaki*, 4:2 (1999), 153-162.

[37] 'Ticklish', p. 154.

[38] 'Ticklish', p. 158.

another in tickling, Vasseleu suggests, because tickling references touch/tactility as 'a perpetual auto-affective immediacy': nothing of any lasting significance can be done with the touch/tactility of ticklishness, because ticklishness is the active 'doing' of touch/tactility affecting or moving itself across different extremities instantly and with no co-ordination.[39] A tickled body is too easily and too quickly moved between affective states – from laughter to humiliation to fear of impending death to excitement – to be relied upon to *keep* in touch with objects or things.[40] Vasseleu's key point is that while touch, tactility and transformation are simultaneous, it does not follow that this simultaneity provides the conditions for network building: the unreliability of movement through touch-sensitivity is at the same time a vulnerability, or an active passivity, to being touched/moved/affected 'against one's will'.[41]

For Vasseleu, tickling is 'an appropriate way to explore the derangement/arrangement of touching in digital communication', in that 'digitally manipulated currents flowing through contact points in electronic circuits become transmissions of excitement that can be taken to various

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[39] 'Ticklish', p. 160. It appears for Vasseleu that tactility and affect are the same; a tactile sensitivity to the action of tickling produces a moving feeling, by which bodies are automatically affected/transported. I discuss the contentiousness of this theory in the closing stages of this chapter. For now, however, the simultaneity of touch and affective tactility remains a central theme of this chapter, because it is a structuring principle of much work on the body and new media. For more on the conflation of tactility and affect, see Morland, 'Intersex', p. 309 n. 52.

[40] It is interesting to note the gendered significance Vasseleu attributes to ticklishness as an action-sense configuration. In the above passage, the claim that women are among 'those who are most commonly tickled' suggests that historical discourses of the overly sensitive female body position *tickling* as a predominantly male action, and *ticklishness* as a sensory environment with no boundaries, laws, or etiquette (a tactility produced by tactlessness), into which female subjects are moved and permissibly harmed or humiliated.

[41] 'Ticklish', p. 159.

extremes of intensity'.[42] We can understand Vasseleu's assertion using the cybernetic concepts of analogue and digital communication. A continuous analogue flow of more or less electricity ('excitement'), Vasseleu suggests, is not controlled – in the cybernetic sense of regulation – but is taken advantage of, as it were, by digital on/off commands that transport/affect (tickle) this flow to precise positions in its fluctuation. Here we see a combination of Wilden's and Sedgwick and Frank's accounts of cybernetic function, Stiegler's notion of discrete touches/treatments affecting transmission, and Massumi's theory of analogue transformation. In Vasseleu's revision or tickling of the analogico-digital, analogue transmission is made more transformative when moving through digital points of contact, which runs contrary to Massumi's claim that transformation occurs when the analogue moves ahead of digital positions initially given.[43] Vasseleu's emphasis on transformation via digital manipulation counters Plant's figuration of sensitive skin as communication technology. For Vasseleu, any claim for which the activity of the skin metaphorizes must acknowledge that

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[42] 'Ticklish', p. 159.

[43] A crucial point implicit in this analysis is that the notions of transformation and change cannot be conterminous with the outmanoeuvring of control. Although control appears to be an inappropriate term for describing the ticklishness of a manipulated current that is moved too irregularly and too extremely to be in homeostasis, a current of electricity/excitability must nevertheless be given over to digital control commands for such uncontrollable movement to take place. Put simply, an *order* of ticklishness enacts 'the uncontrollable tactility of a sentient body'. Vasseleu is acutely aware of this retention of control in ticklishness: 'In place of an image of touching as an immediate and indefinable affection, touching in cyberspace is mediated by the controllable flows of electric circuits, the language of computer programmes, and screens which co-ordinate fingers and images. Here, in the oscillation between a lawless and a computational tele-contiguity, contact has come to mean touching without being touched, and touching what cannot be touched' ('Ticklish', p. 159). Here auto-affection, being moved against one's will, is enacted by the computer's circuited tactility or liveness, which cannot be touched by an agential subject because this (analogico-digital) tactility determines the degree to which the subject is able to touch or make contact digitally.

electronic, digital communication itself can 'act as a perpetual reminder of the uncontrollable tactility of a sentient body'.[44]

Vasseleu uses the ticklishness of bodies and circuits to identify a fundamental 'paradox of digital communication', whereby the 'institution of touch as an *objective* – the objective of making contact or staying in touch – suggests that digital communication is as much a formalisation of touch, as an object in mind, as it is a being in touch'.[45] This paradox has troubling consequences for Plant's cyberfeminist project. As we have seen, Plant insists that the touch-sensitivity of female machine operatives is simultaneous with movement that is unmotivated and resistant to form, and which enables female subjects to make contact on the basis of shared experiences and appropriations of flexible working conditions. But as Vasseleu asserts, keeping in touch is not resistant to form: making contact is an objective motivation, in which touch becomes invested with predetermined goals. We can therefore say that weaving is ergonomic: while positing touch-sensitivity, Plant *has in mind* who will come into contact (women, particularly those who have worked closely with machines or computers) and the amount of time for which these subjects will remain in touch (long enough for this contact to communicate positive change for the subjects Plant represents). Vasseleu argues that due to its ticklishness, the skin will ultimately disappoint Plant's ambitions: 'an all too familiar contradiction resonating in the cyberfeminist move', Vasseleu claims, 'is that, even in claiming women's close affinity with digital technology, it begs the need for women also to have the power to move *beyond* a perpetual auto-affective immediacy – *to be*

[44] 'Ticklish', p. 159.
[45] 'Ticklish', p. 159. Emphasis in original.

able to act in relation to digital technology'.[46] In other words, the moment when touch/tactility is appropriated for a specific task, it loses its capacity to move/affect bodies (indeed, is no longer touch/tactility) and instead becomes as controlled and co-ordinated (handled) as the techno-sensory schemas Plant assumes to have subverted.

While Vasseleu importantly asserts the ticklish vulnerability of contacting and communicating digitally, her article perpetuates the assumption that touch is always simultaneous with tactility. Touch/tactility is unreliable for Vasseleu not because touch and tactility become separated, but because their simultaneity can affect a body to extreme states against one's intentions and anticipations. Ticklishness troubles the time of touch/tactility by showing that bodies can be moved, or touched, much quicker and much more unpredictably in this temporal frame than Plant realizes. As Vasseleu states, ticklishness provides us with a more complex realization that 'we no longer think of tangible presence in terms of interiorised sensations and temporal delays, but as presences of stimuli, intensities, and sensitised surfaces', presences in which 'we are singled out by touch as feeling beings, without requiring any consciousness of an overarching self'.[47] Ticklishness is thus the occasion for Vasseleu to valorize touch/tactility as the temporal frame in which change happens; indeed, this is an even greater valorization of touch/tactility/transformation than that given by Plant. Temporal delays, Vasseleu claims, are inadequate to describing change in a current time of instant sensitivity that is not simply transformative (as Plant maintains) but also often precariously and perilously so. Vasseleu is correct to argue that the 'combined productive/disruptive effect of contact mediated through digital

[46] 'Ticklish', p. 160. Emphasis in original.
[47] 'Ticklish', p. 159.

communication suggests both uninhibited powers of transmission and a ticklish position of uncontrollable vulnerability in relation to it', but I have shown that it is reductive to base a theory of the body and technology on a particular configuration of action and sense – in this case, ticklishness as touch/tactility – that cannot account for all productions of bodily knowledges and experiences.[48] By privileging touch/tactility as the prevalent mode of bodily mobility, Vasseleu overlooks the agencies and vulnerabilities of bodies that in many different ways touch without tactility and are tactile without touch; bodies variously positionally (indeed, digitally or diacritically) distanced and *delayed* from a simultaneous touch/sense configuration, but which are equally important to an analysis of technosocieties and technocultures in the present day.[49] Despite her criticisms of cyberfeminism, Vasseleu shares Plant's belief in processual, fluid movement (casting) over hardening or putting into shape out of fluidity (casting). However, by holding the former meaning of casting alongside the latter, we gain an understanding of why Vasseleu's notion of touch is equally open to critique. In a contemporary technologized existence, a number of subjects may indeed be cast 'from context to context without reference to a formal body'.[50] But the theory of

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[48] 'Ticklish', p. 160.

[49] A body does not have to be ticklish to be vulnerable or vulnerably affected, as Morland shows in his discussion of the effects of surgery on bodies born with ambiguous genitalia: 'The diminution of genital tactility [from surgery] is one way in which a historically specific event persists on the body's surface. [...] I argue [...] that the body's very capacity for sensation is shaped by the impressions of objects and others on its surfaces. One such object is the surgeon's scalpel. It is not simply that we feel touches but that certain touches, depending on their force and durability, determine what we are able to feel. [...] Surgery's effects show how tactility, far from being simultaneous with touching, always has a constitutive history' ('Intersex', p. 301). In this example, bodies are vulnerable to decisions based on medicine's normative standards of genital visibility, which lead to touches from a technological development – the surgeon's knife – that determine the receptivity of one's 'sensitised surface'.

[50] 'Ticklish', p. 159.

digital ticklishness does not reliably account for body-machines because it must cast off those bodily forms not immediately proximate to touch as sense, which the logic of ticklishness renders too hard, fixed or permanent (cast) to qualify as properly feeling beings in order to assert auto-affectation as the technological-human condition.[51] Thus, I say hardening or putting into shape *out of* fluidity in order to emphasize the fact that it is possible to leave the time of touch/tactility – the temporal frame in which fluidity speaks for all meaningful body-machines – in order to explore the movement of bodies in other temporal registers. In other words, while some bodies do cast (move/reticulate) in body-machine time, we need to understand that some bodies are cast (fixed, placed, shaped or intelligibly formed) in other temporal frames, which will prevent us from becoming fixed in the single time that constitutes the work of Plant and Vasseleu.

Filmmaker and sexualities scholar Nguyen Tan Hoang presents a compelling argument for this double meaning of casting.[52] Hoang considers the use of the Internet by gay Asian American males, a minority group referred to as 'GAMs' on 'personal homepages, gay websites, chat rooms, personal ads, [and] sex cruising sites'.[53] Hoang asserts that while GAMs 'have been able to assert a

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[51] 'Ticklish', p. 159.

[52] Nguyen Tan Hoang, '[GAM4GAM4SEX]', *Vectors: Journal of Culture and Technology in a Dynamic Vernacular*, 2:1 (2006), <http://www.vectorsjournal.org/issues/3/objectOfMediaStudies> [accessed 9 June 2009].

[53] '[GAM]', para. 1 of 15. To clarify, a sex cruising site provides the opportunity for domain members to meet and arrange to have sex, whereas a gay website provides a more general platform for the online affirmation and exploration of gay identities, although there is no strict delimitation between the uses of these domains. I must justify the move I make here from cyberfeminism to cyberqueer – a cyberstudy based on non-normative sexualities. This chapter could be criticized for explicating the inadequacies of a cause dedicated to identifying and subverting the oppressive gender relations that persist in new technologies, and then turning to the sexual activities of male Internet users as a research base for a more sophisticated study of bodies and new technologies. But as we will see in

tactical presence' in these new media domains – using communicative lines to post 'sexually-explicit "self-pics" advertising various body parts' and to recite 'sexually-explicit scripts articulating preferred sexual practices and positions' – the movement of GAM bodies in online spaces is restricted by a 'regulatory homo-masculinity' which denies GAMs full participation in communication technology, on account of the distance of GAMs from an idealized whiteness and a masculinist model of sexual transgression.[54]

Before we consider these means of exclusion in more detail, we must underscore the importance of the form of Internet use that dominates Hoang's essay; namely, the Internet as a support for the practice of cruising, which I schematically defined in chapter 1 as the search for casual sex partners by car and on foot, predominantly in urban areas. The Internet's importance to cruising is based on the notion of online chat rooms, and web sites, enabling more subjects to locate and arrange offline meetings with greater ease and safety. It is

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what follows, this focus on cyberqueer is not an abandonment of feminism; a feminist critique is required in order to understand the ways in which the subjects of Hoang's study are racially marked. I am also compelled to include a cyberqueer account of casting because sexuality is presented so reductively in Plant's book. Plant claims that agential, disorganized female service workers are part of a 'genderquake', whereby in 'the 1990s, Western cultures were suddenly struck by an extraordinary sense of volatility in all matters sexual: differences, relations, identities, definitions, roles, attributes, means, and ends' (*Zeros*, p. 37). As well as empowering women, Plant asserts, the genderquake gave rise to conditions in which heterosexual 'relations were losing their viability, queer connections were flourishing', and in which 'the carnival had begun for a vast range of paraphilias or so-called perversions [...] if there was more than one sex to have, there were also more than two to be' (p. 43). This is a crude, simplistic reading of early-1990s poststructuralist feminism, made according to a particular temporal logic: for Plant, sexuality is a fluid multiplicity that supersedes gender once gender identity is revealed to be retrograde, slow, and place-bound. A subject born female, for example, who *strongly* identifies as masculine (but never as male) clearly cannot be accommodated in Plant's technoculture. For a critique of this temporal logic, see Biddy Martin, 'Sexualities Without Genders and Other Queer Utopias', in *Coming Out of Feminism?*, ed. by Mandy Merck, Naomi Segal, and Elizabeth Wright, (Oxford: Blackwell, 1998), pp. 11-35.

[54] '[GAM]', paras. 1 and 7 of 15.

thus possible to say that Internet cruising attests to Plant's notion of affective mobility without Vasseleu's qualification of ticklishness. By touching the computer keyboard and mouse in order to get in touch with prospective partners, cruisers are efficiently transported from context to context: bodies in chat rooms, sensitive to the affective possibilities of digital technology, are moved to offline locales where they partake in a proliferation of sexual acts and positions. But Hoang warns against celebrating the Internet as a space of experimental self-fashioning, because for Hoang these celebrations incorrectly assume that the numerous affirmations of gay identity in cyberspace equate with political progress, a mass movement out of the metaphorical closet, whereby progress is premised on 'visibility in the media'.[55] 'Even though it is often described as a space conducive for trying and exploring one's gay identity', Hoang states, 'online space, in fact, can be seen to institute yet another closet. "Coming out" in cyberspace can provide so much safety and affirmation that one no longer needs to come out in "real life." [...] the overwhelming commercial success of gay web portals [...] in reaching untapped markets (that is, "discreet" consumers) depends precisely upon keeping the offline closet intact'.[56] This assertion complicates Stiegler's argument that the discrete becomes less discreet through new media. In Hoang's example, discreteness refers to the compartmentalized persona that an Internet user creates online, broken down into separate images and written descriptions that denote specific bodily attributes (such as height, age, build, as well as the type of sexual contact sought) which the user makes available for others to see or browse; website members are able to access another member's personal space in its discontinuousness. To this extent the discrete is not discreet.

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[55] '[GAM]', para. 3 of 15.
[56] '[GAM]', para. 3 of 15.

