

Kanban Capitalism:  
Power, Identity, and Exchange in Cyberspace

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In its December 1, 1997 issue, Businessweek oddly captures the contradictions of kanban capitalism in its layouts. The title of its cover story asks, "The Future of the American Car: Can Detroit Finally Make Cars That Baby Boomers Like?" While this question concerns many Americans, much of Detroit, some baby boomers, and a few drivers, the implicit alliance of grounded national demographic, and consumer interests anchoring the story is starkly contradicted by the two-page layout spread across the inside cover and page one. There a color photo catches the spark shower of robotic arc welders fusing together new monocoupe car bodies from an anonymous maker, located in an unknown city and unidentified country, with no sign of human workers. This just-in-time assemblage of chassis and platform parts is touted as being under the command-and-control of PeopleSoft, Inc.®, which declares: "Funny, this doesn't look like an HR application" (Businessweek, December 1, 1997: 1).

This image actually is not that funny. There are no live "human resources" (HR) being applied here, and it is entirely unclear where "here" is. Instead, a robotic manufacturing process is now employing PeopleSoft's® enterprise software: "mission-critical applications for your entire enterprise, including Supply Chain Management, Order Management, and Manufacturing....everything is flexible, comprehensive, and designed around your needs" (Businessweek, December 1, 1997: 1).

World,"™ but it seems clear that this just-in-time world is no longer necessarily sited in Detroit, made in America, pitched at baby boomers, or off in the distant future.

Kanban capital reworks the familiar "set-in-place" workaday world into a brave new "just-in-time" world of robotic production, global products, and transnational producers. Kanban methods of management are a bundle of universalized logistical abstractions, whose concrete effects provide a new interpretive framework for understanding the global marketplace under informational conditions of production. On the one hand, it could as easily be labelled "Toyota-ism," because just-in-time management, as Plenert notes, "is the Toyota production philosophy that focuses on materials efficiency and waste elimination in the production process" (1995: 104) in which the automaker attaches a "kanban card" (1995: 12) to every component it uses to track company manufactures in digital telemetries. Peters, on the other hand, sees the kanban methods as the core of "thriving on chaos" in today's management revolutions inasmuch as kanban capitalists go beyond what "manufacturers do to their suppliers, achieving linkups 'backward' toward their vendor" by seeking out "opportunities to assist customers, using some variant of voluntary just-in-time inventory management as a marketing strategy, linked forward to the customer" (Peters, 1991: 144). This philosophy for building more flexible, chaotic

techniques are reordering firms, factories and their surrounding marketplaces as well as disrupting the lives of those cities, nations and working populations that depend upon them.

This analysis revisits the telemetrical spaces, sites, and structures of kanban capitalism, to examine how its performative uses of cyberspaces are developing as well as to reconsider the possible downside of this digital transformation. It critically re-reads fragments in Businessweek and Wired, and then runs the instrumental purposes of just-in-time management techniques against the grain in such commercial texts to pull some larger significance out of their application as "hypermedia" (Deibert, 1997) in the economy and society. First, the imbrication of information and industrialization in cyberspace will be reviewed to highlight the transformation of data-accumulation, information-processing, and knowledge-production into new valorizing forces. Second, the example of enterprise software packages will be discussed to indicate how just-in-time methods generate value from the management of labor and material in time. Third, the impact of kanban capital and its extended enterprise upon existing set-in-place institutions will be reviewed as a decentering/deterritorializing/denationalizing process. And, finally, the downside of these digital dynamics will be re-examined to determine who really gets burnt by the workings of kanban capital's allegedly friction-free economy.

Inasmuch as individuals and groups now choose, or are coerced, to communicate, keep accounts, publish, buy products, work, access documents, or bank, the digital domain will become a central setting for conducting any human's life. All of these activities are migrating out of analog contexts into cyberspace.

Cyberspace is clusters of code experienced increasingly just-in-time. It once was the small imperia of a few score massive mainframe systems, which dominated small patches of peripherals and large domains of data gathered inside of huge national corporations and bureaucracies. It evolved into limited networks between a few of these centers in national defense system links, whose layers were meant to leave enough distributed intelligence on-line to mount second or third strikes off-line in a possible thermonuclear exchange. Next, it developed another layer of thin, but also broad, university-based international links between academics to exchange data and text inexpensively and quickly. Cyberspaces today, however, are evolving into a heteronomous global anarchy with many more proliferating layers in which would-be hegemonies are competing to control its uses in a self-help system of platform wars, chip races, and operating system alliances.

Dizard characterizes these networks of networks as "the Meganet," or,

...a powerful but enigmatic engine of change, the biggest and most complex machine in human history. Its

and being and dividing, constructive and destructive. It will create a new communications culture, overlaid on old ethnic, economic, religious, and national patterns and attitudes. An electronic environment is evolving in which old guideposts are submerged in a stream of bits and bytes exchanging a bewildering variety of messages among billions of individuals (1998: 14).

Unlike many overwrought celebrations of cyberspace, this analysis at least highlights the machinic infrastructure of boxes and wires, cables and satellites, servers and relays that underpin the real material networks, which, in turn, generate a new, hyperreal electronic environment. In this digital domain, cybernetic community, and simulated sovereignty are coevolving with new power/knowledge formations that hope to dominate networked places and connectivity spaces as quickly and completely as possible (Lucky, 1989).

Bill Gates (1996) looks down this cybernetic "road ahead" and sees the advent of "friction-free" marketplaces where Says Law mostly will direct supply to meet demand in the WWW. When Gates imagines "friction-free capitalism" out on the Net, he sees the wired world's coming digital exchanges in exultant terms,

The global information market will be huge and will combine all the various ways human goods, services and ideas are exchanged. On a practical level, this will give you broader choices about most things, including how you earn and invest, what you buy and how much you pay for it, who your friends are and how you spend you time with them, and where and how securely you and your family live. Your workplace and your idea of what it means to be "educated" will be transformed, perhaps almost beyond recognition. Your identity, of who you are and where you belong, may open up considerably. In short, just about everything will be done differently (1995: 6-7).

under this cosmopolitan horizon, gates asks everyone to head out on the information superhighway. At this triumphalist juncture in the evolution of the capitalist world system, the workings of collective authority and individual identity seem to be shifting from a strongly centered territorial logic of statal administration set-in-place into a weakly decentered telemetrical logic of corporate organization just-in-time.

The expansive telemetries of the digital domain are displacing, subsuming, and reshaping the material markets of closed territorialities in the real world. While the name is anachronistic, this "wired world" plainly is much more than its boxes and wires:

It is entirely new product space. It is an entirely new market space. The Internet product space, combined with the World Wide Web market space, establishes one of the most powerful platforms ever contrived for doing business. The Wired World is to the friction-free economy what the interstate highway system, air cargo system, and telephone/fax system were to the old economy (Lewis, 1997: 115).

