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## The Coming of Cyberspacetime and the End of the Polity

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In addition to the conditions under which life is given to man on earth, and partly out of them, men constantly create their own, self-made conditions, which, their human origin and their variability notwithstanding, possess the same conditioning power as natural things.

Hannah Arendt, *The Human Condition* (1958: 9)

Cyberspace and virtual reality are compelling ideas. Here literary fantasies and technological feats meet to project whole universes at the human-machine interface. However, they have so far proven unsatisfying for critical political analysis. The field of study has no recognizable boundaries or parameters within which social scientists could use traditional approaches to formulate criteria for analysis. A manic frenzy characterizes changes in the electronic world, and thus analysis often reduces to piecemeal descriptions of segregated facets of the whole. This phenomenon's components operate in ways that render obsolescent all previously analysable and easily understandable relationships. In particular, relationships one has with the self – the technology of the self or self-construction – and social relationships between people, and relations between humans and their tools, all become in new ways problematic. We need to understand the choices people are making *de facto* every day in living 'wired' lives and sharing a universal discursive space. We are equipping our world with a social nervous system similar to those in our own bodies. What then is becoming of us, individually and collectively? As we shall see, on the Internet, boundaries – temporal, spatial, associative and identity-forming – all dissolve.

We have achieved the human dream of transcending materiality at an unforeseen cost. Our civilization's goal of wisdom (perfect knowledge) has warped into a deluge of information. While valid knowledge is inescapably human because it resides tacitly and actually in bodies, machine-readable information is technical. Technology abstracts us from our existence as physical beings in the world. We ignore the boundedness of experience that leads to knowledge. Without limits, we have just information and data. This alters the old relationship between knowledge and power. Without knowl... e, what l... pens to power? Without body-centred

knowledge and power, how can we act? Activities replace action. Operations replace power. This change, we will argue, dissolves our political communities, our polities.

All technologies appear magical at first. Retired farmer Levitt Burris never had a telephone. He never even used one. Years ago, Jon Alexander asked him why. Levitt said:

Ah jest don't trust 'em, tha's why. Look at 'er this way. Most ever time. Ah'm sure, they're perfectly OK. But say Mama Bell has sent yer voice out long distance. S'pose the power to the phone suddenly goes out. How're yuh gonna be sure yuh'll get yer voice back?

We may smile at Levitt's naivety, but are we today any more sophisticated about how to understand cyberspace, virtual reality and the Internet? In 1994 the *Star Trek* command personnel repeatedly experienced problems similar to what Levitt feared. Software flaws in the *Enterprise's* holodeck continually endangered Federation staffers' return from cyberspace to the starship's bridge. Like Levitt, they and we still lack an adequate frame of reference with which to ground our too changeable existence.

The basis for reframing critical analysis will require certain prerequisites. We need a fresh delimitation and definition of the field under study. We also must construct new analytical tools. In other words, ultimately we must choose some concepts and research materials over others, and seek an Archimedean point from which we can begin to review the field. In this chapter, though, we only propose a few detours across the terrain of cyberspacetime. These may help inform some pertinent questions on our elusive electronic domain.

### The social realm goes online

Must we restrict cyberspace to the realm inhabited by users of Internet and the other 'nets'? Is it a freemasonry-type universe reserved only for those electronically linked to others? Or is cyberspace a more diverse and polymorphous reality, in which computer technology mediates practically every human action, speech, even thought? Cyberspacetime is much larger than the Internet and the other nets. Do we not enter cyberspacetime whenever we plan a holiday, buy a package tour or book an airline flight? Many mundane activities are engagements in cyberspacetime. One goes there by visiting an automatic teller machine, buying by credit card, or paying bills via touch-tone phone. The simple act of calling overseas hurls one into cyberspacetime. Now we can also watch simulated virtual reality (VR) and its first cousin telepresence (TP) on TV.

Strictly speaking, virtual reality is a specific technology. It lets us immerse ourselves in, see and touch (even shoot virtual bullets at) computer-generated object-images. For most of us, though, virtual realities have already formed parallel spheres of existence for quite some time. Despite the stubborn resistance of our limited physical bodies, we have

long tried to explore, and set up as real, domains beyond our immediate senses. As a civilization, we have learned to live with many virtual realities. Think of the molecules and atoms of our physical and chemical structure. Think of the virtual reality of this pulsating universe measured in light-years and sprinkled with black holes and supernovas. We have learned to find compelling the virtual reality of other people's suffering across oceans and time zones. Our TV screens display every day the contemporaneity of all possible human experiences. We sample a chaotic jumble of peace and war, prosperity and starvation, laughter and grief. We have so entrenched ourselves in a kaleidoscope of virtual realities that this jumble no longer jars us.

In 1994, cyberspace, VR/TP firmly caught the public's imagination. Mass media began to use them to channel the public will to fantasize. Desmond Morris's British TP documentary on the biology of love reached a new level of daring (*Nightlife* 1994). It features live microcamera coverage of the human orgasm from perspectives inside the vagina and atop the penis. This spectacle gives viewers carnal information culled from some sixty copulations. A San Francisco couple exchanged their marriage vows in 1994 inside a VR ceremony on the lost continent of Atlantis (*Southern Illinoisan* 1994). Swedish photographer Lennart Nilsson made a new TP film that follows life from a perspective inside the uterus. One sees life's every phase from conception to birth (*Health* 1994). This is truly a womb with a view.

Children were not being left out. Sales by electronic game producers Sega and Nintendo alone were out-grossing the motion picture industry (Berg 1994). Also, in fall 1994 the solitude between the schools and the media began to break down. A magical VR-TP school bus chugged on to PBS television (*Newsweek* 1994):

Ms. Frizzle's bus can fly, shrink, submerge and turn itself into a time machine, her class gets to explore the solar system, the inside of a volcano, sound waves, weather fronts, anthills and a classmate's entire digestive system. . . . Commands Ms. Frizzle as they enter the large intestine: 'Two by two, class.'

As Marshall McLuhan taught, any new medium forms an environment that casts deep cultural shadows. Major technologies qualify as media if they provide extensions of biological abilities. Radar, sonar and aircraft extend animal capabilities. Clothes and houses extend the skin. Wheels extend the legs, radio the voice and ears, cameras the eye, tape recorders and computers the brain. Money stores human energy. Because such technologies do what bodies once did, they produce cultural mutation. A culture is partly an order of sensory practices and preferences. An environment is an accustomed, unnoticed set of conditions that limits an organism's world at any given moment. Once we notice an environment, this transforms it into an 'old environment'. The old environment becomes content for the currently operative one, of which we remain oblivious. Each medium-environment controls how people who use it will think and act. Each alters how people use their five senses. Each affects how people

react to what they perceive. The new environment helps decide what we and our societies will become. McLuhan says (1962: 22-3):

Those who experience the first onset of a new technology, whether it be alphabet or radio, respond most emphatically because the new sense ratios set up at once by the technological dilation of eye or ear, present men with a surprising new world, which evokes a vigorous new 'closure', or novel pattern of interplay, among all of the senses together. But the initial shock gradually dissipates as the entire community absorbs the new habit of perception into all of its areas of work and association. But the real revolution is in this later and prolonged phase of 'adjustment' of all personal and social life to the new model of perception set up by the new technology.

