

# SITUATING CYBERSPACE

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'Cyberspace' has become a rather familiar term in a relatively short period of time, a term referring to a technologically generated environment within which various communicative activities occur. The technologies involved in the production of cyberspace work toward the creation of a seemingly self-contained and separate world. This 'separateness' is often taken as fact, foreclosing any discussion of cyberspace as an *instrumental space* produced by the wider social space of late capitalism. It is a space which *functions*; it automates and operationalizes the specific networks of information, space, and power that are involved in the production and reproduction of political, economic, and social relations.

Cyberspace, as it currently exists, is not just a space, but a discourse about a space — a name given to a certain desire for a social space whose contours are emerging from within late capitalism. This discourse is defined by the proposal that a new and electronically constituted space must be created in order to manage the increasingly large field of information that has come into being through the activities of globalized late capital and the social welfare state. The strategic goal of the proposal is this: rather than controlling the informational topographies that exist in any given geographical place, these places are interlinked and combined into a networked electronic topography. The ability to actually create and define an apparently independent, electronic geography allows control to be 'built in' to the space in advance via the use of standardized data formats and protocols for use. Cyberspace must be addressed, therefore, in terms of how it participates in established power relations and in terms of the degree to which these relations are altered, amplified, or transformed by their extension into a new space of social activity.

*Space is fundamental in any form of communal life,  
space is fundamental in any exercise of power.<sup>1</sup>*

— Michel Foucault

### In the Beginning...

“(Social) space is a (social) product” and cyberspace, like any other social space, is fundamentally a space which has been *produced*.<sup>2</sup> Most accounts of cyberspace’s origins tend to avoid or ignore its social, political, or economic production and focus instead upon one of two interrelated figurations. The first portrays cyberspace as a new frontier, an empty and/or formless space ‘discovered’ in the interstices of information and communications technologies: a new frontier which awaits socialization. The second raises cyberspace to the status of a mission to be carried out according to the ‘inevitability’ of human, social and technological development. Both accounts posit the existence of an empty space out of which cyberspace emerges and which is only subsequently made into a social space by those who encounter it. In the former, a ‘backward-looking’ discourse ‘discovers’ a space already in existence, yet without social content. In the latter, a ‘forward-looking’ discourse insists upon the necessity of creating such a space. Both scenarios are discursive strategies which efface the production of cyberspace as a site wherein specific power relations obtain.

The ‘backward-looking’ strategy goes like this:

Cyberspace is a frontier where territorial rights are being established and electronic environments are being differentiated in much the same way the Western frontier was pushed back by voyageurs, pioneers, miners, and cattlemen. And the entrepreneurs are arriving with their institutions and information technology, in much the

same way as the pony express and railroads pioneered communications networks during the 19th century.<sup>3</sup>

The reader, lost in the nostalgic discourse of the ‘West-before-colonization’ and the ‘freedom’ it implies, proceeds unaware that the actual temporal sequence of events which produce cyberspace are reversed: colonizers and participants arrive first, and the space (in the form of information technology) evolves afterward. The inversion of linear time (sequence) here produces a paradox: the space, as frontier, must precede its colonization, but its colonization is what brings the space, or frontier, into existence. This paradox results from an effort to make the occasion of cyberspace’s appearance the result of a linear progression from an empty, frontier-like space to that of a fully socialized space.

For Lefebvre, the linear development of space from ‘nothing’ to ‘something’ is impossible because space is not only produced, a product of manifold social relations, it is also a producer of these relations.<sup>4</sup> As a figure, ‘empty space’ is a discursive strategy that deflects attention away from the actual conditions which have produced the space in question:

A purely natural or original state of affairs is nowhere to be found.... The notion of a space which is at first empty, but is later filled by social life and modified by it, also depends on this hypothetical initial ‘purity,’ identified as ‘nature’ and as a sort of ground zero of human reality. Empty space, in the sense of a mental and social void which facilitates the socialization of a not-yet-social realm, is actually a *representation of space*.<sup>5</sup>

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The representation of an empty space however is more than a mere philosophical error; it forms the basis of an ideology that denies the forces and relations of production that give rise to spaces which, in turn, reproduce those same forces and relations of production within any given social space. Discourses of this type reify cyberspace. The invocation of empty space is a discursive strategy which effaces the traces of production from the figure of cyberspace. It presumes to speak of history, but instead of an actual history concerning the development of cyberspace out of specific social/productive relations, it substitutes a mythical history and an impossible origin in emptiness.<sup>6</sup> History is absent: it is the present incarnation of cyberspace and its aesthetization as a space of freedom that is being discussed under the borrowed signs of the 'West.'