Even though its enthusiasts continue to effuse over "a near-infinite supply of products, services, and ideas" that this friction-free economy apparently produces "a near-zero cost" (Lewis, 1997: 115), this modularization, specialization, acceleration, and componentization of goods and services actually is not generating a free friction economy, because it is scorching many who feel its first effects.

Cyberspace cannot be dismissed as an ephemeral playground of

temporal environment in which important daily events are set and at which new social discourses are addressed. Cyberspace materially surrounds individuals and groups as an environment; it mediates economic forces, articulates political directives, and circulates social constraints as informationalized effects. Work is accomplished through cyberspace, culture is refashioned out of cyberspace, and power is transmitted within cyberspace. In these ways, as the digerati (Brockman, 1996) assert, it now operates as a primary scene of society and essential setting for the economy.

#### A. Cyberculture and Deterritorialization

On one level, cyberspaces nest inside material hardware infrastructures, like web servers, optical cables, wireless receivers, or broadband backbones that are set-in-space. Such material artifacts are numerous, expensive, and proliferating in number as the Internet grows almost exponentially each year. Internet host computers were under a thousand in number during late 1987, but this figure exceeded 16 million in early 1997 (The Economist, October 11, 1997: 87). By 2000, data traffic will exceed voice transmissions on telephone networks, and many more millions of web servers will be deployed in government, business, and civil society. Similarly in May 1993, a survey of WWW hosts turned up 100 host servers with unique domains in which one could post WWW pages. This figure grew to 600 in November 1993, 2,000 in January 1994, 100,000 in January 1996, and 200,000 in June

400,000 (Leonard, 1997: 121-122).

These hard material facts are readily observable for anyone who wishes to document them. On another level, however, cyberspace also is a realm of projection, transference, and introspection in which the collective imagination of acting just-in-time is the most essential ingredient. As Gibson asserts, "everyone who works with computers seems to develop an intuitive faith that there's some kind of actual space behind the screen" (cited in Turkle, 1997: 265). As Gibson remarks about teenaged game players, the computer user at the screen creates a "feedback loop, with photons coming off the screen into the kids' eyes, the neurons moving through their bodies, electrons moving through the computer. And these kids clearly believed in the space these games projected" (cited in Turkle, 1997: 265). Belief in the graphics or trust for the texts swirling across the screen is essential for cyberspace to operate just-in-time. Without such projective transference, the grip of the virtual life on human consciousness cannot take hold.

Like literature, then, cyberspace unfolds as a discursive play/work space in which a transference of agency or the projection of ego into a series of textualized language games is needed for technology to function. Without this element of fantasy, these domains neither can be opened nor experienced (Slouka, 1995). Therefore, cyberspace also can be experienced in

ear turned toward its authors, characters, plots, ideologies, and voices. Effective cyberspaces make such projection and transference by users much easier; indeed, as Gibson (1984: 51) argues, they become "consensual hallucinations," much like the works of Homer, Shakespeare, or Faulkner when the covers of their works are cracked open by new readers introspectively recreating virtual worlds at traditional print/person interface.

Space can be regarded as all places taken together, the intervals between points fixed by time in position, or the object produced by determinations of location. It is what is between everything set-in-place and where placed-in-settings are. All of these social constructions of space circulate with some credibility in a variety of intellectual venues, and each of them is defensible in some contexts. Yet, space also can be re-read, especially given the advent and affect of cyberspaces, as a medium. Space here constitutes the substances and sites through which forces act or effects are transmitted. Like other media, space also can be communicative. Within its active structures or transmission sites (Luke, 1989), it will carry some forces, but not others; transmit these effects, but not those; favor a few operators, but not any others. As a medium, cyberspace unfolds amidst every on-line expanse through which or by which work is accomplished in digital domains of practice.

Industrial technics, urban society, and nation-states all

now built environments whose major qualities vary significantly inasmuch as their boundaries keep the effects of certain practices, peoples, and precepts either inside or outside their sited surroundings. Most spaces and places are subdivided by a territorial logic which resets the position, direction, and condition of human actions within an operational register of border defining, defending or destroying. Despite its many drawbacks, much of modernity has unfolded within this regime of spatial calculation over the past 350 years. Many of its acts and artifacts, however, are now in dispute as today's highly territorialized world order experiences the corrosive surge of telemetricity (Luke, 1994).

#### B. Telemetricity and Performativity

The development of on-line digital domains implodes the sovereign authority and exclusive territoriality of states by assisting the transformation of the entire globe into a vast internal market for transnational capital. While it is not "friction-free," Lyotard suggests, "economic powers have reached the point of imperiling the stability of the State through new forms of the circulation of capital that go by the generic name of multinational corporations," and these new modes of circulation "imply that investment decisions have, at least in part, passed beyond the control of the nation-states" (1984: 5).

These capital formations, in turn, allow private interests to

cyberspace over "who will know" as telematic technologies "make the information used in decision making (and therefore the means of control) even more mobile and subject to piracy" (Lyotard, 1984: 6). Such on-line corporate power is growing so pervasive that bits are becoming virtually monetized. In the telemetries of cyberspace, knowledge begins "circulating along the same lines as money, instead of for its 'educational' value or political (administrative, diplomatic, military) importance; the pertinent distinction would no longer be between knowledge and ignorance, but rather, as is the case with money, between 'payment knowledge' and 'investment knowledge'--in other words, between units of knowledge exchange in a daily maintenance framework (the reconstitution of the work force, 'survival') versus funds of knowledge dedicated to optimizing the performance of a project" (Lyotard, 1984: 6).

Fabricating digital domains, and then continuously struggling to master their telemetrical terrain, fulfills Lyotard's prophecies about "the postmodern condition." That is, "knowledge in the form of an informational commodity indispensable to productive power is already, and will continue to be, a major--perhaps the major--stake in the worldwide competition for power," in fact, the struggle over cyberspace intranationally and transnationally illustrates how fully the residents of nation-states must fight for "control of

territory, and afterwards for control of access to and exploitation of raw materials and cheap labor" (1984: 5). Today, data/information/knowledge in its telematic forms, on-line and off-line, "is and will be produced in order to be sold, it is and will be consumed in order to be valorized in a new production: in both cases, the goal is exchange" (Lyotard, 1984: 4). In another register, Negroponte continuously puffs up the potentialities of these changes as "being digital" (1995: 11-20); and, he celebrates digitalization as the latest grand transition of modernization. The shift from a society organized around making and moving matter, or "atoms," to one focused upon inventing and integrating information, or "bits."

In this fast capitalist economy, everything in society, the marketplace, and culture,

...is made conditional on performativity. The redefinition of the norms of life consists in enhancing the system's competence for power. That this is the case is particularly evident in the introduction of telematic technology: the technocrats see in telematics a promise of liberalization and enrichment in the interactions between interlocutors; but what makes this process attractive for them is that it will result in new tensions in the system, and these will lead to an improvement in its performativity (Lyotard, 1984: 64).

The social pragmatics of kanban capital slowly supplant a deeply embedded metanarrative of grounded social contracts once set-in-place with the loosely defined just-in-time protocols of fluid temporary arrangements. The impermanent understanding of personal and social identity amidst kanban capitalism is now

creative turmoil of its accompanying motivations--all of these factors contribute to increased operativity" (Lyotard, 1984: 66).

