Cyberpunk as Social and Political Theory

RJ Burrows
March 1995

Abstract

For Fred Jameson cyberpunk represents "the supreme literary expression if not of postmodernism, then of late capitalism itself". This might well be so, but this paper examines the contention that cyberpunk represents more than just poetics. For some analysts it also provides a sociologically coherent dystopic vision of a very near future, which is about to collapse on the present. Whether writers such as William Gibson intend it or not, their "fiction" is being systematically read as social and cultural theory. This paper reviews the work of writers who have utilised cyberpunk as prefigurative social and political theory in the realms of urban studies, cultural theory and the sociology of the body.

Introduction

At this time of fin-de-millennium pessimism and the loss of the potency of visions of utopian transcendence and hope in a better future some social and cultural analysts have begun to turn to sources of inspiration outside of traditional social scientific and political discourses in order to try and make some sort of sense of our contemporary condition. In particular the fictional world of cyberpunk has been seized on by some as an imaginal resource able to offer analytic insights into the new dimensions of human, or even post-human existence, which are supposedly now upon us. This paper is concerned to analyse the emergence of cyberpunk as social theory and to consider some of its theses.

The relationship between cyberpunk and sociology takes three broad forms. First, some analysts view cyberpunk as a poetics culturally and philosophically emblematic of a new epoch - late capitalist, postmodernist or whatever. Second, others have begun to treat the nascent realities of the fictional world of cyberpunk - the Internet, Virtual Reality and technological body modifications in particular - as viable and important objects of sociological inquiry. Third, and the main theme of this paper, some have begun to treat the cyberpunk literature as an analytic resource which can be utilised in the service of social theory.

For Fred Jameson (1991: 419n) cyberpunk, the work of novelist William Gibson in particular, represents "the supreme literary expression if not of postmodernism, then of late capitalism itself". Indeed, the work of Gibson has been held up as the prime exemplar of postmodern poetics (McHale, 1992a; 1992b). This might well be so, but for others cyberpunk represents much more than just this. Perhaps the most extreme claim made for the function of cyberpunk comes from Timothy Leary who declares that Gibson has produced nothing less than the underlying myth, the core legend, of the next stage of human evolution. He is performing the philosophic function that Dante did for feudalism and that writers like Mann, Tolstoy [and] Melville... did for the industrial age (Leary (1990: 56) cited in Kellner (1995: 298)).

Slightly less extreme is the claim by Sandy Stone (1991: 95) that the work of Gibson "represents the dividing

line between" different social epochs based upon different modes of communication. For Stone, the publication of Gibson's first novel *Neuromancer* "crystallised a new community... [It] reached the hackers... and... the technologically literate and socially disaffected who were searching for social forms that could transform the fragmented anomie that characterised life in... electronic industrial ghettos... Gibson's powerful vision provided for them the imaginal public sphere and refigured discursive community that established the grounding for the possibility of a new kind of social interaction... [It]... is a massive textual presence not only in other literary productions... but in technical publications, conference topics, hardware design, and scientific and technological discourses in the large" (Stone, 1991: 95).

Other writers, clearly not just influenced by the fictional world of cyberpunk, but by the actuality of technological change itself, have begun to construct a sociological agenda exploring the realities of what some have deemed to term cybersociety (Jones, 1994). Even so, and as Stone notes in the above quote, the cyberpunk literature remains "a massive textual presence" in even the most atheoretical and empiricist explorations of the internet and virtual reality. However, whilst cyberpunk has a radical and dystopic edge to it much of the work that it has influenced in this "tradition" is little more than utopian hyperbole (Robins, 1995) representing the politically interested discourse of the organic intellectuals of a new virtual class "compulsively fixated on... technology as a source of salvation from the reality of a lonely culture and radical disconnection from everyday life...[a virtual class of] would-be astronauts who never got the chance to go to the moon [driven by the] will to virtuality" (Kroker and Weinstein, 1994: 4-5).

