ICANN, the Structuring of Cyberspace, and Resistance

MA Thesis
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Abstract

This work deals with the private governance of the Internet domain name system (DNS) carried out by the Internet Corporation for Assigned Names and Numbers (ICANN) and the protracted resistance to it by the Internet community. The private governance of this global telecommunications resource is situated within the restructuring of capitalist production from a Fordist logic to that of post-Fordism. After having examined previous models by which similar global telecommunications resources were regulated, the thesis goes on to explore the development of the DNS and the creation of ICANN against the backdrop of the emerging information society. The sources and logic of ICANN's structuring power are explored, as well as the theoretical understandings of resistance to the extension of the commodity relations it seeks to further. The thesis ends by examining the composition and practices of the movements opposing the structuring process ICANN has enacted and assessing the state of and dynamics affecting the struggle over control of this invaluable communications resource.

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Glossary

ARPANET.....	Advanced Research Projects Agency Network
BDT.....	Telecommunications Development Bureau
CCC.....	Chaos Computer Club
Comsat.....	Communications Satellite Corporation
CORE.....	Council of Registrars
CPSR.....	Computer Professionals for Social Responsibility
CPT.....	Consumer Project on Technology
DARPA.....	Defense Advanced Research Projects Agency
DDN.....	Defence Data Network
DISA.....	Defense Information Systems Agency
DNS.....	Domain Name System
DoD.....	US Department of Defense
EFF.....	Electronic Frontier Foundation
FCC.....	Federal Communications Commission
GSI.....	Government Systems Inc.
gTLD-MoU.....	Generic Top Level Domains Memorandum of Understanding
IAB.....	Internet Activities Board
IAHC.....	International Ad Hoc Committee
IANA.....	Internet Assigned Numbers Authority
ICANN.....	Internet Corporation for Assigned Names and Numbers
ICCB.....	Internet Configuration Control Board
ICFTU.....	International Confederation of Free Trade Unions
IETF.....	Internet Engineering Task Force
INTA.....	International Trademark Association
Intelsat.....	International Telecommunications Satellite Consortium
IMF.....	International Monetary Fund
ISOC.....	Internet Society
ITU.....	International Telecommunications Union
FTAA.....	Free Trade Area of the Americas
NIC.....	Network Information Center
NSF.....	National Science Foundation
NSI.....	Network Solutions Incorporated
NTIA.....	National Telecommunications and Information Administration
NWG.....	Network Working Group
NWICO.....	new world information and communication order
RFC.....	Requests For Comment
SRI.....	Stanford Research Institute
TLD.....	top-level domain
UDRP.....	Uniform Domain Name Dispute Resolution Policy
URL.....	Uniform Resource Locator
USC.....	University of Southern California
WIPO.....	World Intellectual Property Organization
WTO.....	World Trade Organization

*For my mother and father,
who gave me all the tools I needed in life*

The enclosures movement followed from the expansionary logic of capital. The constant drive to expand economic growth and output leads capitalism to continuously seek to capture or invent new markets and to exploit new territories and new forms of human activity. The realm of human cultural activity is not exempt from this tendency... This process is based on the private appropriation of human artistic and intellectual labor by the capitalist class, a process that began centuries ago with the printing press... and continues today with the enclosure of the electronic commons. (Ronald Bettig 1997, pps. 138-139)

The passage toward an informational economy necessarily involves a change in the quality and nature of labor. This is the most immediate sociological and anthropological implication of the passage of economic paradigms. Today information and communication have come to play a foundational role in production processes. (Michael Hardt and Antonio Negri, 2000, p. 289)

The challenge is to create a digital government to match a digital economy... We have to do this right and we have to observe fairness. It would be a shame if we imposed analog procedures on this issue, so I hope we are a very creative and very digital committee as we move forward
(Rep. Jane Harman [D-CA], Cited in Wagner, 2000)

...[C]ommunication technologies have often, as in the case of radio and computer networks evolved in the course of very complex interaction between business's drive to extend commodification and democratic aspirations for free and universal communication. Along the way communication technologies have been formed by both forces. This is not to say that technologies are neutral, but rather that they are often constituted by contending pressures which implant in them contradictory potentialities: which of these are realized is something that will be determined only in further struggle and conflict.
(Nick Dyer-Witheford 1999, p. 7)

Introduction:

ICANN, The Structuring of Cyberspace, and Resistance

If one could look at the whole globe at night, from above, the contours of an information society might become visible. The agglomerations of light, emanating from the populated industrial centres and technopoles of the world, would represent the nodes in a network binding a new global arrangement. The lines connecting these millions of points of light, as well as the computers that interpret the flows of information passing through them, are as much the result of human labour as the development of electricity, the creation of plastics, and the harnessing of silicon. They are the solidified yet constantly mutating testimony of history, the shifting material reminders of a ceaseless human creativity.

In contrast, the still vast expanse of global darkness might show another story. Whether it be the yet-untouched wilderness or the settled areas where this new arrangement has not seen fit to encompass, these swathes of darkness represent the borders and limits of the information society. Deep in the heart of the Amazon and on the main road of an African village untouched by electricity, the first geographic and social divisions of 21st century humanity would become evident to the heavenly gaze.

Yet what this view, in all its starkness of contrast, might obscure however, would be the deep social divisions *within* those nodes of light. As one's perspective slowly descended to the terrestrial plane, a city like New York that was pure light from above

would be revealed as being a striated human space. Here, within the light, there is also difference. While the financial district hums around the clock creating what David Harvey (following Marx) refers to as “fictitious” capital, the homeless sleep under streetlights (1989, pps. 107-108).

What would be revealed, when one left one’s body behind to enter the very network keeping the information society in place, is that *cyberspace is characterized by exactly the same social divisions evident in our own material, flesh-bound dimension*. The lines lying deep underground, running across the bottom of oceans, transmit information that adds itself to that vast repository of our history and tool for the modification of our future – the Internet. As history has always been formed out of struggle, so this new space is no different. It is both a new terrain of engagement and a strategic weapon in the material confrontations of the flesh-bound dimension.

There were doubtless a few viewers who looked around uneasily upon a now-hardwired information society as they emerged from screenings of *The Matrix*. ATM machines on every corner and in every store, wires and cables and satellites connecting every office to every other office in a network which now spans the globe, crisscrossing information saturated technopoles, the humming centres of capital accumulation, connecting the heartlands to the periphery.

Being plugged in to the world-girdling network is seen as vital in our information technology-intensive era, if for no other reason than the fact that all vital organizations and places are. At the Sequoia Hospital in Redwood City, California, parents are offered

a free domain name for their babies, ensuring that not a second of post-womb existence is spent unconnected (Reang, 2001).

The Internet is planned, structured, and policed. Software crawls through the web for the express purpose of catching deviant use of information. Where areas of the network become a liability, they are simply unplugged, as in the recent case of a country like Somalia (“US Shuts Down Somalia Internet”).

Yet there is another world, one where dissidents use the network against itself, scrawling messages of protest, flooding sites with too much information, or creating spaces outside the officially sanctioned architecture. The day after China's grotesque human rights agency announced its new Web site, the official text was replaced with an electronic trespasser's digital graffiti:

China's people have no rights at all, never mind human rights. How can the United States trade millions and millions of dollars with them and give them most-favored trade status when they know what is happening? (Cited in Harmon)

Changes in cyberspace are inextricably tied to a much larger shift within the global political economy. Yet this change is not as “frictionless” as some might hope capitalism's new phase to be. The political economy of communication is uniquely positioned to examine these processes and the social relations that characterize them, through a methodical analysis of various pressure points – places in which conflicts over the control of resources flare up -in the information society.

One of these pressure points arises around control over the names and numbers system that coordinates the movement of information around the Internet. The organization charged with managing this system is the Internet Corporation for Assigned

Names and Numbers (ICANN), a private, not-for-profit organization based in California. This thesis is a political, economic, and cultural examination of both the role that ICANN plays in the structuring of cyberspace and the protracted resistance to its activities on the part of the Internet community.

As the network enters a markedly different era, characterized by the steady transition of control over various aspects of its structure from the state to the slicker machinery of private enterprise, key contradictions arise in the control of this communications resource. From a communications perspective, these emerge when the space's historical development, the power relations that have marked and are marking its structuring, and the forms of resistance to this process of enclosure are examined methodically.

At a policy level, the question of which form of governance was most appropriate for the names and numbers system found swift answers - proffered as common sense - on the part of the Clinton administration and the private sector during the critical structuring phase of the domain name system (DNS). "Economic theories," it was claimed, "suggest that private bodies will be more likely to voluntarily set technically efficient standards" (US, NTIA 1997).

At a general level, the focus of this thesis is to unbundle the social (understood as political, economic, and cultural) relations that lie behind the apparently frictionless process the statement alludes to. In the process, I demonstrate that cyberspace – as all other spaces – is currently characterized by a constant and endless struggle over the resources that will determine its future shape and function. Here conflict arises when

desire for local, decentralized and public control over the network confronts the current push towards the global, centralized and private coordination of the names and numbers system.

The fundamental and explicitly recognized link between open communication and democracy has, until very recently, kept the regulation of various mass media within the purview of public regulatory bodies. Global telecommunications resources were once governed under a different set of assumptions, ones for example that led to the creation of the International Telecommunications Union (ITU). While the point of this essay is not to idealize past forms of governance, it is nonetheless important to understand that these critical decisions as to the regulation of communications media do not happen in a cultural vacuum. The dominant beliefs which contributed to the creation of the Federal Communications Commission (FCC) in the United States for example, were much different than those which have informed policy discussions on how the Internet names and numbers system should be governed.

Any valuable analysis of these processes must also therefore grow organically out of an understanding of their history, intended as the power relationships - the political and economic ones - which play themselves out in the structuring of social relations. The thesis thus continually draws connections between ICANN's role and a qualitatively new stage of global capitalism, frequently referred to as post-Fordism, or flexible accumulation. It is suggested that ICANN is the new face of global telecommunications regulation: a private body put in place as part of a larger effort to ensure that cyberspace is a predictable sphere for the circulation of capital. This approach is also applied to an

analysis of the formation of a network antagonistic to ICANN and its activities. Here links are drawn in the illustration of the similarities and differences between this network and a movement for global justice that has transformed the politics of our age.

In examining these questions, I draw from a range of perspectives, many of them from or on the fringes of traditional political economy. This notwithstanding, the field of cultural studies as well has much to offer in an examination of this struggle over the shape of this communicative space. Specifically, where political economy is able to grasp the transition from Fordism to post-Fordism, cultural studies is well positioned to reflect on the parallel shift from modernity to postmodernity. Neither of these perspectives need deal exclusively with these concerns - the best versions of political economy and cultural studies deal comfortably with both.

The general aim therefore has been to adequately deal with both structures and agency in the history and ongoing development of the names and numbers system. The very architecture of this thesis is constructed around these two poles. For this purpose, a blend of theory is employed, ranging from the hard-boiled political economy of corporate structures offered by Vincent Mosco (1996), Dwayne Winseck (1998), and Dan Schiller (1999) to versions such as that of Nick Dyer-Witheford (1999) which are able to map resistance to capital's apparatus of capture. What emerges is a holistic examination of the processes, or more accurately, the struggles, in question. Two corresponding, often overlapping bodies of thought are examined.

The first deals with the qualitative transformation in the nature of capitalism since World War II and the central role of communications technology in this process.

Chapters I-III each begin by examining three separate aspects of capital: What was (Fordism), what is (post-Fordism), and the general dynamic that allows for its revolutionary transformation (subsumption).

After constructing an understanding of Fordism, Chapter I analyzes the regulatory bodies that sufficed under its tenure, such as the ITU and Intelsat, an organization which in some respects prefigured rise of ICANN. These two organizations played a vital role in the structuring and governance of global telecommunications systems in time when mass production and mass consumption complemented one another. A preliminary examination of these bodies and how they fit into the eras of Fordism and modernity sets the ground for some important comparisons with ICANN, the contemporary Internet structuring process, and the governance of global telecommunications under post-Fordism and postmodernity.

The analysis of capital's latest stage, and its reverberations on the governance of the domain name system (DNS) is taken up in Chapter II. The analysis of ICANN locates it within what to many is a qualitatively new configuration of capitalism. In *Empire*, Michael Hardt and Antonio Negri begin by saying: "Along with the global market and global circuits of production has emerged a global order, a new logic of structure and rule, in short, a new form of sovereignty"(2000 p. xi). The shift has been an on object of academic study for decades, its outlines traced by people such as Daniel Bell (1973), Piore and Sabel (1984), David Harvey (1989), Manuel Castells (1996, 1998), Heather Menzies (1996), and Dan Schiller (1999). These theorists and others have noted important differences between two modes of organization. These include a dramatic shift

towards service sector employment, leaner and more flexible production processes, the expansion and intensification of communications networks, the progressive inadequacy of the state-form to deal with the exigencies of global capital flows, and the creation of supranational coordination bodies such as the World Bank, the International Monetary Fund (IMF) and the World Trade Organization (WTO).

Within this context, the history of the crucial coordination of the names and numbers system is analyzed from its beginnings under the authority of the US government. The vital role of the state, both in the development of the system and ensuring its placement under private authority, is focused on. In particular, I look at the period in which ICANN was envisioned and brought about. Here an analysis of the relevant policy documents is situated within a more broadly cultural analysis of neo-liberalism and post-Fordism. Finally, the organizational structure of ICANN is of particular interest to the chapter. It is suggested that in order to ensure that ICANN accomplished its goals (both stated and unstated) it had to be shielded from democratic pressures from the outset. This need has determined the body's currently unrepresentative and highly technocratic form.

ICANN is responsible for much more than the mere technical coordination of the names and numbers system however. Chapter III will examine some of the structuring policy ICANN has itself brought about since being created. As a preface to this I discuss the notion of subsumption, the process by which commercial relationships are extended into and intensified in other areas of social life and human experience, imposing their own profit-making logic on these spaces.

For the domain name system, two related aspects of this are examined. The first is the enshrining of the Uniform Domain Name Dispute Resolution Policy (the UDRP, the means by which the DNS is policed and thus protected against the threat of cyber-squatting). The second is the creation of new top-level domains, or TLDs outside of the traditional .com, .net. and .org (the means by which new markets are conjured into existence).

The editors of a recent collection of essays on *Private Authority and International Affairs* make an important point when they characterize private authority as “interfirm cooperation” (1999, pps. 3-28). While the framework they proffer is chillingly uncritical, the UDRP can be comfortably understood within it. Here I examine the links between ICANN and another form of private authority, the World Intellectual Property Organization (WIPO)¹ in the formation of the highly controversial policy. The UDRP is a private arbitration system (proposed by WIPO and adopted by ICANN) for domain name disputes, or struggles for cyber-territory (such as who should have the right to apple.com). Under this binding system, plaintiffs may choose which of four private ICANN-accredited dispute resolution “service providers” they would like to hear their case. The incentives for courts to “compete” for arbitration business is clear, and the decisions handed down in this process have unmistakably enforced the rights of trademark holders to establish and maintain a prominent place within that New World of accumulation that is the Internet.

¹ A full 88% of WIPO’s activities budget flows from services it provides to the private sector.

Once a private judiciary system has been created for the Internet, ICANN's next vital function has been the creation of new TLDs for commodification. The choices being made in this area are driven by the express goal of creating and managing Internet real-estate markets in cyberspace. Here contradictions arise when ICANN's stated goal of creating competition in the registry and registrar businesses conflict with its obvious incentive to achieve monopolistic control over the root server and stem the proliferation of alternate TLDs. Furthermore, while ICANN may be formally committed to creating and managing competition in these sectors, it has been reluctant to dilute the possible profits by creating more than seven new TLDs (where thousands are technically possible).