However, while this online contact enables users to meet somewhere offline, it does not follow that this facilitates a continuous, undivided (analogue) movement from a private, closeted gay identity to a public gay identity: coming out online is discrete from coming out offline – the indiscreet discreteness of being seen as a member of a gay website can provide the user with the narrative cohesion of a gay identity, without the user encountering the homophobia likely to attend this fashioning in public space. Thus, Hoang implies that online cruisers are able to use the Internet as a means of being accurate (surgically precise, in Stiegler's terms) about selecting an offline meeting – its exact location, its exact time, the amount of time for which it will last – that keeps their gay identity as discreet as possible. This digital assuaging of risk takes on racial significance in the case of GAM activity, Hoang asserts: 'For GAMs, as racial minorities socially and geographically marginalized from mainstream physical spaces, coming out in cyberqueer space potentially provides "refuge" from the homophobia of Asian communities and the racism of the white gay community, at the same time that it re-affirms their own atomized, private, and often secret identities cultivated and made visible online'.[57] Going online in order to come

[57] Ibid. Hoang's essay can be read as a critique of media theorist Greg Young's notion of 'Mycasting'. See Greg Young, 'From Broadcasting to Narrowcasting to Mycasting: A Newfound Celebrity in Queer Internet Communities', *Continuum*, 18:1 (2004), 43-62. Mycasting refers to the way in which one's self-fashioning of a profile made visible online – in order to meet others offline – can be read as the 'emergence of online celebrity reinforced in offline everyday life', which Young claims 'may be part of a wider process where the Internet has become, in essence, the perfect vehicle for later capitalism's obsession with reinvention and flexibility' ('Mycasting', p. 56). For Young, mycasting succeeds the media eras of television and radio broadcasting, and satellite multi-channel 'narrowcasting', and has 'grown out of the context of de-industrialization where working-class men, though not exclusively, experiencing displacement from those traditionally gendered hard industries have been placed in direct competition with women in the one sector that has taken up that economic slack, the traditionally gendered feminine services sector' ('Mycasting', p. 56). 'The first explicit recognition' of

offline, as it were, is never straightforwardly transformative, particularly for bodies not immediately proximate to privileged areas of physical activity.

Hoang importantly argues, though, that GAMs are oppressed even in the imputed refuge of online space. To show how, Hoang suggests that the online/offline movement of GAM bodies is explained not by the imputed transformative sensitivity of skins, but in juxtaposition with 'the material form of latex condoms' – technologies that have gained a new importance with the emergence of gay online communities:

> The common complaint by gay Asian men that they 'feel invisible' when out in gay bars and clubs can be productively juxtaposed with the (in)visibility of the condom in everyday sexual discourse. While they seldom figure in everyday sexual discourse, condoms become loaded in gay online space due to the categories of 'HIV status' and 'safe sex only' in online personal profiles. Like GAM bodies online and off, the visibility and tactility of condoms are continually disavowed. Condom manufacturers characterize their products as transparent, flesh-colored, sensitive, skinless skin, ultra-and micro-thin: the user is encouraged not to see through the condom but to feel through it. Conversely, colored, studded, ribbed, and 'pleasure shaped' condoms call attention to the material shape and surface of the rubber as compensation for the decrease in 'feeling' produced by the latex barrier. For some GAMs, competition in the online sexual marketplace involves strategically redeploying visible, tactile bodily traits deemed negative and stereotypical: smooth skin, small lean build, toned torso [...] Akin to the [...] recognition and denial of the materiality of latex in condom packaging, GAM bodies,

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mycasting, Young claims, is the gay male website *Gaydar*, which for Young serves as proof that post-Fordist competitiveness has democratizing effects: as *Gaydar* grew in popularity, gaining significantly in member profiles, the site's original insignia of an idealized, white 'Greco-Roman like male has been replaced by a range of gay couples, with a different one appearing each time you return to the homepage. These include [...] the image of an older and younger male as a couple, [...] an Asian and Anglo male as a couple, and so on. The association with *Gaydar* and its star potential [...] is perhaps now more inclusive semiotically' ('Mycasting', p. 46). In Hoang, however, we see that semiotics of Asianness in gay online space is likely to indicate neither a newfound celebrity nor a flexibly visible and available self, but instead the online/offline fashioning of a gay identity that is intentionally inflexible, kept online and away from physical whiteness.

> seen and seen through, are simultaneously acknowledged and made to disappear: 'Sorry, not into Asians. No offence. Just a preference'.[58]

As I interpret this passage, Hoang draws attention to the problems we encounter with theories of touch-sensitivity and movement-as-casting when we consider the latex condom as a *cast taken* of a sensitized surface. Hoang explains that condoms are commonly represented as mobile tactility rather than as rubber sheaths: here the condom's material shape is secondary to the condom's status as a replica of the skin's sensitivity to touch. The condom does not cover anything, these representations imply; on the contrary, it exposes the skin's sense receptors, invisibly confirming subjects' capacities as 'feeling beings', to borrow Vasseleu's words.[59] The rhetoric of the shape and material properties of the latex is framed by this dominant order of tactility, Hoang argues. Recognition of the materiality of condoms is always compensatory, drawing upon visual cues of tactile significance to suggest that condoms can be made to effect touch-sensitive movement/feeling, while at the same time suggesting that the condom user's access to this tactile-affective realm will be restricted by the presence of insensate rubber. For Hoang, these discourses of latex condoms, and the limitations placed on GAM movement in a gay new media culture not solely stationed at the computer screen, are two aspects the same cultural formation in which GAMs are marginalized. GAM bodies can enter online space, navigate to various sites, pages, and rooms, and assert an eligible presence in these domains by uploading self-pics and self-scripts that signify a tactile body awaiting contact. But as Hoang suggests, GAM movement often does not progress past

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[58] '[GAM]', paras. 4 and 5 of 15.

[59] The condom manufacturer Condomi, for example, markets its products as 'Virtual Skinwear'. See\<http://www.condomi-direct.co.uk> [accessed 06 August 2009]. I discuss the virtual in the latter stages of this chapter.

these stages, because the regulatory masculinity monitoring the site racially marks these movements, recognizing them as belonging to a (non-white) materiality that is both seen and known, and then seen through or ignored, in the realm of invisible (namely white) tactility. In Hoang's example, to recognize a materiality – to see a body by drawing on the racial discourse through which whiteness classifies or purports to 'know' Asianness – is to mark that materiality as insensate. Because the flexible tactility of online cruising space has a monitoring effect, whereby it notices a (non-white) materiality and then denies that materiality ('not into Asians'), GAM bodies are made to feel invisible in the online cruising community, on the basis that they cannot take part in the uninterrupted or fluid (in)visibility/tactility required to freely move between online and offline realms.[60] In short, GAMs are determined as ineligible to partake fully in an affective mode of feeling-through, in which bodies must go unnoticed in order to move properly.

The condom's prevalence in gay online space, Hoang demonstrates, is resisted on websites dedicated to gay barebacking – the practice of anal sex without latex, whether skinless or pleasure shaped:

> the insistent propagation of condom use in HIV/AIDS education to combat the 'most transmission-enabling practice' inadvertently re-centers anal sex as 'real sex', and by extension, as the most legitimate, masculine sex act. [...] Rejecting outright the use of a condom as an artificial barrier, [barebacking] practice privileges unprotected, uninhibited, and natural sex, the kind of sex 'real' masculine men engage in. Bareback.com's ideal members are men 'looking for raw, man-on-man action' [...] To 'Cum Inside' (that is, to 'Enter' the site) and not 'Pull

[60] I say fluid (in)visibility here because, as Hoang implies, the most popular profiles online are of course seen and approved for an offline meeting, but the whiteness of these bodies is never acknowledged – 'no whites' is rarely a request online, Hoang implies – and is thus not seen as an impediment to the promise of free movement and unlimited experimentation in digital media. Plant's privileging of touch/tactility over vision is therefore inadequate in the context of Hoang's study.

> Out', the user must not be a 'wimp, wuss or pussy' who is 'too scared to get what [he wants]'.[61]

Hoang is careful to emphasize the very important and serious political claims gay barebacking discourse makes against the condom's use as a 'homosexual prophylactic'.[62] Hoang's point instead is that these online strategies rely on casting off material objects (condoms) that can provide us with valuable insights into what (and indeed who) takes place in subcultural networks. As Hoang explains, *Bareback.com*'s rejection of an apparently restrictive, feminizing, and insensate materiality mirrors the ways in which in 'the West, Asian men are frequently seen as deficient in sexuality and masculinity, forever boyish and never man enough', meaning that within a new media context the 'assertion of GAMs as "active" sexual subjects in online gay space is met with incredulity and dismissal, whereby feminine excess – "fats" and "fems" – metonymically infects "Asians"'.[63] Hoang suggests that through the insensate materiality of the

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[61] '[GAM]', para. 10 of 15. The expansion of the condom's role 'from a heterosexual prophylactic to a homosexual one' took place in the advent of the post-Fordist age of AIDS, Hoang reminds us. While there are normative masculinist implications within barebacking rhetoric, Hoang argues, 'in the place of a knee-jerk censure of this dalliance with sexual danger as another example of "homosexual irresponsibility", it is possible to reassess the risk-taking here as an "attempt at self-care", and not a simple case of self-destructiveness, especially when given the choice between contracting HIV and the risk of sacrificing pleasure, intimacy, and community' ('[GAM]', para. 12 of 15).

[62] '[GAM]', para. 12 of 15. Sexualities scholar Tim Dean provides an extensive study of barebacking communities, and the centrality of online activity to these communities, in his book *Unlimited Intimacy: Reflections on the Subculture of Barebacking* (Chicago and London: University of Chicago Press, 2009).

[63] '[GAM]', para. 12 of 15. A 'fat' is a Web user who often makes visible their overweight body in online profile sites. Fats are marked as asexual, or idly feminine, in Web domains where popularity is gauged by one's proximity to an idealized musculature. 'Fem' references a feminine-looking male and, as Hoang points out, has historically been used as a racial slur against Asian males. Cybertheorist John Edward Campbell provides a detailed study of fats or 'chubs', as he terms them, as a distinct cyberculture in *Getting It On Online: Cyberspace, Gay Male Sexuality, and Embodied Identity* (New York: Haworth Press, 2004), pp. 126-134.

discarded object we come metaphorically into contact with, or are able to interpret the marginalized activity of, bodies denied access to and thus judged to be distanced from cruising as touch-sensitive transportation.

By 'attach[ing] the racialized bodies of GAMs to the material form of latex condoms', Hoang is not arguing that there is a definitive shape by which GAM identity 'can be easily identified and embodied online and off', neither is he suggesting that the material form of condoms always remains intact.[64] Condoms tear or break, Hoang states, just as GAMs continually break out of the 'preconstituted', menu-driven categories offered on websites by taking on a 'proliferation of acts and identities' via online/offline cruising.[65] We may consider the tearing of the condom as simply another occasion for casting or throwing away a material object that in any case is discarded after use. Similarly, the proliferation of GAM acts and identities may attest to the new freedoms enjoyed by a minority group that webcasts: the taking on and discarding of fashioned personas one after another. But Hoang points out that the condom's tearing causes us to examine, and thus stay with, its material form for longer than expected. In this encounter with the condom as touched/examined object instead of with the condom as invisible touch/tactility, we learn about the reality of

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[64] '[GAM]', para. 8 of 15.

[65] '[GAM]', para. 8 of 15. To clarify, Hoang argues that cruising GAM bodies *are* transformatively transported from context to context in ways that exceed 'a choice between "safe" and "bb[barebacker]", or "Asian" and "white", but that these movements are still racially marked and thus restricted in comparison to those bodily types deemed closer to the idealized form that determines participation in this activity. I borrow the term 'menu-driven' from cybertheorist Lisa Nakamura, who argues that while race is certainly not fixed, racial stereotypes continue to shape interactions online (and often inform the design of Web interfaces), and that anonymous computer users are assumed to be white. See Lisa Nakamura, *Cybertypes: Race, Ethnicity and Identity on the Internet* (New York and London: Routledge, 2002), pp. 101-136 (p. 101).

cybercultural life for GAMs, for whom the Web often represents an unremarkable 'extension of offline physical space':

> If the condom is the epitome of the throw-away object that serves a strictly utilitarian purpose, it exists beyond ephemera. Only in cases of misuse – rips, tears, and slippages – does it become a 'throw-away not thrown away', invested with intense and anxious affect. However, my close inspection of the condom [...] re-installs the condom's ephemeral, souvenir status to help shed light on another foreign and exotic object: the GAM body in cyberqueer space. The ripped condom functions as material evidence for the ephemeral cyber-activity of GAM bodies logging on and getting off.[66]

Here Hoang importantly complexifies the meaning of ephemerality. In chapter 2 I argued that in the task temporality of post-Fordism, bodies move ephemerally in the sense of a fleeting transience, remaining in place for a short span of time. Hoang however locates ephemerality within a more stubborn temporal frame, in which 'ephemeral' equates to 'souvenir' – an object of such nominal value as to be considered worthy of being discarded or thrown at any moment, but which, as a token of remembrance or a 'keepsake', remains with us as a material portal to forgotten places and experiences. Theorized in this way, the torn latex reminds us that the condom's (cast) materiality – by being prone to breakage – can place restrictions on the condom's ability to signify speed, flexibility, and remoulding in digital communication.

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[66] '[GAM]', paras. 3 and 14 of 15. Although I think he primarily accounts for the condom in a metaphorical sense, Hoang is not entirely clear on how the condom functions as material evidence. One of the main purposes of Hoang's essay is to study new media by focusing on the material properties of objects that remain important to, but which are often ignored by, a new media practice that is often assumed to be immaterially mobile. To this extent we could assume that Hoang is writing anecdotally, referring to actual condoms that have been broken in specific sex acts (perhaps even to condoms that have been in his possession), and not just to the condom as metaphor. While Hoang does of course comment on the literal use of condoms in cyberqueer space, he still fails to explain the precise status of the condom in his essay, but I do not think that this evasiveness compromises Hoang's important analyses.

As well as metaphorizing for the online treatment of GAMs, the used condom also literally evidences the offline bodily intimacies that the Internet is popularly used to facilitate. These intimacies take place on the condition that one expects to meet offline the body met online; as Hoang shows, one such expectation is the offline whiteness of the body initially contacted in the chat room or on the website.[67] Ephemeral GAM bodies, determined as 'exotic' souvenirs in cruising sites, are ascribed a token Asianness that can at once devalue GAM status in these communities and keep GAMs online. In the competitive spaces of online cruising, keeping in touch, or staying in contact digitally, is not necessarily a sign of agency, nor is it an indication that agency follows from the indistinguishableness of casting on and casting off: bodies that remain continuously available online (casting on) are likely to be those that have been discarded (cast off) from online/offline activity experienced as freedom of movement. Tactility here is far from universally inclusive.

From Digital to Virtual

Hoang's case study shows that greater attention needs to be paid to material objects in post-Fordism – objects which, when afforded more time in a post-Fordist era marking the shortened lifespans of consumer products, remind us that new media does not always produce placelessness. I conclude this chapter by proposing a general theory of technology, time, and bodily movement based in

[67] Hoang asserts that in 'gay online cruising, GAMs who fail to declare their Asianness through photos or textual descriptions are considered to be "hiding" and/or "passing". Yet, this view inadvertently re-centers whiteness as the default category'. Many GAMs conceal their faces in the pictures they upload, Hoang asserts, posting pictures of 'headless torsos' for members to view, which Hoang claims can be read alternatively as 'a tactic that mobilizes exposure and concealment to mount a critique' of online whiteness and of 'GAM legibility in cyberqueer space' ('[GAM]', para. 13 of 15).

part on Hoang's important insight. I call this theory 'casting', but to understand my interpretation of this term we must engage in detail with a notion that enables us to conceive technological place-fixity and inhibited movement as opportunities rather than the effects of a body's oppression. I am referring to the notion of the virtual, which I have deliberately postponed discussing until this point for two reasons. First, I wish to emphasize that the virtual must not be confused with simulation or artificial environments (or even technological development), a confusion perpetuated by commonsensical ideas and discussions of 'virtual reality'. Using 'virtual' commonsensically in the previous chapter would undoubtedly have been distracting. My explication of the digital did not permit sufficient space to undertake a philosophical meditation on virtuality: the chapter could only have accommodated the former, simplistic meaning, where 'virtual' would have had a vague, unspecified relation to digital computing, paradoxically supporting the logic of exciting computer-mediated escapism that my theory of discrete positionality resists.[68]

The second reason why I have postponed a discussion of the virtual is that my research is located problematically in relation to the philosophies of the virtual I discuss. My call to believe in the digital within the analogico-digital is simultaneously a call to doubt the founding logic of continuous analogue movement and transformation. But as we will see, continuous movement and transformation is a primary component of the theory of virtuality that I will advocate. I do not want us to doubt the virtual. Instead, I will argue that moving from digital to virtual involves moving towards a way of life in which creative

[68] Hoang is indeed guilty – along with the majority of cybertheorists – of invoking 'virtual' without explanation or clarification, and of using 'digital' and 'virtual' interchangeably. The reasons for arguing against this conflation will become clear in the course of this section.

movement inheres in relations between place-bound bodies and durable things. Virtuality, I will demonstrate, describes the space to which we are transported as a result of making contact with technological objects, at the moment that these objects do not work in the ways that we would normally expect and require. I will begin by explicating key philosophical meditations on the virtual, which theorize virtuality as a space occupied by bodies that never occupy any fixed places. Against these theorizations, I will argue that bodies do inhabit places in virtuality, and that our ability to locate these places depends on our willingness to notice the meaningful relationships that emerge between bodies and technological objects when touch and tactility do not coincide.