We are scarcely past the first onset of this new technology-environment. In world history, no new medium has diffused so quickly as cyberspacetime is doing, or required such rapid adjustment. Obviously something highly addictive has been happening. By February 1995 only 13 per cent of adult Americans had already gone 'online', but the number of modems had doubled since the previous May (Fineman 1995:30). Analysts expected that half of American homes would have modems within the next five years (Alter 1995:34). We need to understand why this is happening, to glimpse what it means. Why, for example, is the freewheeling culture of cyberspace so addictive?

The non-place of cyberspacetime contains innumerable networks resting on logical lattices abstracted from unthinkable complex data fields that unfold across an endless virtual void. Somehow we get there without physical movement. 'Cyberonauts' connect through their modem-equipped computers or 'decks' by 'jacking in' to the 'matrix' of cyberspace to access some data. The cardinal points and life's materiality disappear into the weightlessness of cyberspacetime. One initially experiences a bodiless exultation that may shortly settle into the armature of addiction. Going online 'flatlines' a person. That is, it immobilizes the body and suspends normal everyday consciousness. One remains at once wholly engaged in and yet set apart from the information nexus. Cyberspacetime technologically extends and partly replaces consciousness. As with drugs, we can speak of going into an altered state, experiencing alternating eddies of need, frustration and gratification. We may get an endomorphic high when jacked into a deck that projects our disembodied consciousness into the 'consensual hallucination' that is the VR-TP cyberspace matrix (Gibson 1984). This is like the out-of-body experiences long-distance runners enjoy and people who have nearly died sometimes recall. While we immerse ourselves in cyberspacetime, physical limitations and boundaries collapse or disappear.

Internet users recognize others by their online aliases or 'handles'. Ottawa Freenet director Chris Bradshaw (1994) explains the net's power of attraction as people getting hooked on anonymity. He calls MUDs a good example. On the Internet, collective utopian fantasies have produced enchanting virtual reality games called MUDs or multi-user dungeons. These are cyberplaces where hordes of people 'go' every day – and from

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which many do not return for days on end. People mainly jack into the MUDs to fight without anger, gain experience points and virtual capabilities, and become like gods. There, they may also pursue nihilistic 'techno-fetishes'. They may share fantasies about being cuddly, furry animals with unlimited subjective dimensions. Although university students regularly become Net habitués in ways that improve their grades (Bailey 1994), they often drop their studies entirely because courses take too much time away from their MUD existence.

DungeonMaster Lambda [Pavel Curtis] created a MUD called LambdaMOO (Quittner 1994: 95). 'It is clear to me,' he says, 'that MUDs are sufficiently attractive that many people get themselves in self-control trouble with them. They are certainly addictive to an amazing number of people.' Cyberspace MUDs are captivating because people get an intense thrill from the shock of networked communication. They find their new global yet intimate connections exhilarating. Feeling like a combined rush of adrenalin and whole blood serotonin, this experience is genuinely sensational. In cyberspacetime one can live out any fantasy. Everything goes or is at least possible. In the LambdaMOO MUD, for instance, players adopt any one – or more – of three sexes. The cyberhip call this 'identity hacking' (see the discussion of MUDs in Chapter 9).

#### The online experience

Themes of the end of modernity, and of a castelike society that squashes opportunities for youth run starkly, Chris Bradshaw says, through the cyberpunk literature of William Gibson and his followers. So does the theme of unrelenting anonymity. In Gibson's 1993 book *Virtual Light*, a subtheme is that everywhere there are signs of closure, of opportunities thwarted due to increasingly rigid social stratification. Against this closure stands a key element in role playing: anonymity. It lets us become any animal, mineral, vegetable or disembodied intelligence we could ever wish. Cyberspacetime devotees among the younger generation do face less real-world employment opportunity than their parents enjoyed. This alone would make the current younger generation especially escapist. Its members see vertical and hierarchical relationships controlling and putting stress on older people. The younger generation gets stress relief by escaping from a hierarchical world that lacks a place for them – into electronic fantasy games or data surfing.

Jacked into the matrix, they find a lateral world of people cooperatively connecting to play roles, share ideas and experiences, and live fantasies. Common courtesy is much in evidence on the Internet. When structures are falling, common courtesy is a strong form of order-seeking behaviour. The chaotic flux of cyberspacetime makes common courtesy an essential navigating tool. What they do in the matrix every day is making the denizens of cyberspace seemingly more literate and articulate. At the same time, they become more and more detached from any common frame of

reference. In simultaneously bringing back lost arts of chatting and letter writing, the Internet is fusing the oral and the written. People must judge you solely based on the words you write. However, because 'identity hackers' abound, people know too that you may not be telling the truth. Pamela Kane (1994: 204) makes a common point: 'Unless you choose to disclose it, no one else knows whether you are male, female, tall, short, a redhead or blond, black, white, Asian, Latino, in a wheelchair or not.'

Observers often conclude from this phenomenon merely that computer-mediated communications are highly susceptible to deception. This is a serious understatement. Something much deeper is going on. As McLuhan and Fiore (1967: 94-5) tell us: 'Electric circuitry is orientalizing the Western legacy. The contained, the distinct, the separate - are being replaced by the flowing, the unified, the fused.' Under power's endless refraction within the new electronic dispensation, old assumptions about the nature of identity have quietly vanished. Our individual concreteness dissolves in favour of the fluid, the homogeneous and the universal. Once the palpable particularity of individual identity is lost, we become relational feedback units among endless arrays of refracted power.

Language that is no longer checked and verified by physical reality loses its very grounding. Eventually it may well cease to maintain its *raison d'être* as a tool for human communication. Without the materiality of lived existence how can one sustain responsibility for one's words, written or oral? How can people say what they mean and mean what they say? In short, to what does language refer? Internet commentators speak in mistakenly reassuring ways only about a 'narrow bandwidth' effect. This 'effect' has apparently led throngs of people concerned about their differences, disabilities, defects, diseases and dreads to swarm online. There they get virtual equal treatment, an experience they find empowering. That could only happen once language began to transcend physical being. Within the structure of the sign, signifiers do not just split off from that which they signify. That occurs in modernity. Also the sign is cut off from the referent. This is a postmodern phenomenon.

Having a large measure of control over the information given out does make people in some senses more sociable and friendlier than they would otherwise have been. Chris Bradshaw (1994) says this is like going from the society of urban apartment living to something more like rural seclusion within single-family homes. People are more sociable under conditions in which they can better control the presentation of self in everyday life. This is why architects tear out walls to increase office efficiency. Richard Sennett (1976: 15) explains:

When everyone has each other under surveillance, sociability decreases, silence being the only form of protection. . . . People are more sociable, the more they have some tangible barriers between them, just as they need specific places in public whose sole purpose is to bring them together. . . . Human beings need to have some distance from intimate observation by others in order to feel sociable.

This helps explain the gregariousness some introverted people display

online. It is why both utilitarian professional and purely social virtual communities are suddenly so popular.