While understanding the processes dealt with in Chapters I-III as those that generated ICANN is vital, it behooves us to remember that this construction of a new society is not devoid of conflict. I have purposely waited until Chapters IV and V in order to present a more coherent analysis of that which lies *outside* of ICANN and the commodification of cyberspace. The entirety of these two chapters is devoted to both a theoretical and practical examination of resistance to Internet subsumption and its cyber-emissary. Chapter IV lays the theoretical foundations by examining three theories of resistance in the face of power. Here too there is a long and established history of thought, running from Proudhon and Marx to Negri, through thinkers such as Antonio Gramsci, CLR James, and Raymond Williams. I place particular importance upon the work of Williams, David Harvey, and the Italian *autonomia* movement however. These, it is suggested, are to varying extents well positioned to understand the nature of

contemporary popular resistance, thanks to the importance they place on both a dynamic understanding of history and information technology as a means of domination and resistance.

This struggle over the control of cyberspace can scarcely be made to fit into rigid marxist definitions of class struggle. Yet its similarity with larger, globally coordinated protest movements against the enshrinement of private regulatory authority exists in spirit, even if links are only beginning to be made between the two in practice. In this sense, notions ranging from Hardt and Negri's perhaps overly loose articulation of the "multitude" to Gramsci's less flexible "historic bloc" are taken into consideration, as yardsticks against which to measure the effectiveness and extent of this oppositional formation.

The last few years have witnessed the formation of a network of oppositional movements hostile to ICANN's activities. The composition of this movement, as well as an analysis of the virtual and material cultures from which it emerges, is the subject of Chapter V. Much as the expansion of primitive accumulation and imperialism was met with rebellion and mutiny in the real world of the seventeenth century, an idiosyncratic assortment of cultures and campaigns have risen to oppose enclosure of cyberspace at the hands of ICANN. The continual growth of alternate top-level domains (a recreation of the cyber-commons lying beyond the boundaries of the officially sanctioned Internet that ICANN is viciously opposed to) is on the rise, with even some nation-states openly considering secession from the hierarchically structured and centrally coordinated root. Dozens of websites and lists dedicated to monitoring and discussing the organization's

behaviour have sprung up, rendering its activities visible to (and thus vulnerable to the tactics of) the Internet community. ICANN's forced attempts to enact some small measure of democracy (in its controversial "Internet election" of five new board members) has brought about the infiltration of its ranks by outspoken adversaries such as Andy Mueller-Maguhn, a member of a German anarchist hacker organization, the Chaos Computer Club (CCC). These groups have created enough opposition to ICANN to force the state to intervene, prompting several Congressional investigations into the organization's activities. ICANN's authority therefore not only is by no means complete - it appears to be in the process of being unraveled even as the push to consolidate it continues.

The evidence for a project such as this has been found all over the network itself. My research brought me to hundreds of US Government sites, sites dedicated to monitoring ICANN, anarchist information zones, hacker web-sites, academic ICANN studies, ICANN's own web-site, the online versions of the global and regional trade agreements, anti-ICANN listservs, sites run by global bodies put in place to protect intellectual property, sites run by twelve year-olds engaged in protracted battles with multinational toy corporations, and hundreds more.

Besides the official web-sites that aim to bolster the spectacle that is ICANN, virtually all of the organizations or groups that are antagonistic towards the organization maintain web-sites in which they describe ICANN, their political position on various policies, and the activities they undertake. These sites are commonly linked with one another, providing an outline of this political front. The sites span the spectrum from that

of individual Internet end-users, to coalitions of smaller businesses seeking to protect their domain names, hackers, civil liberties organizations, and more academic efforts. While at one end there may be little more than rants towards ICANN, at the other there are well-informed critiques and analyses. Icannwatch.org and thedomainnamehandbook.com stand out amongst these as not only possessing vast archives of articles (both academic and non-), but for offering a space for educating the public about ICANN and a forum for the discussion of its activities.

Finally, over a dozen sites regularly report on ICANN's activities, amongst other matters. Absent any sustained or in-depth coverage by traditional media sources, information sites such as slashdot.org, wired.com, theregister.com, thestandard.com, and many others have stepped in to become the main source of information on ICANN and the structuring of cyberspace for people with any sort of interest in the issue.

Chapter VI synthesizes the case-study research done up to that point with theoretical notions of political, economic, and cultural struggle. Here I pay particular attention to the role of communications technology itself within the political control of cyberspace. The conclusion thus judges the effectiveness of the movement antagonistic to ICANN in the face of the institutional power it confronts. The whole range of approaches advocated and alliances formed by the organization's opponents - from working within the sanctioned policy process to opting out of the root server altogether - are examined. Finally, this section offers a chance to reflect on the similarities as well as the differences between the anti-ICANN movement and what is increasingly being referred to as the "anti-globalization" movement. ICANN's ceaseless thrust towards the

consolidation of its authority continues, and the strategies it is taking to achieve this are evaluated. Particularly important here is the relationship ICANN has forged with global governance structures (such as WIPO), private arbitration bodies (eResolutions, Center for Public Resources, and National Arbitration Forum), dominant high-tech players (Verisign), larger trademark holders in general, and last but not least, the possible trump card it holds in being a child of the US Government.

For at the heart of the paper lies a deep concern over the outcome of this struggle, considering the present use of the Internet as a tool for both the fulfillment of the basic human need to communicate openly and for the furthering of political action. If our information society is to become one of an inner, immanent light, it will be through encounters such as this that it is formed.

Chapter I

Fordist Regulation of Global Telecommunications: The ITU and Intelsat

...[t]he Enlightenment has always aimed at liberating men from fear and establishing their sovereignty. Yet, the fully enlightened earth radiates disaster.

(Theodor Adorno & Max Horkheimer 2000, orig. 1944, p. 3)

One of the key tasks of political economic analysis is to situate the object of study within an historical context. The strategy employed in this chapter is an attempt to understand this context diachronically, as history in movement, as “continually active and adjusting” in the words of Raymond Williams, rather than as a succession of static, unrelated periods (1991, p. 416). While working within this paradigm however, there are two distinctions with regards to method that I would like to make.

Firstly, diachronic analysis does not mean that periodization is an impossibility, that forces and social relations operating during a certain historical period cannot be indicated as distinctive in significant enough a respect so as to characterize that period. It means, rather, that history is understood as the steady unfolding of events, ones that cannot be understood in isolation from one another.

At the other end of the spectrum, looking at things diachronically does not mean adopting a teleological approach, in which history is seen as an almost predestined series of events unfolding towards an unavoidable conclusion. This was Hegel’s unfortunate

contribution to the trajectory of modernity, one that Marx never completely managed to avoid the pitfalls of.

This preamble, and some of what follows, is meant to give a sense of the position I will take with regards to what are in essence the two historical chapters of this thesis. This first chapter has the burden of describing different times from those that generated ICANN, the “what was” of global telecommunications regulation. These, it will be suggested, brought with them different ways of understanding and structuring the complex relationship between the state, private corporations, and civil society.

I am working under the assumption here that there has indeed been a significant shift within the structure of capitalism since the mid-seventies. Whether explicitly or implicitly, theories from various exponents of “post-Fordism” will be employed. While this chapter thus deals with historical examples of the regulation of a global telecommunications resource, what I will never stray too far from is the idea that Fordism is a different way of structuring social life from that under which we presently live. In the field of global telecommunications regulation, the International Telecommunications Union (ITU) was an institutional creature of this epoch, possessing many of the key features and contradictions that characterized it. Intelsat, which will be explored at the end of the chapter, is perhaps the true predecessor of ICANN, a regulatory hybrid between it and the ITU.

In one of Raymond Williams’ most invaluable pieces of work, the Welsh literary critic laid out a broad framework for understanding epochal change, or moments of transition between these. Historical change is by no means clear-cut, historical periods

and the movements and formations that characterize them do not die out one day only to be replaced the next by different actors on the social stage. Rather, Williams said, different movements and forces can be characterized as *emergent, dominant, or residual* (1991, orig. 1980). While the schema simplifies history to a certain extent, it is helpful in the understanding of the processes this chapter attempts to chart out. Most importantly, it complicates some of the simplest notions of historical change, according to which post-Fordism, or the “information society” somehow sprung fully formed out of its predecessor in 1973, much as Pallas Athena emerged from Zeus’ head to take her place amongst the deities of Greek mythology. It is therefore possible to identify chunks of post-Fordism (and postmodernity as well for that matter) within the epoch commonly understood as Fordist without invalidating the whole system of historical periodization.

As a final qualification, there are further assumptions that this chapter - indeed the thesis – proposes as to the root causes of this epochal change. These are understood as *predominantly emerging out of struggle between social formations over resources*.

Expanding upon the work of Raya Dunayevskaya, CLR James (1986, orig. 1950) and the Frankfurt School, which had emphasized the new role of “planning” in Fordism,² Raniero Panzieri offered a seminal understanding of class struggle and the dynamics by which it played itself out. Going beyond the Institute for Social Research’s bleak vision of a monolithic, unavoidably structured social life, Panzieri suggested that the only element which capitalist planning could *not* predict fully was the working class (1976).

² Dunayevskaya, Lee, and CLR James analyzed the mode of production in the US and argued that the rise of Taylorism and Fordism heralded not the utter defeat of the working class but the rise of a new phase of class struggle.

This class, at each new bout of capitalist reorganization, tended, in varying ways and at different rates dependent on geo-political locations, to recompose itself as a collectivity and develop new ways to challenge the roles laid out for it by capitalist planning.³ Integral to the process, and central to the perspective of what became known as *autonomia*, were continual battles over technology, with communication technology being no exception. The resulting line of critique, according to Nick Dyer-Witheford, has two aspects:

The first is an analysis of technoscience as an instrument of capitalist domination – a rereading aimed at shattering scientific socialism’s myth of automatic scientific progress. The second, however, looks at the situation from the other side and analyzes the ways in which struggles against class can overcome capital’s technological control. (1999 p. 69)

The perspective, while deficient in some respects, has tremendous explanatory power in an analysis of the social history of the development of technology.⁴ It is a ~~method~~ which ties together much of this work, informing the research and a good deal of the analysis contained therein.

The remainder of the chapter will be split into three main sections and a conclusion. The first of these will outline my own understanding of Fordism, charting a selective course through the literature on the subject. The following section will take a look at the structure and organization of the ITU as exemplary of this system of social organization, or as Williams would have said, as the *dominant* way of understanding global telecommunications regulation within Fordism. Finally, the chapter will look at

³ The matter of “class,” and how this concept is understood by the Italian new left is something which will be confronted in Chapter IV.

Intelsat as an early example of post-Fordist governance within global telecommunications.

1.1 The Fordist Project

The problem of the proper configuration and deployment of state powers was resolved only after 1945. This brought Fordism to maturity as a fully-fledged and distinctive regime of accumulation. As such, it then formed the basis for a long postwar boom that stayed broadly intact until 1973. During that period, capitalism in the advanced capitalist countries achieved strong but relatively stable rates of economic growth. Living standards rose, crisis tendencies were contained, mass democracy was preserved and the threat of inter-capitalist wars kept remote. (David Harvey, 1989 129)

The seeds of our current form of globalization had been sown long before Fordism. As Marx and Engels stated presciently in the *Communist Manifesto*, “[t]he need of a constantly expanding market for its products chases the bourgeoisie over the whole surface of the globe. It must nestle everywhere, settle everywhere, establish connexions everywhere” (1989, orig. 1844, 6). Fordism still also rested, for many advanced capitalist nations, on imperialism. As we shall see with the ITU below, so did the global regulation of telecommunications. This notwithstanding, the process of globalization underwent a round of intensification during the post-war period. These nations had developed industry-intensive heartlands, linked through transportation and telecommunication to financial centres elsewhere in their country and to one another.

Threatened during the twenties by the spread of popular uprisings in Russia and Europe and rocked by the Great Depression, the period of growth after World War I must have seemed a distant memory for many workers shortly before the beginning of World War II. The development of a strong, albeit uneven, oppositional movement across the United States in the wake of these developments has been documented extensively - from the perspective of a labour historian - by Michael Denning in his book *The Cultural Front* (1997). In what he refers to as “the age of the CIO”, industrial capitalism struggled

⁴ I will have time to confront the weaknesses of this particular understanding of historical change in

with the growing power of unions and of the central role they began to play in the economic and cultural life of thousands of American workers as the thirties progressed. With the war approaching on the horizon, capitalism had yet to find a way of securing steady waves of capital accumulation.

War however changed the playing field as it so often does. With a common enemy internal divisions had to be overlooked due to the war effort, ensuring massive investments in infrastructure and the application of Taylorist production techniques to the fullest extent.⁵ As the dust settled, Fordism was fully ensconced - over thirty years after Henry Ford introduced his five-dollar, eight-hour day for assembly line workers.

There is a lag therefore between what many identify as the symbolic beginning of Fordism and its full implementation as a way of structuring social life. As capitalism struggled in the 1930's,

[a] new form of regulation had to be devised to match the requirements of Fordist production and it took the shock of savage depression and the near-collapse of capitalism in the 1930s to push capitalist societies to some new conception of how state powers should be conceived of and deployed. (Harvey, 1989, p. 128)

What made Ford's prescient move significant is that it was amongst the first conscious attempts to calibrate mass production and mass consumption by industry. In order to achieve this stable configuration however, a number of concurrent strategies had to be adopted.

Labour disruption, first and foremost, needed to be minimized in order to ensure the predictability of capital circulation. Herein lay one of the roles of the newly conceived state – through legislation such as the 1952 Taft-Hartley Act unions (that had

Chapter 4, when various theories of resistance will be discussed and evaluated.

⁵ As Harvey notes: "Taylorism was...fiercely resisted in the 1920s, and some commentators, such as Richard Edwards (1979) insist that worker opposition roundly defeated the implantation of such techniques in most industries, in spite of capitalist domination of labour markets, the continued flow of immigrant labour, and the capacity to mobilize labour reserves from rural (and sometimes black) America. In the rest of the capitalist world, labour organization and craft traditions were simply too strong, and immigration too weak, to permit Fordism or Taylorism any easy purchase on production, even though general principles of scientific management were widely accepted and applied. (1989, 128)

already been eviscerated of much of their pre-war radicalism) were further disciplined in return for the privilege of being allowed to remain as players in the new system.

The higher wages, virtually full employment, and the decreasing costs of consumer goods granted to industrial labourers needed to translate themselves into stable consumption however. As Webster suggests, “to ensure this a whole edifice of marketing and design techniques was developed – annual model changes in cars, a burgeoning advertising industry, new layouts of shops, trade-in deals, easy terms for purchase... so long as consumer demand was strong... the economy could remain vibrant” (1995, pps. 139-140).

The mode of social organization frequently referred to as Fordism had, at its foundation, some deeply disturbing characteristics however. The repression of all but the most moderate dissenting voices began with the anticommunist crackdown in the United States, crippling unions and eviscerating the recently formed culture industries of any progressive voices.