A key contemporary work on virtuality is Pierre Lévy's *Becoming Virtual: Reality in the Digital Age*.[69] Lévy begins by juxtaposing the virtual with the related philosophical concepts of the actual, the possible, and the real:

> The virtual *tends* towards actualization, without undergoing any form of effective or formal concretization. [...] Strictly speaking, the virtual should not be compared with the real but the actual, for virtuality and actuality are merely two different ways of being. [...] The possible is already fully constituted, but exists in a state of limbo. It can be realized without any change occurring either in its determination or nature. It is a phantom reality, something latent. The possible is exactly like the real, the only thing missing being existence. The realization of a possible is not an act of creation in the fullest sense of the word, for creation implies the innovative production of an idea or form. [...] Unlike the possible, which is static and already constituted, the virtual is a kind of problematic complex, the knot of tendencies or forces that accompanies a situation, event, object, or entity, and which invokes a process of resolution: actualization. [...] The virtualities inherent in a being, [...] the knot of tensions, constraints, and projects that animate it, the questions that move it forward, are an essential element of its determination. Actualization thus appears as the solution to a problem, a solution not previously

[69] Pierre Lévy, *Becoming Virtual: Reality in the Digital Age*, trans. by Robert Bononno (New York and London: Plenum Trade, 1998).

> contained in its formulation. It is the creation, the invention of a form on the basis of a dynamic configuration of forces and finalities.[70]

Actualization is thus the movement inspired by the virtual: the virtual is the dimension of existence that marks every taking-place as a problem, a question, a restriction, and a single, tenuous stage of an unfinished process.[71] Actualization captures the double sense of casting as processual movement and taking shape for which I have argued. Actualization is a movement to take shape (create form) *in response* to a virtuality it in no way resembles: as Lévy argues, it is inaccurate to claim that the virtual is realized by the actual, because actualization produces 'new qualities' in order to solve problems of constraint.[72] The virtual is thus a key component of reality, providing the conditions for all that is creatively

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[70] *Becoming*, pp. 23-25. Emphasis in original. Here Levy is drawing on a key philosopher of the virtual, Gilles Deleuze. In his book-length study of Henri Bergson, Deleuze elaborates on the conceptual pairs virtual/actual and possible/real: 'The real is supposed to resemble [the possible]. That is to say, we give ourselves a real that is ready-made, preformed, pre-existent to itself, and that will pass into existence according to an order of successive limitations. [...] If the real is said to resemble the possible, is this not in fact because the real was expected to come about by its own means, to "project backward" a fictitious image of it, and to claim that it was possible at any time, before it happened? In fact, it is not the real that resembles the possible, it is the possible that resembles the real, because it has been abstracted from the real once made, arbitrarily extracted from the real like a sterile double' (*Bergsonism*, p. 98). By contrast, actualization for Deleuze represents an innovative movement forward according to difference and creation. Actualization is an undivided multiplicity produced from a problematic virtual unity; the virtual does not resemble the actual, but instead provides the conditions for a movement completely other to it, thus breaking the linear, seamless trajectory from possible to real. See also Gilles Deleuze, *Difference and Repetition*, trans. by Paul Patton (New York: Columbia University Press, 1994), pp. 211-212, and Grosz, *Travels*, pp. 108-109.

[71] Lévy's principal examples of actualization from the virtual include that of the growth process of a tree from a seed: 'The tree is virtually present in the seed. [...] The seed's problem [...] is the growth of a tree. The seed *is* this problem, even if it is something more than this. This does not signify that the seed *knows* exactly what the shape of the tree will be, which will one day burst into bloom and spread its leaves above it. Based on its internal limitations, the seed will have to invent the tree, coproduce it together with the circumstances it encounters' (*Becoming*, pp. 23-24. Emphasis in original).

[72] *Becoming*, p. 25.

forward moving in life. This cannot be said of the possible/real dichotomy, which involves giving existence to (or realizing) any number of possibilities that have been determined in advance, concretizing these combinations in a straightforward, uncomplicated trajectory. Lévy intervenes in these philosophies, however, by considering the virtual not merely as a catalysing dimension of being but as a movement itself, a 'virtualization':

> Virtualization can be defined as the movement of actualization in reverse. It consists in the transition from the actual to the virtual, an *exponentiation* of the entity under consideration. Virtualization is not a derealization (the transformation of a reality into a collection of possibles) but a change of identity, a displacement of the center of ontological gravity of the object considered. Rather than being defined principally through its actuality (a solution), the entity now finds its essential consistency within a problematic field. The virtualization of a given entity consists in determining the general question to which it responds, in mutating the entity in the direction of this question and redefining the initial actuality as the response to a specific question. [...] Actualization proceeds from problem to solution, virtualization from a given solution to a (different) problem. [Virtualization] implies as great a sense of irreversibility in its effects, indeterminacy in its processes, and creativity in its striving, as actualization.[73]

Virtualization is as forward moving as actualization, Lévy claims. Because it moves from actual solution to virtual problem/constraint – a problem/constraint never carried into the actual by actualization – virtualization implies that every new creation of form catalyses a movement towards a problem/constraint completely other to this form: Lévy indeed calls this process 'becoming other'.[74] Owing to the nature of the virtual, this different problem inspires another creative act, but the virtual/actual dialectic now occurs at the level of 'embracing' differences arrived at out of problem solving, instead of solving problems (as a means of getting) out of a field of different forces, constraints, and questions.[75] In

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[73] *Becoming*, pp. 26-27.
[74] *Becoming*, p. 34.
[75] Ibid.

short, Lévy posits virtualization to argue that creative solutions are discrete acts – answers to *specific* questions – within a more general condition of rapid change or upheaval. Lévy describes the 'virtualization of the body' as a prime example of this exponentiation, making reference to a theme that has been central to this chapter: skins and sensitized surfaces. Medical imaging technologies such as X-rays and scanners respond to the problems and constraints of surgery, Lévy claims, 'enabl[ing] us to see inside the body without breaking its sensitive surface', creating form by 'bring[ing] to light other skins, buried epidermises, unsuspected surfaces that rise up from within the organism'.[76] But this creation/response in turn 'virtualize[s] the surface of the body', by means of which the skin nonetheless 'becomes permeable': 'Each new device adds another type of skin, another visible body to our actual body. The organism is turned inside out like a glove. The interior appears on the outside, while remaining within. For the skin is also the boundary between the self and the external world. [...] the center of the body teems with layer upon layer of film. [...] visible, audible, and sensible bodies are multiplied and dispersed outside us. [...] a crowd of skins or dermatoid specters'.[77] Virtualization is thus a communalization according to Lévy, in which individual bodies are 'temporary actualization[s] of an enormous hybrid, social, and technobiological hyperbody'.[78]

While advocating virtualization as a problematic heterogeneity to be embraced, Lévy stresses that virtualization is also capable of 'exclusion' and

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[76] *Becoming*, pp. 39-40.
[77] *Becoming*, p. 40.
[78] *Becoming*, p. 44. Lévy's assertion echoes Massumi's Bergsonist phrase 'concrete is as concrete doesn't'. In virtualization, a body is concretely (actually) a body insofar as it is reoriented towards a more abstract, volatile field of forces in which it is transformed or differed from itself.

'confiscation'.[79] Creative acts can lose significance or can be 'disqualifi[ed]', Lévy claims, if on every occasion they instance a movement towards a much wider, more abstract, and more heterogeneous 'act-generating structure'.[80] In other words, virtualization's tendency towards 'getting away' can lead to a taking away: the multiplication of bodily types outside of ourselves to an immeasurable, shared complex of indeterminacies denies specific, local claims to 'skills', 'identity', and 'homeland'.[81] Lévy argues that these denials of agency are increasingly likely in contemporary technologized societies, where advancements in transport and electronic communications have granted virtualization greater 'speed and force'.[82] To address these threats, Lévy argues that virtualization can be conceived cybernetically, as a creative movement regulated through its co-ordination with other transformations, namely the movements from the possible to the real (realization) and from the real to the possible, which Lévy calls

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[79] *Becoming*, p.186.
[80] *Becoming*, pp. 186, 174.
[81] *Becoming*, p. 186.
[82] Ibid. One of Lévy's main examples of technological change is the impact of telecommunications on bodies at work, which he claims has enacted 'the virtualization of the company' or, put simply, a movement away from place-bound Taylorist arrangements: 'The conventional organization gathers its employees in one building or a group of buildings. Each employee occupies a precisely defined physical position, and his schedule indicates the hours he will work. A virtual corporation, on the other hand, makes extensive use of telecommuting. In place of the physical presence of its employees in a single location, it substitutes their participation in an electronic communications network and the use of software resources that promote cooperation. The virtualization of the cooperation consists primarily in transforming the spatiotemporal coordinates of work into a continuously renewed problem rather than a stable solution' (*Becoming*, p. 26). Lévy, as we can see, is enthusiastic about the fluidity afforded by this reorganization, but he is also wary of the ways in which contemporary industries such as 'technoscience, finance, and the media' – 'the most virtualized and virtualizing communities of the contemporary world' – are structuring 'our social reality with the greatest force, perhaps even the greatest violence' (*Becoming*, p. 30). In light of these observations of the contemporary workplace, we can perhaps posit Lévy as the successor to Kroemer and Grandjean in the time of ergonomics.

'potentialization'. For Lévy, actualization and virtualization cannot occur without the entropy and homeostasis that these extra movements produce:

> realization [...] supplies a preexisting form with matter [...] [and] embodies a linear temporality, one that is mechanical, deterministic. By irreversibly dissipating potential energy or any available resources, realization follows the second law of thermodynamics, according to which the increase of entropy in a closed system is inevitable. [...] Through its transition from the real to the possible, potentialization, or formal cause, can be compared to an increase in the flow of entropy. Potentialization produces order and information, it replenishes resources and energy reserves. [...] If I were to analyze a concrete phenomenon [...] it would become apparent that [...] the four modes of being, the four transitions from one mode to another, are inextricably bound up with one another. If we block virtualization, we create alienation, ends can no longer be reformulated, heterogenesis fails; living, open machinations in the process of becoming are suddenly transformed into lifeless mechanisms. If we cut off actualization, then ideas, ends, and problems become sterile, incapable of resulting in inventive action. The inhibition of potentialization inevitably leads to the stifling, exhaustion, and extinction of living processes. Finally, if we suppress realization, processes lose their footing, their substrate, their point of support, and become disembodied. All transformations are necessary and complement one another.[83]

Here Lévy is arguing that, while actualization and virtualization are movements away from a replenishment of resources and a return to a predetermined form (potentialization), living processes must remain in homeostasis – must survive by maintaining energy levels, in other words – otherwise there is no life for actualization and virtualization to creatively transform. Equally, actualization and virtualization are more creative transformations than realization, which is analogous to an entropic increase or burnout of a system; realization wastes energy, because it chooses 'among possibles' and gives material existence to these choices in a linear fashion, leaving behind or 'dropping' the potential in which these selections were included.[84] But, as Lévy asserts, the forward-moving creativity of virtualization is not a process of bodily 'disappearance or

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[83] *Becoming*, pp. 173, 175.
[84] *Becoming*, pp. 174, 175.

dematerialization' but 'a re-creation, a reincarnation, a multiplication, vectorization, and heterogenesis of the human': realization – the process by which matter is supplied or conferred – must therefore occur as a condition of these (and all) material transformations.[85] Lévy's key point is that we must not confuse virtualization with the valorization of a single mode of change. Arguing for virtualization over other types of movement, Lévy suggests, contributes to the misunderstanding that becoming virtual is a predominantly harmful vector, because this argument implies that virtualization marks the destruction of potentialization and realization.

However, while I do not contest Lévy's intellectual grasp of virtuality, I take issue with his cybernetic approach to virtuality. Lévy understandably wants to show virtuality co-ordinating with other modes of being and with other transformations – as a component of what Lévy terms an 'ontological four-speed motor' – so that we can engage with and understand the virtual, rather than fear it as a disembodying and life-negating aspect of contemporary society.[86] But I think that Lévy detracts from the complexity of the virtual when he invokes homeostasis to argue that virtualization is chaotic, but not so chaotic as to be of no worth to human subjects. Indeed, for Lévy, incorporating virtualization into cybernetic systems of control presents a solution to the problems inherent in moving towards the virtual, an argument which surely undermines his primary intention of emphasizing virtualization as a movement from solution to a problem that differs, or that is far removed, from that individual solution. Put differently, virtualization is meant to show the virtual as an inhabitable space that resists sameness, but for Lévy every movement towards the virtual carries the

[85] *Becoming*, p. 44.
[86] *Becoming*, p. 176.

same problem of potentially destroying place specificity and local claims to bodily identity. This cybernetic theory of virtuality is circular rather than progressive: virtualization does not exponentiate the actual, because every movement toward the virtual requires the *same act* of subjectively monitoring or judging this movement.

Using my notion of cybernetic (im)patience, I demonstrated in the previous chapter that cybernetics cannot be relied upon to solve anything in a technologized existence: the critical significance of cybernetic control comes from waiting in homeostasis, indefinitely, with a type of body-machine intelligibility that dies if attached to a trajectory of actual computational invention, innovation or development. Cybernetic (im)patience affects Lévy's project without Lévy's comprehension. We can understand this using the metaphors of automobility that enabled us, in the previous chapter, to see the continued relevance of the cybernetic fold in restricting the impact of new, technologically-attuned conceptions of bodily movement. Lévy's four-speed motor is intended to drive us forward in our conceptions of virtuality, enabling us to live with a creative force that has taken on a new significance amid the proliferation of digital technologies that permeate and multiply bodies. But this motor in fact oscillates between (same) problem and (same) solution in such perpetuity that Lévy's project takes us no further in our understanding of how virtuality works: virtualization becomes entropic, losing its capacity to move creatively.

This does not mean that cybernetics destroys virtuality, however. Lévy is correct in turning to a theory of order and control as a means of understanding the virtual. Lévy's mistake, rather, is in using this theory as a means of doing

something with virtuality: in other words, Lévy assumes that virtuality is a purely analogue variability to which subjects must respond with care and consideration – subjects can either make controlled judgements about this chaotic force (by placing it in relation to other ways of being), or leave it to unpredictably virtualize in ways that may prove harmful. As we will see in what follows, it is not a question of doing something with virtuality: Lévy fails to acknowledge a certain order of virtuality that works prior to a singular, powerful force generative of creative acts.