Despite the hyperbole and the mythology surrounding the meaning of cyberpunk it is still possible to decipher within it a sociologically coherent vision of a very near future, which is, some argue, about to collapse on the present (Csicsery-Ronay, 1991: 1 86; Kellner, 1995: Rucker et al., 1993). It is this vision and the manner in which it has been utilised by contemporary sociology which forms the focus of this paper. Whether William Gibson intends it or not (Gibson, 1991), his fiction can be systematically read as social and cultural theory in that it not only paints "an instantly recognizable portrait of the modern predicament" but also shows "the hidden bulk of an iceberg of social change" that "now glides with sinister majesty across the surface of the late twentieth century" (Sterling, 1986). For Doug Kellner (1995) cyberpunk fiction is a far more insightful and dynamic analytic resource for coming to terms with the postmodern than is the recent work of cultural critics such as Baudrillard. Whilst for Mike Davis (1992: 3), surely the most outstanding analyst of the contemporary urban condition, the work of Gibson provides "stunning examples of how realist 'extrapolative' science fiction can operate as prefigurative social theory, as well as an anticipatory opposition politics to the cyber-fascism lurking over the next horizon".

Not only has the Gibsonian concept of cyberspace (of which more below) begun to transmute into a tangible reality - his technological vision has fed back into both computer and information systems design and theory (Benedikt, 1991; Biocca, 1992a; McFadden, 1991) financially underwritten by the likes of the Pentagon, Sega, Nintendo and various other global corporations - but many of Gibson's fictional perspectives on cultural, economic and social phenomena have begun to find their way into social and cultural analyses as viable characterisations of our contemporary world.

On Recursivity

Reading cyberpunk as social theory tends not to be a unidirectional activity. The relationship between cyberpunk literature and social theory is, if anything, recursive. By this I mean that cyberpunk and sociological analyses which draw upon it have a "habit" of "folding into" each other. For instance, issues of public space and urban surveillance are themes taken up by Gibson throughout his work, but most fully in his most recent novel, *Virtual Light*

(1993). It is a book profoundly and explicitly influenced by Davis' (1990) stunning analysis of Los Angeles, City of Quartz, which, recursively, is itself adorned by a quote from Gibson which suggests that it, as a work of contemporary analysis, is more "cyberpunk" than his own fiction (Bukatman, 1993: 144). This recursivity continues in Davis' (1992) *Beyond Blade Runner: Urban Control - the Ecology of Fear* where an explicitly "Gibsonian" map of the contemporary urban condition is presented. A map instantly recognizable in *Virtual Light* and, in a much more extreme form in Stephenson's *Snow Crash* (1992).

Kellner (1995) also recognises a recursivity between cyberpunk and postmodern social theory. In a paper which is at one and the same time stimulating, polemical and highly discourteous he argues that "cyberpunk science fiction can be read as a sort of social theory, while Baudrillard's futuristic postmodern social theory can be read in turn as science fiction. This optic also suggests a deconstruction of sharp oppositions between literature and social theory, showing that much social theory contains a narrative and vision of the present and future, and that certain types of literature provide cogent mappings of the contemporary environment and, in the case of cyberpunk, of future trends" (Kellner, 1995: 299). Further he argues that "at the very moment when Baudrillard dropped the theoretical ball, losing his initiative, Gibson and cyberpunk picked it up, beginning their explorations of the new future world which Baudrillard had been exploring" (Kellner, 1995: 327). So are we to take this seriously ? Before we can answer this question we perhaps need to know a little more about the origins of cyberpunk and the incipient sociology contained within it.

What is Cyberpunk ?

Gareth Branwyn (Rucker et al.,1993: 64-66) provides a useful description of cyberpunk as both a literary perspective and as an actual worldview which gives a clear indication of its major concerns : "The future has imploded onto the present. There was no nuclear Armageddon. There's too much real estate to lose. The new battlefield is people's minds... The megacorps are the new governments... The U.S. is a big bully with lackluster economic power... The world is splintering into a trillion subcultures and designer cults with their own language, codes and lifestyles... Computer-generated info-domains are the next frontiers... There is better living through chemistry... Small groups or individual 'console cowboys' can wield tremendous power over governments, corporations, etc... The coalescence of a computer "culture" is expressed in self-aware computer music, art, virtual communities, and a hacker/street tech subculture... the computer nerd image is passé, and people are not ashamed anymore about the role the computer has in this subculture. The computer is a cool tool, a friend, important human augmentation... We're becoming cyborgs. Our tech is getting smaller, closer to us, and it will soon merge with us."