The 'forward-looking' strategy also employs the figuration of an empty space as cyberspace's origin, only from a different direction. With this strategy, however, the issue is not the 'discovery' of a space, but the tasks involved in the production of a new space for human and machine relations. While this entails at least a tacit acknowledgment of the produced quality of cyberspace, production here is seen to be the creation of an empty space ready for socialization. The paradox evident in the previous account of cyberspace appears once again, and for the same reason: without an account of the political and economic conditions out of which cyberspace is produced, one is forced to posit an origin in empty space. This time, empty space is

something to be created, rather than a frontier newly discovered. For Michael Benedikt, cyberspace has already appeared as a 'proto-space' within the world(s) of information technology ("I.T."), but it is in need of a willed development if it is to reach a point where it can:

provide a three-dimensional field of action and interaction: with recorded and live data, with machines, sensors, and with other people.

Beyond consequences in cyberspace, these interactions will also have consequences that reach directly back into the physical world, from the efficient running of corporations, governments, and small business, to the enrichment of our individual lives with entertainment and communication... in short, to our real health, wealth, and happiness.<sup>7</sup>

Cyberspace is thus a space which can be produced in order to deal with what Benedikt earlier calls the "informational complexity" of our time. This complex field of information is produced by our daily activities in all social realms and its proliferation requires some sort of control if we, as individuals and groups, are to make sense of our world. The peculiar line that ends this statement is this: "After all, 'cyber' is from the Greek word *kybernan*, meaning to steer or control."<sup>8</sup> Cyberspace is thus intended to be a 'control-space' in a very literal sense. The ostensible object to be controlled in and by cyberspace is informational complexity. But this complexity is itself a product of the densely interconnected informational networks of late capitalism and the social welfare state that I.T. facilitates. To control this field of information is

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 alt.comp.peripherals.mainboard.asus  
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thus also to control, to some degree, the people and places involved in the production, distribution and consumption of information.

### Business as usual

In a discussion of the networks which link global markets with local markets, Lefebvre notes that "no space disappears in the course of growth and development: *the worldwide does not abolish the local*"; "*social spaces interpenetrate one another and/or superimpose themselves upon one another*"; and, that there is reason "to suspect the existence of a space peculiar to information science."<sup>9</sup> Cyberspace is not a hermetic space that exists separately from existing social spaces; it links local spaces together into a globalized space of informational control. Far from abolishing local spaces, it is constituted out of the actual interpenetrability of those spaces made possible by their transformation into informational entities (at least as far as the market and demographic needs of late capital and the state go). Cyberspace thus has a physical instantiation in the form of the actual I.T. networks which link these disparate sites, and a social instantiation as a space where the superimposition of control occurs. It is thus continuous with the wider social space(s) out of which it is being differentiated and produced. It is the social space of late capitalism which therefore constitutes the surface of emergence for cyberspace.<sup>10</sup>

Discourses which reify cyberspace either ignore or deny this continuity and posit instead a radical discontinuity (via the figure of empty space) with current economic, political, social

and cultural spaces. It is thus imperative to trace the lines of continuity which link the discursive form of cyberspace with the social space(s) of late capital and the social welfare state.

The movement from fordism to flexible accumulation, or from an industrial to a post-industrial mode of production, is the occasion for the bringing into being of cyberspace, of its production *as* a social space.<sup>11</sup> Ernest Mandel believes that a "third technological revolution" in capitalism is currently underway. It comprises several factors, not the least of which is the appearance of automation and information technologies as key tools in the accumulation of capital, as well as the globalization of capital in a manner different than that of imperial or monopoly capital.<sup>12</sup> A new stage of capitalism appears, one whose mode of accumulation is global and, hence, one wherein: "the multinational company becomes the determinant organizational form of big capital."<sup>13</sup> This shift has several consequences which can be condensed into a brief scenario: The scale of capital involved in these enterprises means that new players need huge amounts of capital if they are to compete in established markets, or to open up or enter into new markets.<sup>14</sup> This entails a far greater risk to companies than was previously the case under monopoly capital; and so, in order to ameliorate these risks, big capital looks to national governments for assistance in securing guarantees of profit by various institutional and/or legislative means. Big capital and big government thus find themselves in a situation of mutual dependence.