This resulted in the degradation of modernity as an Enlightenment project into an unnervingly planned society, something dwelled on at length by various members of the Frankfurt School, Theodor Adorno and Max Horkheimer in particular. In a dramatically stated case, the two critical theorists saw technocratic management and fabricated mass culture as the glue that held together mass production and mass consumption:

The technical contrast between the few production centres and the large number of widely dispersed consumption points is said to demand organization and planning by management. Furthermore, it is claimed that standards were based in the first place upon consumers’ needs, and for that reason were accepted with so little resistance. The result is a circle of manipulation and retroactive need in which the unity of the system grows ever stronger. No mention is made of the fact that the basis on which technology acquires power over society is the power of those whose economic hold over society is greatest. A technological rationale is the rationale of domination itself. (2000, orig. 1944, p. 121)

Within the strata charged with this planning, the dominant way of understanding business organization was, explains Thomas Streeter, *corporate liberalism*. In a most helpful contribution to the critique of US broadcasting policy history, Streeter outlines

corporate liberalism as a way of thought, and makes the case for understanding US broadcasting as an embodiment of that way of thought. (1996, p. 35) While elsewhere I will argue that Streeter's understanding of corporate liberalism is no longer helpful in trying to understand contemporary processes, in *Selling The Air* his analysis of the formation of Fordism is exceptionally revealing:

Corporate liberal social organization does not simply mean control by private corporations. It involves a complex, dynamic pattern of interaction among corporations, small businesses, the state and an electoral polity. In general, the pattern involves a hierarchical distribution of power, with a core dominated by an alliance of corporate and government elites, orbited by less powerful--but not powerless--peripheries: an economic periphery of smaller enterprises and a political periphery of electoral politics." (p. 39)

The emergence and consolidation of a new regulatory apparatus on the part of various states provides further evidence of the shifting relationship between capital and state powers:

If, in the nineteenth century, business organization was coordinated by courts of law under the banner of property and contract, in the twentieth century, that function has largely been taken over by administrative regulatory agencies..." (p. 38)

In global economic discourse, the planned society found its expression in Keynesianism. This held that an extension of the role of government was the solution to maintaining stable rates of accumulation, especially during times of crisis when it was needed to inject large amount of money into circulation. Most importantly, it focused on achieving equilibrium between production and consumption, increasing attention on consumption as a variable that needed to be continually manipulated.⁶

On a global level, Keynesianism was behind the development of institutions such as International Monetary Fund (IMF) and World Bank, brought about by the 1944

⁶ This brought about Keynes' attention to the size of a population's "marginal propensity to consume" as key in determining the necessary size of change in the National Income.

Bretton Woods conference. The system was history's first example of a virtually global monetary order, intended to govern currency relations among nation states.

While the ITU had been created almost a century before the end of WWII, its trajectory parallels that of Fordism in many respects. Just as Intelsat can be seen as a post-Fordist organization in the midst of Fordism, the ITU came about before the age of which it was to become a central feature. It's story, like that of the other organizations covered in this thesis, is one of a world in transition.

1.2 The International Telecommunications Union and the “Weight of History”

The 1970s ended much as the 1940s had ended. A major conference pointed the ITU in new directions. The stage was set for a series of important conferences focusing on a wide range of telecommunications issues, and the future nature of many of the ITU's institutional arrangements was unclear.

(George Coddington Jr. and Anthony Rutkowski, 1982, p. 30)

To maintain centrality in this new and more variegated technological and commercial world, the ITU might have to act like a bee piercing together a world system from different sources than the spider seeking to control everything from the centre.

(Jonathan Solomon, 1984, p. 216)

As discussed above, a strong argument can be made that the process we now understand as globalization began centuries ago. The International Telegraph Union (now the International Telecommunication Union), formed in 1865, was the world's first international, intergovernmental organization, an as such an early symptom of the process. George Coddington Jr. and Anthony Rutkowski were correct therefore when they concluded that the history of the ITU is more significantly the history of international organizations themselves. The authors were equally off-track however, when they concluded the same sentence opening their 1984 work by claiming that “the ITU was the model for all such organizations that followed, up to and including the League of Nations” (p. 6).

As I hope to show later on in this chapter, the ground was already steadily shifting by the time Coddington and Rutkowski wrote their sympathetic history of the ITU. A new and fully global form of capitalism demanded different forms of regulation, of which Intelsat was an early example. Yet to grasp this shift in a deeper way it is important to understand how notions of what a global regulatory body should be changed over time. What follows then, is an attempt to illustrate the development of the ITU and the specific context within which this played itself out. The organization is almost a century and a half old, making a full treatment of the intricacies of its history impossible. For the purposes of this thesis however, it is also unnecessary.

As nation-states developed domestic telegraph systems in the nineteenth century, these discrete systems began to be linked up to one another across the borders that initially contained them. This crisscrossing of international borders served many purposes, from the coordination of railway travel, to facilitating cross-border capital flows in the form of trade, and the maintenance of control over far-flung territories and colonies.

The prevailing arrangement of a multiplicity of bilateral agreements coordinating these cross-border flows began to change however, as groups of nations began to agglomerate around regional regulatory arrangements. From 1865 a further round of harmonization was launched, bringing into existence an international organization to keep the international network under observation and to intervene if difficulties arose. This became known as the International Telegraph Union, an organization that bound its

members to periodic meetings to discuss issues arising around technological standardization, rates, usage priority and other matters.

After the ITU was created in more or less its current form, three sets of rules were developed. While steadily modified over the years, the ITU convention lays down legal and binding international law; world and regional administrative conferences set forth regulations, and recommendations are prepared for plenary assemblies of the International Telegraph and Telephone Consultative Committee (CCIT) and the International Radio Consultative Committee (CCIR) which are not legally binding but enjoy wide acceptance (Cowhey and Aronson, 1993, pps. 298-299).

The political process with which decision-making was carried out in this new organization was based on a simple premise: one nation one vote. Representatives of sovereign states could gather, discuss the issues of the moment, and then vote in support or against various measures to be adopted. Within the ITU each member-state retained responsibility for how its domestic telecommunications were conducted, but the obvious advantages of interconnection and interoperability during this round of globalization gave incentives for cooperation.

Yet global harmony was never an inherent part of the system. The colonial phase of globalization, fueled by a second industrial revolution on the part of capital taking place around the mid-nineteenth century, had strong ramifications on who held power in the structuring of the international telegraph network. In many ways, the standard-setting function of the ITU was a necessity for countries whose local industries were undergoing radical change. Companies were reaching outwards like the nation-states that housed

them, propelled by new production processes and means of communication. As Manuel Castells suggests (1996, p. 35), the clusters of technological changes working themselves through society:

...were indeed “revolutions,” in the sense that a sudden, unexpected surge of technological applications transformed the processes of production and distribution, created a flurry of new products, and shifted decisively the location of wealth and power in a planet that became suddenly under the reach of those countries and elites able to master the new technological system. The dark side of this technological adventure is that it was inextricably tied to imperialist ambitions and inter-imperialist conflicts.

The essence of the ITU’s central role in this system is captured by R. Brian Woodrow, who states that “[a]s an international organization, the ITU has been characterized by the essentially technical and administrative nature of its work and the well developed practice of functionalism underlying its operation” (1991, p. 329). As new technologies and applications came along to take their place alongside the telegraph, more standardizing frameworks were added for radio and for telephony.

Nation states such as Britain were actively using the telegraph to coordinate control over their colonies from the distant centres of their empire. The spillover of this geopolitical feature of 19th-century life into the institutional life of the ITU became evident when in 1868 Britain was invited to attend the Vienna conference on the basis that their government ran the Indian telegraph system. After nationalizing their own system and announcing adherence to the Telegraph Convention, they sent two delegations to the following conference on Rome, demanding that each be given a vote.

This practice of “colonial voting”, as it became known, was incorporated into ITU standard practice in 1875 at the St. Petersburg conference. The strategy by strong colonial powers lasted nearly a hundred years, and was not fully ended until 1973. At its

zenith, it allowed Italy, Portugal, France, and Great Britain to each dispose of six additional votes.

Yet representatives of public government were not the only delegates allowed at the conferences. While not given the right to vote, the Rome Telegraph Conference of 1871-1872 also expanded participation in the proceeding to representatives of ten private telegraph companies, who were allowed to take part in all meetings and committees.

The tensions between nation-states attempting to secure favourable conditions for their own communications systems and private companies trying to conquer market share became evident in the early days of the ITU. Specifically, Marconi's practice of ordering its operators to not communicate with operators using non-Marconi equipment came under attack. When some nations, led by Germany and backed by the US Navy, attempted to end this practice at the 1903 Berlin conference, they were defeated by the refusal of Great Britain and Italy to go along. The latter states had a vested interest in Marconi's domination of the equipment market, early examples of a tendency of the state to act on behalf of its own private companies at ITU conferences.

Yet as Streeter points out (in the case of the radio spectrum), communications resources quickly became viewed as a new territory to be colonized by the nation state:

...Marconi faced powerful opposition from many Western nation-states. The navy, already the chief vehicle for the United States' nascent imperial project, approached other groups of American radio users in much the same way as it approached foreign powers: the navy believed it was its duty to keep others from usurping its, and thus the nation's, control of the spectrum. It thus came to view the Marconi company as a threat. The Marconi company not only was foreign (British) and the dominant commercial interest in radio at the time, but also pursued a monopolistic strategy that seemed to assert exactly the kind of territorial control that the governments of nation-states viewed as their exclusive prerogative. (1996, p. 76)

Germany and the United States finally managed to end what today might be referred to as Marconi's "anti-competitive" practices in 1906 in Berlin. It was at this conference that, as Armand Mattelart reminds us, "[t]he major users of radio (Great Britain, Germany, France, the United States and Russia) ... legitimated an imperial doctrine of radio frequency allocation, allowing priority to the country that first notified the International Radiotelegraph Union of its intention to use a specific frequency." (1999, orig. 1991, p. 13)

Here the state, or a group of states, was the dominant force that structured and regulated technology. Streeter's words as to the significance of this episode in the political development of radio technology offer an incisive analysis of the times we are examining:

The lesson... for Marconi and others interested in the exploitation of radio in the corporate mold was twofold: On the one hand, a monopoly company could face serious, perhaps devastating opposition in a head-to-head conflict with nation-states. On the other, by allying itself with a particular nation-state, a corporation could find support in the international arena. (1996, p. 77)

As domestic telegraph systems began to be put into place by more nation-states and the colonial voting practice became entrenched, the membership of the ITU began to grow. By 1914 there were 48 members, more than doubling the original twenty signatories. The United States initially chose isolationism in their refusal to become a member, claiming that although they were linked to the international network by cable they could not join an international organization that regulated the use of their telephone and telegraph networks since these had never been nationalized.

In 1932 the series of divisions between organizations responsible for various communications technologies were bridged with the creation of a single international organization in the field of communication. The International Telegraph Conference and the International Radiotelegraph Conference were held concurrently in Madrid, with the goal of unifying the International Telegraph Convention of 1865 and the International Radiotelegraph Convention of 1906. This was achieved, with the organization taking on a new name reflective of the broadened scope of communications technologies under international regulation. The expanded organization was renamed the International Telecommunication Union.

Subsequent to the cessation of World War II, the ITU met again with a view to adapting to the newly solidified global order in 1947. It became a specialized agency of the United Nations on October 15 of that year, thus apparently cementing its place as an institution of global public governance for telecommunications. As if to symbolize its neutrality in the heyday of the nation-state, the conference decided that the headquarters of the organization should be transferred in 1948 from Bern to Geneva.

The postwar period saw the long-awaited (and much planned for) arrival of global stability. Corporate liberalism had firmly taken hold within America, and gained influence in Europe due to the many strings attached to the Marshall Plan. Like the United Nations for global politics, the ITU was more than ever the logical next step in telecommunications regulation, a place where representatives of various nations came together to engage in the fashioning of progress. Here, countries acting on behalf of local “natural monopolies” negotiated the finer details of treaties in a world that must have

seemed as if it had seen the last of change. Extremely formal treaty-making conferences succeeded one another, where “[t]he primary needs were not speed or flexibility, but careful deliberation and permanence” (Rutkowski, 1991, p. 292).

At the margins of this world however were forces that would first destabilize it and then change it forever. Beginning in the mid-sixties, the wave of social change which would be felt across the world began to impact this most venerable of organizations. The harbinger was, perhaps predictably, the cohort of impoverished nations that had grown in number over the previous decades. As the colonial age let out its last gasps, these nations worked to eliminate some of the special benefits in the ITU that they felt the developed countries had received in the past, as well as to obtain more benefits for themselves. The one nation, one vote system suddenly became a boon for these countries freed of colonial rule (Coddington and Gallegos, 1991, p. 361).

As Kelly Lee suggests, these nations began to shape the ITU’s agenda, making firm demands in three areas: equitable access to orbit-spectrum resource; increased development assistance; and greater representation of low-income countries on decision-making bodies (1996, p. 82).

The imbalance in the amount of resources used to finance activities from which developed countries received a particular benefit was also targeted, as were the standards-making functions of International Radio Consultative Committee (CCIR) and the International Telegraph and Telephone Consultative Committee (CCITT) on the grounds that they favoured telecommunications equipment providers from the richer nations. For countries such as those from Africa, the concern lay in developing modern

telecommunications systems rather than having standards forced upon them by the rich technology producers. The effects of this post-colonial one nation, one vote advantage have since shaped the ITU. At the Nice Plenipotentiary in 1989, a permanent organ dealing with this issue was created, carrying the name of the Telecommunications Development Bureau (BDT).

The BDT can be seen as solidified testimony to a global groundswell of resistance to the communications aspect of Fordist capitalism that had begun in the mid-1960s. This “counter-hegemonic movement” as Kelly Lee refers to it (see 1996, pps. 80-106) spearheaded by the ex-colonies and other severely underdeveloped countries, was manifest both within and without the ITU. For the emboldened majority was simply reaffirming the need for a new world information and communication order (NWICO), in which information and communication technologies were recognized as having a particular and vital place in the development process. While by 1989 the prospects of NWICO had been routed around, by the restructuring of global telecommunications regulation, the link that had been made between low-income countries being dependant on information and the imperialism that had characterized their histories was tangible and of deep significance.

As capital was forced to restructure in the 1970’s and become fully global, the ITU’s authority began, just as insurgent social movements challenged it, to be slowly drained. The reason for this can be found in a new round of expansion and intensification of market relations. As R. Brian Woodrow states “[u]ntil the mid-1980’s telecommunications and trade were viewed as quite separate realms of activity

domestically and at the international level – occasionally intersecting with one another but involving fundamentally different tasks and evolving in different ways” (Woodrow, 1991, p. 325). The rise of regional, then global trade arrangements in goods and services began to impinge even on an international organization formed of representatives of nation states. Telecommunications, far from being peripheral to this transformation, was a central feature of it. Woodrow goes on to remind us in his 1991 article, “[t]elecommunications and the various network services which it can carry are now widely regarded as the ‘electronic highways for world trade’” (p. 326).