## **II. Enterprise Software: The Killer App**

PeopleSoft's® commercial rhetoric celebrates today's real "killer app," or enterprise software. Its disembedded sense of software-housed corporate enterprise is seconded by Hyundai in the December 1, 1997 Businessweek's next two-page spread. Asking "Are You in Our Future?," Hyundai promises tomorrows full of more innovations in electronics and communications, automobiles, aerospace, petrochemicals, shipbuilding, engineering and construction, iron and metals, resource development, health care and public service, because continuous digitally-driven innovation allegedly guides "each product and service" it develops "to meet the customer's psychological needs as well as physical ones....that will bring us all something very important.

A better life" (Businessweek, December, 1, 1997: 2-3). In Hyundai's just-in-time future, its cars move people, its tankers deliver oil, its semiconductors store data, and its corporate innovations make the world better. Although its workers seem to be nowhere, its customers are everywhere; and, it is these buyers' physical and psychological needs that big businesses allegedly are serving in all of their enterprises. Indeed, Hyundai's corporate conquest of "you, the customer" is reimagined as a just-in-time empire based upon meeting the buyer's needs.

in traditionally sited and organized firms was the privileged plan for rational action during industrial times. Efficiency was attained via concentration, control, and coordination of activity inside of a closed pyramid of production, because the hierarchy itself was an information processor whose policies and practices gave management its command-and-control configuration. These machinic formations have become obsolete as communication costs between far-flung points have fallen to rates comparable with those within points. Now informational technologies allow very disintermediated activities and limited contractual relations to displace control relations in production once fixed by spatial propinquity. Real corporations with fixed location, single nationality, and pre-planned products can be replaced by virtual firms with no locations, multiple national origins, and products assembled on the fly out of modular components. All of this is now promoting, as Meyer asserts, "time-based" competition rooted in dominating a fast product cycle (Meyer, 1993: 3-15).

As Foucault would note, such cybernetic technologies are not simple objects to be possessed and used by autonomous subjects. Instead enterprise software systems are constitutive expressions of power/knowledge whose networks of relations enclose, partition, site, and rank digital subjects amidst cybernetic objects to make them obedient and useful. Digital discipline inscribes docility, compliance, and performativity in every

and its microphysics have defined "how one may have hold over others' bodies, not only so that they may do what one wishes, but so that they may operate as one wishes, with the techniques, the speed and the efficiency that one determines," and digital discipline thereby "produces subjected and practiced bodies, 'docile' bodies" (Foucault, 1979: 138) which "are" as they are on-line. Their normalizing inscription dissociates "power from the body; on the one hand, it turns it into an 'aptitude,' a 'capacity,' which it seeks to increase; on the other hand, it reverses the course of the energy, the power that might result from it, and turns it into a relation of strict subjection" (Foucault, 1979: 138).

It is still a developing set of possibilities, but the hyperpanoptic powers of corporate enterprise applications, in software suites, like those produced by SAP, BAAN, PeopleSoft, J. D. Edwards or Oracle, are remaking the material world from cyberspace by forcing manufactured matter to follow closely interwoven digital bits. Such firmware composes the medley of product components either awaiting manufacture or already in flight through supplier linkages to fit the specific requirements of purchasers. By integrating the ordering process, inventory control, production schedules, labor requirements, purchasing control, field sales, and consumer services, enterprise software, like SAP's R/3, can provide a real-time profile of a

center.

These systems, however, are much more than simply new software acquisitions. To get them fully operational, firms essentially must reengineer their entire operations from the core of the company all the way out into every subsidiary, supplier, and subcontractor. With this fundamental restructuring, loosely coupled and laxly operated companies reshape the enterprise's businesses by deploying enterprise applications in a telematic control system. Suppliers, producers, sellers, and planners all are connected to a central administrative space that cybernetically extends and then reintegrates the enterprise to fulfill specific tasks. Local language, regulatory, taxation, or sales requirements all can be managed adaptively in smooth flows by the programs, guaranteeing a comparatively stable operational zone for the firm to function. Bay Networks, Inc. builds these realities into its rhetorics of self-promotion: "when you control the flow of information, you control the flow of business" (Businessweek, February 16, 1998: 45). If capital valorizes itself out of the artful assembly of capital, labor, resources, technology, and information in the flow of continuous exchange, then you must have, as Bay Networks, Inc. asserts, "the solutions, products and services you need to create a continuous flow of information" (Businessweek, February 16, 1998: 45).

Enterprise applications, like SAP's R/3, remake companies

communications and intelligence packages. They manage internal operations, coordinate external suppliers, monitor existing markets, and collate data on every interaction, which can then be mined for information on additional operating efficiencies, new customer services or greater profit margins. Nothing can be entirely disembodied from its setting in particular places, but enterprise applications rejigger inputs and outputs from specific material sites in virtually engineered supply chains to generate profit out of how, what, when, why, and where a chain of commodity and/or service producing events occur. Once purchasing cycles, human resources, warehouse stocks, ordering trends, manufacturing runs, and marketing campaigns are meshed together, management can have a sense of command through hard data over an enterprise spread out around the world comparable to what it once had intuitively from a shopfloor visit at one traditional factory site.

Consequently, software slowly is remaking the practices of private enterprise as enterprise packages become key strategic assets. Strong connectivity to all links in a supply chain becomes more important than common location in one country. Some effective compliance with varying regulations in many territorial jurisdictions eclipses deep loyalties to any single political entity. At the same time, a collaborative acceptance of corporate investments and employment opportunities within all

regulation of the enterprise by some presumed central "home" country, are the new environment in which businesses can work as more virtual firms and factories. Clearly, old forms of inertia can reduce this system's efficiency, and partnering relationships might prejudice its effectiveness. Nevertheless, reorganizing exchange just in time as a series of contingent temporal events instead of restricting business to set-in-place clusters of specific spatial possibilities directly challenges many sovereign state structures.

Another enterprise software provider, J.D. Edwards seconds kanban capital's fixation on speed, suggesting firms must choose packages wisely. Otherwise, when you have "a new idea....the software you bought to move your business ahead actually ends up slowing you down," but the best package "works across key platforms. Windows NT, UNIX, AS/400--even the Internet. So when you need to make a change, you only need to do it once. Which makes you nimble enough to react to any opportunity. Quickly and easily. That's how enterprise software ought to be" (Businessweek, February 23, 1998: 11). Kanban capital valorizes itself just-in-time: quickness equals profits, tardiness comes up as losses.