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Perhaps the most significant feature of Mandel's scenario is the absolutely central role of planning in relation to the operations of late capital and the state. I.T. is a *fundamental infra-structural requirement* not only for big capital (in the form of multi-nationals) but also for national governments (who are finding it increasingly difficult to deliver on the modern welfare state). I.T. is a growth sector precisely to the degree that it provides the tools and services necessary to gain control over a highly intensified field of economic planning

Similarly, Harvey demonstrates that flexible accumulation (a hallmark of late capitalism) entails the expansion of the factory from a singular space of production to a globalized system of manufacture and assembly: "capitalism is becoming ever more tightly organized *through* dispersal, geographical mobility, and flexible responses to labour markets, labour processes, and consumer markets, all accompanied by hefty doses of institutional, product, and technological innovation" and it is precisely here that informational complexity comes from.<sup>15</sup> The day to day planning and operations of multi-nationals and the state in the age of late capitalism make it clear why 'control' is attached to 'space' in the term "cyberspace": it is a social space generated out of, and intended to control, the informational networks of late capital. These networks facilitate the operations of big capital and government, but "are not in themselves the source of the organizational logic that is transforming the social meaning of space: they are, however, the fundamental instrument

that allows this logic to embody itself in historical actuality."<sup>16</sup> Cyberspace is the embodiment or concretization of a logic of control already existent in the power relations that define late capitalism and the modern welfare state. The discourses which reify cyberspace do so in order to efface its production and, therefore, its continuity with the relations of production which define late capitalism, and the disciplinary mode of power upon which the modern state is founded.

#### **Controlling Space(s): Surveillance and Discipline**

If cyberspace is continuous with the networks and institutions that comprise late capitalism, it is not unreasonable to suspect that power relations in cyberspace will be similarly continuous. That cyberspace can be discursively figured as *a space of control* suggests that Foucault's concept of disciplinary power might be a good place to begin an analysis of the power relations implied in these discourses.

One of the primary means for producing disciplinary power is surveillance, which Foucault discusses in relation to Bentham's "Panopticon."<sup>17</sup> The mode of surveillance embodied in the Panopticon is important because "it automates and disindividualizes power. Power has its principle not so much in a person as in a concerted distribution of bodies, surfaces, lights, gazes; in an arrangement whose internal mechanisms produce the relation in which individuals are caught up."<sup>18</sup> Cyberspace similarly operates on a principle of distribu-

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alt.fan.mike-jittlov  
alt.fan.monty-python  
alt.fan.mts  
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tion' which forges space and visibility into a machine which produces subjects. The linkage of space, visibility and power in cyberspace is, however, somewhat different than it is in the Panopticon insofar as Bentham's structure has a single, central point from which all surveillance is carried out whereas cyberspace is 'poly-panoptic'. Surveillance in cyberspace is detached from a fixed and/or central position and is dispersed over the entire network and automatized in the standards and protocols that define cyberspace's practical functioning. Everything in cyberspace is only ever data and, as such, standardized formats and protocols are employed which ensure that all data-objects and subjects find their place within a recognizable and reproducible structure. In order to make cyberspace a stable and secure space, controlling mechanisms are required which record and monitor the activity within it.<sup>19</sup> Surveillance in cyberspace is thus an architectural and geographic principle which renders the 'space' of late capital's informational networks visible in order to control it. It makes the space intelligible to its (virtual) inhabitants while, at the same time, making those inhabitants visible to whatever mechanisms are necessary for controlling and policing the space.

This is most evident in the characterization of cyberspace as a 'city.' Benedikt evokes the image of a city when he suggests that cyberspace should have "ports, which, like their real-world counterparts such as ship ports, airports, train stations, and bus terminals, function as landmarks themselves, while giving all travelers

a concentrated geographic, cultural, and economic orientation to the sector of cyberspace entered."<sup>20</sup> Foucault notes that there is an intimate connection between the figure of urban space and the exercise of power:

There is an entire series of utopias or projects for governing territory that developed on the premise that the state is like a large city; the capital is its main square; the roads are like its streets. A state will be well organized when a system of policing as tight and efficient as that of the cities extends over the entire territory. At the outset, the notion of police applied only to the set of regulations that were to assure the tranquility of a city, but at that moment the police become the very *type* of rationality for the government of the whole territory. The model of the city became the matrix for the regulations that apply to the whole state.<sup>21</sup>

The frequent use of the city as a model for cyberspace suggests that discipline — as a set of power relations between subjects, space and visibility — is transferred, as a "matrix of regulations," from the state to cyberspace. But the policing model of the city does not simply come full circle in cyberspace, it is intensified. Cyberspace coincides with the networks of late capital exchange and is, therefore, necessarily a space defined by flows, a space comprised not of geography *per se*, but of transit.