These themes were first given expression in Gibson's novels which, as befits a postmodern aesthetic form (McHale, 1992a; 1991b), derive from a veritable jumble of cultural antecedents. Kadrey and McCaffery (1991) suggest the following influences : classic novels such as *Frankenstein* and *The Big Sleep*; the literary avant-garde represented by William S. Burroughs, Thomas Pynchon and Kathy Acker; the science fiction of Philip K. Dick, Michael Moorcock and J.G. Ballard; the cultural analyses of Marshall McLuhan - "to the 1960s what Baudillard, Kroker and Cook, and Deleuze and Gauttari are to the postcyberpunk era" (Kadrey and McCaffery, 1991: 18); the Situationist International's analysis of contemporary society (Plant, 1992); the music of the Velvet Underground, Patti Smith, the Talking Heads, mid-1970s David Bowie, Brian Eno, Laurie Anderson and, crucially, the Sex Pistols and the Clash; films such as Cronenberg's *Videodrome*, Roeg's *The Man Who Fell to Earth* and, especially, Ridley Scott's *Blade Runner* (itself based upon Dick's *Do Androids Dream of Electric Sheep ?*); MTV and its "youth TV" emulators; and, finally, one might also add the IBM PC and the Macintosh computer, the cultural and representational impact of which was at least as great as its economic and technological importance.

Cyberpunk : some sociological themes

Perhaps the overriding theme of Gibson's work is the knowledge that, as Bukatman (1993: 5) (rather clumsily) puts it "[t]echnology and the human are no longer so dichotomous". The boundaries between subjects, their bodies and the "outside world" are, like everything else, being radically reconfigured (Haraway, 1991; Plant, 1993). The division between technology and nature is dissolving as the analytic categories we draw upon to give structure to our world - the biological, the technological, the natural, the artificial, and the human - begin to blur (Stone, 1991: 101-2). The mainstreaming of cosmetic surgery and the rise of biotechnology, genetic engineering and nanotechnology have led some to contemplate that the next "generation could very well be the last... of 'pure' humans" (Deitch, 1995). A programmatic users guide on new technological developments (Rucker et al., 1993: 100) puts it like this : "We are already cyborgs. My mother, for instance, leads a relatively normal life thanks to a pacemaker. Beyond that, genetic engineering and nanotechnology... offer us the possibility of literally being able to change our bodies into new and different forms... a form of postbiological humanity can be achieved within the next fifty years".

If the increasing acceptance by consumers of cosmetic surgery and other associated technological interventions on the body (Glassner, 1995) over the last decade are at all indicative of future trends then the next fifty years will see ever more radical plastic surgery, computer-chip brain implants and gene splicing become routine (Deitch, 1995; Rucker et al., 1993). It is suggested that the implications of this for self-identity will be profound. More importantly for the cyberpunk vision than such bodily transformations however are technologies which do not alter the human body per se but allows it to be transcended - technologies that promise, literally, a new world in which we can represent our bodies with a degree of flexibility that parallels the reflexive transformation of our self-identities invoked by the late modern condition. Technologies which have collectively become known as cyberspace. As Deitch (1995) views it "Our transition to the post-human world of cyberspace... is occurring gradually. Many of the new attitudes toward the body and the new modes of social behavior do not seem particularly significant in isolation, but viewed together they demonstrate a decided trend toward a radically new model of the self and of social behavior... that is likely to make society... ready... for the truly radical technologies that are soon to come."

Cyberspace

Following Sterling (1990) cyberspace is best considered as a generic term which refers to a cluster of different technologies, some familiar, some only recently available, some being developed and some still fictional, all of which have in common the ability to simulate environments within which humans can interact. Other writers prefer the term computer-mediated communication (CMC) (Jones, 1994) to refer to much the same set of phenomena : Barlovian cyberspace; virtual reality (VR); and Gibsonian cyberspace.

Barlovian cyberspace - named after John Barlow, a founder of the political action group called Electronic Frontier Foundation (Sterling, 1990: 54) - refers to the existing international networks of computers. The seemingly ubiquitous Internet is now a "ragged... world spanning electronic tangle" (Sterling, 1990: 54) consisting of some 23.5 million people (as at February 1995). In a sense such a simple form of cyberspace is little more than an extension of existing telephone systems simply substituting text and some icons for voice. Indeed, for Barlow cyberspace "is where you are when you're talking on the telephone" (Rucker et al., 1993: 78). Clearly both telephones and computer network systems rely upon only a limited range of human senses and (although interactions via these mediums can be extremely rich (Stone, 1991; Rheingold, 1994; Wiley, 1995)) they are perhaps no substitute for "face-to-face" interactions where all participants are co-present. This is so because contemporary social life still tends to operate with an implicit physiognomic notion that the face and the body are the only "true" sources which can reveal the character of a person (Featherstone, 1995a; 1995b). Thus, other more advanced forms of cyberspace attempt to more vividly simulate such interactions by the use of co-ordinated multi-media systems, such as virtual reality, which stimulate our other senses.