Philosopher Wojciech Kalaga presents an alternative account of the virtual and the actual, one less concerned with a problem-solution trajectory. [87] For Kalaga, the virtual is not only an act-generating structure but also the 'relations' that are the 'possibility and basis of any structure at all'.[88] The relations to which Kalaga refers are those that exist prior to an act or taking-place, in a spatial expanse in which no places are definitively occupied. Kalaga's most vivid example of this complex formulation is diaspora: a diaspora, Kalaga states, 'consists of material bodies of its members, their vicinities and topographical places they occupy, but its true make up is based on the relations among those members. [...] In this sense its real place is nowhere, or better, in the virtual space created by relations'.[89] In other words, members of a diaspora move to and inhabit a number of places, but these acts do not locate and define this group as a diaspora. These multiple, differentiated acts, rather, must exist in some order – must relate to one another – for them to comprise a particular dispersal: this order of multiplicity cannot be said to exist anywhere in particular;

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[87] Wojciech Kalaga, 'The Trouble with the Virtual', *Symploké*, 11:1-2 (2003), 96-103.
[88] 'Trouble', p. 96.
[89] 'Trouble', p. 99.

it is a spatial non-place, and the bodies that inhabit this space are potentially everywhere and nowhere simultaneously. Thus Diaspora, Kalaga implies, is meaningful at a more basic (virtually relational) level than that of the (actual) movements made in response to (virtual) problems of constraint. The virtual is real/has reality here, in that diaspora is 'accessible to cognition' only in this unactualized state.[90]

We can apply this notion of virtual relation to my previous discussion of touch without tactility. When a touch occurs without tactility, the act of touching has certainly taken place. But the impression left by this act does not engender actualization: because a touch, in this case, is not simultaneous with the movement/affect that follows from a (tactile) surface having been touched, the implications of this touch are virtual rather than actual, indeed virtual primary to a virtuality that tends or moves towards the actual. Touch is meaningful here – contact or relation has been established – in ways that trouble place and time. An insensate touch defies location: we cannot precisely locate where, when, and the degree to which contact was made with a surface. But instead of disqualifying this action on the basis of a missing simultaneity with tactility, we should consider the ways in which touch without tactility remains everywhere as touch, as a virtuality or subsisting relation that places limits on the supersession of touch by a transformative sensitivity.[91]

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[90] 'Trouble', p. 98.

[91] For more on unactualized touch, see cultural theorist Laurent Milesi's essay 'Taste, Tastare, Tact: A Deconstructive Touch of Digital Theory', *University of Bucharest Review: A Journal of Literary and Cultural Studies*, 7:3 (2005), 41-57. Milesi explores 'an act of touching' that 'may well have happened but' whose 'implications should' be 'construed as belonging to the realm of unactualized possibility, rather than the actual [...] or [...] the virtual (or relational) as opposed to the actual (or material)' ('Taste', p. 41). This type of touch subsists, Milesi argues, when 'one should not feel "touched" by a touch, that is when a

In the same way that I allude to the various distances of bodies from the time of touch/tactility – the temporal frame of creativity, according to Plant – Kalaga's virtuality complexifies Lévy's claim that movements toward the actual are creative movements forward. Kalaga draws attention to the differentiated components constituting virtuality, components that are not uniformly actualized:

> even a cursory look at actuality [...] shows us that it may have stronger and weaker forms, depending also on what kind of criterion we adopt, for example stability, materiality, or durability: a stone and a thought in the mind are both actual, but for a stone actuality is the primary way of being, while a thought only passes through actuality on its way to the virtual past. So if actuality displays some diversity, that diversity is multiplied within the realm of the virtual. If we agree with Deleuze and Levy [sic] that the virtual always, by its nature, tends – or more strongly – necessarily gravitates towards actuality, the distance of different regions or entities within the virtual space from actuality will certainly differ. In other words [...] while a part of the virtual spectrum may indeed press towards actualization, another part may gladly (and passively) enjoy its *status quo*. [...] rather than a homogeneous black hole encompassing all things non-actual, virtuality should be considered as a spectrum of potentialities with various distance to actuality[.][92]

The virtual/actual dichotomy does not simply involve moving from one 'undifferentiated realm' to another, Kalaga argues.[93] A stone and a thought are

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touch is not a touch but a tact which should register an "interdiction" of touch' (ibid).

[92] 'Trouble', p. 102. Emphasis in original. Kalaga invokes potential in a slightly different sense than Lévy's cybernetic theorization of the term. Kalaga draws on Aristotle's theory of potentiality, in which the actual is the ultimate, immutable (cast) shape or form that something works/functions to become; and potential is matter, the passive or latent force required to effect this becoming. See Aristotle, *The Metaphysics*, trans. by Hugh Lawson-Tancred, 2nd edn (London: Penguin, 2004), pp. 283-314, and also *Richard Rorty: Education, Philosophy, and Politics*, ed. by Michael A. Peters and Paulo Ghiraldelli, Jr. (Lanham: Rowman & Littlefield, 2002), p. 55. From this perspective we can call Kalaga's theory of the virtual potentiality-virtuality, because Kalaga is arguing for that which passively remains in virtuality as a power or potency prior to supplying a formation (or creation of form).

[93] Ibid. Lévy's virtualization indeed reverses the movement from virtual to actual, but virtualization still occurs at the level of a taking-place. Virtualization follows an act – something that was seamlessly actual is moved forward into a field that is seamlessly virtual – and it thus appears for Lévy that these domains do not contain elements that are separated by their respective proximities to, and

both creations of form – are both actual – but they do not remain actual for the same amount of time. A stone's form is 'stronger', because it is supplied with a durable materiality that maintains its position within the realm of actuality. Kalaga implies that while we cannot comprehend this actual materiality in a pre-discursive capacity – as I have argued in different contexts throughout this thesis, to posit a materiality prior to representation is still to represent that materiality – we can nevertheless claim that the stone is, according to specific criteria, 'ontologically independent (exists independently)' from our interpretations of it, or that it is more actual than virtual. A thought, however, is only briefly actual – formed in the mind of a material body – before it moves into the past. The past is virtual for Kalaga because it is a space of interpretation or, more specifically, a space formed by 'chains of interpretive relations' – the potentially infinite, relational movement from sign to sign by which the past becomes interpretable or comprehensible to us. Like diaspora, this interpretive space occupies no particular place.[94] Thus, virtuality and actuality overlap; a thought in the mind,

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distances from, virtuality and actuality. For Kalaga, however, the virtual does contain these elements, and the virtual and actual cross one another to a much greater extent than Lévy assumes.

[94] 'Trouble', p. 101. We can understand Kalaga's theorizations as the intervention of textuality into virtuality: indeed, Kalaga's assertion of 'chains of interpretive relations' refers to a textual virtual. Kalaga is primarily citing the work of semiotician Charles Sanders Peirce when discussing relations. See *The Essential Peirce: Selected Philosophical Writings, Volume 2 (1893-1913)*, ed. by The Peirce Edition Project (Bloomington: Indiana University Press, 1998). In the previous chapter I showed the importance of discreteness and relation to poststructuralist theories of discourse and textuality. Although Kalaga generally refers to Peirce, I argue that Kalaga's virtuality is also exemplified by the Derridean notion of the trace, whereby signs are determined by the traces/differential movements of that which is forever absent. Thus, we interpret texts that are always simultaneously 'not-there' and 'not-that', in a virtual space produced by the difference between discrete linguistic units (*Grammatology*, p. xvii). (Indeed, the digital and the virtual are bound up with one another in this instance.) Kalaga himself alludes to this exemplification, stating that 'infinite semiosis may be considered to be the epitome of virtuality' ('Trouble', p. 100).

for example, primarily exists in virtuality having already been actualized. Owing to its greater expansiveness, the virtual contains more of these diverse positions than the actual. It is therefore reductive to represent virtuality as a space of identically non-actual components, Kalaga asserts; instead, the virtual is a range of parts variously closer to or further away from actuality. None of these virtual parts can be called non-actual: each part is alternatively actual, whether it proceeds towards and remains in actuality or whether it remains virtual (prior to actualization) following actualization. One such part of the virtual spectrum can describe the primary way of being for a body distanced from the time of touch/tactility, given that this body has actually been touched but, due to the virtual-relational subsistence of this touch, is not simply gravitated towards a homogeneous time and space of transformation. In short, Kalaga digitalizes the virtual, invoking the discrete elements that prevent virtuality from functioning as a singular continuum of change.

For Kalaga, material objects are crucial for transporting us to this virtual space of interpretation:

> Access to virtuality is through the most actual of actualities – the physical object. Objects are portals opening for us the realm of the virtual. A series

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Virtuality here does not mean that which compliments reality; it is rather the constitutive possibility of the text's intelligibility in real space. Elizabeth Grosz makes a similar claim in her research on virtuality: 'we must realize that since there has been writing, writing in the Derridean sense of the trace [...] there has been some idea of the virtual. The text we read may be in real space, but insofar as it is comprehensible to us, it also exists in a state of virtuality' (*Travels*, p. 105). These theorizations are significant because they enable us to realize that virtuality has a textual 'infrastructure', as Kalaga claims ('Trouble', p. 96), composed of relations (or an order of elements moving in relation to one another) that occur prior to actualization's creative leap forward from a generative virtual. Laurent Milesi posits a textual virtual that underscores this significance, which he calls 'possibility-virtuality', referencing a 'more primordial, archaic virtual as the utmost generalizable trace of the (im)possible event before a taking-place, [...] from which the couple act/power or actuality/potentiality would itself be derived' ('Taste', p. 45).

> of relations may be infinite in its capabilities of forming virtual entities, but eventually, it has to be anchored [...] in something accessible to the senses [...] in other words, it has to be anchored in a (physical) object. Especially exemplary here are objects invested – by individuals or communities – with chains of interpretive relations: monuments, museum objects, souvenirs (with respect to that sphere of virtuality we call memory), or material vehicles of information: print, digital records, celluloid tape [...]. What we thus participate in every day is a criss-crossing of virtual and actual spaces: virtuality is inchoatively 'present' in actuality [...]. Objects partake in both types of relations: material and interpretive, i.e., they partake in both actuality and virtuality. Rather than being mere densities of matter, objects have memory and imagination (this imagination/memory of objects is virtuality).[95]

The material or physical object, existing in actuality (as matter supplied to form), is also a site of memory, in that it takes on cultural significance as physical evidence of a taking-place. Thus the physical object is not merely form supplied with matter: it is matter supplied with memory and imagination, a live 'portal' to an elsewhere or a space without place. Kalaga's assertion of the memory, imagination, or virtuality of (actual) *souvenir* objects enables us to elaborate on Hoang's study of the latex condom in cyberspace. Hoang, we recall, considers the torn, used condom as an unexpected souvenir of the GAM body's souvenir status, or racialized position, on Internet cruising sites. However, Hoang's invocation of virtuality differs markedly from Kalaga's. At separate points in his essay, Hoang refers to the regulatory masculinity in gay online space as a 'virtual whiteness', and describes GAMs as being 'engaged in virtual, de-realized relationships' as a consequence of staying online.[96] While these adequately describe the assumptions and expectations of online/offline communities that constrain GAM participation, Hoang here reduces the virtual to that which is not real; a simulated space made accessible by advances in computing. Hoang thus opposes the virtual to what is really taking place in a technologized existence:

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[95] 'Trouble', pp. 101-102.
[96] '[GAM]', para. 10 of 15.

virtuality, Hoang implies, either prevents us from seeing who really participates in queer online space (which is to say that an idealized or 'virtual' whiteness masks the true proliferation of user identities), or describes the frequent inability of GAMs to embrace the real (online/offline) purpose of cruising sites. Hoang therefore argues against the virtual on the premise that it is a technologically determined denial of agency, or a technologically determined condition of obfuscation and removal from important political issues.

But had Hoang considered the virtual in its more complex philosophical sense, he would have understood that the basis of his argument against 'de-realization' is precisely an example of virtuality, namely, the accessing of memories through material objects – in Hoang's case, the latex condom's memories of GAM bodies logging on and getting off. Virtuality does not 'de-realize' here: on the contrary, the virtual becomes real via the used, torn, and kept condom, because the condom creates an 'open link', in Kalaga's terms, to a virtual space (memory) that discloses the reality of life in a particular techno-subculture.[97] The reality, as Hoang so compellingly reveals, is that despite various restrictions across racial, gendered, and sexual lines, GAMs *do* partake in the online/offline movements of Internet cruising, by creatively negotiating these exclusionary implications of fluid, flexible touch-sensitivity. Hoang shows that the latex condom (a physical object) has as much memory as a computer supplied with RAM, which constitutes an important claim against technological determinism: we dot have to study computers to know what happens online. But it is crucial that we conceive of this object – and any other object – as having virtuality, in order to avoid the equally deterministic, and severely mistaken,

[97] 'Trouble', p. 100.

conflation of the virtual and new media technology's prohibitive or emancipatory aspects.

While Kalaga establishes that 'virtuality has always been here, accessible through its material portals and mediated by the memory and imagination of objects', he does not reject an association between new technology and the virtual.[98] New technology is not the same as virtuality, Kalaga insists, but 'technology has immensely enhanced access to virtuality', 'calling [...] for a new kind of deterritorialized cybertextual subject, occupying no place, but capable of being everywhere'.[99] I agree with this statement: the World Wide Web, for example, draws participants into browsing or wandering between reticulated links whose addresses are transitory.[100] The real location of the Web surfer, then,

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[98] 'Trouble', p. 103.

[99] Ibid. Deterritorialization is a Deleuzian term, describing the chaotic movements that are immanent to all (territorialized, or territorially placed) constitutions of identity and establishments of homeland. Thus, an identity is actually constituted, but because it is actualized – that is, because it involves creative, new, forward *movement* – this identity is never inert, its territory is always unstable or deterritorialized. See Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, trans. by Brian Massumi, 5th edn (London and New York: Continuum, 2004), pp. 147, 193-198.

[100] Kalaga makes the important point that while technology enhances access to virtuality, we must not confuse this accessibility with the (mistakenly) imputed 'virtuality' of computer-simulated worlds: 'what is today called virtual reality – i.e., the event we participate in via the computer – is not virtuality at all, but an already actualized fast-food imagination [...]; an actual simulacrum in progress with the participating subject immersed in an actual process. [...] a better name for it would be simulated reality rather than VR' ('Trouble', p. 102). We can apply this argument to *Second Life*, the currently popular Web-based, interactive 3D environment that advertises itself as a 'virtual world'. *Second Life* may indeed have virtual effects – that is, it positions a group of subjects in a collective, spatial non-place, just as a souvenir or a monument does – but the *Second Life* software itself, its design, graphics, avatars, and so on, is actual, a created simulation of societal acts operated by its users. From this critical perspective, we can say that there is nothing particularly virtual about this process. On this point Kalaga converges with Massumi: Kalaga implies that the content of computer-based environments is not crucial to getting to virtuality, and Massumi argues that the content of websites is not important (or is always secondary) to the transformative analogue effects of clicking and moving through

is in an abstract space of relations or links resistant to place specificity. Given the increasing accessibility and use of this medium in technologized nations, Kalaga is correct to argue that technological development potentially nullifies the question of 'entering' virtuality.