In this situation, the transit and flow of information comes to dominate the places where it is gathered, worked upon and disseminated. Castells states that: "[t]he emergence of the space of flows actually expresses the disarticula-

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alt.flame.mud  
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tion of place-based societies and cultures from the organizations of power and production that continue to dominate society without submitting to its control". And further: "[T]here is no tangible oppression, no identifiable enemy, no centre of power that can be held responsible for specific social issues." In short, "[P]eople live in places, power rules through flows."<sup>22</sup> This, then, is how surveillance and discipline provide the basis for power relations in cyberspace: the extension and transformation of the informational infrastructure of late capitalism and the modern welfare state into a 'field of visibility' creates a space wherein both information and individuals are subject to control. There is no identifiable centre from which power is effected because the type of power operating here is disciplinary. It is a mode of power which is borne by its subjects, rather than held over them as a constant threat:

He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection. By this very fact, the external power may throw off its physical weight; it tends to the non-corporeal; and, the more it approaches this limit, the more constant, profound and permanent are its effects: it is a perpetual victory that avoids any physical confrontation and which is always decided in advance.<sup>23</sup>

The non-corporeality of cyberspace is a given: it is a space of informational flows, not a

physical structure. The production of cyberspace, however, is not explicitly undertaken in order to intensify disciplinary power, it is done in order to facilitate the smooth functioning of late capital. The explicit function of cyberspace is thus the increase of opportunities to make business and government more effective and less vulnerable to crises. The implicit function is twofold: cyberspace is intended to be a bulwark against the inherent contradictions in capitalism and to mark the occasion of the movement from monopoly to multinational or late capitalism. This entails the production of a space of control which intensifies disciplinary power while simultaneously making power appear less physical in its manifestation.

Cyberspace produces an electronic topography of control out of an informational interlinkage of disparate geographic sites. Localities and individuals are disciplined by first transforming them into information, and subsequently producing a space where this information can be visualized and controlled. Harvey identifies the operation of power in late capital with an almost inimical relationship between place and space: "those who command space can always control the politics of place even though, and this is a vital corollary, it takes control of some place to command space in the first instance."<sup>24</sup> What better place to command the space of late capital flows than from within the very space produced by those flows? Cyberspace is the production of that space, and acts as a place from which to control the flow not only of information, but of individuals. Its function is to

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alt.graphics.pixutils  
alt.great-lakes  
alt.guitar  
alt.guitar.bass  
alt.guitar.tab  
alt.hackers  
alt.hackers.malicious  
alt.hangover

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alt.hemp  
alt.hindu  
alt.history.what-if  
alt.homosexual  
alt.horror  
alt.horror.shub-internet  
alt.horror.werewolves  
alt.hotrod  
alt.human-brain  
alt.humor.best-of-usenet  
alt.humor.best-of-usenet.d  
alt.humor.oracle  
alt.hurricane.andrew  
alt.hypertext  
alt.illuminati  
alt.image.medical

alt.individualism  
alt.infertility  
alt.internet.access.wanted  
alt.internet.services  
alt.internet.talk-radio  
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alt.irc.hottub  
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alt.irc.questions  
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alt.is.too  
alt.journalism  
alt.journalism.criticism  
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alt.kids-talk  
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alt.lang.intercal  
alt.language.basic  
alt.law-enforcement  
alt.lefthanders  
alt.lies  
alt.life.afterlife  
alt.locksmithing  
alt.lucid-emacs.help  
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alt.mag.playboy  
alt.magic  
alt.magick  
alt.magick.chaos  
alt.make.money.fast

make information visible and available for control, but this very function makes the structure of cyberspace itself *invisible* in the sense that cyberspace is not the textual or graphical information it (re)presents, but *the social space produced by the distribution of that information throughout the electronic/geographic infrastructure of late capital*. It is precisely for this reason that cyberspace needs to be addressed in terms of the power relations generated in its production *in* and *as* a social space.