The reason for this shift is explored in more depth in the next chapter. The best way to illustrate the thinking which characterized it is to leave off with a quote by Jonathan Solomon, who sums up the decline of the ITU’s authority in a quintessential articulation of the neo-liberal perspective:

It may be argued that the ITU is a specialized agency, and therefore may be immune from changes created by geopolitical shifts. This is a comforting illusion. The ITU may well be narrow in focus but telecommunications is now becoming much too central for global competitive business to be left exclusively to the ITU. Indeed, in many respects the ITU is in danger of suffering sclerosis from its age. In an increasingly borderless global village the ITU is still border bound, reflecting the era of nation-states and administering regimes (eg accounting rates) which are based on strict respect for national sovereignty with an arm’s length type of carrier relationship. At a time when innovation and global networking are essential to maintain competitive edge, intergovernmental multilateral negotiations which cannot keep pace with business practices are in danger of becoming increasingly irrelevant. At a time when technological convergence is eradicating the traditional distinctions between broadcasting, telecommunications, data, voice, image, local, long line and international, and when business requires multidisciplinary skills, the ITU might suffer from the heavy baggage of history and representatives schooled, like the medieval metaphysicians, in the intricate details of this or that engineering or commercial specialty. In an era where private sector enterprise and microeconomics are taking over from governments and macroeconomics as the engines of wealth creation, the ITU might suffer from being underrepresented by the key decision makers in the business and technological world. Finally, even within the strict telecommunications domain the speed of privatization and liberalization has passed the ITU by” (1991, p. 373-374)

Solomon is correct in virtually all of his observations. The ITU has become too lumbering and slow for transnational capital, but this is not, however, due solely to the unqualified depiction of historical change he offers. The struggles for independence by once-colonial nations had manifested themselves inside the ITU as well, creating blockages for capital's efforts to achieve seamless and efficient accumulation on a global level.

What he offers, in other words, is an accurate but one-sided description of history. As we have seen, the matter becomes more complex when looked at from below as well as from above.

1.3 The Fluid Front and the Hybrid: Intelsat and the Forward Edge of Post-Fordist Regulation

Our attainments are a major element in the international competition between the Soviet system and our own. The non-military, non-commercial, non-scientific but "civilian" projects such as lunar and planetary exploration are, in this sense, part of a battle along the fluid front of the cold war. (Memo to President Kennedy by NASA administrator James Webb & Secretary of Defense McNamara, cited in Kinsley 1976, p. 2)

Did Satellite communication really require a new monopoly? Should it be directed primarily towards communication over oceans, and it's domestic possibilities ignored? These questions were barely considered. Nor was it obvious at this early stage that if satellite communication were to be turned over to a group of private business interests, they ought to be communications firms. (Kinsley, p. 4)

It is striking, when one considers the history of communications technologies, how often these have been developed with a view to control over space, whether physical or virtual. The development of satellite technology, like the telegraph, the telephone, and the radio before it, is no exception. The question which arises from this observation

about the development of communications technology is this however: Who seeks to control that space, and for what purpose?

The development of satellite technology, similar to what was the dominant characteristic of the ITU, came about in the context of the strong nation-states seeking to colonize new spaces. The space race between what were the world's two super-powers, the United States and the Soviet Union, in a sense determined the birth of the satellites off which we now bounce our cellular and international telephone conversations. While the earthly geo-political boundaries between the two competing ideologies had begun to solidify, attention turned increasingly to outer space in an attempt to colonize what was (and still is, albeit in a different context) considered a new and vitally important dimension to the Cold War taking place on earth.

Yet there was a new feature to the development of the Communications Satellite Corporation (Comsat), and then the International Communications Satellite Consortium (Intelsat). This was the significantly larger role that the private sector was allowed to play in controlling, shaping, and thus profiting from the technology. This new feature was an emergent one, which would find a purer expression decades later in the form of ICANN.

US Government experiments in the field of satellite communication began in 1958, with a view to aid terrestrial communications and lay the basis for eventual military control over space. From the very beginning the effort was deemed to be of vast strategic significance in its ideological goals as well. The tone of the debate is captured in a

statement made by Wayne Morse during a US Government hearing, when he warned Secretary of State Rusk that:

“Russia in the not too distant future will be in competition with us in exporting her enslaver philosophy of communism through the development of the underdeveloped areas of the world through the satellite communications system” (Cited in Kinsley, p. 3).

The major carriers in the United States were more than eager to jump onboard with this project, although their motives were perhaps less noble than the Secretary of State’s. In 1961, the four major long-distance international carriers (AT&T, ITT, Western Union International, and RCA) put together a proposal requesting that they be permitted to form an exclusive consortium to develop space satellite communication.

Reacting to these pressures, President Kennedy issued a Statement on Communications Satellite Policy in mid-1961, expressing in it his anxiousness “that development of this new technology to bring the farthest corner of the globe within reach by voice and visual communication, fairly and equitably available for us, [proceed] with all possible promptness” (Cited in Mosco, 1981, p. 252).

This satellite system, as Kennedy saw it, should be privately developed, including the “maximum possible competition” and “full compliance with antitrust legislation”(cited in Kinsley, p. 5). As the policy wheels began to turn, the Justice Department proposed that the Federal Government supervise the establishment of a single privately owned corporation to develop satellite communication. Ownership of the company’s stock would be open to anyone, but this would be limited to 15 or 20 percent.

Yet the bill that eventually became the Communications Satellite Act, passing through the House with virtually no opposition in April of 1962, looked much different

than even Kennedy's corporate-liberal vision of how satellite communication should unfold. The bill was, at best, a compromise between two visions. Senator Robert Kerr led the majority of representatives from Congress in proposing S.2650, a solution that would vest ownership entirely with the carriers. This bill lacked any provision for public representation. A small band of opponents of this measure suggested another way to structure the new institution. Led by Senator Estes Kefauver, this dissenting group proposed the establishment of a Communications Satellite Authority. This organization would be a government entity along the lines of a common carrier that could oversee the development of satellite communication.

The "Kennedy compromise", as Mosco refers to it (1981, p. 253), ceded overwhelming control over the proposed consortium to private interests. This new private corporation was to be set up in Washington DC, with half its stock being reserved for international communications carriers. The other half was to be reserved for aerospace and the public at large, but no one other than an international carrier could own more than 10%.

Most importantly for the purposes of this chapter however, was the makeup of the board of directors, the people who for all intents and purposes would have the most power to shape this new form of communications technology. Six of these were to be from the international carriers, another six were to come from the remaining stockholders, and the remaining three appointed by the President upon the advice and consent of the senate. This formula for the political control over the development of this

new technology, as Kingsley suggests, was less than favourable for anyone concerned about the need for public input.

The Comsat solution, later praised and imitated as a creative and prototypical solution to modern American business problems, really was a simple 50-50 compromise between what the Kennedy administration wanted and what Ma Bell and Senator Kerr wanted, with three public directors included to disarm liberal critics (p. 6).

These public directors - much like those appointed to the board of the Union Pacific Railroad in the 19th century - never had a well-defined role. As a result, Mosco notes that “for reasons mainly to do with the legislative history and social background of the Presidential directors, this service is not different from that provided by stockholder board members (1981, p. 260).

The reasons offered for allowing such a giveaway to the private sector (of a technology that had taken millions of tax dollars to develop) were manifold. Firstly, it was strongly suggested that only the country’s largest corporations had the available capital and technical know-how to complete such a project. The public at large, even through buying shares in what could have been a public company, could not possibly generate the kind of capital required to complete the project.

While the potential problems of corporate abuse inherent in this feature of satellite development were known to even the bill’s greatest supporters, it was argued that the regulatory structure created by the act contained equally inherent safeguards against abuse. As evidence for this there were the three Presidential Directors, guaranteeing some degree of public input.

Concern over the carriers' control of the new institution stemmed from the fact that control over a new telecommunications technology was being given to the owner of an old one with which it would inevitably be competing. But AT&T, which gained the largest chunk of Comsat, swore up and down that this would not hobble the new system in any way. Vice-President James E. Dingman was first quick to downplay the significance of the new technology, and then eager to refute speculation that their participation in the project would involve any bad faith. AT&T's eagerness to control Comsat, he said,

...may be construed by some as stemming from the selfish interests of my company which is the largest of the carriers involved. Let me assure you it is not. Let one thing be crystal clear: AT&T has no desire or intention of seeking to control the communications satellite system to its competitive advantage... Hard as it may be for some to understand, our sole interest is in the earliest practicable establishment of a worldwide commercial satellite system useful to all international communications carriers and agencies both here and abroad (cited in Kingsley, p. 10).

Gone was the rhetoric of competition, here companies had forgotten the famous self-interest which drove capitalism in favour of the broader public interest. The virtually unprecedented private control over a technology created with public funds had established a monopoly in international satellite communications ruled by an oligopoly-like group of companies. AT&T received 29% of the new company's stock, ITT 11%, and the other carriers soaked up the remaining ten percent allowed by the act.

Suggestions that the public could not put up enough money to fund such an effort proved themselves to be deeply inaccurate. Comsat's popularity was so high amongst America's stock-buying public that initially purchasing had to be postponed for a month. After this, many brokers limited the amount of shares they would sell to customers well

below the official quota of 50 shares per person and often refused to sell the stock to anyone who wasn't a regular customer.

The surge of public interest for the stock nullified the carrier's arguments that the corporation would somehow not be profitable in the beginning. As if to prove this, ITT sold its shares in 1968, when the price had gone up to \$60 from the initial \$20, and Western Union International chose to get out of the business around the same time.

Another argument bolstering the carrier's claim to control over the new organization was the level of expertise needed to develop the technology. The new communications system would need, beyond raw capital, the technical experience developed through the years by the telephone companies. In a theme which, regardless of the epoch, surfaces to greater or lesser extent on regulatory bodies, the system needed to be shielded from directors which might not, however well-intentioned, have the know-how to get the job done. The argument of technical expertise (or the "technological rationale", as Adorno and Horkheimer would refer to it), and the inexplicable reasoning that only the private sector can provide this, has become a central feature of post-Fordist regulatory bodies such as ICANN.

By the time the carriers were getting out of the Comsat game however, ruptures were beginning to appear in the previously tight-knit structure of Fordism, and western capitalism's expansion into outer space needed to become more coordinated. The International Satellite Communications Consortium (Intelsat) was launched in 1964 upon the express desire of the US Government, becoming one more institutional outpost on the most "fluid front" of the cold war. The organization was in theory supposed to be similar

to the many other international ones that had been created after the war, but was, in practice, much different.

In retrospect it is striking how prescient an organization it actually was. Although set in motion by the United States, Intelsat can be more accurately recorded as the first international organization where tendencies towards an increasing post-Fordist convergence between the state and capital under the rubric of regulation became evident.

Voting power and investment in the consortium were distributed, unlike the ITU, according to prospective volume of use of the system. This secured the United States 61% of the voting power amongst the original signatories, with any eventual new signatories being limited to 17% of the original investment of \$200 million. In this way, the US had an initial lock on a fifty-plus percent control over Intelsat, and the threat of exposure to the vagaries of developing countries was stemmed.

That the US dominated the new institution through its huge voting share is secondary for the purposes of this thesis however. What is most significant is the role that Comsat played in the consortium. The organization that has thus far been the subject of this section was made *the US representative to Intelsat*. The difference between this system and that functioning in the ITU is significant. As important a factor as Marconi was in the decisions of the British government with regards to the ITU, his company was far from being allowed to *represent* Britain as a whole.

Comsat's official line with respect to what was the forward edge of an epochal shift, although it attempted to portray matters as simple and straightforward, betrayed the blurring of previously solid boundaries:

Thus, by agreement of the United States Government, Comsat in its role as manager serves the entire INTELSAT organization and membership without discrimination, acts solely in the interests of efficiency, economy, and effective operation of the global satellite system, and does not serve any United States foreign policy interests which are not fully consistent with the interests of INTELSAT. On the other hand, with respect to Comsat's role as an owner of INTELSAT, Sections 201(a) (4) and 402 of the Communication Satellite Act of 1962 assure Comsat's responsiveness to the foreign policy interests of the United States (Cited in Kingsley, p. 113).

Comsat's role had been, in some respects, one of midwifery towards the new, international organization. Private authority had gotten a foot into the regulatory door, easing the slide towards what just over two decades later would seem like the common sense approach towards structuring communications technology.

1.4 Of Spiders and Bees

The three sections above have attempted to briefly outline the institutional forces characterizing the history (development and activity) of the ITU and Comsat/Intelsat, as well as provide a context within which these played themselves out.

The United States, having played a key role in the development of satellite technology, had learned a lesson from years of bickering with the one nation, one vote system in place at the ITU. Perhaps most importantly, the private sector in general and the telecommunications carriers in particular had perhaps sensed that the time was right to demand a much greater role in the structuring of telecommunications technology.

Firstly, the state allowed the private sector an exclusive monopoly over the development of satellite technology, severely hobbling anything close to democratic input in the new system. The three Presidential Directors eventually revealed themselves to be overwhelmingly uninterested in the public interest, and certainly powerless to do anything about it. Rather, the rotating doors between the Presidential directorship and those allotted to other (private) stakeholders proved more than anything else that the institution was essentially united in its objectives from the very beginning, that the different forces at play within society at large were not represented within the institution.

This rendered Comsat virtually airtight in the face of the broad struggle that was beginning to develop throughout the western capitalist world and developing nation states. People were demanding more input into the decisions of their governments (such as the civil rights movements in the US), struggling for freedom from colonial rule, or simply rejecting technocratic planning outright (the US peace movement, May 1968 in Paris, and Italy during the seventies being the best examples). The tips of these insurgencies were beginning to be felt, as illustrated in the case of the ITU, by older organizations conceived of in different times.

Yet the development of Comsat occurred in the heyday of Fordist capitalism, existing as a reminder that simple attempts at historical periodization are rarely useful. Rather, Comsat, and later Intelsat, can more usefully be seen as the forward edge of a different kind of regulation, as harbingers of a world to come.

When this world indeed arrived, when capitalist restructuring was close to complete, organizations based on old ways of conceptualizing the world such as the ITU

found themselves out of date. The global integration of finance, telecommunications systems, and markets made it so that communication itself was increasingly being excised from the public sphere, more and more frequently conceptualized as merely a “service” to be bought and sold. As proof of this, the slew of articles quoted from in section II from the special edition of *Telecommunications Policy* in 1991 dedicated to the ITU were more akin to the diagnosis of a sick patient than anything resembling a thorough critique of the changing regulatory environment.

Yet if anything they are more evidence that organizations such as the ITU are no longer sufficient for global capital, that the old arrangement whereby nation-states represented the interests of their domestic monopolies (and sometimes the end user) could not be sustained in the face of the “pace of business practices.” Moreover, as Jonathan Solomon candidly suggests, nation-states are at best sharing the driver’s seat, meaning that organizations such as the ITU, burdened as they are by “the heavy baggage of history,” might suffer from “being underrepresented by the key decision makers in the business and technological world” (1991, p. 373-374).

It is this kind of thinking, as we shall see in Chapter II, that emerged triumphant during the formation of ICANN. Yet it is important to recognize that this thinking does have a historical return address. Comsat and Intelsat serve as reminders that the seeds of this were planted by a previous generation of policy makers. Their contribution to the discourse surrounding global telecommunications regulation was, as it turned out, a significant one. The creation of Intelsat, in its own way, was as symbolic a date for the conception of post-Fordist global telecommunications regulation as Henry Ford’s five-

dollar eight-hour day was for Fordism. Both of these events occurred well before their respective modes of regulation had reached full maturity, both were signs of a world to come.

It is my contention that the new phase of global telecommunications regulation is no longer characterisable as the “corporate liberal” framework Streeter uses (to great effect) in his analysis of the development of American broadcasting policy. No longer is there a Trumanesque balance between the three great points of society’s triangle - capital, government and labour. The reasons for this have much to do with communications technology itself, making its regulation symptomatic of the steady shift that slipped into high gear in the mid-seventies.

Finally, I return to Jonathan Solomon once again, whose discussions of the ITU “in a time of change” are perhaps the most revealing of all. His prescription for the ITU if it wanted to maintain centrality in a new world was (years before the Telecommunications Policy special edition) that it paradoxically learn to “act like a bee piercing together a world system from different sources”, rather than “the spider seeking to control everything from the center.”