However, there is an important possibility of the object as portal that Kalaga has not considered, which informs my reluctance to join Kalaga's call for a new cybertextuality. It is possible, I argue, for relations to subsist while the object does not work properly as a portal. We must not overlook the fact that Tan Hoang's condom was broken, and that this tearing was necessary for the interpretation of GAM movement. The damaged condom/object still acts as a portal – transporting us to a virtual space of textuality, where the condom interpretively relates to whiteness, Asianness, AIDS, the body and new media, and so on – but another relation emerges as a result of its souvenir ephemerality: put simply, the subject moves through the condom but at the same time *lives with* a useless piece of latex. Hoang's study evokes subjects placed beside throwaway objects not thrown away, becoming acquainted with densities of matter that should not 'be-there', as it were, remaining in a particular locale. Hoang's condom, then, not only tells us about wider social, historical, cultural, and racial implications: it also simply tells us that it is material form.

Cultural critic Bill Brown captures this double sense of relation, in his important distinction between the *object* and the *thing*:

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hyperlinks. While I think Kalaga is correct to warn against the conflation of virtuality and simulation, I find his use of the term 'fast food' to describe computer simulated spaces overly dismissive, because it implies that all computer simulated worlds are disposable and that they can never coincide with virtuality in the philosophical sense. For an account that tries to reconcile the philosophical virtual and simulated reality, see Tom Boellstorff, *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human* (New Jersey: Princeton University Press, 2008).

> As they circulate through our lives, we look *through* objects (to see what they disclose about history, society, nature, or culture – above all, what they disclose about *us*), but we only catch a glimpse of things. We look through objects because there are codes by which our interpretive attention makes them meaningful, because there is a discourse of objectivity that allows us to use them as facts. A *thing*, in contrast, can hardly function as a window. We begin to confront the thingness of objects when they stop working for us: when the drill breaks, when the car stalls, when the window gets filthy, when their flow within the circuits of production and distribution, consumption and exhibition, has been arrested, however momentarily. The story of objects asserting themselves as things, then, is the story of a changed relation to the human subject and thus the story of how the thing really names less an object than a particular subject-object relation.[101]

Brown's analysis of objects echoes Kalaga's theory of objects as portals: objects, Brown explains, enact through-movements to the constructed codes or significations of cultural formations, which we draw upon to link the object to a commentary on (or decoding of) culture.[102] The thingness of objects, however, does not imply a departure from virtuality: as Brown states, we glimpse things only when objects break and momentarily occupy a place outside flexible accumulation, before they are either thrown away or resuscitated. The thing is not entirely within actuality; primarily it has (actual) physical or material existence, but more significantly it reorients the way in which the human subject interprets objects (in virtuality). The thing produces a relation of greater reciprocity, in which the object does not merely confirm the subject's capacity for forming interpretative links. Thingness enables the object to address itself to the subject: the object has agency in this instance; it *asserts itself* as a thing, initiates a conversation. A moving car stalls and asserts itself as insensate rubber,

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[101] Bill Brown, 'Thing Theory', *Critical Inquiry*, 28:1 (2001), 1-22 (p. 4). Emphasis in original.

[102] An ideological nexus is Kalaga's other principal example of virtuality, and Kalaga qualifies his notion of diaspora with the claim that it virtually subsists through ideological as well as material relations: 'What also – and decisively – maintains the intensity of diaspora is ideology, i.e., relations to and among ideas shared by its members' ('Trouble', p. 99).

steel, aluminium, plastic. The flexible, touch-sensitive condom tears, detaching itself from a sensitized surface to face the anxious subject, ephemerally commanding attention as something that temporarily will not move (that is, will not be instantly thrown away, and will affect the subject enough to hold the subject's attention for a time, ensuring that the subject's body does not immediately move on to more activity following its contact with the condom).[103] We can suggest that by glimpsing the thing, friendships emerge between physical objects and subjects, creations premised not on open links to an elsewhere or becoming-other, but on a getting-to-know or spending-time-with in the present.

Kalaga claims that 'technological wiring' makes cybertextuality possible. However, Kalaga looks through the wire in making this statement, envisioning bodies moving dynamically in an expansive non-place facilitated by the properties the wire carries: electricity and signals. My resistance to Kalaga's proposal should not be interpreted as a gesture of sabotage or Ludditism. Instead,

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[103] These relations are not decontextualized, naïve formalisms or reifications – what Lévy calls the 'enemy sister' of creation, 'a reduction to the thing' (*Becoming*, p. 34). The appearance of the thing reduces nothing but an inattention to the material thingness of objects: as we see in Hoang's case study, the torn and detached condom communicates a history of AIDS and technology and a discourse of Asianness: however it does so not as a condom in the strict sense but as something else – an inertial piece of rubber with no necessary connection to the uninhibited movement or re-moulding of bodily identities in post-Fordism. I am thus arguing for a theory of technology that proceeds from material objects themselves. One essay in particular has achieved this; see Raiford Guins, 'An Elegy for the Undead', *Vectors*, 2:1 (2006), <http://www.vectorsjournal.org/issues/3/objectOfMediaStudies> [accessed 28 July 2009]. Guins searches for material remnants of the 1980s arcade game *Ms. Pac Man*, which primarily take the form of worn, inertial wooden arcade cabinets in the wake the game's obsolescence or emulation within newer technologies: 'our interest in video games exceeds their code, immersive [...] worlds, play, and photorealistic moving-images on screen', Guins argues. 'The marginal material form of the media be it cartridge, console, computer, cabinet, disc, handheld, wearable, is afforded prolonged cultural value. The material form is a "thing" of cultural history that continues to circulate despite its dead media content' (para. 2 of 22).

I want to form a critical discipline that is prepared to notice the everyday failures that affect the condition of technological movement/affect: for every image of wired cybertextual placelessness, there is the more mundane, humorous, although I think equally engaging, image of the cybertextual subject left stationary with cables, placed by a slowed or faulty connection that will not allow this subject to 'get away' in Lévy's terms. These moments spent with plastic, polymer, and alloy are not meaningless technologically: the computer may be less responsive when it stops working properly, but its diminished tactility invites a different type of contact between computer and a body-machine. When we touch the computer for example – for example, press a button or click a mouse – only to realize that it cannot feel our actions, a previously unexamined materiality of this object is made meaningful, in ways that question new media's ability to depart bodies from the here and now.[104]

In the context of my research, then, the time of touch includes not only insensate skins, but also an unresponsive computer and an aggressive, exasperated computer user, who deliberately mistreats the machine – is deliberately awkward or tactless with it, we could say – in light of its

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[104] Glimpsing the wire as a thing provides a compelling means of interpreting David Simon's *The Wire*, one of the most intricate television series of recent times. Set in post-industrial, early-twenty-first-century Baltimore, *The Wire* follows simultaneously the public and private lives of the city's drug dealers, politicians, homeless, and the police team attempting to disband the drugs empire by intercepting (or 'getting a wire up on') the mobile phones and pagers of the empire's hierarchy. A recurring theme of *The Wire* is that, due to harsh economic constraints, political corruption, inept policing, and the meticulously coded movements of the drug dealers, the wiretap never quite enables the police to evidence the precise locations, identities, activities, and communicative exchanges within the virtual telecommunicative space that relates each member of the drug gang. The wiretap is subsequently disconnected, or shut down, on many occasions, leaving equipment inactive in a disused office: the plastic/polymer cable becomes as much a discrete character of the drama as a component of technological wiring. (*The Wire*. Prod. by David Simon, Robert F. Colesberry, Nina Kostroff Noble. Warner Bros. HBO Home Video.)

unresponsiveness. A 'timed out' or significantly slowed Internet connection, for example, can lead us to forcefully, unrhythmically prod the buttons of a keyboard and mouse – the action colloquially known as 'button bashing' – in the knowledge that these actions are not likely to re-establish the simultaneity with electronic commands that would normally move us through the Web. This encounter is far different to any found in *Zeros*, 'Ticklish', and 'Trouble': Plant clearly had high expectations of a free-flowing, universally high-speed communications network to appear in the years following her book's publication, and both Vasseleu and Kalaga assume that technological wiring will always displace us as long as we make contact with it.[105] Button bashing draws our attention not only to the time of touch but also to the separate temporal frame of tactility, because it demonstrates that tactility can subsist without auto-affective movement. Theories of technological touch-sensitivity equate tactility with uninhibited mobility. In the body-machine encounter between unresponsive computer and exasperated user, though, the networked computer remains electronically powered or live, and the user has a sensate awareness of bashing buttons, but these separated tactilities are not conducive to vagueness – the affectively compulsive, transformative, and unmotivated movement fostered by

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[105] Joanna Zylinska argues that '[w]ith mobile phones, iPods, wireless Internet connections, immersive game environments, and the convergence of different media forms and contents, [...] [t]he human is positioned much more ostensibly as an element in the information system, a nodal point for the flow of data, rather than a skin-bound, self-contained rational moral agent' (*Bioethics*, p. 61). I support Zylinska's formulation, because it echoes the idea of body-machines (or, as Zylinska proposes, 'humachines') that underpins my thesis, whereby the human body's relation to its environment is always already mediated by a technological-co-ordinative complex of which the human is both an effect and a contact point or terminal (ibid). My notion of casting, however, focuses on the discordant types of relation that can form and subsist within the systemic synthesis of skin and data, in which the skin that touches things technological does not always give way to a transformative flow or liveness.

clicking through the Web's reticulated links. These body-machine relations or acquaintances, in other words, are cybertextual – virtuality bound up with technology – prior to a cybertextuality premised on technological advancement.

'Casting' is a suitable term for these acquaintances/friendships. To understand why, and to relate my theorizations in this chapter to my overarching discussion of post-Fordism, we can examine the role of these friendships within a way of life that critic Lauren Berlant calls 'post-Fordist affect'.[106] Berlant analyses the plight of subjects disenfranchised by flexible accumulation, positing post-Fordism as 'a scene in which the lower you are on economic scales, and the less formal your relation to the economy, the more alone you are in the project of maintaining and reproducing life'.[107] The 'constant movement of people and things, through national boundaries, temporary homes', and informal workplaces and economic conditions, has compressed time and space into an 'eternal present', Berlant claims, where the less economically privileged work the most flexibly (that is, move through jobs which are the most temporary) without progressing through 'contemporary class society'.[108] Berlant calls this 'stuck in [...] the time of [...] *not-stopping*'.[109]

For Berlant, those who bear the exclusionary consequences of post-Fordism are constantly 'flinging themselves at life', but not in an attempt at upward class mobility: mobility for these subjects does not represent the meaningful (flexible) way of joining a trajectory towards a normative way of

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[106] Lauren Berlant, 'Nearly Utopian, Nearly Normal: Post-Fordist Affect in *La Promesse* and *Rosetta*', *Public Culture*, 19:2 (2007), 273-301.
[107] 'Nearly', p. 280.
[108] 'Nearly', p. 292.
[109] 'Nearly', p. 279. Emphasis in original.

living.[110] Berlant argues that to understand the lives cultivated at the post-Fordist bottom, 'we need to think about normativity as an evolving and incoherent cluster of hegemonic promises about the present and future experience of social belonging that can be entered into in a number of ways', rather than as 'a congealed space of aspiration toward privilege'.[111] In the 'fundamentally stressful' lives that Berlant documents, movement towards privilege does not exist, is not an option.[112] To avoid their entropic burnout within this overbearing present, Berlant claims, these subjects form transitory relationships with others in immediate proximity (whoever or whatever is at hand, as it were), and, in the moments that they last, experience these relationships as the possibility of 'the good life', or of stable and enduring bonds established over time by eligibly working bodies, in order to gain a sense of the privileges awarded to those others who do live flexibility as upward mobility.[113] In other words, these subjects move to 'feel normal', as a means of deferring the flexibility that exhausts them.[114] Movement and sensation are indistinguishable here, but this affective mode temporarily brings bodies to a standstill to facilitate life-making. Places and things are crucial to these movements toward feeling normal:

> What's striking in the temporal imaginary of both the citizen and the migrant workers [of post-Fordism] is the ways they look forward to a condition of stasis, of being able to *be somewhere* and make a life, exercising existence as a fact, not a project. In other words, in this version of transnational class fantasy, mobility is a nightmare, not a dream, and property and propriety signify *having something* and keeping it, and being able to return to it. [...] The desire for a less-bad life involves

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[110] 'Nearly', p. 277.
[111] 'Nearly', p. 298.
[112] Ibid.
[113] 'Nearly', p. 275.
[114] 'Nearly', p. 281. Elsewhere Berlant has written on thermodynamics and entropy, in relation to the 'physical wearing out' of present-day populations, particularly those suffering from obesity. See Lauren Berlant, 'Slow Death', *Critical Inquiry*, 33 (2007), 754-780 (p. 754).

> finding resting places [...] bargaining with what is overwhelming about the present.[115]

Berlant's assertions of property and propriety link compellingly to my argument for friendships with object-things. Post-Fordist affect denotes casting, in the sense of bodies unmotivatedly throwing or 'flinging' themselves until they make an attachment with something. It also denotes casting in the sense of bodies making this thing endure somewhere, endowing it with a hardness or permanence so that it can be kept, not owned (ownership implying upward mobility); ensuring this thing does not change shape, is not looked through as a portal to capitalistic gain, so that it may be returned to in the form in which it was first cast. This hope of returning to the same thing provides those cast off by post-Fordism with a feeling of relation, intimacy, and social belonging – those elements falsely promised by flexibility to exist in a utopic space that everybody can inhabit in the future. A key implication of these affective processes is that feeling does not have to be reciprocated between body and object-thing: the notion of quickly grabbing hold of something without thinking, and keeping it in place, carries the distinct possibility of this thing not feeling the same way, indeed the possibility of this thing not feeling anything.[116] This insensateness of

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[115] 'Nearly', p. 291. Emphasis in original.

[116] The first half of Pixar's animated film *Wall-E* – which can be considered a post-Fordist version of Chaplin's *Modern Times* – captures this relational or, indeed, insensately reciprocal non-reciprocity between body-machines in post-industrial time. The obsolete industrial worker/refuse compressor robot WALL-E falls in love with the technologically advanced, sleekly designed EVE, a probing device sent from a spaceship to find evidence of life in a decayed and (but for WALL-E) uninhabited Earth in the year 2805. The machines establish a friendship initially based on tactlessness. WALL-E wants to show EVE his favourite objects that he found and kept from his rubbish compression duties, but EVE is physically more powerful than WALL-E and often breaks these objects by handling them with too much force or pressure. EVE is also built for great speed and freedom of movement, and cannot navigate through WALL-E's small home or place without damaging its contents and structure. Just as the two are

the keepsake is the necessary condition for relations to subsist in lives where one has neither the time nor the space to network for upward mobility. Contra Berlant, I prefer not to read these relations as the lonely actions of subjects burnt out and defeated by late capitalism. In Berlant's rhetoric, the thing of which one keeps hold is the digitally dead component of an analogue, affective tie in which the subject feels alone. In my view, an opportunity arises when the thingness of objects is glimpsed in contemporary technologized society: casting is attributable to post-Fordism but casting also produces a *queer Fordism*, Fordism made strange, where technological objects have longer lives not as products – as they did in the Fordist era – but as agential companions, helping us imagine a new politics of place and the local.

I have shown that casting is much more than a means of surviving against capitalist domination. It can equally apply to a subject (mis)using a computer, the (mis)use/non-use of a condom, any type of relation with an object-thing, and bodily contacts established apart from the time of touch/tactility. To this extent casting is flexible, insofar as it yields many different examples of the same principle: place is important in ways that have yet to be acknowledged in analyses of mobile virtuality and new technology. In the thesis conclusion, I draw out the implications of casting in relation to the key issues of previous

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becoming closer, EVE's sensory devices detect a nascent plant form, which triggers EVE to collect the plant and enter a 'standby' or 'sleep' mode while she awaits collection by the ship. WALL-E continues to accompany and care for EVE in the time leading up to her collection, even though the dynamics of the relationship have changed: WALL-E can see that EVE remains tactile – a soft light flashes on her exterior – and he takes advantage of EVE's tactility by moving closer to her than before, perhaps closer than EVE would have permitted. WALL-E moves to hold EVE's hand, but EVE's induced unresponsiveness/rigidity forces her arm to abruptly close back into place. This leaves WALL-E at once happy to have touched/made contact and uncertain whether EVE's tactility is simultaneous with his contact and emotions (*Wall-E.* Dir. by Andrew Stanton. Walt Disney Pictures. 2008).

chapters, and I outline future directions of research that can emerge from casting and the queer Fordism it produces.