### Mapping Cyberspace

The obvious difficulty encountered in a project that attempts to analyze power in cyberspace is that this space is presently located somewhere between the proliferating, often contradictory, discourses that seek to create it, and the already existing social and technological networks of late capitalism from within which it emerges. Rather than summarize what has already been discussed, it might be useful to address the five points that Foucault states must be established concretely if the power relations in any system of social networks are to be analyzed.<sup>25</sup> Cyberspace's incompleteness as an institution prohibits the drawing of a detailed map of its power relations, but a brief sketch of some major landmarks is possible at this point.

#### 1. The system of differentiations

The primary differentiation operative in cyberspace is between users and servers. Those who subscribe to the networks of cyberspace are designated "users," those that own the network and

provide the linkages are "servers." This differentiation is both a condition and a result of cyberspace's production insofar as it forms the structural character of the network. There is thus a bifurcated system of power: on the user level everything is more or less equal, while at the server level there are only a few centralized sources of services.<sup>26</sup> This situation relates to a key aspect of late capitalism identified by both Mandel and Harvey: the increase, on one hand, of the dispersal of production and, on the other hand, the centralization and concentration of capital (and power).

Another differentiation is to be found in the discourses which portray cyberspace as a space apart from that of late capital. This activity of reification acts as the impetus to produce the space, and does so by effacing its connections with the wider social space of late capital and the disciplinary power that resides in it.

#### 2. The types of objectives pursued

The explicitly stated objective is that of increasing productivity by integrating information technologies and, in so doing, eliminating processes that use up time, space and, therefore, money. Decision-making becomes simultaneously dispersed and concentrated. Decisions concerning the actual processes of production tend to be 'passed down' to individuals closest to those processes. At the same time, I.T. provides management with the opportunity to scrutinize the daily operations of production and this mode of surveillance permits more control over both material and personnel. This situation

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alt. meditation. transcendental  
alt. memetics  
alt. messianic  
alt. mindcontrol  
alt. missing-kids  
alt. models  
alt. motherjones  
alt. mothersuperior  
alt. movies. monster

alt. music. prog. jammer  
alt. mud  
alt. mud. lp  
alt. music. a-cappella  
alt. music. alternative  
alt. music. alternative. female  
alt. music. amy-grant  
alt. music. billy-joel  
alt. music. blues-traveler  
alt. music. canada  
alt. music. chapel-hill  
alt. music. complex-arrange  
alt. music. deep-purple  
alt. music. elo  
alt. music. enya  
alt. music. filk  
alt. music. hardcore

alt. music. jethro-tull  
alt. music. marillion  
alt. music. misc  
alt. music. monks  
alt. music. nin  
alt. music. nirvana  
alt. music. pat-mccurdy  
alt. music. paul-simon  
alt. music. pearl-jam  
alt. music. peter-gabriel  
alt. music. pink-floyd  
alt. music. prince  
alt. music. progressive  
alt. music. queen  
alt. music. roger-waters  
alt. music. ruch

alt. music. ska  
alt. music. smash-pumpkins  
alt. music. sonic-youth  
alt. music. swedish-pop  
alt. music. synthpop  
alt. music. techno  
alt. music. the-doors  
alt. music. tmbg  
alt. music. todd-rundgren  
alt. music. u2  
alt. my. head. hurts  
alt. music. prince  
alt. mythology  
alt. native  
alt. net. scandal  
alt. news-media  
alt. nuke. europe

extends to the state in that the increase in control offered by cyberspace over individuals' statistical being enables greater control over the disbursement of funds in accordance with the principles of the welfare state.

### 3. The means of bringing power relations into being

Power relations are brought into being on the basis of membership. Without submitting to the rules of membership in cyberspace, individuals cannot claim the right to citizenship or employment. Driver's licenses, social insurance cards, student cards, credit cards, OHIP cards, Blue Cross cards, employee numbers: all of these are signs of membership in society and all of them are component parts of the informational world of cyberspace.

Power is thus exercised via the threat of non-membership and the concomitant disqualification of the individual from social privilege. This is enacted through various forms of surveillance ranging from direct observation to automatic registration via access protocols and card usage. Archives are thus an essential feature of cyberspace. The primary rule for the exercise of power in this situation is that raw unprocessed information moves 'upwards' and into the archives in the form of data, and moves 'downward' to individual users as processed representation.