There is much to be gained from his analogy and (albeit uncritical) assessment of the ITU’s radically altered historical context. It captures the changing nature of global society and of the regulatory bodies which structure the flows of information within it. Representatives of the nation-state are perhaps no longer fully sufficient in the quest to coordinate the circulation of capital after the latest and most dramatic intensification of global market relations. The communications networks themselves are the most

significant feature of this latest round of intensification, making them essential to the coordination of the whole system, whether it be finance, manufacturing, or services. As the growth of Internet and its centrality in the post-Fordist regime of accumulation is examined in the next chapter, the case will be made that a new form of governance was a necessity for this new medium.

What kind of structures emerge from the new technologies and new regulatory strategies of globalized capital? And how does this new form of governance serve those who instituted it better than the complex apparatus erected during the heyday of nation-states? These questions are the subject of the next two chapters.

Chapter II

Constructing Private Authority: The Creation of ICANN

... (t)he history of broadcasting institutions shows very clearly that the institutions and social policies which get established in a formative, innovative stage - often ad hoc and piecemeal in a confused and seemingly marginal area - have extraordinary persistence into later periods, if only because they accumulate techniques, experience, capital or what has come to be seen as prescriptive rights.
(Williams 1974, p. 147)

The goal of this section is to understand the Internet Corporation for Assigned Names and Numbers (ICANN) in relation to the specific pressures which brought it to life as an organization and which continue to guide its actions. Once these links connecting ICANN to a new form of global capitalism (commonly referred to as post-Fordism) have been traced, it will be easier to understand the tensions and contradictions inherent in this relationship.

This strategy will be employed in order to understand first and foremost the political, economic, and cultural lifelines that ICANN is dependent on for legitimacy in its functions as a global telecommunications regulator. By the end of the section, I hope to have made steps towards delineating the relationship between ICANN and the forces

that encompass and thus influence its actions. These, I argue, can be most helpfully understood as post-Fordism and its ideological consort, neo-liberalism.

The path from one to another - what Mosco (1996) would refer to as the “mutually constitutive” relationship between these two objects of inquiry - does not itself exist in some kind of stasis however. As we have seen, ICANN is only the most recent of global organizations put in place for the specific purpose of regulating global telecommunications resources. Yet ICANN is a qualitatively new and different kind of governing body. While the view demands some qualification, there is strong evidence to suggest that it is a significant departure from traditional methods of governing communications media – a fully private entity created to govern a public resource. As such, an analysis of its suitability to this task (based on its activities to date) offers a unique possibility to evaluate the economic theory/ideology that spawned it.

The chapter will thus be structured as follows. First, I will give an historical overview of how the names and numbers system has been managed and developed, from the Internet’s earliest days. Subsequently, the chapter will move on to discuss the emergence and nature of post-Fordism. Finally, I will trace the encounter between the names and numbers system and this qualitatively different form of capitalist organization. It is at the crossroad between these two objects of inquiry, I argue, that ICANN is born.

Within the realm of this chapter, the resulting organizational structure of ICANN itself will be analyzed. It will be suggested that this deeply unrepresentative and ultimately undemocratic political form is the direct result of the perceived political and

economic wisdom upon which ICANN was founded and its activities (albeit fuzzily) circumscribed.

2.1 Carving Up the Internet: ICANN's Pre-History

"I propose that there be a czar (me?) who hands official socket numbers used by standard protocols. This czar should also keep a list of those socket numbers where host specific services can be obtained. I further suggest that the initial allocation be as follows..." (Jon Postel, Request For Comment 349, May 30, 1972)

At the heart of ICANN's control over the structure of cyberspace lies, perhaps fittingly, a small file of computer data kept in Herndon, Virginia. Referred to as the "root" file, or "root zone," it is the official list of domain names on the World Wide Web, a file that most computers on the Internet use as a phone book for every email and web-site address. It is here where, once or twice a week, changes to the name servers of the TLDs are made. From this file, thirteen computers known as the legacy root name servers get their information. In turn, virtually every computer on the Internet gets its data from one of these root servers or a copy of its data that has been cached downstream.

Put bluntly, if a web-site's address is not listed on this root file, it will not be experiencing much traffic. Standard browsers such as Netscape's *Communicator* or Microsoft's *Internet Explorer* would ignore requests to go to the address or send the email, not recognizing it as an existing one because of its absence in the root zone.

That such a small, virtually intangible item as a computer file could be of such disproportionate importance to the functioning of global capitalism, perhaps nobody could have imagined. But the history of institutional control over it betrays, at its

margins, a changing world. Initially administered by a small group of experts working from various nodes of the network, control over the names and numbers system needed to become more formal due to the ever-increasing influence of commerce on the system. This process then, is the subject of the section that follows.

In order for information to find its destination on the network, each host computer is assigned a name and corresponding number. While the network uses the numeric address to identify another computer (a host) and send information to it, sets of characters (most often in the form of words) are vastly easier for humans to use, for obvious mnemonic purposes. In this way people can type an alphabet-based address into their web browser, which then “resolves” ottawa.com into a numeric address. This address is what is known most commonly as an URL, or Uniform Resource Locator.

The process by which information finds its way through cyberspace has not always been structured in the same way. The notion of giving inter-networked computers easily remembered names can be traced back at least to 1971, and in this system’s earliest days control over the official list of addresses resided with a few groups firmly within the orbit of the US government.⁷

The system was a hybrid of centralized and decentralized management. Each host kept a list of addresses for every other host on the Internet, but the Network Information Center (NIC) at the Stanford Research Institute (SRI) was responsible for keeping track of host names and addresses. The NIC was a child of the US military-industrial complex,

⁷ This brief history of the management of the DNS is indebted to that provided in Michael Froomkin's lengthy legal critique of the relationship between the US Government and ICANN (2000), Abbate's history of the Internet (1999), and Mueller's critique of the ICANN and “self-regulation.” (1999).

a contract for its creation having been given to the Stanford Research Institute by the manager of the Advance Research Projects Agency Network (ARPANET) project, Lawrence Roberts.⁸ Its function was that of being an online resource that would maintain a directory of the network personnel at each site, host an archive of documents relating to the network, and provide information on resources available through the network (Abbate, 1999, p. 59). The NIC approved new host names as they connected to the network, maintaining and distributing updated lists to every other server. As Abbate suggests however, problems arose with this method of organizing the flow of information from computer to computer:

The host table had to be updated whenever hosts were added, were removed, or changed their point of attachment to the network – events that happened often... [NIC] often fell behind on these tasks, and many host administrators began using their own unapproved but up-to-date host tables. When the NIC did distribute updated host tables, the sheer size of the files threatened to swamp the network with traffic as they were sent out to hundreds of hosts. Host administrators complained about the inadequacy of the system, and it was clear to everyone that further growth of the Internet would only exacerbate the problem. (1999, p. 189)

The predecessor of the modern "root" file (a hosts.txt file) was handed over to the SRI in 1972 by Peggy Karp, one of the authors and editors of the Internet standards. Karp had authored the first Request for Comments on host names and prepared the first .txt file. For the following fourteen years, the file was maintained by the previously mentioned SRI NIC, and subsequently by the Defence Data Network (DDN) NIC, and the Defense Information Systems Agency (DISA) NIC.

⁸ The ARPANET, as a sub-project of the Advanced Research Projects Agency (ARPA), was yet another technology to emerge out of the Cold War. In the case of ARPANET, the project began as an attempt to ensure communication between government and military locations was maintained in the case of a nuclear strike.

UCLA had been active in an informal Network Working Group (NWG) created by Roberts to develop software specifications for the host computers and to provide a forum for discussing experiences and experiments with the network (Abbate, p. 59). The maintenance of the root file thus fell to UCLA graduate student Dennis Postel, who coordinated changes in standards and policy during the seventies and was to be closely associated with the names and numbers system for the rest of his life. Postel's work in this area was supported, through Roberts, by ARPA funds.

Postel is a key figure in the story of the development of the root file. His involvement with the project from its earliest days through to the mid-nineties - when commerce began to bear down on the names and numbers system - encapsulates the changing pressures that exerted themselves on the development of the technology. After receiving his PhD, Postel moved to the University of Southern California's Information Sciences Institute, retaining his previous responsibilities. For years thereafter, Postel and his assistants carried out many of the functions now occupying ICANN, Network Solutions Incorporated (NSI), and the various registrars involved in selling domain names.

Yet it is important to note that the development of the domain name system we now use grew out of discussions between a small number of members from the Internet technical community. These experts, situated at various points on the network, were practically the only people who knew the intricacies of the names and numbers system. While working under the auspices of the ARPA project, their accountability extended to the state only. With the exception of satisfying the military demands on their project,

they retained a large amount of autonomy in the decision-making process due to their singular expertise in the area. As time went on, as we shall see, they made attempts to take over the names and numbers system altogether.

As the aforementioned problems with the method of cataloguing hosts' addresses became apparent, the community began to consider the possibility of carving the Internet up into separate "domains." It is at this point that the email and web-site address forms we now use began to crystallize, with individual users identified as "user@host" (i.e. **eobrophy@carleton.ca**) and host names becoming "host.domain" (i.e. <http://www.carleton.ca>).

As hundreds of smaller networks began to link up to that brought about by ARPA, veritable policy decisions were being made by a handful of people who understood and shaped the technology. The structuring of the new space that had been created was now intensifying. In 1983, Postel and a colleague, Joyce Reynolds, authored *Request for Comment 920*, a document that was to what became the foundational to what became known as the domain name system (DNS). It was issued under the auspices of the Internet Activities Board (IAB), a ten member private organization that had been formed out of the reorganization of the Internet Configuration Control Board (ICCB) - itself an advisory group that provided DARPA with technical advice on the Internet research program.⁹ Each of the members headed a different task force, and in 1986, at about the same time as the Internet program began to involve the National Science Foundation, a new task force was added called Internet Engineering. This became responsible for

⁹ The ICCB initially consisted of eight members.

standards development, and was subsequently referred to as the Internet Engineering Task Force (IETF).

RFC 920 was an official statement of the IAB and the DARPA, effectively dictating policy on the structure of the Internet. As one reads through the RFCs however, it is striking how suspiciously these sound like the members of the IAB were the few with any expertise on the names and numbers system, trying to explain it to those who funded the project:

Domains are administrative entities. The purpose and expected use of domains is to divide the name management required of a central administration and assign it to sub-administrations. There are no geographical, topological, or technological constraints on a domain. The hosts in a domain need not have common hardware or software, nor even common protocols. Most of the requirements and limitations on domains are designed to ensure responsible administration.

The domain system is a tree-structured global name space that has a few top level domains. The top level domains are subdivided into second level domains. The second level domains may be subdivided into third level domains, and so on.

The administration of a domain requires controlling the assignment of names within that domain and providing access to the names and name related information (such as addresses) to users both inside and outside the domain (Postel and Reynolds, 1983).

Rather than a single organization being responsible for the upkeep of a comprehensive list of all host names and addresses on the Internet, each of the new cyber-territories would maintain a “name server.” This special host kept a list of all of the host names and addresses within that domain - when outside hosts needed to find an address they would query this name server for it. The foundational RFC authored by Postel and Reynolds also set out what the initial TLD’s would be:

The initial top level domain names are:
 Temporary
 ARPA = The current ARPA-Internet hosts.
 Categories

GOV = Government, any government related domains meeting the second level requirements.
EDU = Education, any education related domains meeting the second level requirements.
COM = Commercial, any commercial related domains meeting the second level requirements.
MIL = Military, any military related domains meeting the second level requirements.
ORG = Organization, any other domains meeting the second level requirements (Postel and Reynolds, 1983).

Postel's role is interesting not because he is in any way the most important force shaping the new system, but because his suggestions in the series of RFCs dealt with many of today's most contentious issues in the political control over cyberspace. As one reads the structuring documents there are few indications that the sectioning off of the Internet, control over domain names, or the creation of new TLDs were considered anything more than minor technical problems to be dealt with by experts. As late as the mid-nineties these were discussed as reasonably straightforward matters, prompting Froomkin to point out that "several issues which are fraught with controversy today took only a paragraph or two to explain in 1994" (2000a, p. 56).

In 1985 DISA formally gave the responsibility for managing the expansion of the namespace over to the Information Sciences Institute (ISI) at the University of Southern California (USC). The following year DNS registration functions were allowed to be carried out outside of the country for the first time, at offshore DARPA research centres. The first of these was University College, London, for a .uk domain, followed by a research facility in Amsterdam.

Under the authority of the US Department of Defense (DoD), ISI reorganized around 1988 and began carrying out the DNS responsibilities under the title of the

Internet Assigned Numbers Authority (IANA). The source of this body's funding was DoD grants to USC, and it therefore remained in essence a government contractor.

The centralized quality of the relatively new domain name system seemed temptingly up for grabs however, and the 1990s ushered in a series of quiet and less quiet attempts to seize authority over its functions. In 1990 Vinton Cerf, who would turn out to be perhaps the most influential individual shaper of ICANN, attempted to put Internet standards administration under the jurisdiction of the previously discussed Internet Architecture Board (See Cerf, RFC No. 1160.). Pursuant to this, he created a private, not-for-profit membership society that could serve as an organizational platform for the IAB and any other entity that might get involved in the process of Internet governance. This organization was given the name of the Internet Society (ISOC), was incorporated in 1992, and had the IAB constituted as a committee within itself. In yet another reminder of how small the community was and is, Mike Roberts, who would become the ICANN's first CEO, was the first director of ISOC.

In 1994, Postel pushed on with another attempt to transfer authority over the names and numbers system, preparing a charter that proposed to transfer the IANA function from a government contract with the USC ISI to ISOC. Underlying the deep importance of the state to the process of privatization, questions began to be raised within federal agencies as to whether ISOC possessed the "jurisdiction and overall responsibility" for the DNS (Mueller, 1999, p. 500).

In the meantime control over the TLD resource also began its piecemeal migration towards the private domain, as DISA recompeted the NIC contract to

Government Systems Inc. (GSI) in 1990, which subcontracted the entire operation to Network Solutions Inc. (NSI).

Postel and IANA went on to create a few additional limited-use general (g) and country code (cc) TLDs since establishing the basic system. The demand for domain names was quite small still in the mid-nineties, and while they undoubtedly predicted future growth in demand for the resource, once again it seemed as if creating more would be a simple, purely technical operation.

In *Request For Comment 1591: Domain Name System Structure and Delegation* for example, Postel described policies and procedures for assigning domain names (See Postel, 1994). By that point, underscoring the extension of commerce's sphere of influence to the Internet, the spectre of trademark conflicts already loomed over the process however. Yet even then it appears to have been dismissed as a matter of minor importance:

1) Names and Trademarks: In case of a dispute between domain name registrants as to the rights to a particular name, the registration authority shall have no role or responsibility other than to provide the contact information to both parties. The registration of a domain name does not have any Trademark status. It is up to the requestor to be sure he is not violating anyone else's Trademark (Postel, 1994)

In 1995, Postel set out a plan whereby 150 new TLDs were to be created that year alone. Yet it took years after these suggestions for ICANN (which had of course yet to be created) to actually implement them, and even then this was done in an odd fashion. To understand this however, we need to return for a moment to the history of the institutions that evolved around Postel's activity, enabling and constraining his role.

By 1994, the contradictions of how the DNS was managed were already beginning to surface. With the boom the Internet experienced in use during this period, disputes over attractive domain names started to crop up, and other countries became vocal about their concern of US control over the root.