Conclusion: Queer Fordism

Queer Fordism is the time of touching technological things continuously and repetitively without response, the time of technological tactility or liveness that is not simultaneous with touches, and the time in which a body casts – stays in place with a technological development that is momentarily deprived of its touch-sensitive capacities, creating new relations and gaining critical insight by getting to know this artefact for its stubborn materiality. A body feels more Fordist than post-Fordist in these times, because a body is affected in a way that moves it to a Fordism of other possibilities. Queer Fordism is thus the critical presence and continued relevance of the Taylorized Fordist qualities of rigidity, hardness, and order within flexibility as a social dominant. The queer Fordist temporal frame is very similar to Benjamin's alternative Fordism of tactile appropriation, multiplied places, and adventurous travel, but in queer Fordism tactility is deconstructed as just one possibility of an asynchronous action-sense configuration.

Echoing the theories of Plant and Vasseleu, Benjamin's appropriation of tactility does not separate tactility from touch. For Benjamin, a body's contact with a Fordist artefact is simultaneous with a tactile shock the body receives in response to the speed-up and automation of the Fordist system. I take inspiration from Benjamin's association of tactility with bodies that are not up-to-speed with innovations in technology. However, my research complexifies Benjamin's theorization, by showing that bodily contact with a technological object implies different types of touch and different types of tactility, which cannot be incorporated homogeneously under 'tactility' as a single critical mode. The time

of touch and the time of tactility frame different orders of relation, and our engagement with these frames multiplies the possibilities for action and sense. Such a multiplication reveals that tactility and touch are too divisible and too separable to serve as the basis for mass, co-ordinated movement. In other words, I have shown that tactility and touch locate bodies moving at too many different speeds in too many different places for 'tactility' to incorporate all bodies that touch technologically. This distinguishes my approach from Benjamin's, which multiplies the possibilities of Fordism so that Fordist technologies can move the masses towards a better future. To summarize, then, Benjamin invokes tactility as that which appropriates Fordism for revolutionary criticism, whereas I have invoked tactility (and touch) to demonstrate the difficulties of basing revolution on technological advancement.

Part of the reason why I argue for queer Fordism – over Fordism and post-Fordism – is to stress that we must never allow the periodization of societal systems to periodize movements in critical theory. I have demonstrated how the textual paradigm of poststructuralism in particular is threatened by obsolescence within this periodization, and have argued that it is both politically dangerous and theoretically and philosophically erroneous for textuality to be threatened in this way. To recap, the textual paradigm breaks down movement into a system of discrete elements. This approach meticulously studies the differential relations between these elements, which mark the movement of the most discrete trace of what the system necessarily excludes in order to function. I have shown that this strategy can be used to articulate the counter-movement and struggle of bodies marginalized by the function of the post-Fordist system. The periodizing imperative, however, denounces textuality for creating repetition in the body of

the critic and boredom in the body of the reader, movements that mirror the movements of a past societal system that today's bodies no longer live. The implication here is that textual processes of breaking down have no effect on the reality of a Fordist-to-post-Fordist succession that is essentially indivisible – a temporal truth incapable of being put into discreteness and into question.

Future Directions of Casting

The 'queer' in queer Fordism also references non-normative sexual relations, which I argue can be formed in the types of technological encounter I emphasized in chapter 4.[1] A key example of the friendships and relations in the

[1] The formulation 'queer Fordism' is my own, but attempts have been made already to relate the term 'queer' to the possibility of living Fordism differently. See Bill Maurer, 'Redecorating the International Economy: Keynes, Grant, and the Queering of Bretton Woods', in *Queer Globalizations: Citizenship and the Afterlife of Colonialism*, ed. by Arnaldo Cruz-Malavé and Martin F. Manalansan IV (New York and London: New York University Press, 2002), pp. 100-133. Maurer argues against flexible accumulation by theorizing an alternative capitalist system, which is based on the socioeconomic principles held by gay economist and modernist John Maynard Keynes. Keynes's economic policies of stabilized commodity prices and equally balanced wages were the driving forces behind Fordism's post-war boom or golden age. Maurer re-reads Keynes's principles as effects of Keynes's membership of the Bloomsbury Group, the early-twentieth-century union of writers and intellectuals whose cosmopolitan pursuit of the arts, and intra-group (and non-heteronormative) sexual relations, comprised a critique of unnecessary state convention and intervention. A more explicit connection between Keynesian economics and Bloomsbury etiquette, Maurer argues, may have ensured the continued function of a socioeconomic system that moved (and moved bodies) in a Fordist way but without the constraint and oppression with which Fordism was traditionally associated, thus forestalling the epoch of flexible or global domination and exploitation. Mandy Merck draws out the significance of Maurer's essay in 'Sexuality, Subjectivity and ... Economics?', *New Formations*, 52 (2004), 82-93. While Maurer and I share a general commitment to learn from and understand in the present the significance of Fordist qualities, our critical approaches diverge: Maurer's queer Fordism is produced by movements that are 'elegantly regulated', as Merck states ('Sexuality', p. 93), whereas the queer Fordism I espouse is enacted by an order of tactlessness, in which bodies and object-things are stabilized or placed together through failure, unresponsiveness, ignorance, indifference, exasperation, anger, and hitting-in-stasis.

queer Fordism of casting – and a potential study to follow from this thesis – is the recently documented, and heavily sensationalized, practice of 'objectùm sexuality', whereby one forms intimate relationships and/or long-term friendships with inanimate objects. According to 'Objectùm Sexuality Internationale', the website and support network established by the individuals who have formed a community around the practice, 'if one sees objects as inanimate, then objectùm-sexual love and our relationships would undeniably be scrutinized. Indeed, there are cases of love being one-sided [...], but in general we do feel love in return [...] Our objects are NOT human so sex [between subject and object] cannot be defined the same way. Intimacy may simply be touching or more or less for some'.[2] My theory of casting is significantly less saccharine than these descriptions of objectùm sexuality. In my research, subject and object-thing are often brought together as a result of the mistreatment of, or heavy-handedness with, the object when it fails or becomes unresponsive, but there may nonetheless be affective intersections between the two.

The notion of casting that I propose, which stresses the importance of place in technological space, provides an opportunity for technologies scholars, and cultural theorists in general, to directly engage with a present reality that I think has been significantly under-theorized to date. I am referring to the fact that in a so-called digital nation, the speed with which a body is transported via a broadband Internet connection varies drastically depending on a body's location within that nation. In Britain, only fifty per cent of households have access to the fastest broadband.[3] We can understand this current situation with recourse to the

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[2] See <http://www.objectum-sexuality.org/> [accessed 28 July 2009].
[3] See The Department for Culture, Media, and Sport's paper 'Digital Britain: Final Report', 2009,

philosophical digital: 'digital nation' signifies not only a networked territorial whole but also a vast multiplicity of discrete regions, each of which has its own times of contact and communication.[4] We should ask questions about what takes place in these regions, instead of simply anticipating an eventual nation-wide speed-up of broadband technology that will provide all citizens with equal access to the optimum number of megabits per second. How, for example, do the inhabitants of these discrete places get to virtuality? I propose that we ignore the hyperbole of the 'digital revolution', and instead study the interpretative relations, or the virtual spaces, into which bodies are being moved by their contact with wiring that is likely to let down fifty per cent of the time.

Within these spaces, we find that technological developments are meaningful as contact points for failure, anger, stupidity, and boredom – affects that exceed the excitable/electric positivity of auto-affectation and the touch-tactility on which auto-affectation is premised. Auto-affectation/touch-tactility privileges a commonsensical assumption of digital communication technology's reliability and efficiency, implying that digital technology's failings mark the

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<http://www.culture.gov.uk/what_we_do/broadcasting/6216> [accessed 05 January 2010], p. 8.

[4] By invoking regionality, I do not simply mean that there are different speeds of broadband in different areas of a nation – parts of counties, parts of towns and cities, and so on. There are discrete regions within these areas: connection and navigation speeds can vary between neighbouring buildings, and can vary within the partitioned areas of a single building, if the hardware and software used in each of these places are not of the same age and specification, and if one place has more hardware connected to the network than another. It can be argued, then, that Britain is more digital (discrete) without the 'digital revolution', which promises to create a perpetually high-speed, continuous, distinctly analogue communicative flow through all territories. Commenting on the pervasive use of credit and debit cards in Britain, the 'Digital Britain' report claims that 'plastic [...] depends on wired and wireless communications to work' ('Britain', p. 7). My examples of button bashing and computer mistreatment demonstrate that plastic can indeed work – can be live and can move/affect a body – without the proper (touch/tactile) function of technological wiring.

moments in which this technology is not eligible for use. Judith Halberstam has recently attempted to 'expose the logic of the binary formulation that damns certain [negative or "bad"] forms of knowing to the realms of negation, absence and passivity and elevates others to the status of common sense'.[5] Halberstam calls for this binary logic to be disrupted by an 'anti-social turn in queer theory', which requires queer subjects – those whose lives are not tied to reproduction and futurity – to embrace the negativity by which they are stigmatized in heteronormative society.[6] The anti-social turn also involves using the clumsy or tactless aspects of negativity to resist the canonization of negativity studies by famously stylish and/or 'camp' writers, artists, and entertainers.[7] Halberstam argues that to bring about this turn, 'we must be willing to turn away from the comfort zone of polite exchange [or tact] to embrace a truly political negativity, one that promises, this time, to fail, to make a mess, to fuck shit up, [...] to bash back'.[8] The button bashing that takes place in queer Fordism could be made to support Halberstam's project. As I have demonstrated, the mistreatment of computers is coextensive with the user making contact with nothing but hard, insensate plastic, and perhaps this practice can be appropriated for what can be

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[5] Judith Halberstam et al., 'The Anti-Social Turn in Queer Theory', *PMLA*, 121:3 (2006), 819-833 (p. 823). See also Halberstam, 'Dude, Where's My Gender? or, Is there Life on Uranus?', *GLQ*, 10:2 (2004), 308-312.

[6] 'Anti-Social', p. 824. For more on anti-social queer theory, see Lee Edelman, *No Future: Queer Theory and the Death Drive* (Durham and London: Duke University Press, 2004).

[7] 'Anti-Social', p. 823. Halberstam criticizes Edelman for his 'narrow vision of an archive of negativity', which consists solely of epigraphs by highly accomplished figures in the arts and humanities who espouse a 'neat, clever, chiasmic, punning emphasis on style and stylistic order' ('Anti-Social', pp. 824, 825). For Halberstam, this vision 'cast[s] material political concerns as crude and pedestrian' by ignoring the moments of violent and destructive physical force that link negativity to protest and other actions of the oppressed ('Anti-Social', p. 824).

[8] 'Anti-Social', p. 824.

called anti-social networking – a political stance taken by those (such as GAMs) who are excluded by celebratory notions of online community-building. Stielger's assertion of the technological/(analogico-)digital body's irreducible non-knowledge provides another way of bringing Halberstam's negated forms of knowing into a technologies studies domain. Stiegler's claim that a body spends more time touching technological developments in a digitally technologized society, becoming less credulous about the (analogue) reliability of these developments as a result of this increased contact, potentially enables qualities and activities such as stupidity, tactlessness, technophobia and neo-Ludditism to be taken seriously as epistemologies.

My research can also be used to comment on the current turn towards motion-sensitivity in videogaming. The leading motion-sensitive games console is Nintendo's Wii, which is operated via wireless remote controls that use light and acceleration sensors to detect their position – or the position of whoever holds the remote control – in three-dimensional space, in relation to a portable 'sensor bar' that emits multiply placed points of infrared from its position above or below the television screen.[9] Thus, the premise of the Wii is that it instantly and accurately transports the user's movements into the game being played, by creating a space of acute sensitivity to specific physical gestures. The Wii has certainly changed the experience of mainstream gaming, but it has been affected by casting since its release. Touching, holding, and moving with the plastic Wii remote – which is encased in a flexible silicone skin or 'jacket' to prevent scratches and breakage – is often not simultaneous with the console's sensitivity

[9] See <http://www.nintendo.com/wii/what/controllers#remote> [accessed 02 January 2010]. For an analysis of motion- and touch-sensitivity in personal computers rather than games consoles, see Laurent Milesi, 'Taste', pp. 50-54.

to action/motion. First-generation Wiis were widely criticized for their slow responsiveness, and to address these disappointments Nintendo released a 'Motion Plus' add-on device – a longer silicone cast encasing an extra acceleration sensor, which fits over and plugs into the original remote control.[10]

Although the Motion Plus does make the console alert to a wider, flexible range of movement, bodily contact with this more tactile, touch-sensitive device can paradoxically restrict and make tactless the gamer's actions. The elongated silicone and accompanying sensor adds more rubber, increased weight and length, and greater density to the Wii remote, making it more unwieldy than at any previous stage of its development. By trying to point and manoeuvre a sometimes clumsy, excessively cast object around an area that is now too sensitive in proportion to this extra materiality, the gamer is likely to miss their cues to move as required by the console (or even accidentally to navigate outside of the designated space of motion-sensitivity), meaning that the Motion Plus has not eradicated the possibility of untimeliness in the gaming experience. There are clear parallels between these aspects of the Wii remote and Hoang's analysis of the condom. In Hoang, the condom's role as a contact point for uninhibited tactile communication is put into question by the material reality of tearing or breaking that frequently results from this contact, and similarly the Wii remote is overlaid with rubber to facilitate uninterrupted or breakage-free touch-sensitivity, only to create an action-sense configuration that results in many broken infrared connections. The intermittently sensate remote control does not have the political significance of the broken condom. However, my analysis of the Wii is important for showing that bodies are being moved outside the time of touch/tactility by the

[10] See <http://www.nintendo.com/wii/what/accessories/wiimotionplus> [accessed 02 January 2010].

most popular, mass-produced, benign and apparently user-friendly of artefacts. This is crucial to my neo-Benjaminian position: Wii playing highlights the participatory possibilities of casting, in that we do not need technical experts, technophiles, or highly sophisticated machines to take us to places in which technology can be critiqued in alternative (non-touch/tactile) ways.

There are other devices, however, whose design and creation appears to be coextensive with attempts to safeguard against accidental casting. At the time of writing, much hype surrounds Microsoft's plans to supersede the Wii with Project Natal, a 'controller-free' online games console that senses a flexible range of bodily movements and facial expressions without the user having to touch cast rubber and plastic.[11] We can argue that this innovation posits the hand-held controller as a cumbersome material form, whose contact with fingers and hands is likely to produce a material reaction, such as sweating, which threatens to enact the controller's release from the user's grasp, and thus make the controller act against the wishes of gamer and console. Similar implications underlie the function of Apple's iPhone 3GS, which has an oleophobic (oil-repellent) touch screen that apparently cannot be marked by the user's fingerprints.[12] This screen is significant for the way that it both invites constant touches from the user and tries to eliminate the material residues and traces of these touches that may impede its sensitivity, speed, and reliability. We may indeed be living in a time of touch-sensitive technologies, but it is important to understand how this epoch is severely restricting the time of touch and the time of tactility by trying to reach completely trouble-free communication.