Under these conditions, the social activity we must investigate is complex and elusive. What can one say of the actors or agents who move through it? Is it still possible to speak of rational subjects or actors? Habermas (1987: 362-3) describes a new form of domination and depoliticization, the 'colonization of the life world'. This means that governments and private agencies increasingly subject clients and consumers to meshes of micro-authority. In so doing they define for the client or consumer the form and meaning of the needs the institutions aim to meet. Has the once dominant conceptual category of the 'individual' now reconstructed itself into a universal 'user'? What can one say of a political discourse carried out between users? Because cyberspace forms an extension of everyone's nervous system, it forms a seamless web that pushes toward a convergent yet conflictual unity.

Heim (1993: 73) proposes to replace the notion of user with that of 'monad' to capture the essence of the human-computer bond. A monad is a person and work station viewed together. Heim suggests that within each monad the collectivity exists in its entirety. Every monad can display a virtually complete range of perspectives based on the range of softwares and databases at its disposal. The Internet is diffusing in large part by virtue of making mountains of software available. It is there for the taking through the anonymous file transfer protocol (ftp) that permits free downloading. This treasure trove provides a wide range of adoptable perspectives. These prostheses add to each monad's anonymity. The last requirement of a common ground remains the compatibility of hardware, but, even then, hardware provides no absolute. It, too, is subject to obsolescence. We see here a radical reformulation of human agency to adapt to the fact of computer technology.

Further, the transformation of human agency into usership or monadism is a particularly Western phenomenon. The language of cyberspace is English and cyberspacetime itself is a Western, post-industrial and specifically American creation. For most people on the planet, this reconstruction of reality is far from being of paramount importance or relevance. It remains to be seen what effects this reality gap will have on relations between the West and the Rest, and on humanity's ability to deal with the very real problem of earthly scarcity and limitations: resources, population, pollution.

People connect because of shared interests, not physical location. Any number can play. It matters not how many participate. Once one gets online, cyberspace is spacious. There is little sense of crowding. This depends on the massive amount of parallel computer processing always going on. The Net is a moving frontier in that anyone feeling crowded can move on to form a new Usenet discussion group. The number of computers hooked up on the Internet is more than doubling every year. Up to 50 million people now use e-mail (Leslie 1994: 42). The computer networks

are fast becoming the world's principal medium for imparting and exchanging information (Barlow 1994: 86).

### The globalization of time

Predictably, a warping of our arrow of time accompanies the blurring of boundaries within our discursive space. The abstraction from spatial materiality has allowed not only the unbounded creation of identity – identity hacking – but also the escape from temporal parameters. The once-immutable natural boundaries of our existence in time, by which we ordered individual and collective life, have quietly crumbled. There is no longer a clear demarcation between daytime, our time for action, speech and thought, and night-time, our time for sleep and rest, peace and quiet.

J.T. Fraser (1987: 314) calls this phenomenon the greying of the calendar, evident in a time-compact globe. He writes: 'we witness in our age a revolutionary recasting of the calendar: profound, silent, irreversible. It is done without governmental action or fanfare or even much public attention.' The greying of the calendar is the smoothing out of differences between day and night. It is also the disappearance of distinction among the days of the week and among the seasons of the year. To see this clearly, let us examine what everyday life is like for someone working at the information frontier's forefront.

Bob Cameron (1994) and his wife Peggy run a global cottage business out of their home in Brentwood, Tennessee, a suburb of Nashville. They teach about, develop and sell the coming generation of digital telephone technology or ISDN technology, which will form the infrastructure for low-cost, accessible video telephones. These videophones will eventually replace both modems and conventional phones – and thus give people the broader bandwidth so many have begun to crave.

Bob has formed a virtual corporation with a Taiwan high-tech company called Lodestar Technology. He does 'beta testing', trying out new ISDN telephone products and checking them for software flaws, as they come straight from the design labs. For system integration and sales, Bob may get his first call from the US Eastern standard time zone about 7.30 a.m. Calls from the Pacific time zone come as late as 6.30 p.m. Most of the work, though, is eight to five – unless there is really good sailing weather. In beta testing, the defects mainly show up at customer sites, so he must see these customers during their business day. People call to say they cannot do this or that, or something else does not work. On site, Bob figures out whether the problem lies with the equipment or with the phone company's service. Once he gets a defect isolated to his equipment, he changes the equipment to prove it is not a hardware problem. If a defect remains, he documents it so his Taiwanese co-workers can fix the software.

For the first two or three months of a new product, Bob typically requests software 'fixes' every day or two. Taiwan and Nashville are twelve

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hours apart. When Bob finds a flaw, he sends an e-mail or fax. His Taiwan partners read it when they get to work. While Bob sleeps, they fix the problem. They issue a new software release by uploading the amended program to the CompuServe network. ISDN phones let the software program traverse cyberspace almost instantly, immune to customs or tariff barriers. Then, while the Taiwanese sleep, colleagues in Seattle download the software and burn it into read-only memory chips. These they send by courier to Bob – who makes them available to customers the same day. The work continues nonstop around the ever greyer clock.

Bob argues that people's biological clocks prevent them from working well through night shifts. Typically, one gets only two-thirds to three-quarters of a standard day's performance from people on the midnight shift. Such workers also call in sick more often. A corporation with people spread across the time zones will have a 24-hour-a-day labour force with everyone working normal hours. At closing time, employees will hand off work electronically. Colleagues in the next time zone can pick it up and carry the work forward in a temporal relay race. This is a definitive, technology-driven standard, melding cyberspace with cybertime.

In Bob's virtual corporation, one Taiwanese engineer carries all the ISDN software on his laptop's hard disk. He can work at home, as can the Americans. Thus, cyberspacetime permits a virtual corporation to operate with low overhead. It needs no office towers, mainframe computers or other infrastructure that will help make a company unprofitable. This is the extreme in work efficiency. It therefore defines the standard form that global corporations must now begin to take. The virtual corporation's global conquest of cyberspacetime gives it a competitive advantage by speeding up the product development cycle. To compete successfully, corporations must get themselves wired in ways that let them take full advantage of the time-compact globe.

### The breakdown of modernity

We must try to distinguish here two separate but parallel developments. Net play is addictive; Net work is hegemonic. Both are disordering our primordial frame of reference – human subjectivity within spacetime. Together, these network-generated operations conclusively undermine political discourses centred on notions such as agency, action, territory, progress and development. Usership, operation, non-linearity, recursivity and chaos appear as traits of computer technology and of cyberspacetime itself. These are characteristics of the breakdown of modernity itself. Peter Emberley (1988: 50) claims:

[T]he old vocabulary of forces, pressures, bodies, plane surfaces, densities of mass, uniform motions, action-reaction – in short, the language where cogs, wheels, and springs compose a thing in uniform space and time classified by a detached observer – has been relinquished. In its place we have the organic

metaphors of process, feedback, biopower, waste disposal, data-environment patterns, and entropy. Or the metaphors of field theory – displacement, circuits, differential equations of motion, exchanges, and relations. Thus our electronic media-data come to be nothing but an extension of our central nervous system.

The old economy of production, of industrial policy, of state initiative, of discrete and singular actors and audiences, of centers and margins, form and contents, in brief, the great order of referential finalities where the world was compartmentalized, taxonomically ordered, and prescriptive – all this is over.