### 4. Forms of institutionalization

The institutional form of cyberspace is most similar to that of the state itself. This is evident

in the transference of the model of the city to the state, and then on to cyberspace. The ideal of democracy is frequently claimed to be a defining characteristic of cyberspace. U.S. Vice-President Al Gore has used this strategy:

The unique way in which the U.S. deals with information has been the real key to our success. Capitalism and representative democracy rely on the freedom of the individual, so these systems operate in a manner similar to the principle behind massively parallel computers. These computers process data not in one central unit but rather in tiny, less powerful units distributed throughout the computer. [...] Communism, by contrast, attempted to bring all the information to a large and powerful central processor, which collapsed when it was overwhelmed by ever more complex information.<sup>27</sup>

Cyberspace *is* democracy and vice-versa. It is a solution which bolsters capitalism against the onslaught of its own informational complexity (or, contradictions). Power comes into being as discipline: a distribution of power through every node in the network. Capitalism, democracy, and communism are reduced to strategies for controlling information, the implication being that these social spaces, and the individuals contained therein, are nothing more than information in need of control.

While cyberspace may take its initial cues from the state with regard to its institutional character, it may well develop into a form very different from that of the state. Whether or not this will result in different configurations of power remains to be seen.

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 alt.online-service.prodigy  
 alt.oobe  
 alt.org.toastmasters  
 alt.os.linux  
 alt.os.multics  
 alt.out-of-body  
 alt.overlords  
 alt.pagan

alt.parallel.universes  
 alt.paranet.abduct  
 alt.paranet.psi  
 alt.paranet.ufo  
 alt.paranormal  
 alt.parents-teens  
 alt.pave.the.earth  
 alt.pcnews  
 alt.peeves  
 alt.periphs.pcmcia  
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 alt.personals.bi  
 alt.personals.bondage  
 alt.personals.misc  
 alt.personals.poly

alt.philosophy.jarf  
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 alt.politics.british  
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 alt.politics.correct  
 alt.politics.datahighway  
 alt.politics.drinking-age  
 alt.politics.ec  
 alt.politics.economics  
 alt.politics.elections  
 alt.politics.europe.misc  
 alt.politics.greens

alt.politics.libertarian  
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 alt.politics.org.misc  
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 alt.politics.org.suopo  
 alt.politics.perot  
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 alt.politics.reform  
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 alt.politics.socialism.trotsky  
 alt.politics.usa.constitution

## 5. The degrees of rationalization

Cyberspace is rationalized as a solution to the increasingly difficult problem of managing and maintaining the productivity of large populations. It is further rationalized on the basis of its cost effectiveness in carrying out these tasks. It eliminates workers employed to watch over and manage both one another and the processes of production that they engage in. This is possible because it functions via the automated and constant activity of surveillance that follows from the principle of membership (the necessary informational transformation of individuals).

James Beniger provides a vital insight into the connection between information, technology, and control in relation to the management of social spaces:

Because the activities of information processing, programming, decision, and communication are inseparable components of the control function, a society's ability to maintain control at all levels — from interpersonal to international relations — will be directly proportional to the development of its information technologies.<sup>28</sup>

Beniger's statement comes from an analysis of the fundamental necessity of control, and technologies of control, that arose during the industrial revolution. If we are currently going through a third technological revolution in capitalism, then the need for control must be just as acutely felt now as it was then. Discourses on cyberspace demonstrate this need explicitly and use it as *the* rationalization for producing a new social space. The question facing us, then, is whose need for control is being served?

## Notes

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1. Michel Foucault, "Space, Knowledge, and Power," *The Foucault Reader*, ed. Paul Rabinow (New York: Pantheon Books, 1984), 252.

2. Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Basil Blackwell, 1991), 26.

3. Anne W. Branscomb, "Common Law for the Electronic Frontier," *Scientific American*, Vol 265, no. 3 (Sept. 1991), 158.

4. Lefebvre, 80-85.

5. *Ibid.*, 190.

6. In this case it is the "West" that is invoked. A history of fabulous technologies and dedicated researchers and hackers is often used in a similarly mythic fashion.

7. Michael Benedikt, "Cyberspace: Some Proposals," *Cyberspace: First Steps*, ed. Michael Benedikt (Cambridge: M.I.T. Press, 1991), 129.

8. *Ibid.*, 129.