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[11] See <http://www.xbox.com/en-US/live/projectnatal/> [accessed 02 January 2010].
[12] See <http://www.apple.com/uk/iphone/specs.html> [accessed 02 January 2010].

Finally, I am very interested in using my theory of casting to explore the condition known medically as Obsessive Compulsive Disorder (OCD). OCD has many symptoms and levels of severity, but commonly OCD is characterized by sufferers touching things more times than they should, in a single place for far too long.[13] This time-consuming ritual partly satisfies sufferers but also leaves them frustrated – often distressingly so – at not being able to navigate space quickly, and at never quite being simultaneous with the locations and actions of others. OCD is tied to shame and discreetness: sufferers can spend as much time trying to hide their self-fashioned routines as they do obsessively and compulsively performing them.[14] OCD can be felt especially when using technology, in particular those devices whose software and live function requires a subject's quick reflexes and hand-eye co-ordination. Examples include sending a text message on a mobile phone (whereby one is distracted by a compulsion to rhythmically touch the phone's plastic buttons, thus deferring mobile contact and communication); playing a game on a console or PC (one often loses a single-player game or loses to an opponent, or lets down team mates, as a result of pressing buttons or moving a joystick in an order not required by the media, making the sufferer aware of holding a cast plastic keypad and therefore not immersed in the same way as the average gaming body); Web surfing (one cannot proceed to the next link until the mouse has been sufficiently repetitively clicked – actions that often set the user back or forward by too many links depending on where the cursor is positioned, or which provide the browser with so many simultaneous commands that it crashes); and – quite dangerously –

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[13] See I. Hayman, D. Mataix-Cols, and N.A Fineberg, 'Clinical Review: Obsessive-Compulsive Disorder', *British Medical Journal*, 333 (2006), 424-429.
[14] 'Obsessive', pp. 424-425.

driving (one is compelled to touch or tap the steering wheel instead of moving the wheel simultaneously with the unfolding shape of the road). While taking seriously the pain and distress it causes, in future research I want to resist pathologizing OCD as a contemporary mental illness, by emphasizing the importance of viewing OCD as a Fordist-to-post-Fordist bodily condition – more specifically as a bodily condition of casting that disrupts such a temporal transition. OCD is fascinating for its deconstruction of the binaries between flexible (post-Fordist) and rigid (Fordist) and between disorder (post-Fordist) and order (Fordist): an OCD sufferer's most meticulously ordered practices are felt as disorders, causing the sufferer to feel out of place for remaining in place. Underscoring the critical significance of OCD as a condition of delay – that is, a condition that delays bodies, and, as medical experts have argued, a condition whose diagnosis and treatment is often delayed because of the 'shame and secrecy associated with it, as well as lack of recognition of its characteristic symptoms' – I will devote a substantial amount of future research towards theorizing OCD as the lifelong cultivation of relations not reducible to post-Fordism's disorganized, fluid touch-sensitivity.[15]

[15] 'Obsessive', p. 424.

Bibliography

Adorno, Theodor, and Max Horkheimer, *Dialectic of Enlightenment* (New York: Herder and Herder, 1972)

Aristotle, *The Metaphysics*, trans. by Hugh Lawson-Tancred, 2nd edn (London: Penguin, 2004)

Astell, Mary, *The First English Feminist Reflections upon Marriage and Other Writings*, ed. by Bridget Hill (Aldershot: Gowe/Maurice Temple Smith, 1986)

Ballard, J.G., *Crash* (New York: Picador, 2001)

Balsamo, Anne, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham and London: Duke University Press, 1996)

Banta, Martha, *Taylored Lives: Narrative Productions in the Age of Taylor, Veblen, and Ford* (Chicago and London: University of Chicago Press, 1993)

Barbin, Herculine, *Herculine Barbin: Being the Recently Discovered Memoirs of a Nineteenth Century Hermaphrodite*, trans. by Richard McDougall (New York: Colophon, 1980)

Barthes, Roland, *Camera Lucida: Reflections on Photography*, trans. by Richard Howard (London: Vintage, 2000)

——, 'The New Citroën', in *Mythologies*, trans. by Annette Lavers (London: Vintage, 2000), pp. 88-90

Beauvoir, Simone de, *The Second Sex*, trans. by H. M. Parshley (New York: Vintage, 1973)

Bell, Daniel, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Basic, 1973)

Bell, David, and Barbara M. Kennedy, eds, *The Cybercultures Reader* (New York and London: Routledge, 2000)

Benedikt, Michael, 'Cyberspace: First Steps', in *The Cybercultures Reader*, ed. by David Bell and Barbara M. Kennedy (London: Routledge, 2000), pp. 29-44

Beninger, James R., *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge: Harvard University Press, 1986)

Benjamin, Walter, 'The Work of Art in the Age of Mechanical Reproduction', in *Illuminations*, ed. by Hannah Arendt, trans. by Harry Zohn, 2nd edn (London: Fontana Press, 1992), pp. 211-243

Benveniste, Emile, 'The Nature of the Linguistic Sign', in *Debating Texts: A Reader in 20th Century Literary Theory and Method*, ed. by Rick Rylance (London: Open University Press, 1987), pp. 77-81

Bergson, Henri, *Creative Evolution*, trans. by Arthur Mitchell (London: Macmillan, 1911)

——, *Matter and Memory*, trans. by N.M. Paul and W.S. Palmer (New York: Zone, 1988)

Berlant, Lauren, 'Nearly Utopian, Nearly Normal: Post-Fordist Affect in *La Promesse* and *Rosetta*', *Public Culture*, 19:2 (2007), 273-301

——, 'Slow Death', *Critical Inquiry*, 33 (2007), 754-780

Bly, Robert, *Iron John: Men and Masculinity* (London: Rider, 1990)

Boellstorff, Tom, *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human* (New Jersey: Princeton University Press, 2008)

Böhm, Steffen, et al., *Against Automobility* (Oxford: Blackwell, 2006)

Brown, Bill, 'Thing Theory', *Critical Inquiry*, 28:1 (2001), 1-22

Bukatman, Scott, *Terminal Identity: The Virtual Subject in Post-Modern Science Fiction* (Durham and London: Duke University Press, 1993)

Butler, Judith, *Gender Trouble: Feminism and the Subversion of Identity* (New York and London: Routledge, 1990)

——, 'Contingent Foundations: Feminism and the Question of "Postmodernism"', in *Feminists Theorize the Political*, ed. by Judith Butler and Joan W. Scott (London: Routledge, 1992), pp. 3-21

——, *Bodies that Matter: On the Discursive Limits of "Sex"* (New York and London: Routledge, 1993)

Campbell, John Edward, *Getting It On Online: Cyberspace, Gay Male Sexuality, and Embodied Identity* (New York: Haworth Press, 2004)

'Condomi: Virtual Skinwear', (2008), <http://www.condomi-direct.co.uk> [accessed 06 August 2009]

Cook, Robert, *Sweet Land of Liberty? The African-American Struggle for Civil Rights in the Twentieth Century* (London: Longman, 1998)

Corneau, Guy, *Absent Fathers, Lost Sons: The Search for Masculine Identity* (Boston: Shambhala, 1991)

Daly, Mary, *Gyn/Ecology: Metaethics of Radical Feminism* (London: Women's Press, 1979)

Dean, Tim, *Unlimited Intimacy: Reflections on the Subculture of Barebacking* (Chicago and London: University of Chicago Press, 2009)

Debord, Guy, *Society of the Spectacle* (London: Rebel, 1992)

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

——, *Difference and Repetition*, trans. by Paul Patton (New York: Columbia University Press, 1994)

——, and Felix Guattari, *A Thousand Plateaus*, trans. by Brian Massumi, 5th edn (London and New York: Continuum, 2004)

Department for Culture, Media, and Sport, 'Digital Britain: Final Report', (2009), <http://www.culture.gov.uk/what_we_do/broadcasting/6216> [accessed 05 January 2010]

Derrida, Jacques, *Of Grammatology*, trans. by Gayatri Chakravorty Spivak (Baltimore and London: Johns Hopkins University Press, 1974)

——, 'Semiology and Grammatology: Interview with Julia Kristeva', in *Positions*, trans. by Alan Bass (London: Athlone Press, 1981) pp. 15-36

——, *The Truth in Painting*, trans. by Geoff Bennington and Ian McLeod (Chicago: University of Chicago Press, 1987)

——, *Archive Fever: A Freudian Impression*, trans. by Eric Prenowitz (Chicago and London: University of Chicago Press, 1996)

——, *On Touching – Jean-Luc Nancy*, trans. by Christine Irizarry (Stanford: Stanford University Press, 2005)

Derrida, Jacques, and Christie V. McDonald, 'Choreographies', in *Between the Blinds: A Derrida Reader*, ed. by Peggy Kamuf (New York: Columbia University Press, 1991), pp. 441-456

Deutsche, Rosalyn, 'Men in Space', *Strategies*, 3 (1990), 130-137

——, 'Boys Town', *Environment and Planning D: Society and Space*, 9 (1991), 5-30

'Digital UK: Get Set for Digital', (2009), <http://www.digitaluk.co.uk> [accessed 10 March 2009]

Dinshaw, Carolyn, et al., 'Theorizing Queer Temporalities: A Roundtable Discussion', *GLQ*, 13:2-3 (2007), 177-195

Doyle, Jennifer, 'Tricks of the Trade: Pop Art/Pop Sex', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 191-209

——, '"I Must be Boring Someone": Women in Warhol's Films', in *Sex Objects: Art and the Dialectics of Desire* (Minneapolis: University of Minnesota Press, 2006), pp. 71-96

Duve, Thierry de, 'Andy Warhol, or The Machine Perfected', trans. by Rosalind Krauss, *October*, 48 (1989), 3-14

Edelman, Lee, *No Future: Queer Theory and the Death Drive* (Durham and London: Duke University Press, 2004)

Elam, Diane, *Feminism and Deconstruction: Ms. en Abyme* (London: Routledge, 1994)

Elliott, Jane, 'The Currency of Feminist Theory', *PMLA*, 121:5 (2006), 1697-1703

eXistenZ. Dir. by David Cronenberg. Momentum. 1999

Factory Girl. Dir. by George Hickenlooper. Paramount. 2006

Faulkner Baker, Elizabeth, *Technology and Woman's Work* (New York: Columbia University Press, 1966)

Fayol, Henri, *General and Industrial Management*, trans. by Constance Storrs (New York: Pitman, 1987)

Featherstone, Mike, and Roger Burrows, eds, *Cyberspace, Cyberbodies, Cyberpunk* (London: Sage, 1995)

Firestone, Shulamith, *The Dialectic of Sex: The Case for Feminist Revolution* (London: Paladin, 1972)

Ford, Henry, *My Life and Work* (London: Filiquarian, 2006)

Foucault, Michel, *The Order of Things: An Archaeology of the Human Sciences* (New York: Pantheon, 1970)

——, *The Will to Knowledge: The History of Sexuality: 1*, trans. by Robert Hurley (Harmondsworth: Penguin, 1976)

——, *Power/Knowledge: Selected Interviews and Other Writings 1972-1977*, ed. by Colin Gordon, trans. by Colin Gordon, Leo Marshall and others (Harlow: Longman, 1980)

Frank, Lawrence K., 'Tactile Communication', in *Communication and Culture*, ed. by Alfred G. Smith (New York: Holt, Rinehart and Winston, 1966), pp. 199-208

Frank, Marcie, 'Popping Off Warhol: From the Gutter to the Underground and Beyond', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 210-223

Freeman, Elizabeth, 'Packing History, Count(er)ing Generations', *New Literary History*, 31 (2000), 727-744

Gartman, David, 'Three Ages of the Automobile: The Cultural Logics of the Car', *Theory, Culture & Society*, 21 (2004), 169-195

Gibson, William, and Bruce Sterling, *The Difference Engine* (London: Victor Golancz, 1992)

Gibson-Graham, J.K., 'Querying Globalization', in *Post-Colonial, Queer: Theoretical Intersections*, ed. by John C. Hawley (Albany: State University of New York Press, 2001), pp. 239-276

Gilbreth, Frank B., *Primer of Scientific Management* (New York: Elibron, 2005)

Gillis, Stacy, 'Neither Cyborg Nor Goddess: The (Im)Possibilities of Cyberfeminism', in *Third Wave Feminism: A Critical Exploration*, ed. by Stacy Gillis, Gillian Howie and Rebecca Munford (Hampshire: Palgrave Macmillan, 2004), pp. 185-198

Gillis, Stacy, Gillian Howie and Rebecca Munford, eds, *Third Wave Feminism: A Critical Exploration* (Hampshire: Palgrave Macmillan, 2004)

Goodstein, Elizabeth, *Experience Without Qualities: Boredom and Modernity* (Stanford: Stanford University Press, 2005)

Gramsci, Antonio, *Selections From the Prison Notebooks*, ed. and trans. by Quintin Hoare and Geoffrey Nowell Smith (London: Lawrence and Wishart, 1971)

Gray, Chris Hables, ed., *The Cyborg Handbook* (New York and London: Routledge, 1995)

Grosz, Elizabeth, 'Cyberspace, Virtuality, and the Real: Some Architectural Reflections', in *Architecture from the Outside: Essays on Virtual and Real Space* (Cambridge and London: MIT Press, 2001), pp. 75-89

——, *Time Travels: Feminism, Nature, Power* (Durham and London: Duke University Press, 2005)

Guerlac, Suzanne, *Thinking in Time: An Introduction to Henri Bergson* (Ithaca: Cornell University Press, 2006)

Guins, Raiford, 'An Elegy for the Undead', *Vectors*, 2:1 (2006), <http://www.vectorsjournal.org/issues/3/objectOfMediaStudies> [accessed 28 July 2009]

Halberstam, Judith, *Female Masculinity* (Durham and London: Duke University Press, 1998)

——, 'Dude, Where's My Gender? or, Is there Life on Uranus?', *GLQ*, 10:2 (2004), 308-312

——, *In a Queer Time and Place: Transgender Bodies, Subcultural Lives* (New York and London: New York University Press, 2005)

Halberstam, Judith, et al., 'The Anti-Social Turn in Queer Theory', *PMLA*, 121:3 (2006), 819-833

Hall, Stuart, and Martin Jacques, eds, *New Times: The Changing Face of Politics in the 1990s* (London: Lawrence and Wishart, 1989)

Hartsock, Nancy, *Money, Sex and Power* (New York: Longman, 1983)

Harvey, David, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford: Blackwell, 1990)

Hayles, N. Katherine, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago & London: University of Chicago Press, 1999)

Hayman, I., D. Mataix-Cols, and N.A Fineberg, 'Clinical Review: Obsessive-Compulsive Disorder', *British Medical Journal*, 333 (2006), 424-429

Hebdige, Dick, *Hiding in the Light: On Images and Things* (London: Routledge, 1988)

Hennessy, Rosemary, *Profit and Pleasure: Sexual Identities in Late Capitalism* (London: Routledge, 2000)

Hill Collins, Patricia, *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment* (Minneapolis: University of Minnesota Press, 1990)

Hoang, Nguyen Tan, '[GAM4GAM4SEX]', *Vectors: Journal of Culture and Technology in a Dynamic Vernacular*, 2:1 (2006), <http://www.vectorsjournal.org/issues/3/objectOfMediaStudies> [accessed 9 June 2009]

hooks, bell, *Ain't I a Woman: Black Women and Feminism* (London: Pluto Press, 1982)

——, *Feminist Theory: From Margin to Center*, 2nd edn (London: Pluto, 2000)