William Tolhurst *et al.* (1994: 61) write that the Internet forms a tangled web of assorted machines in different networks with different users: 'One way to describe the amorphous physical structure of the Internet is as a "cloud" of computers, with the corresponding image of continuous melding and shifting over time.' Our desire to reconstruct ourselves and our environment electronically has led us to a critical threshold. Behind us lies the historical reality of well-defined boundaries. On the other side lie clouds. We must learn to look at everyday life from both sides now.

The old boundaries framed an order in which people thought of time as flowing relentlessly forward, unidimensionally and irreversibly. Within that order, one could effectively enclose and control space. Within that frame of reference, states organized human affairs accordingly. They could segregate peoples within geographical borders. States could hand down political judgements based on arbitrary criteria selected out of the 'progress' of their own discrete civilizations. Can nations still protect the integrity of international borders when bits flow across them with total freedom, and governments can neither tax their value nor limit their content?

The old definition of spacetime on which our nation-based order rested is quickly becoming in McLuhan's terms our 'old environment', mere content for the new one. Now the single-minded can find each other with the speed of light. In the old nation-state people met face to face and compromised on the basis of shared everyday lives. In cyberspace each precinct is virtual, and people only 'meet' in it to talk about one specific thing. The old mass media were unifying media; they assembled and sustained nations with real-time theatre. In cyberspace, there is no centre stage; however immense, cyberspacetime is intensely decentralizing. The proliferation of means of communications has surpassed governmental control capabilities. Computers linked to the Internet are so numerous and so broadly diffused (30 million subscribers in 92 countries) that they are virtually impossible for any nation to control. The Communist regimes were dissolved or weakened gradually by radio and television signals. West German programmes affected East Germany, and Hong Kong broadcasts fed the appetite for reform in mainland China. Even Chinese dissidents now use e-mail. News about Chinese repression in Tibet comes regularly through cyberspace from the London-based Tibet Information Network. According to *Newsweek* (1995: 37):

In the Soviet Union, the Internet played a small but vital role in defeating the attempted coup by Communist hard-liners in 1991. Soviet computer scientists

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had hooked up to the Internet only a few months before. When Boris Yeltsin and his reformists holed up in the White House, the Russian republic's Parliament, someone inside the building started sending bulletins, including Yeltsin's edicts, on the Internet. They were picked up by the Voice of America (VOA), which broadcast them back to the Soviet Union by radio, helping to rally public support for Yeltsin.

By connecting dissidents with each other and with supporters outside the country, long-distance telephone service also helped to undermine the Soviet Union's very existence. Thus national truth was the first element of the polity to go. Although nations still exist, their polities and political elites are progressively losing control over their people.

Political science textbooks treat 'gatekeeping' as a key element of political power. A related development now subverting steeply hierarchical political power within organizations is the rapid automation of the gatekeeping function. As Tolhurst *et al.* (1994: 248) explain: 'with network technology, people can bypass gatekeepers (people who hold the key to information access) and get information directly'. This is a major shift in the nature of embodied power, an erosion of the attachment to specific central individuals who used to 'hold' power. Information technology is randomly but effectively undermining whole categories of political power bases. The centre no longer holds.

Applying social science analysis to this technological tapestry can be misleading. As many traditional conceptual boundaries are suddenly obsolescent, one cannot realistically say one circumstance or event 'causes' another in an electronic field (Deutsch 1966: 13).<sup>1</sup> Everything depends on the current yet changing system state, so everything happens simultaneously. Moreover, societies are losing earlier clear-cut lines of demarcation that so recently let people specify what was acceptable political discourse. Can we still maintain that politics and relations of power characterize the public sphere? Can we still distinguish the public sphere from the private or personal sphere?

Hannah Arendt tells how this distinction arose. She writes (1958: 28):

The distinction between a private and a public sphere of life corresponds to the household and the political realms, which have existed as distinct, separate entities at least since the rise of the ancient city-state; but the emergence of the social realm, which is neither private nor public, strictly speaking, is a relatively new phenomenon.

Now the wildly proliferating fields of cyberspacetime are in this sense not only extremely social, they are also profoundly apolitical. In cyberspacetime, the social realm is engulfing and overwhelming the political realm. The 'social' is decomposing the body politic. Decay of politics is proceeding as quickly as the matrix is growing.

*Time* (1994) claims the US government is expanding its use of 'Clipper Chips' to help the FBI *et al.* eavesdrop on computerized messages. Reportedly the FBI is also investigating increased use of 'sniffer' programs that steal passwords and access to 'privacy protected' Internet data. Such

behaviour stands well within the old paradigm, blithely oblivious to the fact that the environment has become new. All Internet books properly caution readers to navigate and behave on the assumption that for individuals nothing on the matrix is private. Struggles between data encryptors and hackers remain important, but note that the roles have suddenly transposed. Self-styled computer 'nerds' at *Wired*, *Mondo 2000* and the other countercultural 'zines are now the champions of encryption, while the state adopts the old criminal hackers' role. Reactionary official hacking cannot hold back the shrivelling of the polity. The forces impelling political atrophy are far too strong.

Is the social engulfing the political? In such a circumstance, politics could scarcely be the monopolization of the means of power that mainstream political scientists conventionally presume. They view power as centrally residing within the state. Yet the state is barely able to deal with social and technological developments. Mainstream political science becomes ever less applicable to reality, virtual or 'straight up'. The rise of the social and the atrophy of the political through the Internet are making Michel Foucault's writings increasingly true. To understand why we must take a detour through Alvin Toffler's concept of demassification, and several related postmodern developments.

As society becomes more differentiated and complex, it comes to require more widely distributed internal communications capabilities. As this need became apparent, businesses rushed to produce such means. This dynamic produced an information revolution. The breakup of mass production and mass marketing continue to feed this revolution. The breakup of the old industrial polity and economy are proceeding apace. Rising social diversity is riding on the back of economic demassification and the shift from goods production to information processing. Demassification and fragmentation are occurring in production, consumption, energy use and family structure as well as in communications. Socially, we see ever greater diversity evolving in areas as remote as technology and ethnicity.

From the centre, government and big companies once effectively controlled the most powerful industrial age communications media, the mass media. Political and corporate elites used forceful vertical or top-down communications processes of mass advertising and propaganda. Now, however, existing communications channels and media have become saturated. Technological innovation responded with egalitarian, demassifying information media.

The more mass society fractures, the more (and the more broadly distributed) information the social system requires. Such high information requirements force societal steering mechanisms to become equally widely distributed. The Xerox machine, tape and disk players, computers, dot matrix and laser printers, and now the computer networks helped turn the industrial polity into a McLuhanesque old environment. This is a polity-destroying development. Products, values and attitudes become more

heterogeneous. Such a system requires so much more information that political information loses much of its coherent and cohesive value. The information outpouring produces widely distributed but highly positive feedback loops. Diversity now feeds on itself, continually raising the system's required information levels (Toffler 1983: 24-5, 42, 115-20). Because change is diversity in time, the faster the world changes, the more information we need to cope with change itself. The system is experiencing an extended transformational crisis. Now information has a peculiar nature. If you use it, so can I. If we both use it, chances go up that we will produce more information. However powerfully it acts to break up and tear down the industrial age polity, information is nonetheless a generative force.