The multi-tasking, parallel processing, and intelligent switching of mental and manual labor in the enterprise software, in many ways, amplifies "the disciplines," or "the ensemble of

useful size of multiplicities by decreasing the inconveniences of the power which, in order to make them useful, must control them" (Foucault, 1979: 220). For several centuries now, the growth of a capitalist economy has been behind the proliferation of such disciplinary powers. The postnational, substatel, and extraterritorial expanses of kanban commerce now provide a remarkably open new telemetrical network for a variety of corporate, ideological, religious or social forces to exploit "the specific modality of disciplinary power" in such digital domains, "whose general formulas, techniques of submitting forces and bodies, in short, 'political anatomy,' could be operated in the most diverse political regimes, apparatuses or institutions" (Foucault, 1979: 221). Reaching into the workplace, bits now seek to direct atoms in many technical apparatuses and market institutions across all sorts of regimes. Discipline exerted through on-line telemetries is "the unitary technique by which the body is reduced as a 'political' force at the least cost and maximized as a useful force" (Foucault, 1979: 221) in the modes of digital information.

For many, the promise of such corporate intranet systems will pay off most directly in business-to-business transactions, like those orchestrated by General Electric's Trading Process Network. Launched in January 1996, this enterprise application allows GE to do over \$1 billion in business with 1,400 suppliers,

reducing the operational friction caused by ordinary intra-company and inter-firm transactions. To make its system work,

GE provides free software to current and potential suppliers, who can then register to be notified of GE product requirements, to receive electronic information, and to submit bids. The software manages the bids as they come back, eliminating those too low to qualify, handling subsequent rounds, and finally notifying the successful bidders of the result. Participating companies no longer need telephone GE to ask for a faxed drawing of the parts the company requires. Instead, bidders simply download the relevant information from the Web site. They need nothing more elaborate or expensive than an ordinary Internet connection (Cairncross, 1997: 149).

These rearrangements, at the same time, change corporate management, organizational culture, internal communication, and product development.

The scope and volume of exchange on the Internet between business-to-consumer is still measured mostly in very loose estimates. Forrester Research forecasts that electronic commerce will expand from \$8 billion in 1997 to \$327 billion in 2002, while Commerce Net claims five million adults bought goods on the Net in January 1997 but nine million made purchases in October 1997 (The Washington Post, "High Tech," February 8, 1998: 36). Consequently, there are many new off-the-shelf systems pitched at serving this emerging market, like Pandesic™, to counter the belief "you can't make a dime in cyberspace" (Red Herring, February 1998: 36-37).

Pandesic™ sells a digital "end-to-end" application that

Herring, February 1998: 37). Such digitized managerial domes are canopies of code for covering and controlling the ebb-and-flow of commerce through connectivity. Pandesic™ itself is a spin-off of Intel Corporation in alliance with SAP. In 1996, Intel witnessed an exponential expansion in chip orders, but most of the traffic came in little dribs-and-drabs from clonemakers in Asia. With its customer base growing from 1,000 to 50,000 companies, Intel's support operations were pressed to the limit, and the company moved to Internet-based orders with SAP's Net-based R/3 application. Once this deal was cut, Intel and SAP agreed to bundle Intel's PC servers with SAP's software as a new package for small to medium sized companies to get out on the Net in six weeks. For \$25,000, Pandesic™ provides everything: hardware, software, and support to manage inventory, finances, shipping, and connectivity, as well as upgrades, maintenance, and training. For \$25,000 up front plus one to six percent of monthly sales, Pandesic™, as one buyer in Canada notes, "'solves all the problems of dealing with customers and shipments.' That includes checking availability, tracking orders--even handling cross-border taxes" (Businessweek, November 3, 1997: 166). Here supply chain management and enterprise application ensembles begin to rationalize many transnational product, resource, capital, labor, and tax transactions that hitherto had been prohibitively expensive or practically impossible. Hence,

just-in-time pandesic domes to evade labor regulations, exploit tax advantages, elicit capital investment, and elude consumer pressures. It is "how a business does e-business" (Wired, February 1998: 2-3). The telemetries of enterprise applications, therefore, can create new webs of dependency through data flows and code capabilities separate and apart from conventional power politics.

These tendencies in kanban capitalism, as Turkle suggests, add up to "taking things at their interface value" in new workplaces where "people are increasingly comfortable with substituting representations of reality for the real" (1997: 23). The community generated out of computer-mediated communications means "programs are treated as social actors we can do business with, provided that they work" (Turkle, 1997: 104). If people treat computers "in ways that blur the boundary between things and people" (Turkle, 1997: 102), then the identities of all those things and people, which once had fixed boundaries and clear distinctions set-in-place, begin to blur along many of their political dispositions as well. Provided that these cybernetic ties work, and now they do when it comes to making money, trading shares, broadcasting television, calling overseas, designing products, playing games, or tracking business, kanban capitalist relations blur the distinctions between local and global, domestic and foreign, real life and

telemetrified nodality beyond the public sectors of territorialized nationality.

Because of on-going technical innovations, which assemble the work of many from numerous outsources as one "in house" product, the number of factory workers "set-in-place" across the United States has fallen from 33 percent of the workforce in 1966 to less than 17 percent in 1996 (Rifkin, 1996: 11). Even so, U.S. firms have been able to maintain their global competitiveness, mobilize new technologies, and manage global operations in such an efficient fashion that the U.S. still is the world's pre-eminent manufacturing nation in 1996, just as it was in 1966 or 1936. The on-going revolutionization of production by kanban capitalist methods, however, will reduce the U.S. labor force in manufacturing to less than 12 percent by 2006 (Rifkin, 1996: 11). Moreover, the entire global workforce tied to manufacturing work probably will slide to about 2 percent by 2020 (Rifkin, 1996: 11). So friction-free economics will begin to scorch many workers and consumers, despite all the digerati's good intentions.

### **III. Kanban Capital**

Kanban capitalism represents the moment at which private enterprise no longer is tied closely by time, space or location, and it now can evolve by exploiting profit-making opportunities that are time-free, space-less, and anti-locational. As Taomira

system that "calls for parts and subassemblies to be ready just in time for them to be assembled into the next assembly step," which is a much more open managerial technique requiring "very careful planning and partnering with suppliers" (1996: 129), to disembed production from set-in-place warehousing of parts and subassemblies. The valorization nexus emerges from speed, placelessness, and even nonlocationality as its practitioners operate beyond set-in-place markets just-in-time. Kanban capital resists the presumed legitimate monopoly of states to set the value of monies, course of business cycles, nature of laws, porousness of borders, and use of arms simply because they dominate set-in-place lands and peoples. It continues capital's instrumental rationality: the relentless pursuit of performativity.

The material basis for more traditional forms of industrial capitalism developed within the institutional interstices of agrarian feudalism across Western Europe in the urban markets of free cities. In turn, the consolidation of larger nation-states under autocratic imperial dynasties created the market base, labor reserves, and resource access needed for the industrial revolution to succeed. Similarly, the material basis of kanban commerce in globalized modes of capitalist production emerged during the Cold War. The creation of developing nations out of the collapsing old European empires, the consolidation of mass

practical response to state socialism, and the invention of digital computing/communication technologies to manage the strategic arsenals of the nuclear superpowers all were needed to pull just-in-time capitalism together. Just as the initial operating system and key network for industrial-era capitalism was bourgeois urbanism in imperialist nation-states, so too now are digital computing environments and global telecommunications networks providing the key material basis for informational-era kanban capitalism.