'iPhone: Technical Specifications', (2009), <http://www.apple.com/uk/iphone/specs.html> [accessed 02 January 2010]

Jameson, Fredric, *Marxism and Form* (New Jersey: Princeton University Press, 1971)

——, *Postmodernism, or, the Cultural Logic of Late Capitalism* (London and New York: Verso, 1991)

Jeffords, Susan, *Hard Bodies: Hollywood Masculinity in the Reagan Era* (New Jersey: Rutgers University Press, 1994)

Kalaga, Wojciech, 'The Trouble with the Virtual', *Symploké*, 11:1-2 (2003), 96-103

Keen, Sam, *Fire in the Belly: On Being a Man* (New York: Bantam, 1992)

Kristeva, Julia, 'Women's Time', in *New Maladies of the Soul*, trans. by Ross Guberman (New York: Columbia University Press, 1995), pp. 201-224

Kroemer, K.H.E., and E. Grandjean, *Fitting the Task to the Human: A Textbook of Occupational Ergonomics*, trans. by Etienne Grandjean, 5th edn (London: Taylor and Francis, 1997)

Lacey, Alan Robert, *Bergson* (London: Routledge, 1989)

Landa, Manuel de, *War in the Age of Intelligent Machines* (New York: Zone Books, 1992)

Landow, George P., *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (Baltimore: Johns Hopkins University Press, 1992)

Lash, Scott and John Urry, *The End of Organized Capitalism* (Cambridge: Polity, 1987)

Latham, Rob, *Consuming Youth: Vampires, Cyborgs, & the Culture of Consumption* (Chicago and London: University of Chicago Press, 2002)

Lévy, Pierre, *Becoming Virtual: Reality in the Digital Age*, trans. by Robert Bononno (New York and London: Plenum Trade, 1998)

'Lignes du Temps', (2006), <http://www.iri.centrepompidou.fr/res/media/flyer_ldt_en.pdf> [accessed 19 November 2009]

Lorde, Audre, *Sister Outsider: Essays and Speeches* (Freedom: Crossing Press, 1984)

Lott, Eric, 'All the King's Men: Elvis Impersonators and White Working-Class Masculinity', in *Race and the Subject of Masculinities*, ed. by Harry

Stecopoulos and Michael Uebel (Durham: Duke University Press, 1997), pp. 192-227

Luckhurst, Roger, 'Traumaculture', *New Formations*, 50 (2003), 28-47

Macgregor Wise, J., 'An Immense and Unexpected Field of Action', *Cultural Studies*, 18:2/3 (2004), 424-442

Mandel, Ernest, *Late Capitalism* (London: Verso, 1988)

Mann, Susan Archer, and Douglas J. Huffman, 'The Decentering of Second Wave Feminism and the Rise of the Third Wave', *Science & Society*, 69:1 (2005), 56-91

Marcus, Sharon 'Fighting Bodies, Fighting Words: A Theory and Politics of Rape Prevention', in *Feminists Theorize the Political*, ed. by Judith Butler and Joan W. Scott (London: Routledge, 1992), pp. 385-403

Marcuse, Herbert, *One Dimensional Man* (London: Sphere, 1968)

Martin, Biddy, 'Sexualities Without Genders and Other Queer Utopias', in *Coming Out of Feminism?*, ed. by Mandy Merck, Naomi Segal, and Elizabeth Wright (Oxford: Blackwell, 1998), pp. 11-35

Martin, Emily, 'The End of the Body?', *American Ethnologist*, 19 (1992), 121-140

——, *Flexible Bodies: The Role of Immunity in American Culture from the Days of Polio to the Age of AIDS* (Boston: Beacon Press, 1994)

Massey, Doreen, 'Flexible Sexism', *Environment and Planning D: Society and Space*, 9 (1991), 31-57

——, 'The Political Place of Locality Studies', *Environment and Planning A*, 23 (1991), 5-30

——, 'Power-Geometry and a Progressive Sense of Place', in *Mapping the Futures: Local Cultures, Global Change*, ed. by Jon Bird et al. (London and New York: Routledge, 1993), pp. 59-69

Massumi, Brian, *Parables for the Virtual: Movement, Affect, Sensation* (Durham and London: Duke University Press, 2002)

Maurer, Bill, 'Redecorating the International Economy: Keynes, Grant, and the Queering of Bretton Woods', in *Queer Globalizations: Citizenship and the Afterlife of Colonialism*, ed. by Arnaldo Cruz-Malavé and Martin F. Manalansan IV (New York and London: New York University Press, 2002), pp. 100-133

McLuhan, Marshall, and Quentin Fiore, *War and Peace in the Global Village* (New York: Bantam, 1967)

McNeil, Ian, ed., *An Encyclopaedia of the History of Technology* (London: Routledge, 1990)

McRobbie, Angela, 'New Times in Cultural Studies', *New Formations*, 13 (1991), 1-17

Merck, Mandy, 'Figuring out Andy Warhol', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 224-237

——, 'Sexuality, Subjectivity and ... Economics?', *New Formations*, 52 (2004), 82-93

Merck, Mandy, Naomi Segal, and Elizabeth Wright, eds, *Coming Out of Feminism?* (Oxford: Blackwell, 1998)

Milesi, Laurent, 'Taste, Tastare, Tact: A Deconstructive Touch of Digital Theory', *University of Bucharest Review: A Journal of Literary and Cultural Studies*, 7:3 (2005), 41-57

Mill, John Stuart, 'The Subjection of Women', in *On Liberty and Other Essays*, ed. by John Gray (Oxford: Oxford University Press, 1998), pp. 471-557

Modern Times. Dir. by Charles Chaplin. Warner Home Video. 2006

Montagu, Ashley, *Touching: The Human Significance of the Skin*, 3rd edn (New York: Harper & Row, 1986)

Moraga, Cherrie, and Gloria Anzaldua, eds, *This Bridge Called My Back: Writings by Radical Women of Colour* (New York: Kitchen Table Press, 1983)

Morgan, Robin, ed., *Sisterhood is Powerful: An Anthology of Writings from the Women's Liberation Movement* (New York: Random House, 1970)

Morland, Iain, 'What Can Queer Theory Do For Intersex?', *GLQ*, 15:2 (2009), 285-312

Morris, Meaghan, 'The Man in the Mirror: David Harvey's "Condition" of Postmodernity', in *Identity Anecdotes: Translation and Media Culture* (London: Sage, 2006), pp. 127-150

Murray, Robin, 'Fordism and Post-Fordism', in *New Times: The Changing Face of Politics in the 1990s*, ed. by Stuart Hall and Martin Jacques (London: Lawrence and Wishart, 1989), pp. 38-53

Muybridge, Eadward, *The Human Figure in Motion* (New York: Dover, 1955)

Nakamura, Lisa, *Cybertypes: Race, Ethnicity and Identity on the Internet* (New York and London: Routledge, 2002)

O'Connor, Matt, *Fathers 4 Justice: The Inside Story* (London: Weidenfeld & Nicolson, 2007)

O'Reilly, Andrea, *Mothers and Sons: Feminism, Masculinity, and the Struggle to Raise Our Sons* (London: Routledge, 2001)

'Objectùm Sexuality Internationale', (2008), <http://www.objectum-sexuality.org/> [accessed 28 July 2009]

Pearson, Roberta, and Philip Simpson, eds, *Critical Dictionary of Film and Television* (New York and London: Routledge, 2000)

Peters, Michael A., and Paulo Ghiraldelli, Jr., eds, *Richard Rorty: Education, Philosophy, and Politics* (Lanham: Rowman & Littlefield, 2002)

Piore, Michael J., and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic, 1984)

Plant, Sadie, *Zeros + Ones: Digital Women + The New Technoculture* (London: Fourth Estate, 1997)

Probyn, Elspeth, *Blush: Faces of Shame* (Minneapolis and London: University of Minnesota Press, 2005)

'Project Natal: Introducing Controller-Free Gaming & Entertainment', (2010), <http://www.xbox.com/en-US/live/projectnatal/> [accessed 02 January 2010]

Rabinbach, Anson, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic, 1990)

Retzloff, Tim, 'Cars and Bars: Assembling Gay Men in Postwar Flint, Michigan', in *Creating a Place for Ourselves: Lesbian, Gay, and Bisexual Community Histories*, ed. by Brett Beemyn (London: Routledge, 1997), pp. 227-252

Revolutionary Road. Dir. by Sam Mendes. Dreamworks and BBC Films. 2008

Rich, Adrienne, 'Compulsory Heterosexuality and Lesbian Existence', in *Desire: The Politics of Sexuality*, ed. by Ann Snitow et al. (London: Virago, 1984), pp. 212-241

Riley, Denise, *Am I that Name? Feminism and the Category of Women in History* (New York: Macmillan, 1988)

Saussure, Ferdinand de, *Course in General Linguistics*, ed. by Charles Bally et al., trans. by Wade Baskin (London: Fontana, 1974)

Scharff, Virginia, *Taking the Wheel: Women and the Coming of the Motor Age* (Alburquerque: University of New Mexico Press, 1992)

Sedgwick, Eve Kosofsky, 'Queer Performativity: Warhol's Shyness/Warhol's Whiteness', in *Pop Out: Queer Warhol*, ed. by Jennifer Doyle, Jonathan Flatley, and José Esteban Muñoz (Durham and London: Duke University Press, 1996), pp. 134-143

Sedgwick, Eve Kosofsky, and Adam Frank, 'Shame in the Cybernetic Fold: Reading Silvan Tomkins', *Critical Inquiry*, 21:2 (1995), 496-522

——, 'Shame in the Cybernetic Fold: Reading Silvan Tomkins', in Eve Kosofsky Sedgwick, *Touching Feeling: Affect, Pedagogy, Performativity* (Durham & London: Duke University Press, 2003), pp. 93-122

Seiler, Cotton, *Republic of Drivers: A Cultural History of Automobility in America* (Chicago: University of Chicago Press, 2008)

Seltzer, Mark, *Bodies and Machines* (New York and London: Routledge, 1992)

Sheller, Mimi, 'Automotive Emotions: Feeling the Car', *Theory, Culture & Society*, 21:4/5 (2004), 221-242

Smith, Adam, *Wealth of Nations*, ed. by Kathryn Sutherland, 2nd edn (New York: Oxford University Press, 1998)

Smith, Barbara, ed., *Home Girls: A Black Feminist Anthology* (New York: Kitchen Table Press, 1983)

Solanas, Valerie, *SCUM Manifesto* (New York and London: Verso, 2004)

Spivak, Gayatri Chakravorty, 'Practical Politics of The Open End', in *The Post-Colonial Critic: Interviews, Strategies, Dialogues*, ed. by Sarah Harasym (New York & London: Routledge, 1990), pp. 95-112

Staples, David, 'Women's Work and the Ambivalent Gift of Entropy', in *The Affective Turn: Theorizing the Social*, ed. by Patricia Ticineto Clough and Jean Halley (Durham and London: Duke University Press, 2007), pp. 119-150

Stiegler, Bernard, *Technics and Time, 1: The Fault of Epimetheus*, trans. by Richard Beardsworth and George Collins (Stanford: Stanford University Press, 1998)

——, 'The Discrete Image', in Jacques Derrida and Bernard Stiegler, *Echographies of Television*, trans. by Jennifer Bajorek (Massachusetts: Polity, 2002), pp. 145-163

——,'Technics of Decision: An Interview with Peter Hallward', trans. by Sean Gaston, *Angelaki*, 8:2 (2003), 151-168

Stonum, Gary Lee, 'Reviews: Anthony Wilden. *System and Structure: Essays in Communication and Exchange*', *Modern Language Notes*, 91:5 (1976), 1116-1120

Sullivan, Nikki, 'The Somatechnics of Intersexuality', *GLQ*, 15:2 (2009), 313-327

——, 'Transsomatechnics and the Matter of 'Genital Modifications'', *Australian Feminist Studies*, 24:60 (2009), 275-286

Taylor, Frederick W., 'The Principles of Scientific Management', in *Scientific Management* (Connecticut: Greenwood Press, 1977), pp. 30-144

Terranova, Tiziana, *Network Culture: Politics for the Information Age* (London: Pluto, 2004)

The Peirce Edition Project, eds, *The Essential Peirce: Selected Philosophical Writings, Volume 2 (1893-1913)* (Bloomington: Indiana University Press, 1998)

The Race Concept: Results of an Inquiry (Paris: UNESCO, 1952)

The Wire. Prod. by David Simon, Robert F. Colesberry, Nina Kostroff Noble. Warner Bros. HBO Home Video

Thrift, Nigel, 'Driving in the City', *Theory, Culture & Society*, 21:4/5 (2004), 41-59

Tomas, David, 'Feedback and Cybernetics: Reimaging the Body in the Age of the Cyborg', in *Cyberspace, Cyberbodies, Cyberpunk*, ed. by Mike Featherstone and Roger Burrows (London: Sage, 1995), pp. 21-44

Touraine, Alain, *The Post-Industrial Society; Tomorrow's Social History: Classes, Conflicts and Culture in the Programmed Society*, trans. by Leonard F.X. Mayhem (New York: Random House, 1971)

Turkle, Sherry, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1997)

Vasseleu, Cathryn, 'Touch, Digital Communication and the Ticklish', *Angelaki*, 4:2 (1999), 153-162

von Neumann, John, *The Computer and the Brain* (New Haven: Yale University Press, 1958)

Wall-E. Dir. by Andrew Stanton. Walt Disney Pictures. 2008

Warhol, Andy, *The Philosophy of Andy Warhol* (New York: Harcourt Brace Jovanovich, 1975)

——, *The Andy Warhol Diaries*, ed. by Pat Hackett (New York: Warner Books, 1989)

Warhol, Andy, and Pat Hackett, *POPism: The Warhol Sixties* (New York: Harcourt Brace Jovanovich, 1980)

Wark, McKenzie, *Virtual Geography: Living With Global Media Events* (Bloomington: Indiana University Press, 1994)

'What is Wii Motion Plus?', (2010), <http://www.nintendo.com/wii/what/accessories/wiimotionplus> [accessed 02 January 2010]

Wiener, Norbert, 'Cybernetics', *Scientific American*, 179 (1948), 14-19

——, *The Human Use of Human Beings: Cybernetics and Society*, 2nd edn (New York: Doubleday, 1954)

——, *Cybernetics or Control and Communication in the Animal and the Machine* (Cambridge: MIT Press, 1961)

'Wii Remote', (2010), <http://www.nintendo.com/wii/what/controllers#remote> [accessed 02 January 2010]

Wilden, Anthony, 'Analog and Digital Communication: On Negation, Signification, and Meaning', in *System and Structure: Essays in Communication and Exchange* (London: Tavistock, 1972), pp. 155-196

Willis, Susan, 'Work(ing) Out', in *A Primer for Daily Life* (London and New York: Routledge, 1991), pp. 62-85

Wittig, Monique, *The Straight Mind and Other Essays* (Boston: Beacon Press, 1992)

Wollen, Peter, 'Cinema/ Americanism/ The Robot', in *Modernity and Mass Culture*, ed. by James Naremore and Patrick Bratlinger (Bloomington and Indianapolis: Indiana University Press, 1991), pp. 42-70

Yates, Richard, *Revolutionary Road*, 3rd edn (London: Vintage, 2008)

Young, Greg, 'From Broadcasting to Narrowcasting to Mycasting: A Newfound Celebrity in Queer Internet Communities', *Continuum*, 18:1 (2004), 43-62

Youtube: Broadcast Yourself, (2009), <http://www.youtube.com> [accessed 19 November 2009]

Zylinska, Joanna, *Bioethics in the Age of New Media* (Cambridge and London: MIT Press, 2009)