Sitting before a PC has different consequences from sitting before a TV. On the Internet, the notion of office disappears. People do what they know how to, not their assigned roles. This is an enormously liberating force working against hierarchies of all kinds. This is the democracy citizens in advanced nations always dreamed of. What people are creating on the Internet is a conversational, demassified, non-representational democracy that transcends the nation-state.

As the breakdown of modernity and the mass industrial age polity proceed, we must ask another basic question. What is the relationship between information and knowledge, and how do they contribute to the identification and analysis of power? In other words, is political discourse still political in the old sense when technology comes to mediate it so transparently yet so thoroughly? What happens to power when there is only technologically produced bodiless information? Dan Nimmo and James Combs's 1990 work *Mediated Political Realities* (2nd edn) does not even mention the Internet. It remains caught in the problematique of centralized, top-down informational power. Thus, much of what we thought we knew about mediated political realities is quickly becoming wrong. Today, even the truth-value of logic, as traditionally conceived, has begun to dissolve.

The Worldwide Web ('the Web') is a set of databases that ignores formal logic or conventional library classifications. Its information lacks the straitjacketing of data paths imposed by the logic of classifying conventions. In such a database, the more general term still includes the more particular, but the opposite is now also true. One may jump either way, or laterally instead. More important, one treks through such a database without regard for formal classifications. The Web's basic design principle is its underlying architecture of hypertext. Increasingly user-friendly databases such as the Web contains have led many observers to confuse the avalanche of information with the attainment of what they persist in calling some form of knowledge. Gary Wolf writes (1994: 118):

In the world of the Web, knowledge is not something you produce, but something you participate in. A document isn't a self-sufficient individual creation, but a perspective, or collection of perspectives, on the entire Web. . . .

All the documents in the Web are within reach. What path will you take to get to them? What path will you mark for others to take?

It is not convincing that any true 'participation in knowledge' is actually taking place, as the anonymity of users precludes responsibility, and any claim to responsible action reduces to endless activity. In this instance, power based on knowledge, as exercised by subjects, may have transformed itself into operations based on information, exercised by monads.

The Web and, by extension, the Internet represent a historically unprecedented diffusion of activity beyond the scope of conventional power relations. This activity threatens to overshadow real-world action. It nonetheless has potent real-world effects. Should it become decisive, then much of the political science literature will be wrong. If this is so, then the relationship between power, knowledge and information will change still more. Traditional analyses of power relations based on criteria of interests, classes, monopoly of force etc. remain nostalgically comforting. However, they give less and less insight into our electronically saturated world. For example, online, one must appear uninterested in steering or governing. Directive behaviour quickly leads to 'flaming' attacks from other participants. There is of course a hidden elite that keeps the Internet running. However, it shrewdly labels the basic protocols or rules of interaction merely 'Requests for Comments'. One Usenet newsgroup (discussion group) moderator found an apt metaphor (Bradshaw 1994), saying that doing the job of moderator is like herding cats. To learn how to herd cats we must now turn away from mainstream social science.

### Transcending the body

Natural and human-constructed boundaries in space and time have become harder to differentiate. Electronics mediate most human interactions. These facts reflect significant changes in how self and collective identity occur. For David Bolter, electronic technology is our age's best defining technology. He writes (1984: 12): 'By promising (or threatening) to replace man, the computer is giving a new definition of man, as an "information processor," and of nature as "information to process."' Has man's relationship to nature changed from a stance of domination and mastery to one of processing? To what extent is this a qualitative shift? A logical continuity remains between a notion of nature as resource to exploit and one of nature as information to exploit. In both, nature remains external to man. Man can and therefore must use, transform and rationalize such a commodified world. Nonetheless, the world as information also underlies our return to non-industrial society. As civilization fractures, its replacement takes the form of clouds of intentional communities. Thus does the tool as computer present new characteristics.

The mechanisms of computer operations are hidden works, always beyond human sensory perception. McLuhan said every new technology

changes how our sense organs operate to perceive reality, and it may be that computer technology changes not only our perception of reality but also our very selves. Electronic pulses permeate our daily lives. The extent of demand for greater and greater interdependency in human-computer interaction compels us to consider the computer as more than just an instrument or machine. It is a constructive medium. It has become an 'evocative object', a medium through which we project and realize our thoughts and undertakings. It is a constructive medium.

In studying computer culture Sherry Turkle (1984: 3) focuses on the 'subjective computer'. It shares our social lives and as such engages in psychological development. A product of our minds, it 'affects the way we think, especially the way we think about ourselves'. Computer technology comes eerily close to our humanity's core. This is the one machine that can manipulate symbols. 'The new machine that stands behind the flashing digital signal, unlike the clock, the telescope, or the train, is a machine that "thinks". It challenges our notions not only of time and distance, but also of mind.' Thus does the computer exceed the metaphorical role we usually assign to an age's traditional defining technologies. People do use computer jargon freely in association with psychological states or human anatomy (hardware/software, 'wetware', programming, accessing, etc.). People have proven oddly willing to 'interface' with a computer as opposed to interacting directly with others, to constitute ourselves and our world.

More than any previous defining technology, computer technology has forced us to rethink technology as practice instead of mere technique. The holding power of computing can create a twilight zone of electronic time and space and lived time. We cannot avoid living through the computer even if we never turn one on. This is why we must come to question this latest extension of our being. It is our consciousness and nervous system. We need to re-question the uniqueness of that which is human, and to redefine differences between human and animal, human and machine. This is, in a sense, the age-old investigation into the nature of mind and body, reason and intelligence.

In its extreme and perhaps most corrupt articulation, wherein reasoning is equated with calculation, man-the-rational-animal may at first look like computer-the-rational-machine. However, closely observing sophisticated computer manipulation of abstract symbols and logical operations shows us their respective limits. Human intelligence encompasses more than just logic and calculation. This is most salient in artificial intelligence (AI) research, where questions of computer 'mind' have made us rethink the nature of human reason and intelligence.

In the 1970s, at the University of California's Berkeley campus, computer scientists, linguists and philosophers held a series of informal discussions about the nature of language and mind. This happening suggests that computer technology had already affected traditional conceptions of body, mind, reason and intelligence. Hubert Dreyfus called AI researchers 'the last metaphysicians'. They proved able to 'bypass brain

and body, and arrive, all the more surely, at the essence of rationality'. This led Dreyfus to take up the challenge AI research posed by rethinking the nature of human reason and human 'worldliness'. He wrote (1972: xxvi): 'What we learn about the limits of intelligence in computers will tell us something about the character and extent of human intelligence. What is required is nothing less than a critique of artificial reason.' AI research in such diverse areas as game playing, language translating, problem solving and pattern recognition follows a recurring trajectory, marked by early success followed by inextricable difficulties. This pattern reveals the power of computers to simulate only certain very specific aspects of the human mind. Beyond this threshold, the computer inevitably falters. Dreyfus concluded (1972: 216):

We can then view recent work in artificial intelligence as a crucial experiment disconfirming the traditional assumption that human reason can be analyzed into rule-governed operations on situation-free discrete elements – the most important disconfirmation of this metaphysical demand that has ever been produced. This technique of turning our philosophical assumptions into technology until they reveal their limits suggests new areas for basic research.