Kanban, or just-in-time, methods of component outsourcing and assembling in contemporary factories, largely because of Toyota's successful implementation of them, have been a subject of analysis for nearly two decades. Beginning as an unavoidable quirk in the supply chains of big Japanese manufacturers with scores of smaller outside industrial partners, kanban techniques of organizing essentially created virtual warehouses of materials by keeping inventories in motion rather than at rest. Set-in-place storage centers, marshalling yards, and parts warehouses are reduced, if not eliminated entirely, by modularizing the manufactured goods and then accurately tracking their lines of flight toward final assembly out of many sub-assemblies. Even though this technique is a special case study in logistics, the revolutionary temporal and spatial reasoning implied by its efficient practice challenges many of the stable hierarchies of

These changes all contribute to the creation of the "extended enterprise" in which closed stable hierarchies are collapsing before open fluid networks that "reach out and develop new relationships with external organizations" (Tapscott and Caston, 1993: 15). The articulation of such extended enterprises, in turn, uses an electronic data interface between suppliers and buyers to integrate enterprises in partnering relationships. Such collaborating companies practice kanban capitalism by organizing, manufacturing, and selling through just-in-time techniques (Tapscott and Caston, 1993: 98). Enterprise software is the killer app that essentially pulls this all together in one cluster of commodified goods and services.

By substituting accessible information for inflexible institutions, kanban theory and practice better conform to the webs of informational influence working in digital networks. However, they also easily confound the pyramids of analog authority implied by existing organizational hierarchies. In a world being remade by the informational revolution, flexible just-in-time practices and theories are displacing many fixed set-in-place activities and ideas in ways that disrupt the market structures, state system, and civil society of the industrial era. Many of these referents are analytical abstractions that do not exist outside of our theoretical analysis of them. Nonetheless, the concepts have practical concreteness; and, in

directions breaking away from the prevailing consensus about markets, states and society that formed during the industrial era.

Kanban capitalism, however, is much more than just-in-time manufacturing; almost anything that has been set-in-place in the links of commercialized commodity exchange now is eroding under the pressure of just-in-time flows. The Asian financial crisis of 1997, the downsizing waves in North America since 1988, the collapse of state socialism in the former Warsaw Treaty Organization countries after 1989, the reshaping of trade around the Internet since 1994, and the construction of new transnational telecom consortia with the Telecommunications Act of 1996 all have fallen as blows upon set-in-place political economy. While the annual turnover of the New York Stock Exchange is just over \$4 trillion, more than \$1 million moves daily in foreign exchange markets all over the world (Forbes, December 2, 1996: 142). The securitization of liquid and illiquid assets--stock futures, DM bonds, rock-and-roller bonds, real estate--is lifting all capitalist market-places into a hyperreal hoverculture of nonstop 24x7x52 exchange. As the collapse of the "little tiger" economies of Thailand, Indonesia, and Malaysia since July 1997 indicates, this money moves over the Net to the jurisdictions bearing the least risk, most profit, and highest security.

bourses can fold virtually overnight as capital arrives and departs just-in-time in the nearly \$400 trillion traffic in money carried every year over the network of networks. And, these figures only capture what appear to be legal monies; large sums travel in the black as cash or contraband to support various legal, quasi-legal, and illegal pursuits (Corbridge, Martin, and Thrift, 1994). Recognizing these new material realities, tout the logic of "sovereign individuals" shopping their tax status, national citizenship, financial portfolios, and job skills over the Net to find the "highest service, lowest cost providers" of the public goods that nation-states have been producing since 1815. Currently, traders, bond rating agencies, mutual funds, and private individuals also are questioning "set-in-place" markets. The flight from French francs to Deutschemarks after Mitterband's election in 1981, Moody's downgrade of Asian bonds to junk status, the fivefold increase in U.S. Treasuries, stocks and bonds held by foreigners since 1985, and the tenfold increase in U.S. investment in foreign securities since 1975 all point toward much more money moving just-in-time to maximize private profit often against public goods, like currency stability, fiscal planning, industrial planning, economic stability, and social security.

In 1996, for example, Indonesia, Thailand, Malaysia, South Korea, and the Philippines received net capital inflows of \$96

mostly after the first six months, during 1997 (The Economist, February 7, 1998: 110). Much of the money flowing out of Latin America, in turn, went to Latin America in 1997. This region attracted over \$90 billion in new money during 1997, and Brazil alone took in \$17 billion, up from \$10 billion in 1996, in support of President Cardoso's new privatization program (The Economist, February 7, 1998: 110). Overall private capital voted against all emerging markets as investment there fell from \$295 billion in 1996 to \$200 billion during 1997 (The Economist, February 7, 1998: 100).

While digitalization can do many things, it has not yet remade the world entirely. Peoples, governments, cultures, and markets still do exist, and they vary immensely in terms of their quality and quantity. Because kanban capitalism puts commodification "into overdrive, speeding the flows of information, component parts, and finished products to the point where products can progress from idea to commodity seemingly overnight," many governments and peoples now realize that the companies trading in their markets need to be the "most efficient, more fluid, and more popular around the world" (Browning and Reiss, 1998: 109, 108). Absent any other easy immediate indicator, the monetary currencies issued by used by various states as the index of performativity within its territorial zones of circulation. The most performative zones,

reserve and exchange value for international currency markets in Tokyo, Hong Kong, Frankfurt, London, New York (Leyshon and Thrift, 1997: 41-81). Kanban capitalism cannot eliminate national independence, but it can, and does, rate national performativity in light of various globally or locally pitched national fiscal, industrial, tax, and social policies. With the spread of networks, "\$1.4 trillion worth of foreign exchange is traded through the world's computers each day. The result: a continuous global plebiscite--not just on each company's business prospects, but also on each government economic management" (Browning and Reiss, 1998: 108). Moreover, all of these valorizing cycles also move on "Internet time," or a product development cycle "where the cycle time gets close to zero--essentially nonstop continuous change and innovation" (Browning and Reiss, 1998: 113).

Labor is not as mobile as money. Nonetheless, just-in-time employment in all sectors of production is growing exponentially.

Permanent jobs set-in-place with national guarantees behind environmental regulation, social security, industrial safety, collective bargaining, workplace unionization or affirmative action programs can be abridged immediately. Capital either leaves, never arrives or pushes aberrant localities toward lower global standards. Manufacturers outsource components, service companies outsource data entry work, design firms spec out

writing temps over the Net. And, now telemedicine promises virtual medical care, distance education delivers asynchronous university instruction, and wired jailhouses conduct hearings with digital courthouses over closed circuit media. The enterprise applications of SAP and PeopleSoft® carried over links built by Bay Networks and Cisco Systems to desktops dominated Microsoft and Intel is imploding old corporate hierarchies, erasing life-long employment with temp work, and wreaking havoc in real life with virtual labor.