The term "virtual reality" (VR) was first coined by Jaron Lanier the former head of VPL Research Inc. in California, and has recently been defined as "a real or simulated environment in which the perceiver experiences telepresence" (Steuer, 1992: 76-7). It is a system which provides a sense of being in an environment. This sense of presence which is achieved by means of a communications medium is what is meant by "telepresence". Unlike Gibsonian cyberspace (see below) VR, although at the moment in its infancy, is already with us. VR is a computer-generated visual, audible, and tactile multi-media experience. Using stereo headphones, head-mounted stereo television goggles ("eyephones") able to simulate three-dimensions, wired gauntlets ("datagloves") and computerised clothing ("datasuits") VR aims to surround the human body with an artificial sensorium of sight, sound and touch. VR systems are also truly interactive in the sense that the computer which produces the simulated environment in which a person is immersed constantly reconfigures that environment in response to body movements. As yet the technology is relatively crude. There is sometimes a lag between movements of the body and the reconfiguration of the environment, graphics resolution is relatively low and many environments rely upon line-drawings and/or cartoon-like iconic represenations. Nevertheless, all the indications are that the level of realism attainable will improve dramatically towards the end of the century (Lanier and Biocca, 1992). VR then is a medium which simulates a sense of presence through the use of technology - hence the term telepresence in its definition.

Gibsonian cyberspace, as defined in *Neuromancer* and the inspiration for the generic term, is introduced by Gibson (1984: 51) as : "A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding..."

In this fictional world cyberspace is a global computer network of information which Gibson calls "the matrix" which operators can access ("jack-in") through headsets ("trodes") via a computer terminal ("cyberspace deck"). Once in the matrix operators can "fly" to any part of the vast three-dimensional system of data coded into various colourful iconic architectural forms laid out beneath him/her like a vast metropolis (Bukatman, 1993:

103-182) : "a city of data, a Borgesian library of vast databases containing all a culture's deposited wealth, where every document is available, every recording playable and every picture viewable" (Featherstone, 1995a). Once a particular location has been selected it is possible to zoom in so that one moves inside the three-dimensional representation of the data in order to scan particular areas. Gibsonian cyberspace also allows for highly "realistic" interactions between iconic representations of operators so that co-presence can be simulated within a myriad of different highly vivid environments. However, other "intelligent" entities can also "exist" in cyberspace which do not have a human referent. Some are previously downloaded personality constructs of humans, whilst others are autonomous posthuman artificial intelligences (AIs) which live in cyberspace "like fish in water" (Sterling, 1990: 54). Essentially then Gibsonian cyberspace represents an imagined merger between the internet and VR systems. This imagined merger is given its most detailed rendition in Stephenson's (1992) Gibsonian inspired *Snow Crash* through his description of the "Metaverse".

Cyberpunk takes the twin themes of technological body modification and the notion of cyberspace and allows them to intersect in various urban settings. The world of cyberspace is itself an urban environment - "a simulation of the city's information order" in which the "city redoubles itself through the complex architecture of its information and media networks" (Davies, 1992: 16) - a digitised parallel world which from "above" might appear as "a rationally planned city (Le Corbusier's metropolis)" but from "below" reveals itself as a "Benjaminesque labyrinthine city, in which no one can get the bird's eye view of the plan, but everyone effectively has to operate at street level with limited knowledge based on different amounts of information about, and practical understanding of how to move around in a world which is rapidly being re-structured and re-configured" (Featherstone, 1995b).

This digitised urban hyperreality connects in various ways with the technological "reality" of the street, not least in the way in which the socio-geography of the digitised city mirrors that of the built city. Davies (1992: 16) notes for example how the imploding "communities" of Los Angeles are "a data and media black hole"; an "electronic ghetto within the emerging information city".