9. Lefebvre, 86.

10. Frederic Jameson discusses the concept of differentiation in terms of a relationship which produces new social configurations out of already existing ones. He cites Luhmann as the source for his discussion of the

concept of differentiation. Frederic Jameson, *Postmodernism, or, The Cultural Logic of Late Capitalism* (Durham: Duke University Press, 1991), 140-143.

11. Post-Industrialism itself is a highly contested discourse. Obviously, there is not enough space here to get into the debate. Suffice it to say, however, that the discourse(s) on Post-Industrialism are often utilized by promoters of cyberspace as 'evidence' that cyberspace is a pressing necessity.

12. Ernest Mandel, *Late Capitalism*, trans. Joris De Bres (London: Verso, 1978), 184-222.

13. *Ibid.*, 316.

14. *Ibid.*, *passim*. This condensed description of late capitalism is very

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alt.privacy  
alt.prophecies.nostradamus  
alt.prose  
alt.prose.d  
alt.psychoactives  
alt.psychology.help  
alt.psychology.personality  
alt.pub.coffeehouse.amethyst  
alt.pub.dragons-inn  
alt.pud  
alt.pulp

alt.punk.straight-edge  
alt.quotations  
alt.radio.networks.cbc  
alt.radio.networks.npr  
alt.radio.pirate  
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alt.rap-gdead  
alt.rave  
alt.recovery  
alt.recovery.catholicism  
alt.recovery.phonics  
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alt.religion.christian  
alt.religion.computers  
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alt.religion.islam  
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alt.religion.shamanism  
alt.retromod  
alt.revenge  
alt.revisionism  
alt.rhode\_island  
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alt.rock-n-roll  
alt.rock-n-roll.aerosmith  
alt.rock-n-roll.classic  
alt.rock-n-roll.hard  
alt.rock-n-roll.metal  
alt.rock-n-roll.metal.death  
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alt.rush-limbaugh  
alt.rv  
alt.satanism  
alt.satellite.tv.europe  
alt.save.the.earth  
alt.sb.programmer  
alt.sci.physics.new-theories

compacted and cannot do justice to Mandel's excellent analysis.

15. David Harvey, *The Condition of Postmodernity* (Oxford: Basil Blackwell, 1990), 159

16. Manuel Castells, *The Informational City* (Oxford: Basil Blackwell, 1989), 348.

17. Michel Foucault, *Discipline and Punish*, trans. Alan Sheridan (New York: Vintage, 1979), 200. Briefly stated, the Panopticon is a structure intended to be used as a prison, although Bentham suggested it could also be used as a school or factory. It consists of a central tower and, surrounding it, a ring-shaped dormitory of individual cells. The tower is mirrored in order to reflect light into the cells of the prisoners, and to conceal the guards in the tower from the sight of the prisoners. The inmates thus know that they are subject to observation, but they have no way of knowing if they are being observed at any given moment: "Hence the major effect of the Panopticon: to induce in the inmate a state of conscious and perma-

nent visibility that assures the automatic functioning of power" (201).

18. *Ibid.*, 202.

19. This is abundantly evident in the proliferating discussions over issues of privacy, data security, data encryption, and intellectual property with regard to cyberspace.

20. Benedikt, 171.

21. Michel Foucault, "Space, Knowledge, and Power," 241.

22. Castells, 349.

23. Foucault, *Discipline and Punish*, 202-203.

24. Harvey, 234.

25. Michel Foucault, "The Subject and Power," *Critical Inquiry* 8 (Summer 1982), 792.

26. This is an essential point because only those with sufficient funds may participate. This democratic world is predicated upon the ownership of expensive technologies and entails a hierarchy of participation. Roughly stated, this hierarchy consists of a category of electronically homeless individuals (those without credit cards, computers, telephones,

TV's, etc.); a category of users (those employed in, or hooked up to, serving networks); and a category of servers (owners of the technology within which cyberspace is created). Current discourses primarily focus on the democratic interaction of users (generally from the professional classes) while the power of the server is often overlooked, as is the plight of the "electronic homeless."

27. Al Gore, "Infrastructure for the Global Village," *Scientific American*, Vol. 265, no. 3 (Sept. 1991), 150.

28. James R. Beniger, *The Control Revolution* (Cambridge: Harvard University Press, 1986), 287. While Beniger's analysis chastises other critics for not taking into account the important connections between control and knowledge, it has little to say about power and knowledge, or even power and control. Beniger's analysis provides important insights into the function of control technologies in society, but it is blind to power and, therefore, neutralizes these technologies with regard to power.