Kanban capitalism also is remaking the role of consumers alongside those of workers. Big city papers, like The Washington Post, tout the excitement of becoming "Shoppers Without Borders" (Washington Post Magazine, August 3, 1997: 21) by faxing in orders to Italy, France, and the UK. Global 800 numbers, off-shore client servers, and world class product standards permit consumers with fax machines, telephones or Internet access to buy virtually anything anywhere anytime. Medicines, gambling venues, health aids, pornographic items, drug paraphernalia, banned movies, and weapons, which are not available in one political jurisdiction, now can be easily obtained in another, thanks to roll-on/roll-off containers, contraband mules, Fed Ex and the WWW, making a mockery of innumerable territorialized public regulations of such goods. Similarly, insurance policies, brokerage accounts, and banking services unavailable in one

restriction.

Unless contact with the outside world is curtailed and all telecom links are cut, these purchases will occur, which creates some real contradictions. For example,

When she thinks of herself as "labor" the average American citizens may not like this at all. But as a consumer she's collaborating enthusiastically. She buys Nikes and Nintendos made in Asian factories. She demands proof from her mutual fund and pension plan, not patriotic loss. Before long, she'll shop for life insurance in London and health insurance in Geneva, and the offshore actuaries will discriminate fiercely in favor of the healthy. In the 1980s the chief executive of Chrysler might have decided to buy a few million car engines from Korea. Today millions of individual Americans are gaining the power to shop anywhere they please (Forbes, December 2, 1996: 146).

Consumers, investors, managers, and workers are no longer necessarily trapped in situ by territorial regulations, political restrictions, and ideological restraints. Indeed, becoming a more rational sovereign individual is emerging as a new model of personal agency for those "netizens" who increasingly communicate, invest, consume, work, and collaborate over the Net.

The world is being widened by its webs of capital, labor, technology, and commerce. Surveillance of these movements over global media conduits, like CNN, Quotron, CNBC, BBC World, and Sky, now serves as the valorizing peg of a global information standard, which defines and legitimizes the worth of monies, health of economies, promise of techniques, and direction of exchange. Fast capitalism is money in motion, people on the

as enquiring minds want to know all about it, the information standard sticks. Governments cannot keep money at home when it is wanted more elsewhere and then encouraged to stay there. This fast capitalist money on the \$1 trillion plus a day foreign exchange boards is a perpetual poll, slinging hard numbers up, down and/or indifferent on every program and any policy the state moves to enact. Within a tight and temporary range, governments can manipulate these markets or play against such polls. At the end of the day, however, effective governments play to the currency markets, mind their current accounts surplus/deficit, manage their employment levels, and dampen inflationary tendencies. Otherwise, the information standard will shift its basis points/dollar values across all of their securities, marking down their performativity against all of the other two hundred plus competitors.

The implicit standardization of value around "bits," or information, rather than "atoms," or gold, surfaces in the ongoing acceptance of U.S. dollars after the Cold War as a reserve currency tied to the transnational performativity of Americans, America or Americanization as much as it is to the military/political hegemony of the United States government. Likewise, Microsoft's annual sales of \$11 billion are outstripped by IBM's sales of \$76 billion or GM's sales of \$160 billion, IBM's is \$100 billion, and GM's is only \$50 billion (Browning and

everywhere. IBM designs and builds many chips and computers, but so too do many others. Microsoft, however, dominates the operating system in nearly 90 percent of the world's computers; and, in the coming years, "operating systems will be everywhere: in your car, your set-top cable box, your wristwatch, your appliances" (Berst and Hamilton, 1998: 24). By defining what bits count, how those bits are accessed, who uses which accessible bits, when those people access the bits that count, and where all of this bit-borne activity works most efficiently, the information standard of value/performativity/efficiency now anchors the kanban capitalism behind the contemporary world economy.

The intensity and density of network connectivity in kanban capitalism has moved many to mark the dawning of a new day. In 1993, Staple saw networking as the foundation for "telegeography,"

For most of the world's history, geography has provided something of a cultural buffer between the values of city and countryside and between one religious community and another. Yet in much of the world, the network now threatens to leapfrog this barrier. Telegeography transports every villager's home into the metropolis and settles the atheist next door to the true believer (cited in Dizard, 1997: 15).

Still, one must be cautious about how profoundly or broadly such transformative technologies might actually reshape culture, society, geography, and religion. In 1858, Charles Briggs and Augustus Maverick concluded that another technology--the

together by a vital cord all the nations of the earth. It is impossible that old prejudices and hostilities should longer exist, while such an instrument has been created for an exchange of thought between all the nations of the earth" (cited in Dizard, 1997: 190). Just as the telegraphy did not allay many old prejudices, the Internet will not really abolish the differences between city and countryside, an atheist and a true believer, a peasant villages and world cities. Nonetheless, there is a new map of the world being in/by/for information, and these infographic maps must account for the work that Staple taps with his telegeography: on-line telepresence, virtual community, digital being, hyperreal cybernationalism.

#### **IV. Burnt by the Friction-Free Economy**

The friction-free economy, according to Lewis, might be too idealistic to describe contemporary modes of kanban capitalist production, "but in many ways it is ideal for the software age, where bits reign over atoms, information superhighways replace asphalt, and software standards mean more to Wall Street than P/E ratios....the friction-free economy says to: drive prices to commodity levels, set standards at nanosecond intervals, target special interest groups, identify shooting ranges (and shoot), and appeal to tribalism" (Lewis, 1997: 5-6). While the friction-free economy celebrates the magic of the marketplace, its primary portfolio of strategies stresses commercial domination through

Intel, and Qualcomm, Lewis quaintly labels this free-market maneuver "lock-in," which simply plays off "the old idea of giving away the razors in order to sell the razor blades--or the reverse. Once millions of users are locked in to the reverse. Once millions of users are locked into the company's product, they cannot escape....They simultaneously eliminate competition while they lock in the consumer" (1997: 7-9).

The economy becomes friction-free in the sense that Microsoft users are captured by the commodity, which is essentially a system of digital dependency. Locked into Microsoft goods and servers by learning curves, sunk costs, and reliable support, few want to evaluate any or all possible new systems, so they simply buy Microsoft's next upgrade for their existing systems. The pace of change drives commodity innovation, and commodity innovation sustains the pace of change, creating a circular dynamic of self-sustaining development. This version of free enterprise frees the enterprise from classical agendas for capitalism, like selling the best service, producing the best goods, or marketing the most value-adding product, by turning product development into market envelopment. Reducing friction by locking consumers into some installed base of prior purchases revalorizes capital with "versioning." Microsoft systems of control work through one simple rule: "it is better to be first of a kind than best of a kind" (Lewis, 1997: 19).

unfixed, and unplanned. As Bill Gates warns, it must follow Moore's Law, or the prediction made by Gordon Moore of Intel that computer processing power doubles every eighteen months. And, it also must conform to Davidow's Law (pace William Davidow, another Intel employee), or prediction that the first product of a class to reach the market automatically gets a 50 percent market share but it also must maintain its share through being first to render its own products obsolete (Lewis, 1997: 18). Though many of its devotees believe that it is friction-free, this sort of creative destruction, as an ordinary cost of business, is burning many owners, workers, and consumers out in the marketplace.