Cyberbodies

The intersecting of the digital domain with the technology of the street produces a complex continuum of human-machine fusions (Tomas, 1989, 1992). At one end we have "pure" human beings and at the other fully simulated disembodied post-humans which can only exist in cyberspace ("AIs" in Gibson and the less spectacular (UNIX inspired) "Daemons" in Stephenson). If we move out from the all-human pole, the first category of interest is one concerned with the aesthetic manipulation of the body's surface through cosmetic surgery, muscle grafts and animal or human transplants which blur the visual cues for distinctions between humans and non-humans as well as gender differences. The second category, is concerned with more fundamental alterations and enhancements of the functioning of the inner body. Here we have a range of alternatives to replace organic functions such as biochip implants, upgraded senses and prosthetic additions. Both categories enable the body to be disassembled and reassembled with a high degree of functional specialization. In both cases these forms of bodily modification find collective expression in social groupings which have some striking similarities with Michel Maffesoli's (1995) description of "postmodern tribes" - groups which form and re-form on the basis of temporary modes of identification. Moving along the continuum, the next category is what Tomas (1992: 41) refers to as "classical hardware interfaced cyborgs", which exist in cyberspace. These are the operators who move around in cyberspace whose bodies are wired up to computers for input and output flows of information.

This final category again gets its clearest expression not in Gibson but in the form of the avaters (the iconic

representation of the bodies of people logged into the Metaverse) in *Snow Crash* by Stephenson. They represent examples of what has been seen as the "decoupling the body and the subject" (Stone, 1991: 99). Although late modern reflexive self-identity increasingly relies upon an ability to transform the body, with the development of a parallel "social" world of cyberspace, the manner in which one can represent ones embodied subjectivity becomes much more flexible than the fleshy constraints of the "physical" body (even with radical medical enhancements) are ever likely to allow. Despite Featherstone's identification of the dominance of embodied physiognomic notions of the "true self" in contemporary social life, there is some evidence to suggest that the new technology is opening up the possibility of radically new disembodied subjectivities. In Gibson (1984: 12) there exists "a certain relaxed contempt for the flesh" which is regarded as "the meat" by those addicted to "life" in the "matrix". Although some regard such claims as unfounded and the new identities being created as banal (Robins, 1995) the cyberpunk vision is one in which we are approaching an epoch within which a self-identity derived from "real authentic embodied" experiences is unable to compete with ones derived from the "erotic ontology (Heim, 1991) of hyperreal simulated disembodied" cyberspace.

The Privatization of Public Space

The cyberpunk view of the world is also one which recognises the shrinking of public space and the increasing privatization of many aspects of social life. Close face-to-face social relationships, outside those with kin and some others within highly bounded locales, are becoming increasingly difficult to form. As patterns of both social and geographical mobility increase the fluidity of social life undermines the formation of strong social bonds. The spectacle of consumer culture, especially as manifest in the commodified "simulation" of the shopping mall as authentic public space, although providing a forum for the display of self-identity and the outcomes of associated body projects, in the end only results in the construction of a "lonely crowd". The headlong retreat of the seduced into their increasingly fortified technologised privatised worlds away from the increasingly remote and ungovernable spaces occupied by the repressed, to use the distinction made by Bauman (1988), only serves to further close off the more proximate "social" sources of self-identity. For many all that is left is technology. As Elwes (1993: 65) views it : "computer technology was developed to promote and speed up global communication and yet somehow the effect is one of disconnection and distance. Individuals are increasingly locked into the isolation of their homes (it isn't safe to go out) and they only make contact with the outside world through telecommunications and networked computer-information systems. Not so much distance learning as living at a distance". For Lanier "California is the worst example... Individuals don't even meet on sidewalks anymore... we live in this constant sort of fetal position where we are seated in a soft chair looking at the world through a glass square, be it the windshield of the car or the screen of a television or computer. It's sort of constant, and we're in a little bubble" (Lanier and Biocca, 1992: 157).

The privatized retreat into television and video - essentially passive, non-interactive mediums - has been followed by engagements with increasingly interactive technologies : camcorders, multi-media interactive CDs, computer games and so on. Technology is beginning to mediate our social relationships, our self-identities and our wider sense of social life to an extent we are only just beginning to grasp. The portable telephone, the portable fax, the notepad computer and various other forms of electronic human augmentation have become "essential" for social life in the "densely networked centres of the global cities" (Lash and Urry, 1994: 319) and, increasingly, beyond. The seemingly ubiquitous camcorder endlessly records not just the "spectacle" but also the "mundane" to such an extent that "lived experience" in and of itself becomes secondary to gaining a taped "representation" of it for later "consumption" à la *Sex, Lies and Videotape*.