In 1993, the National Science Foundation (NSF) had replaced the DoD as the funding source for the NIC. With the spectre of the Cold War waning, Network Solutions Inc. was given the responsibility of taking over the domain name registration services for the non-military portion of the Internet. NSI ran (and owned) the computers that held the root-file zone and carried out the duties of registering domain names within the .com, .org and .net TLDs on a first-come, first-served basis.

In retrospect, NSI was thus handed a virtual monopoly over the increasingly lucrative domain registration business. When they received the right to charge for every domain name in July of 1995, this swelled into a multi-billion dollar market, one which the NSF-NSI "Cooperative Agreement" assured NSI control over until September 1998. In this agreement IANA maintained a claim to authority over the allocation of the resources by stating in Article 3 that NSI was to "provide registration services in accordance with the provisions of RFC 1174" (See NSF-NSI, 1993). This RFC maintained the right for IANA to *delegate* responsibility with respect to numeric network and autonomous system identifiers:

Under this proposal, the IR [Internet registry] would be charged with the registration and administration of the Internet number space *but not with the enforcement of policy*. The IR should collect enough information to permit network administrators to make intelligent decisions as to the acceptability of traffic destined to or from each and every legitimate Internet number. Enforcement of policies is discussed below. (Cerf, August 1990, emphasis added)

Postel's aforementioned plan to create 150 new cyber-territories thus stemmed from IANA and ISOC's wariness of NSI's monopoly. Each of the new feudal territories would be managed by proprietary registries that paid a fixed fee of \$ 2,000 US per year and an additional 2% of the revenue flowing from domain name registrations. The money would find its way into a fund managed by ISOC. Not surprisingly, ISOC's board endorsed the plan in 1996. As Mueller unflinchingly points out (1999, p. 501), it was evident that IANA and ISOC viewed the administration of the root as a money-spinner that would provide long-term support for their institutions.

Yet the power (and thus money) grab fizzled this time as well, although by now the issue was gaining some prominence amongst the state, regulatory authorities, and the broadening Internet community. The ITU saw itself as the rightful custodian of the root zone, and publicly questioned the grounds upon which IANA was to implement the plan. Furthermore, trademark holders, amidst a flurry of domain name registration and speculation, were terrified their brands would be subject to the same debasement in cyberspace's newly proposed territories. Even the businesses that were to run the new spaces balked at the proposed fees and questioned IANA's authority. The attempt failed, but it was becoming clearer every day that at some point something had to be done.

A brief period of stability ensued, wherein control over the DNS continued to reside with the US Government that delegated the responsibility to other agencies, IANA and NSI. During this period NSI quickly moved to protect itself from lawsuits arising over conflicts in registering domain names by creating an oft-amended dispute policy.

This began to enforce the "rights" of trademark holders, largely out of fear of the financial and legal means the latter possessed (see Chapter III).

As the registration of domain names skyrocketed however, the root could not but be seen as an ever-juicier prize. In 1996 a group calling itself the International Ad Hoc Committee (IAHC) proposed to create seven new TLDs. The IAHC was in fact a third stab by familiar parties to control the root server, and the most comprehensive thus far. By the fall of that year, the Internet Society had realized that they needed a wider group of players if the semblance of authority over the root server was to be achieved.

A "blue ribbon international panel" was assembled, amounting to a grab bag of international organizations proposing to make policy for cyberspace. Beyond ISOC, some likely suspects were counted as members, including the Internet Assigned Numbers Authority (IANA), the Internet Architecture Board (IAB), the Council of Registrars (CORE)¹⁰, the International Telecommunication Union (ITU), the World Intellectual Property Organization (WIPO), and the International Trademark Association (INTA).

A charter for the new organization was released in November of 1996, followed by a Final Report three months later that outlined a structural model for the control of the DNS. Here, registry oversight was proposed as a non-profit monopoly, with competitive, for-profit functions being assigned to the registrars. The root server would thus be co-owned by the competing registrars, who would all enjoy the right to sell space on the master list.

¹⁰ The Council of Registrars was more a proposal for an organization than an organization proper. It was to be incorporated in Geneva as a non-profit group, with registrars who wished to take a slice of NSI's pie

In the spring of 1997 the IAHC and others issued a Generic Top Level Domains Memorandum of Understanding (gTLD-MoU), which in essence attempted to set out a broad framework for the future regulation of the names and numbers system (International Ad Hoc Committee, 1997).¹¹ The document was formally a private creation, the signatories of which being private corporations.¹² The now-satiated ITU, while lending some form of credibility to the organization and hopefully receiving an infusion of much-needed authority in the process, agreed to act as a “depository” for it and to promote it as if it were an international convention. The structure of the proposed organization ensured that it would have even less public input than ICANN presently enjoys.¹³

Yet with regards to the kinds of activities the IAHC was to oversee, the gTLD-MoU was clear:

The Policy Oversight Committee may from time to time:
i. change the number of gTLDs and approve names of new gTLDs;

being charged a \$20,000 entrance fee and \$2,000 per month, plus an anticipated but yet to be agreed on fee for each domain name registration.

¹¹ The gTLD-MoU is indicated by some as being the catalyst for political turmoil in cyberspace, polarizing as it did the debate over the future governance of the names and numbers system.

¹² A list of signatories can be found at: <http://www.itu.int/net-itu/gtld-mou/simple-es.htm> (Last accessed October 5th, 2001)

¹³ From the gTLD-MoU:

“g. Members of the Policy Oversight Committee (POC) will be appointed in the following numbers by each of the following groups and organizations; appointees are not necessarily members of the appointing groups or organizations.

- i. Internet Assigned Numbers Authority (IANA) - 2
- ii. Internet Society (ISOC) - 2
- iii. Representative of the Depository of this MoU - 1
- iv. Internet Architecture Board (IAB) - 2
- v. Council of Registrars (CORE) - 2
- vi. International Telecommunication Union (ITU) - 1
- vii. World Intellectual Property Organization (WIPO) - 1
- viii. International Trademark Association (INTA) - 1”

- ii. change the number of Registrars, provided that appropriate global geographic distribution of Registrars shall be preserved;
- iii. establish new terms and conditions for applications by entities desiring to become Registrars, including, among others, provisions for CORE to establish and collect fees for its registration and any other services it may perform in such amounts as it may from time to time determine;
- iv. recommend, to the PAB, amendments to this MoU, including but not limited to, changes in the composition of the Policy Oversight Committee;
- v. following consultation with the PAB and CORE, remove Registrars who do not operate consistently with the requirements of this MoU and the CORE-MoU.

The GLT-MoU ultimately failed however, unable to secure the US government's consent for the takeover. What it did do, as every other takeover attempt had incrementally brought about, was force a formal intervention on the part of the state. The names and numbers system's shift towards the private sector, despite the failed coups, appeared more likely than ever. The question was more one of what institution the power would be housed in, and by this point the individuals who were the front-runners in the race for power was more than clear. Even Abbate, in her see-no-evil approach to the history of the Internet notes that, "[t]he technical side of managing the privatized Internet was little changed from the Arpanet days, in part because there was a good deal of continuity in the core group of computer experts who made the technical decisions" (2000, p. 206). It was the political side that had yet to solidify.

Yet swirling around the development of the names and numbers system was also the unfolding of a larger historical process. Capitalism's stable configuration since the post-war period was changing, an epochal change in which the development of this network of networks was to be absolutely central.

2.2 Post-Fordism and the Network of Networks

There appear to be times of bewildering transformation and change in the structure and organization of modern Western economy and society. It seems that capitalism is at a crossroads in its historical development signaling the emergence of forces - technological, market, social and institutional - that will be very different from those which dominated the economy after the Second World War. Though not uncontroversial, there is an emerging consensus in the social sciences that the period since the mid-1970's represents a transition from one distinct phase of capitalist development to a new phase. (Ash Amin, 1995, p.1)

Crowning a process which had begun decades previous, by the late 1990's capitalism had achieved a state which Dan Schiller has usefully described as "digital" (1999). Initially explored by thinkers such as popular writer Alvin Toffler (1980), communications scholar Daniel Bell (1973), political economist Ernest Mandel (1975), and economists Piore and Sabel (1984), the great productive shift within advanced capitalist societies (beginning in the mid-1970's) had come to fruition.

This qualitatively new state is marked by a dramatic shift - towards service sector employment, leaner and more flexible production processes, the expansion and intensification of communications networks, the progressive inadequacy of the state-form to deal with the exigencies of global capital flows, and the creation of supranational coordination bodies such as the World Bank, the IMF and the WTO.

The new system of production, distribution, and consumption is part and parcel of the process increasingly described as "globalization." The previously described productive system, Fordism, achieved stability during the post-WW II period by working mostly within the boundaries of the nation state. High levels of production could be complemented by equally high levels of consumption. Furthermore, the products, which

were all produced using consistent processes, were characteristically undifferentiated amongst themselves.

This productive system, as the Regulation School theorists suggest, began to unravel during the seventies. Whether this was due to internal contradictions or external ones, capitalism began to change. David Harvey, drawing on the work of Alain Lipietz, Michael Aglietta, and Robert Boyer, suggests that the Fordist methods of production, distribution, and consumption encountered an insurmountable obstacle: *rigidity*.

There were problems with the rigidity of long-term and large-scale fixed capital investments in mass-production systems that precluded much flexibility of design and presumed stable growth in invariant consumer markets. There were problems of rigidities in labour markets, labour allocation, and in labour contracts... And any attempt to overcome these rigidities ran into the seemingly immovable force of deeply entrenched working-class power – hence the wave of strikes and labour disruptions of the period 1968-72... Behind all these specific rigidities lay a rather unwieldy and seemingly fixed configuration of political power and reciprocal relations that bound big labour, big capital, and big government into what increasingly appeared as a dysfunctional embrace of such narrowly defined vested interests as to undermine rather than secure capital accumulation. (1990, p. 142)

Capital's solution to these problems has led Harvey to categorize the new productive system as one of "flexible accumulation." Yet what Harvey often manages to ignore is the vital nature of the expansion and intensification of communications systems to the process.

Following his lead but giving communications technology its properly central role in the shift, are a host of other theorists. Building on the foundations laid by these, Hardt and Negri have most recently referred to it as the "informatization of production" (see 2000, pps. 280-303). Here they critique positions holding that historical stages succeed one another in linear fashion, and are categorizeable by whichever happens to be the

economy's dominant sector. Instead, they argue for a view in which new economic paradigms merely transform older ones rather than replacing them:

Today all economic activity tends to come under the dominance of the informational economy and to be qualitatively transformed by it. The geographical differences in the global economy are not signs of the co-presence of different stages of development but lines of the new global hierarchy of production... The economic stages are thus all present at once, merged into a hybrid, composite economy that varies not in kind but in degree across the globe. (pps. 288-289)

While Hardt and Negri's work is constantly short on specifics, the research done by others supports this view. With regards to the expansion and intensification of communications networks, Schiller gives us a view of the Internet's development as not only growing out of a US military effort, but as part of a larger move towards achieving the interoperability of hundreds of discrete, mainly corporate networks (1999). These networks had developed since World War II, as "business users elaborated a policy agenda around a general objective: freedom to develop corporate network systems and services as they preferred" (p. 4). The grand network of networks which was to come therefore, grew not only from the military's attempt to create a strategic defense tool, but from a proliferation of local networks in "light" sectors such as banking and finance.

First... today's Internet is simply inconceivable as a historical outcome absent prior development of inhouse corporate networks on a gargantuan scale. Second, this mushrooming information technology sector came to comprise the leading edge of the larger economy, which in turn lent irresistible momentum to the reconstruction of the world's information infrastructure (p. 13).

Heather Menzies was also quick to point out that the information highway is not only a central feature of the new economy, but its central axis (1996, p. 7). This digitization is transforming all of its major institutions, reconfiguring power for the post-

Fordist era. Yet Menzies also reminds us, on a more human level, that buzzwords like “flexibility” and “informatization” have their roots in an intensification and expansion of the labour process. Protracted high levels of unemployment have continued even into periods of record-breaking corporate profits as economic activity as whole is being scaled up to a standard that only the largest and most capital-intensive companies can match (pps. 8-9).

The massive push by hundreds of corporations to develop their information networks and attach them to the larger network was one of the most important, if not *the* most important precondition for globalization to gain momentum as a process. The degree of flexibility achieved by capital has been increasing exponentially thanks to these networks which are its oxygen. Not only has this allowed increased mobility for capital and greater control over its workforce however, it has enabled the fine-tuning of circulation processes to the point where production can be in many cases immediately responsive to consumption.

Furthermore, digitization has given rise to that which could be referred to as an almost purely *immaterial* sector of the economy. Here, rather than selling people *things*, capital has focused on extracting surplus value from the production and sale of *events*. These pay per view movies, cable packages, and cultural happenings do not have the same storage requirements as material commodities, and can be sold many times over to the same consumer. As commodities, they are the new figurehead of informatized capitalism.

It is easy to see how this relatively new informational advantage allows corporations to operate on a truly global scale, producing in one country, assembling in another, being headquartered in yet another, and selling virtually everywhere. This has led people like Webster to conclude that globalization has chiefly manifested itself in four areas: globalization of the market, globalization of production, globalization of finance, and globalization of communications (1995, pps. 142-145).

Yet if the manner in which accumulation occurs has changed, then so too has the mode by which it is regulated. “Deregulation” does not mean that regulations are disappearing altogether, merely that the sites and ways in which they occur are being shifted and transformed. As Winseck suggests, it may be more useful to speak of regulatory liberalization (1998, p. 21). National regulators have increasingly changed the way they intervene in industries – attempting to encourage “competition” and private sector leadership, while at the same time having allowed an unprecedented round of mergers and takeovers since the 1980’s. At a national level the strategy seems aimed towards the incubation of “national champions” until they are ready to compete with similarly global behemoths.

As corporations spilled out of national boundaries in order to invade previously insular markets, the regulation of capital was forced to adapt and create structures (such as the World Trade Organization) which could manage the circulation of capital at a global level. In the telecommunications field for example, the WTO hammered out an agreement in 1996 to eliminate tariffs on \$500 billion US worth of computer and software products by the year 2000. In 1997 it agreed to open basic telecommunications

markets within seventy countries accounting for 94% of world telecommunications markets. With huge, nimble corporations competing on a global scale, the differences between Fordism and its successor are becoming increasingly apparent.

2.3 Post-Fordism Meets the Names and Numbers System: The Economic and Ideological Rationale for ICANN

The names and numbers system had been developed from its inception by a small group of experts accountable to the Department of Defence under the auspices of the ARPANET project. As the long haul of hundreds of discrete networks moving towards interoperability approached completion and millions of common citizens began logging on to the network a new, stable, and authoritative organization was needed to run the names and numbers system and render it compatible with the rapidly developing global capitalism.

In the mid-nineties the United States had a Democrat government eager to foment the hype surrounding “information superhighways” and the “information society.” Fittingly, Bill Clinton and Al Gore were “technophiles whose youth and imagination appealed to the software capitalists of the Valley” (Fraser, 1999, p. 107). The newfound political clout that Silicon Valley could deliver was put behind the Clinton-Gore ticket, establishing the first meaningful nexus between pro-business, limited government Democrats and what Streeter refers to as computer-culture’s “fusion of 1960’s countercultural attitudes with a revived form of political libertarianism” (1999, p. 50)

This brand of thinking cum-political movement culminated in July of 1997 with the Clinton administration's *A Framework for Global Electronic Commerce*. The guiding principles espoused therein were wholly consistent with the new mantra of post-Fordist governance: private sector leadership, no undue restrictions, the limitation of state involvement to a minimum, government recognition of the Internet's "unique characteristics", and facilitation of the much-vaunted e-commerce market.