The digerati mostly are capitalist triumphalists who celebrate this reshaping of capitalism in netcentric terms. Browning and Reiss, for example, claim capitalism is "a global economic system rooted in free enterprise, private property, and open markets; the way we all do business now" (1998: 109). Even though it is the way we all do business now, the digerati also admit how this business is done varies considerably in terms of trade policies, intellectual property laws, embedded monopolies, social inequalities, and corporate institutions. Because the essence of capitalism for the digerati is a feedback loop that sufficiently rewards people, who produce efficiently goods and services that other people want, its form ought to maximize commodification in this frenzy of competition. Commodification,

adaptive system; that is, it is a process "by which the complex and the difficult become simple and easy--so simple and easy that anybody can do them, and does" (Browning and Reiss, 1998: 109).

While the digerati celebrate the cooperation made possible by the distributed systems of the Internet, whose 90 million plus networked computers supposedly make it the largest distributed system ever made, in fact, the global market with its six billion producers and consumers is the planet's biggest manmade distributed system. These players are caught up, at the same time, in continuous gambits of disintermediation and reintermediation. These processes cut out the old middleman as well as cut new middlemen back in:

When you can connect straight from your desktop to the computer of your broker or bank, stockbrokers and bank tellers start looking like overpriced terminal devices....In practice, though, disintermediation more often means changing jobs, not eliminating them. And, in the process, it can create opportunities for new and different middlemen....As networks turn increasingly mass-market, everyone involved in sales is playing a duck-and-weave game of disintermediation and reintermediation. To the winner go the customer relations (Browning and Reiss, 1998: 114).

This process runs increasingly just-in-time. Effectiveness at cutting in and out of the commodity chain is judged by its quality and speed. The friction-free economy actually feels most of its friction in time as the collapsing product cycle of Internet time--or essentially continuous commodity innovation and obsolescence--rewards major material advantages to first entrants

On one level, the network of networks is a material formation with physical infrastructure, but controlling one, two or a few nodes of access does not constitute its value. Scarcity is not the source of value here; it is instead access to all other nodes. No single political agency can dominate every node on the network, so the state becomes powerless to control its informational environment. Likewise, power now derives from free access to nodes of nodes; power rests in the structure of connectivity as value, utility or meaning arise from joint use on the network of networks of all nodes rather than exclusive title to one node among many. Being the owner/commander/manager of one domain set-in-place in the real world pales in importance against becoming the user/cooperator/router in any domain just-in-time out on the Net.

Because of this conjuncture of connectivity, exchange must deal with plethora as well as scarcity. And, in this condition of plethora, one finds the rule-making, rule-enforcing, and rule-adjudicating functions of states are being sandbagged by the rule-unmaking, rule-evading, and rule-adjusting competencies of networks. Even the world's most power nation-state--the United States of America--cannot control the value of its own currency, the integrity of its borders, the security of all its citizens, and the meaning of its larger values, as the daily yen/mark/franc/pound/dollar rate, the INS capture rate along La

and the newest offshore x-rated sex, Internet casino, or neo-Nazi WWW sites all indicate. The manifest machinations of political power in which citizens freely assemble, fraternally vote, and fairly associate with equality to attain the efficacy promised by republican myths continue to occur. Even so, the latent connectivities of subpolitical competencies are increasingly where real decisions are made by experts to serve clients and consumers who want the subpolitical goods and services produced by experts. Whenever elections take place, the outcomes still matter because the political regime frames the subpolitical systems that actually crank out the benefits and costs of collective life.

#### B. Telemetricity and Authority

Against this horizon, Vattimo asserts that "the society in which we live is a society of generalized communication. It is a society of the mass media" (1992: 1). Most generalized communication is carried by vast televisual and informational networks whose audio/video/data/text/image is increasingly converging in the digital domain. The streams of numeric data either generating, or generated by, such generalized communication are contouring the emergent cyberscapes/infoscapes/mediascapes of telemetricity. The simulation spaces of cybersites and infoplaces often are extremely global or highly local.

telemetricity requires a facility with many different language games. Many decision-makers, however, strive to reduce this heterogeneity of most social, political, and cultural elements to fit the logics of techno-economic performativity. They struggle to manage,

...these clouds of sociality according to input/output matrices, following a logic which implies that their elements are commensurable and that the whole is determinable. They allocate our lives for the growth of power. In matters of social justice and of scientific truth alike, the legitimation of that power is based on its optimizing the system's performance efficiency. The application of this criterion to all of our games necessarily entails a certain level of terror, whether soft or hard: be operational (that is, commensurable) or disappear (Lyotard, 1984: xxiv).

The decision rules, in turn, acquire paramount importance in the telematic economies and societies of the current world system. The politics of networked places, connectivity spaces, and digital domains, as Lyotard suggests, frequently revolve around one question: "who decides what knowledge is and who knows what needs to be decided? In the computer age, the question of knowledge is now more than ever a question of government" (1984: 9).

Microsoft, IBM, Oracle, or Apple all exert sovereign authority in producing and packaging their products. As the collective authors of software codes as well as the corporate sources of hardware installations, these firms rewrite human history around their advent as they authorize new modes of

sale of their latest product. Authorities in cyberspace, whose authorizations grant or deny access to those seeking the virtual life, are clearly simulated sovereignties. The heads of these digital dynasties, whether they are long-lived strong monarchs, like Bill Gates, or short-term weak regents, like Steve Jobs, capture the popular imagination, because their decisions--right or wrong, self-interested or civic-minded--push the realms of informational practice under their authority toward greater control or less acceptance.

Gibson's characterization of cyberspace as a "consensual hallucination" (1984: 51) occludes many of its effects in the marketplace where it thrives upon the hallucinatory consensus--generated by hardware and software providers--gripping all the end users who buy their systems. In kanban capitalism's sole source solutions, the end user implicitly accepts the tacit totalitarian rules of ASCII discourse, TCP/IP regulation, and RISC administration every time he/she boots up and logs in. On one level, these acts are supposedly free choices exercised in allegedly open markets, but, on another level, such consensual collaboration only works through the machinic magistracy of many simulated sovereignties whose authorizing enterprise imposes acceptance, requires consent, and dictates use on proprietary terms. The hallucinogens of free speech, free travel, and free information sold by the digerati out in cyberspace only mystify

underpinning infrastructural technics.

Like "the West" in the real life of terrestrial space, "the Net" in the virtual life of telemetrical space also is, as Latouche asserts, "a sort of Megamachine that has now become anonymous, deterritorialized and uprooted from its historical and geographical origins, faceless--but which nevertheless springs from quite unique historical circumstances" (1996: xii). And, like Westernization, this megamachinic force roving through the on-line environment is producing something greater than the sum of its parts with another "worldwide standardization of lifestyles...with the attendant clashes of views, subjection, injustice and destruction...which is imposing a one-dimensional, conformist way of living and behaving on the ruins of abandoned cultures" (Latouche, 1996: 3).