Having to look at one's reflection in the mirror of computer logic led to a sharp existential (and phenomenological) return to the worldly body's safe confines. For Dreyfus and for other AI critics, the argument based on the worldly body provides the crucial distance between man and machine. Dreyfus viewed the body and the situation as the two basic elements that elide computer mind. He claimed: 'what distinguishes persons from machines . . . is not a detached, universal, immaterial soul but an involved, self-moving, material body'. Moreover, 'the situation is organized from the start in terms of human needs and propensities which give the facts meaning, make the facts what they are, so that there is never a question of storing and sorting through an enormous list of meaningless, isolated data' (1972: 148, 174).

William Barrett's argument concerning the body (1986: 160) also echoes this critique of the computer's disembodied mind. 'How much of our consciousness', he asks, 'is embedded in and inseparable from this fleshy envelope that we are?' Barrett says a computer cannot learn because it does not have temporal life. 'Properly speaking, indeed, a machine cannot mature, for it is not an organic body, growing and ripening through time.' Contemporary mainstream concern with the lived body as a site for reality grounding, evident in existential phenomenology and humanist AI critiques, coincides with feminism's theorizing from the body, with postmodern philosophies of difference, and with radical pluralism. Information-based technological disruptions have thus shaken the foundations of traditional hegemonic Western subjectivity to the point where the discourses of feminism and postmodernity become a matter of necessity as well as choice.

The return to the body as *terra firma* of our human-ness nevertheless presents difficulties. Continuing his inquiries into human technological

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self-construction, Michael Heim echoes Dreyfus's challenge. Heim poses metaphysical questions within the electronic world. For him (1993: 59), 'cyberspace is a metaphysical laboratory, a tool for examining our very sense of reality'. Heim has little concern for the mental competition between human and machine and focuses instead on the human drive to absorb ever increasing forms of computer technology into daily life. This fascination transcends practical and utilitarian applications and reaches deeply into humanity's more inarticulate needs. Heim claims: 'Our fascination with computers is more erotic than sensuous, more deeply spiritual than utilitarian' (1993: 59).

Our love of and hunger for information in cyberspace are a logical extension of an erotic love of a sensationless world of pure ideas. This is the pursuit of the Platonic Forms themselves, made concrete by computer hardware. The impossibility of achieving wisdom, that is, divine and perfect Knowledge, does not deter us from striving to touch its beauty. The drive compelling us toward this peak is an erotic one, which should not be confused with physical love and desire. For Heim (1993: 63), Eros 'inspires humans to outrun the drag of the "meat" – the flesh – by attaching human attention to what formally attracts the mind'. Thus does Eros guide us to Logos, to thought and speech. The love of beautiful bodies and beautiful objects is but a first step toward greater and purer loves. These are the love of beautiful thoughts and knowledge. Finally, there is the love of Beauty itself. Heim thus refers aptly to Diotima's speech in Plato's *Symposium*. It forms a manifesto of Western culture's renunciation of the body. Listen to Plato (1956: 105–6):

For let me tell you, the right way to approach the things of love, or to be led there by another, is this: beginning from these beautiful things, to mount for that beauty's sake ever upward, as by a flight of steps, from one to two, and from two to all beautiful bodies, and from beautiful bodies to beautiful pursuits and practices, and from practices to beautiful learnings, so that from learnings he may come at last to that perfect learning which is the learning solely of that beauty itself, and may know at last that which is the perfection of beauty. There in life and there alone, my dear Socrates . . . is life worth living for man, while he contemplates Beauty itself.

This negation of the body has proved difficult. No learning or strategy could assure, or even ease, the leap from physical embodiment in space and time to the world of pure Forms, eternal and unchanging. The arrival of the information deluge provides for the moment a halfway point between Body and Form. As Heim notes (1993: 64), 'computerized representation of knowledge . . . is not the direct mental insight fostered by Platonism. The computer clothes the details of empirical knowledge so that they seem to share the ideality of stable knowledge of the Forms.' Heim's concern is with the illusion of knowledge that the information avalanche prompts (Heim 1993: 65): 'With an electronic infrastructure, the dream of perfect FORMS becomes the dream of inFORMation.'

Heim also shows what perversions inhere in trying to negate embodi-

ment. He calls these paradoxes. They operate within cyberspace's cultural terrain. As cyberspace erases the boundaries of time and space, it also erases the materiality of our bodily boundaries. Online, we seem to break free from the limitations of bodily existence. Jacking into the matrix appears to give us (Heim 1993: 73), 'an unrestricted freedom of expression and personal contact, with far less hierarchy and formality than is found in the primary social world'. However, this godsend exacts its price. Physical presence is simulated and re-presented in a virtual world of like-represented personae. Cyberspace therefore diminishes the range and quality of human encounters, for, as deliberate and selective creations of ourselves, these re-presentations lack the responsibility of an actual bodily commitment. This remains a fundamental characteristic of human action, of direct human-to-human association.

In Toronto, for example, Telepersonals Ltd. will happily wire you up. Anyone can listen to ads or record an ad free. Men pay 55 cents a minute to send and retrieve messages. Women pay nothing - except perhaps their souls. Addiction sets in rapidly. The urge to call in to get one's messages becomes compelling. Jennifer Cowan is 28, 5 foot 10, 135 pounds, has brown hair, green eyes, and finds herself attracted to men who are intelligent and funny. She became almost instantly addicted while researching an article. In trying to explain her abrupt addiction, Ms Cowan mused (1994: 63):

I realized I didn't want to meet people as much as to talk to them, explore who was out there and what they were thinking. I was addicted to covert communication. How else do you rationalize sitting naked in bed with the phone tucked up to your shoulder, pen and notebook in hand, until three in the morning? If on some level I wanted a man in my bed, the phone had become my placebo.

Jennifer found herself compulsively reaching out to touch someone, and then someone else, and someone else. . . . Like the cyberpunk literature (see Bukatman 1994) this reflects a new problem. Residents of the information age are proving perilously willing to play tiddlywinks with their personal identities. Millions of people have made drifting in and out of digital realities a significant part of their everyday lives. This is a global retreat from our now empty public lives, from roles we once acted out in a real-life political realm. It is a retreat from nations, from nationalism and from politics itself. This is a retreat from civilization. It places millions in a tribalized fantasy culture, a theatre of the bizarre and the absurd. Fantasy culture becomes universal by making all the world a proliferation of cyberstages, an inauthentic virtual simulation of Shakespeare's old *theatrum mundi*.

In other chapters virtual sex is discussed. Online discussions can be drily academic or viciously aggressive as well as bawdy. We hear on good authority though that cybersex chat does effect the transmission of the old message well enough to evoke physical orgasms. *Boardwatch* magazine's Jack Richard estimates that 50,000 people now engage daily in cybersex using up to 700 real-time chat lines (Kane 1994: 21). The main problem

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they face is not being able to type quickly enough, especially with one hand. Countless others practise more leisurely cybersex with e-mail postings; the body's most erotic organ remains the mind.