In Japan, Deitch (1995) reports, there has already emerged a new type of personality in response to these huge technological changes, known as Otaku : "Otaku people are defined more by their possessions than by their

inherent character. They can be described as a concept of person-as-information. Travellers to Tokyo are often amazed by the proliferation of vending machines for all sorts of goods and services... research has shown that much of the popularity of these vending machines is due to the preference of young Japanese for interacting with machines instead of with real people". One might contemplate the popularity of Japanese films such as *Akira* and *Tetsuo*, and indeed of cyberpunk images and text (Tatsumi, 1991) - all of which emphasise the merging of technology and humanity - as an indicator of such a tendency.

The late modern closing of "publicness" and the proliferation of the new technologies has begun to invoke a spread of electronically mediated communication from primarily workplace settings to the private sphere. Many children are now more familiar with computer game characters like Sonic the Hedgehog and Super Mario than they are with any of the classics of childrens literature, and they spend an ever increasing proportion of their time in the dizzying electronic worlds of these characters. Cyberpunk as social theory suggests that the social preconditions for the creation of a new cyberculture are being firmly established as we more and more come to collectively communicate via the telephone, the fax, the modem, the video, BBSs, and, in the foreseeable future, VR systems, and less and less through face-to-face interactions. In engaging in these, and other activities, we are, it is claimed, beginning to create new "on-line" or "virtual communities", new sets of social relationships, new disembodied modes of interacting and, for some, as we have seen, embryonic Gibsonian cyberspace itself.

Concluding discussion

The fin-de-millennium exhaustion of social theory has led some to find analytic solace in fictional representations of our near future. This use of cyberpunk in order to "read" current processes of social change has to be understood in relation to the manner in which the velocity of technological change has invoked widespread ontological insecurity not just amongst lay people, but also amongst those who are meant to possess at least some sort of analytic handle on society - sociologists. The intrinsically hyper-dynamic nature of contemporary technological developments provides one of the most concrete examples of Giddens' "runaway world" where "not only is the pace of social change much faster than in any prior system" so is its "scope and... profoundness" (Giddens (1991: 16). As Rucker et al., 1993: 16) more colourfully put it : "Technology escalates on your very block : Knives turn to pistols, pistols become Uzis. Cocaine turns to crack, crack to nuke. Charles Atlas turns to Arnold Schwarzenegger, 48DD turns to 64GG, Mick Jagger sings *Sympathy for the Devil* on the easy-listening station, and after an evening of techno hard-core sounds, the first Sex Pistols album sounds mellow and quaint". The use of "traditional" modes of sociological theorising - idea l types, analysis, abstraction and so on - do not provide us with the necessary modes of reasoning with which to come to terms with our future (De Landa, 1993). It perhaps comes as no surprise then that in an increasingly hyper-aestheticized everyday life (Featherstone, 1991) it is through fiction that, it is suggested, we can come to know ourselves. However this fiction, offers no particularly privileged sociological insight into what is to come. Cyberpunk represents just the latest example of Benjamin's "striking image of the 'angel of history' perpetually backing his [sic] way into the future, with eyes affixed to the accumulating debris of progress which fill the past and present" (Clark, 1995). Cyberpunk, like all social theory, is written using the resources of the past and the present, a fact Gibson himself is more than aware of. Indeed he once considered using the line "Watch out for worlds behind you" (from the Velvert Underground's *Sunday Morning*) as an epigraph to *Neuromancer* in order to make just this point (Clark, 1995).

Social theory can only frame the contemporary world in terms of worlds behind it. De Landa (1991; 1992; 1993) however, has cogently argued that these worlds are inadequate for coming to terms with many contemporary phenomena. In particular he argues that the social sciences must, like the life sciences before them, begin the painful process of "purging" some of their central domain assumptions. Drawing upon a non-

metaphorical reading of Deleuze and Guattari (1987) he has outlined a theory of "stratification" in which the complementary operations of "sorting out" and "consolidation" are shown to be behind many (physical and social) structural forms. De Landa, rather than using the substantive content of cyberpunk as an analytic resource, has convincingly thought through some of the methodological implications of cyberculture. He concludes that the future of social theory will be in the construction of new "epistemiological reservoirs" based upon complex computer simulations of cultural, social and economic processes in cyberspace. Those of us familiar with the analytic insights simulations such as *Sim City 2000* can afford (Friedman, 1994) will have had a small glimpse of the sort of thing De Landa has in mind. This is not the place to consider more fully the use of such simulations and the attendant rise of "synthetic reason" which is facilitated by it. However, the agenda that De Landa has constructed is one which urgently requires a very serious sociological engagement.