## **V. Conclusions**

The eclipse of national territoriality by cybernetic telemetry follows from the "omnipolitanization" of the planet over the past two or three decades of kanban capitalist development. Omnipolitanization flows from the hyperconcentration of urbanized values and practices in a "world-city, the city to end all cities," and "in these basically eccentric or, if you like, omnipolitan conditions, the various social and cultural realities that still constitute a nation's wealth will soon give way to a sort of 'political' stereo-reality

different from the--automatic--interconnection of financial markets today" (Virilio, 1997: 75). Omnipolitanization, in keeping with Jameson's explorations of postmodernity, "is what you have when the modernization process is complete and nature is gone for good" (1991: ix). Economy and society, culture and politics, science and technology assume the qualities of an artificial second or even third nature with their own time within/over/beyond the now lost verities of first nature's geophysical time and space now long gone into multiple modernizing projects. Economics and politics in kanban capitalist times, are increasingly unhinged, as telemetrical cyberspaces indicate, from fixed social formations (Rifkin, 1995).

Those who collaborate economically and politically in the collective construction of actual transnationality in telematic telemetries, in turn, also might not necessarily hold as dear their nominal nationality within traditional territorial space (Reich, 1991). Instead, they increasingly can slip into other organizational registers of an enterprise application, where time and space let them work and live as co-accelerant, com-motive, or con-chronous agents of fast capitalist firms, digital design alliances or performative professional groups. In moving from the spatio-temporal perspectives of territoriality into the acceleration effects of instant communication and rapid

thinking of themselves more as contemporaries than as citizens; they may in the process slip out of the contiguous space, distributed by quota, of the old Nation-State (or City-State), which harbored the demos, and into the atopic community of a "Planet-State" that unfolds as "a sort of omnipolitan periphery whose centre will be nowhere and circumference everywhere" (Virilio, 1995: 36). Individuals, in turn, may judge their personal success in such omnipolitan spaces more often by the goods and services shared by the other "successful fifth" of global coaccelerants than by the condition of the "failed four-fifths," who while they might still be perhaps their coinhabitants of some fixed place, they are no longer commotive contemporaries riding on the same fast capitalist tracks in polyglot global flow (Reich, 1991).

This more borderless world of kanban exchange constitutes, however, a standing invitation for all to become even more orderless as such technoeconomic flows displace once heavily emplaced social formations and individual activities. As one of the key architects of these changes asserts, the most rational form of global order will be one of completely un-stated (b)orderlessness. That is, the state apparatus, either on-line or off-line, should do nothing to retard global flows. It should instead serve as an accelerant, changing its services from a national to a nodal focus "so as to: allow individuals access to

world; help corporations provide stable and rewarding jobs anywhere in the world regardless of the corporation's national identity; coordinate activities with other governments to minimize conflicts arising from narrow interest; avoid abrupt changes in economic and social fundamentals" (Ohmae, 1990: appx.).

Without grounded access through some determinate point of presence, however, does one only exist in vast areas of absence?

Similarly, does each telematic point of presence only serve as a portal for those escaping the unavoidable difference of others one cannot physically coexist without in real life? Virtual communities almost always are clusters of elective identity in which simulated similarities gain electronic exaltation. This voluntary focused exclusivity also is the fount of valorization for its users, who seek some release from the involuntary forced inclusiveness of living cheek by jowl with an unwanted otherness.

Whether it is alt.bondage, alt.militias, alt.birdwatching or alt.mountain climbing, the virtual community is a self-selecting use.group, not an imposed residential condition.

Virtual communities are affinity groups who elect to affiliate on-line. Being digital gives them digital being that becomes communal, enduring, and meaningful. In a world of perpetual motion, real communities often are only clusters of individuals residing in and around the same physical location.

maintain, but those in need can easily associate in cyberspace as digital beings. Neo-nazis, stamp collectors, Harley-Davidson riders, cross dressers, Tom Clancy fans, pregnant women all can get together when, where, why, and how they choose in cyberspace.

Thus, the August List--143 women from around the world who all shared August due dates for their babies--can connect women on-line from many nations and stations around common experiences. A young American serviceman's wife, living in Alabama hundreds of miles away from her home and family, could join other women from Norway to South Africa on-line to share her worries and dreams. As she asserts, this virtual community played a big part in her life at this time: "if I was living somewhere else where I had friends who were pregnant, it would be okay. But the August List has been the greatest resource for me, because I've been able to bond with all of these women" (cited in Lewis, 1997: 29).

When individuals can recontour their own lifetimes around bonds such as the August List, chosen and maintained voluntarily on their own terms, the traditional narratives and practices sustaining territorial sovereignty cannot escape erosion. Clearly, virtual communities are emerging only at selected sites among very privileged socio-economic groups; nonetheless, these niches are undermining grounded personal identities and bordered group solidarities that have taken centuries to mature. Moreover, these affinity groups seem to meet the felt needs of

who happen to share their place of residence, national language, cultural tradition or site of employment. The disintermediation of production as well as the modularization of products in kanban capitalism is being matched by the disintermediation of places and the modularization of cultures.

Proponents of netizenship, however, often get caught up in the volunteeristic hyperbole of their own enthusiasm. As devotees of an exciting new medium, they see everything that exists, but also resists their efforts, as a staid old medium, including the state. Browning, for example, suggests,

Fewer and fewer people want to play by the rules--not because they don't care for their fellow citizens, but because they feel that government is hidebound and inept. If "government of the people, by the people" means anything, then government is itself a medium, a way of expressing the popular will. If people can do better for themselves, then government should be disintermediated--and this, indeed, is happening (Browning, 1998: 90).

Such disintermediation is happening, but it is unclear that Net Days (when volunteers pull cable on Saturdays in unwired public schools) really provide a stable secure alternative to the services provided by sovereign states. Some people are expressing their particular popular will as cybersubbotniki, but the general popular will might not express itself so easily or voluntarily when bigger unpopular issues are at stake, whether it is warmaking against Iraq in 1998 or paying baby boomer Social Security benefits in 2028. Though netizens will retort an

would handle the baby boomers' golden years, there are crises and challenges in which governments must be more than the receiver of mass mediated popular preferences. At those junctures, the state must be a strong sender of signals that form, rather than express, preferences. Otherwise, government of the people, by the people touted by the digerati, may well perish from this Earth.

Kanban capitalism rests upon the imposition of commodity capture campaigns, which will, in turn, implode hard-shelled blocs of territorial sovereignty with their networks of extended enterprise. Dominating people by controlling the space they inhabit becomes less significant when they and their money, jobs or culture increasingly interact, virtually and voluntarily, in digital communities. The digital domain is not quite a polis, but there are new power/knowledge systems of governmentality at play in its cyberspaces. Kanban capitalism concretizes performativity, in ways that the old market mythos cannot begin approach, while reimagining its scope with digital ideologies of cybernetic utopia.

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