Participation in the illusion of an eternal and immaterial electronic world has other, more sinister effects. Because we have a new power to flit about the universe, we let our communities grow ever more fragile, airy and ephemeral. We are more equal because online, stand-in bodies are costless. Bodily contact is either impossible or purely optional. One never needs to stand face to face with other virtual community members. Soon we forget that our stand-in bodies lack our primary identity's vulnerability and fragility (Heim 1993: 74). 'The more we mistake the cyberbodies for ourselves, the more the machine twists our selves into the prostheses we are wearing.' Our faces are our 'display devices', our eyes the windows that set up a neighbourhood of trust. Without face-to-face, personal and private communication, our very 'ethical awareness' based on lived experiences 'shrinks and rudeness enters' (1993: 76).

The paradoxes that lurk within cyberspace gradually translate into cultural perversions and social-political distortions. The body's suppression leads to a tendency to create fetishes. It has led to commodification and reification of much human experience. There is little wonder that pornography has found a fertile field on the matrix. Destructive stances and discourses, which would demand and provoke resistances in the bounded political 'real' world, remain largely unopposed. Note the brutality, violence and enslavement that flourish in virtual worlds, especially in the MUDs. Note the prevalence of narcissism, alienation, cynicism and anomie. Here we see extremes of human behaviour and discourse at both the individual and collective levels. Given our available bandwidth, computer-mediated interactions between people must simply lose much essential meaning. Virtual worlds, distorted by disembodiment dreams, drain their inhabitants of commitment, responsibility and, ultimately, purpose. Online, Logos reduces to increasingly nihilistic play. The erotic drive that forces us to transcend our flesh may have, therefore, found its most dangerous accomplice in computer technology.

Our virtual life in cyberspace paralyses our bodies. Cyberspacetime promises us liberation from the constraints of space, time and materiality. However, without the experiences of our bodies, our thoughts, our ideas, our ethics and politics must all suffer. We know ourselves and our world mainly because we live and move in the world through our bodies. Merleau-Ponty wrote (1945: 97, our trans.): 'The body is the vehicle of being in the world. To have a body is, for a living being, to join itself to a certain environment, to involve itself with certain projects and therein to engage itself continuously.' The unfolding of the world's phenomena forms the basis of our knowledges - precisely because human-ness imposes limits. We must continually engage the world to locate ourselves compared with others and the non-human environment. To put oneself within borders is a prerequisite for ethical considerations of any kind. Merleau-Ponty

continues: 'My body is the axis of the world: I know that there are many sides to objects because I can go around them, and, in this sense, I am conscious of the world by means of the body' (ibid.). In cyberspace, we no longer need to stand physically in the world to see all different sides of situations. What then becomes of our faculty to learn and to acquire knowledge, as opposed to our technical ability to gather information? In cyberspace we no longer need to face and live with the presence of others. What then becomes of our ethical and political consciousness?

### The body of power

The body's arrest by the electronic promise of perfect information may be a substitute for perfect knowledge, yet it remains a voluntary subjection. As such, it is hard to subsume it under traditional conceptual strategies or understandings of power structures. We see a massive turning away from knowledge of the world that our lived bodies gathered so painfully. Replacing this knowledge is information stored in burgeoning data banks. This trading of knowledge for information brings with it an end to human action itself. In particular, it aborts political action.

In this age of the Western world's global conquest on behalf of capitalism, it may no longer be possible to make sense of or to speak sensibly about politics. Whatever is political staunchly demands a recognition of boundaries. These include the encircling walls of the polis, the segregation of governmental powers, and political sovereignty. Without boundaries, the political atrophies and becomes quietly obsolescent. In the long sweep of human history, this shift to an apolitical Western world is a sudden departure. This is one reason our subject proves so hard to analyse. Our very ease within the electronic world should, however, eventually direct us toward new lines of inquiry and unconventional conceptual categories if we are to start understanding ourselves anew. To this end, let us listen to mad prophets who speak of 'polymorphous techniques of power' (Foucault 1976: 20).

Jean Baudrillard has written an astute and extended critique of Michel Foucault's works, focusing particularly on his notion of the polymorphous techniques of power. Baudrillard attributes the appeal of these writings to their uncanny resemblance to the very power mechanisms Foucault seeks to describe. Baudrillard claims Foucault's discourse stands as a mirror image of power relations. His medium is his message (1977: 9-10, our trans.):

The writing of Foucault is perfect in that the very movement of the text is an admirable account of that which he is proposing. This generative spiral of power is not a despotic architecture, but an ever deepening relationship, a coil, a strophe without beginning (but without climax either). It spreads ever further out and ever more rigorously. Then there is this interstitial fluidity of power which floods the entire porous network of the social, the mental, and of bodies. This is an infinitesimal modulation of the technologies of power, where relations

of power and of seduction are inextricably intertwined. All of this one can read directly in Foucault's discourse (which is also a power discourse): it flows, it empowers, and it saturates all the spaces it opens up.

While Baudrillard argues that Foucault's discourse is too seductive to sustain its claim to truth, he nevertheless correctly spotlights (Shields 1995: 24) the 'miniaturization' of power relations. This becomes evident in such notions as the 'micro-desire of power' and the 'micro-politics of desire'. Here may lie a new set of analytical tools. Rob Shields (1995) writes:

For Foucault, institutions of legitimated politics and the statistical social sciences that buttress them are mere window dressings. They hide the real exercise of power. Power occurs precisely outside the glare of official rhetoric and rational debate. It operates at the level of individual discipline. The body's own unconscious reflexes learn to yield to power.

Perhaps we can use Foucault's toolkit to confront our electronic world.

In speaking of the 'polymorphous techniques of power', Foucault has sought to indicate the present impossibility of determining precisely the boundaries of both the field of power relations and power's techniques and strategies. Modern power operates through a 'démultiplication' or gearing down. This term covers both the proliferation of politically pertinent areas and power's breaking down into finer and finer specific practices. Power technics have framed and supported every truth claim uttered throughout history. Now, however, one carves out power relations through social engineering, say in designing the architecture of buildings. Power also inscribes itself on to the sexual body. Power has spread and broadly diffused. It has escaped the confines of the state. It is everywhere. Thus, as we lose our defining boundaries, power comes to reside precisely nowhere. It becomes far more polymorphous than earlier scholars thought. Today, we find that the centre and with it the polity are quickly dissolving.

The detailed histories Foucault selected to study are particular social domains. In each, the play of power and discourse deploys in virtually anonymous ways. His descriptions of the strategies and techniques of power lead unerringly to the formulation of a theory. This theory holds that power is elusive. The subject and object of power are themselves elusive in the sense that both are continually shifting - like clouds. When Foucault tries to address the dynamics of power beyond mere description, he can only speak of counter-power's evasive and resistant dynamics.

In this sense we can no longer understand power as having an 'essence'. Nor may we continue to view it simplistically as an attribute of those who have or hold it (Deleuze 1986: 35). It is a precariously shifting relationship between dominant and dominated, the knower and the known. It does exceed their singularities. As it spins and twirls, it produces one human turning point after another. Eventually, it always transforms the people it catches up, their relationships, their contexts - and itself. It continually produces an ever new matrix of discourses, of bodies, of strategies, and of techniques. Power's nature is no longer essential. Just as the new form of the subject is the user or monad, the new forms of power are operational.