The position has been held on to tightly since then. Ira Magaziner (who was instrumental in bringing about ICANN's founding documents) illustrated it well just a year later:

There are two different models we could have considered for how this industry would develop. The first is the telecommunications and broadcast model, where governments around the world either own or operate the industries and, as in the United States, heavily regulate them. The other model is where buyers and sellers come together freely and do business, and the role of government is simply to set a predictable legal environment for commerce. We've opted for the latter model rather than the traditional model (cited in Fraser, 1999, p. 114).

As Streeter suggests, the dominance of this policy orientation does not seem to be purely a matter of scholarly argument (1999, p. 49). The movement toward market-based policies (which would lead to the creation of ICANN's private authority) was based as much on myths like the "New Economy" and "friction-free capitalism" as on neo-classical notions of "rational" actors and an "efficient" private sector. It has its roots in the "corporate liberalism" mode of regulation that was outlined in Chapter I.

This cultural/ideological base of such a movement is vital to the context out of which ICANN was created. This is not because corporate liberalism spawned ICANN, but because corporate liberalism was the predecessor of the cultural-economic movement

that created the organization. If corporate liberalism gave us relatively strong international public regulatory bodies like the International Telecommunications Union (ITU), then ICANN is quite obviously the result of a different kind of thought. This newly hegemonic framework can be understood most helpfully as *neo-liberalism*, the policy consort of post-Fordism.

Magaziner went on to claim that the reasons for the new policy orientation were virtually self-evident:

...[I]n the telecom and broadcasting industries government regulated for specific reasons that do not exist with Internet commerce. In broadcasting, there is a limited amount of spectrum to be allocated. In the case of telephony, when the initial infrastructure was built, the size of investment required relative to the size of the companies was huge. So governments licensed monopolies and set up regulations around those monopolies. With the Internet, there is almost unlimited bandwidth and massive competition. There is almost unlimited consumer choice... So we don't need government regulation. For all those reasons, we went to a market-driven system.

In retrospect the reasons for this new mode of regulation were perhaps less evident than Magaziner made them out to be. Even by that point Network Solutions Inc. held a virtual monopoly in the domain name registration business, one which had been created by the state. In the only TLDs available to consumers outside of the country-code ones, if you wanted to register a .com or .org website, your money was going to NSI. By March of 2000 it's 8.1 million subscriber base was enough to make it a more than attractive prospect for other big players in the Internet business, the proof of this coming when it was acquired by Verisign Inc. (America's leading provider of e-commerce and e-mail security) for \$21 billion US in stock (CNNMoney, 2000).

The wheels of large-scale Internet policy-making had begun to turn for some time, but it was not until late in the game that the names and numbers system became an issue.¹⁴ The US Government's control over the DNS system was attracting more and more criticism from excluded nation-states, there had been a series of attempts to control the root server, and most importantly the private sector's chorus of concern over trademark issues had reached a deafening pitch. The state was forced to intervene, and it was primarily due to trademark issues that this happened. The US Patent and Trademark Office, backed by the Department of Commerce, began to support intervention into what previously had not been thought of as an e-commerce issue. Magaziner stated, as if relating news from some far-off colony: "I heard them raising a concern that was backed up by a number of business people that if you ignored trademarks in the issuance of domain names, it could have a negative commercial impact"(cited in Mueller, 1999). Recognizing the possible ramifications for the nearly completed restructuring project, Magaziner included domain names as an issue to be confronted by his e-commerce group.

There were a series of other factors which acted as catalysts for the state's intervention however. IANA's DARPA project was due to expire, and the NSF voiced its intention to terminate the NSI contract. Misplaced or not, a fear was beginning to develop that if these two contractor's functions weren't taken over by another organization, the stability of the Internet itself was at risk.

¹⁴ In 1995 Magaziner had convened an interagency group to look at the potential of commerce and the Internet.

President Clinton directed the Secretary of Commerce to privatize the system in July of 1997. That same month the Dept. of Commerce issued a *Request for Comments* on DNS administration (US DoC, 1997). The request for comment betrayed the familiarity *as well as* the novelty of the regulatory situation. Far from allowing the market to take its course as Ira Magaziner suggested, here was a resource that *needed* to be regulated in some fashion in order to ensure its smooth functioning. Not only, but the chokehold administered by NSI required that competition be *created*. But how?

On January 30, 1998, Ira Magaziner and the DoC made public their proposal for the management of the DNS system in what would come to be known as the Green Paper (DoC, 1998). It set out four guiding principles in the management of the DNS, namely stability, competition, private bottom-up coordination, and representation. The Green Paper encountered substantial opposition however, and as Froomkin suggests, “[i]t became clear that DNS regulation was too controversial for consensus, or even a politically satisfying compromise” (2000a, p. 66).

These comments received in the wake of the Green Paper are telling of the economico-ideological theories that were so important in forging ICANN. Those submitted by the Federal Trade Commission typify the theoretical pillars of neo-conservatism:

The FTC has a long-standing interest in industry self-regulation of the type proposed in the *RFC*. As the *RFC* notes, cooperation among Internet stakeholders may be essential for maintaining a stable system of Internet addresses that will continue to provide connectivity for all users. Economic analysis suggests that private parties will be likely to voluntarily set socially efficient technological standards when (1) there are aggregate net benefits from standardization; (2) per capita private benefits from promoting standardization exceed per capita private costs; and (3) no party has vested interests in any particular standard, (4) Private standard setting often will be more efficient than government standard setting because industry participants

possess better information than government regulators regarding technical protocols, system administration, and future growth of relevant markets. Moreover, industry participants are likely to move more quickly and flexibly than would be possible for government regulators (March 23, 1998).

The DoC backed down on their attempt to issue a final rule and opted for a non-binding statement of policy known as the *White Paper*. The document called for a "new not-for-profit corporation formed by private sector Internet stakeholders to administer policy for the Internet name and address system" (DoC, June 1998)

The White Paper is a fascinating document, replete with all of the political tensions inherent in structuring cyberspace. Especially telling is the summary offered of the in response to the previously mentioned guiding principles from the Green Paper:

Comments: In general, commenters supported these principles, in some cases highlighting the importance of one or more of the principles. For example, a number of commenters emphasized the importance of establishing a body that fully reflects the broad diversity of the Internet community. Others stressed the need to preserve the bottom-up tradition of Internet governance. A limited number of commenters proposed additional principles for the new system, including principles related to the protection of human rights, free speech, open communication, and the preservation of the Internet as a public trust. Finally, some commenters who agreed that Internet stability is an important principle, nonetheless objected to the U.S. Government's assertion of any participatory role in ensuring such stability. (ibid.)

While there are arguably some very important concerns voiced here, the White Paper essentially maintained the same principles in unaltered form, and thus re-proposing the framework of the Green Paper as a *fait accompli*. Even as ICANN was in embryonic form, the concerns of the Internet community were beginning to be voiced, the struggle over the control of a communications resource beginning to become evident. In the US Government's push to privatize the management of the DNS however, other concerns fell by the wayside. Compare the previously described concerns of the Internet community

with a section of the very same White Paper for example (entitled “The Need for Change”):

From its origins as a U.S.-based research vehicle, the Internet is rapidly becoming an international medium for commerce, education and communication. The traditional means of organizing its technical functions need to evolve as well. The pressures for change are coming from many different quarters:

- _ There is widespread dissatisfaction about the absence of competition in domain name registration.
- _ Conflicts between trademark holders and domain name holders are becoming more common. Mechanisms for resolving these conflicts are expensive and cumbersome.
- _ Many commercial interests, staking their future on the successful growth of the Internet, are calling for a more formal and robust management structure.
- _ An increasing percentage of Internet users reside outside of the U.S., and those stakeholders want to participate in Internet coordination.
- _ As Internet names increasingly have commercial value, the decision to add new top-level domains cannot be made on an *ad hoc* basis by entities or individuals that are not formally accountable to the Internet community.
- _ As the Internet becomes commercial, it becomes less appropriate for U.S. research agencies to direct and fund these functions.

Some of the very valid concerns expressed in response to the Green Paper’s “Guiding Principles” (human rights, free speech, open communication, and the preservation of the Internet as a public trust) never made it into the White Paper. Only the issue of representation resurfaced, buried however amongst the system’s new priorities: *finding a framework for trademark disputes, fostering competition by creating new TLD markets, engineering the new space to the satisfaction of commercial interests, and distancing the US Government from the control of the root server.*

The “revised” policy statement cemented these concerns into guidelines, calling for a:

...new, not-for-profit corporation formed by private sector Internet stakeholders to administer policy for the Internet name and address system. Under such agreement(s) or understanding(s), the new corporation would undertake various responsibilities for the administration of the domain name system now performed by or on behalf of the U.S. Government or by third parties under arrangements or agreements with the U.S. Government. The U.S. Government would also ensure that the new corporation has appropriate access to needed databases and software developed under those agreements.

The private governance of the DNS had been formalized. As the September 1998 deadline approached, ICANN was brought into existence as a not-for-profit corporation based, of course, in California.

2.3.1 The Emperor's New Clothes: ICANN's Resulting Structure

There is more open process in these bylaws than in any other nonprofit corporation I've ever seen... The board is committed to a very extensive, open, and transparent process." (Michael M. Roberts, interim president and chief executive officer of ICANN, October 1998. Cited in Cornblum, 1998)

I lingered on the White Paper because congealed in it are the cultural roots of why ICANN has become such a problematic organization. The question of legitimacy surfaces as paramount here, because in essence this is what the Green Paper and the White Paper were attempting to secure for the new organization. All of the objectives which ICANN was designed to bring about would be moot if the new organization could not somehow convince the (as we shall see in Chapter V) increasingly fragmented Internet community that it *should* be the new king.

The question of legitimacy provides an important bridge to what I will turn my attention to now, the structure of ICANN itself. Both guiding policy documents examined thus far envisioned the structure of the new organization. But as the White Paper explicitly recognized, this stage was far from controversial:

The Green Paper attempted to describe a manageably sized Board of Directors that reflected the diversity of the Internet. *It is probably impossible to allocate Board seats in a way that satisfies all parties concerned.* On balance, we believe the concerns raised about the representation of specific groups are best addressed by a thoughtful allocation of the "user" seats as determined by the

organizers of the new corporation and its Board of Directors... (DoC, June 1998. Emphasis mine)

The make-up of the corporation was such a controversial issue that the DoC *delegated* the responsibility, thus washing its hands of any controversy. This left those creating the new organization in a somewhat thorny position. Conferred the dubious privilege of creating legitimacy for itself *as well as* the responsibility to restructure the management of the DNS system, ICANN's response was haphazard and embroiled in controversy from the very beginning.

The *White Paper* had suggested that NewCo:

...appoint, on an interim basis, an initial Board of Directors (an Interim Board) consisting of individuals representing the functional and geographic diversity of the Internet community. The Interim Board would likely need access to legal counsel with expertise in corporate law, competition law, intellectual property law, and emerging Internet law. The Interim Board could serve for a fixed period, until the Board of Directors is elected and installed, and we anticipate that members of the Interim Board would not themselves serve on the Board of Directors of the new corporation for a fixed period thereafter.

The appointees (the process was carried out in secret) needed at some point to satisfy the White Paper's call for half of the ICANN Board to be selected in a manner calculated to represent "user interests." Unlike a government agency that has to comply with open-meeting laws, ICANN's meetings began as closed affairs, with minutes released a cool 21 days later (Macavinta, 1998). It remains a mystery how the nine interim board members, who are supposed to be neutral, were chosen. IANA, Network Solutions, and the Internet Society all suggested names for the pool of candidates, but further details of the selection process were never made public (*ibid.*). Once given the green light by the government, the interim board would serve until the next September,

when a 19-member board was to be elected by an as of yet unstructured membership base.

In February of 1999, ICANN reacted to the increasing onslaught of public criticism (see Chapter V) as many private sector organizations would: They hired a spin-doctor (Kaney, 1999). An outside PR agency (Alexander Ogilvy Public Relations Worldwide) was hired to address charges of secrecy and inaccessibility, but to little effect. Obligated to appear concerned about the shadowy way nine of ICANN's interim board members were appointed, on July 8, 1999 the Department of Commerce advised that ICANN immediately open its board meetings to the public. Not only was the body's lack of transparency in procedure condemned, but the DoC forced ICANN to drop its plans for a \$1 levy on the internet community (which had yet to be represented in its ranks or included in the decision-making process in any significant way).

By this point, the embattled organization had a diminishing pool of supporters. Amongst them was the Global Internet Project, an exclusive group of 13 senior executives from software and telecommunications companies, which claimed that "governments, commercial, and noncommercial Internet users, and the entire Internet community" should support ICANN (cited in Lillington, 1999). The rhetoric was familiar, as Denis Henry of Bell Canada stated: "We're not just saying, 'Go slow on regulation.' We're also saying, 'Go fast on new approaches'" (ibid).

Yet ICANN was in many respects forced to adopt an older approach to governance in the face of so much criticism: democratic elections of the new At-Large directors. It had elected the nine initial board members of eighteen from the ranks of its

three Supporting Organizations (the Address Supporting Organization [ASO], the Protocol Supporting Organization [PSO], and the “political wing,” the Domain Name Supporting Organization [DNSO]) each of which contributed three directors.

Under the structure for electing the at-large board members, an at-large “membership” of no fewer than 5,000 Internet stakeholders would elect an 18-member at-large council, which would then select nine of its own members to serve on the ICANN board. ICANN rewrote its own rules however, allowing the election of only five At-Large directors. That left the Board four seats short, but it promised that the four seats would be filled by elections later, once it was clear that global online membership elections were workable. In the meantime the seats were reserved for the interim board members, with a new condition allowing them to stay on in perpetuity if no replacements were chosen.

The Internet election of five new board members was intended to counter the mistrust of the body by the Internet community.¹⁵ It was also by most accounts poorly executed, as web-sites set up to record votes were overloaded and unable to accept votes during the last hours of the election (Reid, 2000). Despite allegedly attempting to ensure the election of cooperative board members however (Kegel, 2000), two outspoken critics of its activities were elected by the portion of over 70,000 registered At-Large members who were able to vote. One of these dissidents (Andy Mueller-Maguhn from the European zone) is an unrepentant hacker who endorses the creation of tens of thousands of new TLDs. The other, Cisco systems engineer Karl Auerbach, has claimed he “wouldn't trust ICANN for anything” (cited in Pressman, 2000).

¹⁵ See Chapter V

Thus even allowing severely limited forms of democracy was a significant defeat for those who wanted ICANN to retain the technocratic decision-making processes which had characterized the development of the names and numbers in the past while putting it at the service of commerce. The new members were kept out of the key decisions on the new TLDs,¹⁶ but democratic governance in the institution stands to be curbed even further. In 2000 ICANN called for a "clean-sheet" study of the election process and the role and composition of its At Large Directors, due by the June, 2001 Board meeting in Stockholm. The scope of the study was subsequently expanded to review "whether the ICANN Board should include 'At Large' Directors [, and] if so, how many such Directors there should be."¹⁷

2.3.2 ICANN and Private Authority

These developments lead us to question the nature of the boundaries between public and private authority, both domestically and globally. (Cutler, Haufler, & Porter, 1999, p. 16)

It might be unfair to make a *post hoc* argument that ICANN's failure to garner much legitimacy is due mainly to the fact that it is a private organization charged with regulating a global telecommunications resource. On the other hand, even a cursory examination of ICANN's activities thus far would make the case a strong one. The management of the domain name system, as has been shown, shifted from the

¹⁶ See Chapter III

¹⁷ Cited at the Centre For Democracy and Technology web page dedicated to an overview of the independent NGO and Academic study of the At-Large membership. Available at: <http://www.cdt.org/dns/icann/nais/010207overview.shtml> (Last visited November, 2001)

technocracy of a tiny scientific community to corporate technocracy, with only cosmetic attempts to include the wider Internet community.