We may therefore speak of the techniques of power, or of a technology of power. One can carry out the functional micro-analysis of such power across the terrain of human bodies. Operating on their social and personal relationships and associations, work and leisure spacetime, education and training, etc., it gives form to everyday life. The new topography of power, understood as a technology both of the self and of the collective, may then become an appropriate virtual map to guide us through the world's electronic nervous system. Knowledge, Truth and Power have become as shadowy and elusive as the virtual bodies and subjectivities that claim membership in cyberspacetime.

### Conclusion

We conclude that the demassification and atrophy of the polity, the diffusion of mass powers of creation, and our loss of contact with the real world of time and space are together producing conditions for outbreaks of chaos. Our weakened polities may prove unable to contain these outbreaks. There is a basic conflict between the coming society of which the Internet is the leading edge and the democratic institutions we inherited from the industrial era.

Liberal democracy as we have known it these last three hundred years rested upon the reasoning individual representing people residing in geographical areas as its lever for progressive change. Representative democracy requires that citizens who live in local geographical communities freely choose people to represent them for strictly limited time spans in larger political arenas. The assumption is that individuals have concrete identities and interests. These must be essentially grounded in the here and now, in corporeal bodies and in geographical communities. The national democratic aggregation of interests is the finding of common ground for mass collective action between and across discrete geographical regions. Democracy is as bounded in time as it is rooted in space.

As Bob Cameron's everyday life shows, time has escaped the confines of locality. As the everyday experience of life on the Net shows, cyberspacetime is the escape from geographical rootedness into an endlessly seductive, addictive and hallucinogenic data matrix. Within the environment created by our new cyberspace media, people form virtual communities on the basis of the functional representation of narrow interests, not the geographical representation of whole living persons. These functional interests rapidly come to be increasingly limited and specialized. The oncoming society may therefore be at fundamental odds with the most basic requirements of liberal democracy.

Most social scientists did not look favourably on Foucault's reformulation of the locus and operations of power. American political science has long defined itself pragmatically, as the study of the state, its polity and very little else. Traditional and mainstream scholars have stubbornly resisted

acknowledging the apparent obsolescence of their still young discipline. They doggedly try to paste old blueprints back on the collapsing walls of an imploding, spiralling, looping and recursive world. This resistance is unfortunate. It helps prevent the creation of new spirals of discourses, through which and by which we might again articulate our human-ness.

Recent entrants to the scholarly discursive community have had a different experience. They suddenly found themselves effortlessly liberated from the old boundaries, segregations, exclusions and oppressions. Paradoxically, in the same spacetime, they found themselves deprived of any chance to construct new, solid identities and subjectivities. Identity formation had become problematic. The recovery of the material body has become a central theme and a focal point for feminism, as it has been for mainstream philosophy in its encounter with disembodied computer mind. These are strategies of counter-power against the anonymity and weightlessness of cyberspacetime. According to Allucquere Stone (1991: 1-13): 'Forgetting about the body is an old Cartesian trick, one that has unpleasant consequences for those bodies whose speech is silenced by the act of our forgetting; that is to say, those upon whose labour the act of forgetting the body is founded - usually women and minorities.' It is a deep paradox in this apolitical age that political minorities are precisely those who have most frequently found themselves being drawn on to the Net.

Yet the revival of the material body as a weapon against the techniques of a polymorphous power may be a doomed strategy. The physical body has already proved itself a fertile terrain for the deployment of technological discourses and practices. The material body has already undergone its own 'démultiplication' into fields of operation, imbued with 'power' and wired into cyberspace. Démultiplied categories include the reproductive body, the criminal body, the diseased body, the athletic body, even the dead body. Bodies can no longer serve as the last outpost of a vanishing world of finite spacetime and bounded order. Perhaps cyberspace's very 'order' will make us learn to embrace both order and disorder, linearity and recursivity, power and resistance, within our reflections on the world.

The West finds itself caught in indecision and uncertainty. So does the rest of the world that aspires to become developed and Western. In a global economic regime structured by linear production and consumption patterns, we nevertheless seek to practise recycling. Ecological concerns demand recognition of cyclical change patterns. Although electronic and satellite technologies have reduced the world's time to a single instant, we still pass budgets in our legislatures and plan our social schedules based on the conception of progressive time. Western social scientists long hoped the former colonies would develop liberally, along democratic lines. These worthies remain dumbfounded by the chaos that reigns in the so-called Third World. Current theory (and pursuit) of progressive linearity must derive from an inadequate paradigm within which scholars try to understand change processes. Progressive linearity has less and less to do with either the real or the virtual world. Foucauldians and the postmodernists

might smile if they see mainstream theorists thus paralysed by the fear that they may already have lost their own voices. This would vindicate farmer Levitt Burris's concerns. Just when mainstreamers had sent their voices out long distance, the polity's power failure naturally began among the weakest polities – in the Third World – and this has left conventional social scientists speechless.

As societal demassification and fragmentation proceed, it is natural that the equation of the average with the normal and the good should have come under increasing attack (e.g. Canguilhem 1991). For this, the Net bears a strong responsibility. Philosophical banners of European continental 'différance', democratic pluralism, and North American rights discourse have also encouraged ever narrower minorities to make vocal demands and 'act up'. Such social groups are demanding acknowledgement and respect for their distinct and un-averageable characteristics. In cyberspace we encounter a lot of single parents, gays and lesbians, visible ethnic minorities, AIDS victims, alcoholics, drug addicts and the physically challenged. The matrix also abounds with the mentally, socially and morally challenged (Companion Disk 1993). All of these, among others, are clamouring for the satisfaction of their own particular needs.

To meet all such demands would require cancelling any notions of linear progress or a 'normal' path of human development, because normality arises only in massified social settings. Normality depends upon highly uniform social expectations. It is not accidental that the Net is well on its apolitical way toward enforcing such a cancellation. The loss of the normal destroys the possibility of collective action based on the democratic aggregation of interests. No doubt we will always call whatever is replacing liberal democracy a form of democracy, perhaps democratic corporatism. Nonetheless, the old liberal democracy rooted in human everyday life, based upon the geographical representation of persons and constrained within the earth's compass points, is withering. It will soon remain only as a withered stump, as happened with the monarchy. Before the nihilistic forces we have unleashed upon ourselves, our democratic polities are sand castles. We need not wax nostalgic for the hierarchically controlled mass society of the old industrial order. That is shattering into its innumerable separate parts. Yet let us, like Levitt Burris, confess our fears. The new society crashing in upon us is terrifying.

Modern physical science has had to embrace uncertainty, randomness and unpredictability as ordering ideas with which to understand the physical world. So perhaps must social science also unleash a new imagination into the unbounded world of cyberspacetime. We must make desperate efforts to reach some consensus on the direction and manifestations human life is taking in the exotic data fields exploding all across the grey void of cyberspace. The present state of upheaval may already have been anticipated by Nietzsche when he wrote:

Alas! The time is coming when man will no more shoot the arrow of his longing out over mankind, and the string of his bow will have forgotten to twang!

I tell you: one must have chaos in one, to give birth to a dancing star. I tell you: you still have chaos in you. (1972: 4-6)

## Notes

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1. Long ago, R.M. MacIver (1942) pointed out the pitfalls of the concept of causality in the social sciences.

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