Even if a concerted effort to make Internet end-users the most significant part of the ICANN decision-making process were ever developed, important questions would still remain. What of the many millions of people who will hopefully become Internet users in the future? Their role is presently being defined by a body that is both unresponsive and completely unaccountable to even the wide majority of *present* Internet users. As we will examine more in depth in the next chapter, a global communications resource is being shaped in the interests of commerce, effectively structuring the ways in which it will be used in the future.

Private governance, or what Cutler, Haufler & Porter refer to as “interfirm cooperation” (1999) cannot be understood without being linked to how the authority to do this has been achieved by ICANN. What I hope to have demonstrated above is that authority was unmistakably *conferred* upon the organization by the state. In the process, many of the decision-making procedures which had been followed up to that point were transferred to the new organization, despite calls for the continuation of a “bottom-up” method which only partially existed in the first place.

The nature and extent of this authority need to be discussed, but it is important to first contextualize the events leading to the development of ICANN. The organization is a creature of our times, one in which private capital arguably has unprecedented control over public life. If the creation of ICANN was compared to a “virgin birth from a deity” by a disgruntled critic at its first public meeting (Macavinta, 1998), that deity would

have to be characterized as composed of neo-conservative economic theory and culture. This regulatory environment is itself the progeny of the “corporate liberalism” described so well by Thomas Streeter.

Froomkin has made a strong case that ICANN is unconstitutional, at least as far as the United States is concerned (2000a). But beyond a narrower legal focus, more interesting questions emerge. As a regulatory body (and this it most certainly is, however many times it may claim to only possess a strict technical management mandate), why are people not accepting its authority? As I have touched upon here and there in the preceding pages and will have a chance to deal with more thoroughly in Chapter V, ICANN and its technological rationale has been the subject of mounting opposition from before it even existed.

Cutler, Haufler & Porter define the qualities of “private international authority” as:

First, those subject to the rules and decisions being made by private sector actors must accept them as legitimate, as the representations of experts and those ‘in authority.’ Second, there should exist a high degree of compliance with the rules and decisions. Third, the private sector actors must be empowered either explicitly or implicitly by governments and international organizations with the right to make decisions for others.” (1999, p. 19)

The description, regardless it being chillingly reminiscent of fascism, provides an excellent entry point into the logic of the organization. As has been demonstrated, ICANN was hastily brought about by the US government. Despite the fact that the organization’s foundational documents conferred some mantle of legitimacy to it, it was ultimately created out of negotiations between two government contractors negotiating in secret. For the DoC, ICANN’s structure appears to have been a hot potato to be passed

along as quickly as possible. Regardless of how entrenched faith in the perceived working of the market had become, handing regulatory responsibilities to a private body was no small step in the regulation of telecommunication. One can argue about the exact extent of ICANN's powers, but there can be little question that it was given the right to "make decisions for others" in significant areas.

The voice of a regulatory framework which was being washed away surfaced in the White Paper. Yet not much attention was paid to it beyond calls for a "representative" and "bottom-up" organization. It was not true authority that was conferred by the state, it was the shadow of it, the *potential* for it.

Put in place to coordinate the international cooperation of firms (even as they competed with each other and it created competition for them), ICANN's true mandate could not have been more obvious since its very inception. Faced with needing to protect the interests of the Internet's new master, the interim board needed to limit the new organization's vulnerability. The moves to create buffers between ICANN and democratic "pressures" were taken by a significant section of the Internet community (those that even knew about ICANN in the first place) as proof that the new organization was illegitimate.

The fact that the US Government has had to step in a number of times (through various congressional hearings) suggests that any authority which it lent ICANN was frail to begin with. Yet the organization, for all of its troubles, is steadily accumulating what Williams speaks of in the quote offered at the beginning of the chapter: techniques, experience, capital and prescriptive rights.

There is undoubtedly a good deal of technical savvy required to coordinate the Internet names and numbers system. As Mosco suggests however, “expert-based decision making is particularly valuable in a system whose leaders are eager to reduce the claims on its resources” (1998, p. 109). ICANN may be one of the best examples of what is referred to in the same article as “market overload” (p. 121). As we will see in the next chapter, ICANN’s behaviour so far does little to demonstrate that it possesses “better information” than the state and much to support the view that it is far less accountable than even a public regulator such as the FCC might be. While there are examples of how it has acted “efficiently,” this more often than not means it has pushed aside deliberation in a move to preserve and extend its field of authority. Its selection of new TLDs is a spectacular case in point. Rushed through in an attempt to shield the process from the input of the new At-Large board members, the results were widely contested. What is perhaps most significant is that even a good deal of the private sector has been irked by ICANN’s behaviour.

ICANN’s obvious failure so far to live up to the Internet community’s expectations must force us to rethink the political and cultural frameworks which generated the organization. This is not simply something to be done as a merely academic exercise however. There is a serious risk that ICANN might manage in some way to hold on to the significant power it has, further limiting its own accountability and thus weakening democratic process in the governance of cyberspace.

Chapter III

The Structuring Power of ICANN: Creating New Neighborhoods and Keeping Them Safe

"Anyone interested in controlling the rules under which activities on the Internet take place...is likely to find the existence of a single controlling point awfully tempting. After all the talk over the past few years about how difficult it will be to regulate conduct on the Internet, the domain name looks like the Holy Grail, the one place where Internet policy can be promulgated without any of the messy enforcement and jurisdictional problems that bedevil ordinary law-making exercises on the Net."

(David Post, cited in France, 1999)

The creation of ICANN, as we have seen, is an inextricable piece of a new, informatized global political economy. In this era of near-perfect calibration between production and consumption, of capital taking its first steps towards regulating itself in many key industries, and of international bodies such as the IMF and OECD dictating domestic policy to nation-states, ICANN is actively creating and expanding its own sphere of authority within post-Fordism.

The full extent of this authority, the processes over which it presides, is the subject of this chapter. En route to looking at the policies enacted by ICANN however, it might be useful to outline a framework within which to understand the issues covered here. My attempt so far has been to situate ICANN within a relatively new, globalized political economy. There are many features of this now-dominant configuration. Of the few that I have covered, the most important have been privatization, flexibility, and informatization.

There is however a further, central quality of post-Fordist life that can serve as a guide for the remainder of this chapter's theoretical perspective, one that is deeply enmeshed with all of the others. This is the new *cultural* environment in which we live - one in which the repercussions of all of these other processes are felt. Closely tied to the subsumption, or the expansion and deepening of market relations, it is a dimension that surrounds us from the moment we arise in the morning until we go to sleep at night.

Most recently, journalist Naomi Klein, author of *No Logo*, has referred to this process as "branding." To her credit, Klein continuously draws links in her work between our shimmering global culture of universally recognizable brands and the social relations underpinning it. Going further back and into the history of social theory, a line of inquiry into this process can be drawn which ties together such disparate sources as political economists Dallas Smythe (1981) and Herbert Schiller (1989, 1992), the Italian radicals Mario Tronti and Antonio Negri, and the French theorist Michel Foucault (1990, orig. 1978). The first section of this chapter will thus chart a course through the work of these theorists, ending with Klein's powerful and contemporary manifesto.

3.1 The Post-Fordist Social Factory: Brandscaping and the "Race Toward Weightlessness"

Since the classical age the West has undergone a very profound transformation of these mechanisms of power. "Deduction" has tended to be no longer the major form of power but merely one element among others, working to incite, reinforce, control, monitor, optimize, and organize the forces under it: a power bent on generating forces, making them grow, and ordering them, rather than one dedicated to impeding them, making them submit, or destroying them. (Michel Foucault, 1990 orig. 1978, p. 136)

The Frankfurt School outlined in monochromatic but nevertheless insightful fashion the cultural reverberations of a modernist, planned society, in which culture had become an industry similar to others. The very similar, but in some respects more intensified processes at work within post-Fordism impact deeply upon the topic of this chapter. As such, a brief detour through some of the better efforts of the theorists and social critics whom I see as extending the Frankfurt School's line of analysis is perhaps warranted before we explore the structuring force that ICANN has exerted on cyberspace.

In the early seventies, Mario Tronti, amongst others in *autonomia*, analyzed the new field upon which capital and labour stood after capitalist restructuring. The deepening of market relations, he said, meant that no longer was capitalist control functioning primarily in its old location of choice, the factory. Broadening Marx's understanding of capital's tendency to "subsume" more and more aspects of human life, Tronti suggested that not only the factory, but indeed the whole of society "now functions as a moment of production" (1973, p. 105).

His words could sound overly grandiose; the product of a school of theory that has often distinguished itself by generating exceptionally rarefied (and occasionally unsupported) prose and conclusions. Yet for workers a century ago, sales pitches lived and circulated mostly around more limited consumption points, occasionally brought home in the form of a sales catalogue or in magazines and newspapers. How much truer Tronti's words must ring today, as we are surrounded by thousands of advertisements in a single waking period, unrelentingly shaped as consumers who must play their part in the continuous, dizzying logic of capital accumulation.

Tronti's discussion of this change was echoed by that of Antonio Negri, who attempted during the same period and from a similar disciplinary perspective to understand the new kind of worker that was emerging thanks to this process. This emergent subject could be understood as the "socialized" worker, whom according to Negri is the result of a productive process that has been coextensive with society itself:

...in the epoch of the socialized worker, the factory is, with the indispensable aid of information technologies, disseminated into society, deterritorializing, dispersing, and decentralizing its operations to constitute what some autonomists term the 'diffuse factory' or the 'factory without walls' (Dyer-Witheford, p. 90. Quotes come from Negri, 1989, p. 89).

The concept of the dispersion of power finds its most thorough embodiment however on the other side of the Alps, where during the sixties and seventies Michel Foucault produced an exceptional series of case studies on the institutions that act as structuring forces in our lives. Carried out in impressive detail were analyses of the evolution of the social sciences, changing attitudes towards sexuality, the development of modes of discipline and repression, and the history of mental institutions. Through all of this work Foucault focused predominantly on power, always implicitly - and occasionally explicitly - critiquing a rigidly marxian understanding of society (see particularly 1996, orig. 1989, and 1991 orig. 1981).

It is difficult to single out a place in Foucault's work where he ties together a theory of power that can then be found consistently throughout his work. Yet the research he carried out into Western society's changing attitudes towards sexuality brought with it some profoundly important reflections on the structuring of social life. The mechanisms by which power operates, Foucault claims, have shifted with time - no

longer is repression or execution the *primary* way to structure a population and ensure the seamless functioning of society. There has been a shift, Foucault argues, away from the exertion of “negative” power and towards one that exerts a “positive influence on life, one that endeavors to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations” (1990 orig. 1978, p. 137).

This administration and optimization of social life is the key mechanism through which individuals are generated and shaped as ideal, obedient, and predictable producers and consumers. The greatest effect of such a process is no less than the elimination of barriers between work and play.

This kind of analysis was not solely the province of European theorists however. In North America, Dallas Smythe carried out more detailed analysis of the invasion of unwaged time and space by the labour process, suggesting that the corporate media’s audience was in fact engaged in a form of work when they watched advertising. Smythe proposed that audiences work by providing their attention to advertisers, and are only subsequently rewarded with content. As such, the activities of advertisers are more complex than merely buying slots of time or space in media, as are those of viewers:

As hardnosed businessmen they are not paying for advertising for nothing, nor from altruism. What they buy are the services of audiences with predictable specifications which will pay attention in predictable numbers at particular times to particular means of communication (television, radio, newspapers, magazines, billboards, and third-class mail) in particular market areas. As collectivities these audiences are commodities. As commodities they are dealt with in markets by producers and buyers (the latter being advertisers). (1981, p. 27)¹⁸

¹⁸ It is important to note that Smythe, rather than being opposed to work per se, felt rather that a tacit pact between producers and labourers was being broken: “Work itself is not intrinsically oppressive. It is the inclusion in so-called leisure time of commodity-producing work under monopoly capitalism which creates the contradiction between oppressive liberating activity in time for which people are not paid.” (p. 47)

This extension of commodity production into our private lives and leisure time, says Smythe, deserves our attention as we seek to situate the media within a larger political-economic context. Also in the tradition of a dissenting political economy, Herbert Schiller denounced in one of his last works the accelerating corporate invasion of public expression witnessed in North America since World War II. Public expression, as a moment of consciousness, has seen increasingly more limits put on it due to the growth of private corporate power. What Schiller refers to as the “postwar American informational-cultural enterprise” has erased conflict from history and filled more and more national living space wherever it operates (see 1989, pps. 3-10).

In a more recent extension of this analysis, Negri and Hardt (drawing on Foucault) suggest that because of this very process, our new realm of inquiry in a restructured world must include virtually every moment of human existence:

In the postmodernization of the global economy, the creation of wealth tends ever more toward what we will call biopolitical production, *the production of social life itself*, in which the economic, the political, and the cultural increasingly overlap and invest one another (2000, p. xiii Emphasis added).

It is this aspect of our age that Klein maps out so accessibly in her book, and which can provide a link between the process discussed thus far and the somewhat drier subject matter dealt with in the rest of the chapter. The importance of the brand has grown exponentially under post-Fordism, a change heralded by the eighties. In an apparent triumph of form over substance, a new kind of corporation began to appear on the postmodern horizon. The Nikes and the Microsofts, the Tommy Hilfigers and the Intels, began to operate on the bold new assumption that making goods was *only an*

incidental part of their operations. “What these companies produced primarily were not things,” she says “but images of their brands.”

Their real work lay not in manufacturing, but in marketing. This formula, needless to say, has proved enormously profitable, and its success has companies competing in a race towards weightlessness: whoever owns the least, has the fewest employees on the payroll and produces the most powerful images, as opposed to products, wins the race (2000, p. 4)

The brand is thus an important object of analysis in this chapter, but only in the sense that it itself is only the tip of a much larger iceberg. The brand is the most visible reminder of the constant deepening and expansion of market relations across the globe. The labour described by Smythe, the kind that we are forced to do on a daily basis, has extended, in an unsteady subsumptive process, to virtually every corner of our lives. It is spearheaded by the brand, which perpetually seeks to cocoon us, following us into our most private spaces, popping up during our most treasured activities.

As such, the kind of labour we perform under post-Fordism appears to be different than that which we engaged in under Fordism. Not only is it less unionized, more temporary, and more apt to leave our neighborhood, relocating to a more favourable position on the globe, but it has become, in many aspects, unwaged. Labour is something that we all engage in, these theorists suggest, regardless of whether we have a “job” or not. Labour, under an informatized and newly brandscaped capitalism, is now the province of students, housewives, and other unwaged groups. Like the mental batteries in the Matrix, we feed the system with our attention and obedience.

Yet what happens when this ineluctable process, the gradual subsumption of cultural and social life by capital, meets with cyberspace? Like the New World in the

seventeenth century, the latter seeks to remake cyberspace in its own image. And if, in the information society, the brand is everything (at least to some), then one might imagine that ensuring that cyberspace is safe for the brand would be one of the first priorities for ICANN, which after all consists of overwhelmingly commercial interests. It is this process to which we now turn our attention.

3.2 The UDRP: Privatized Law For Hire

The initial [UDRP] drafter, WIPO, exists to promote intellectual property rights. The subsequent ICANN process was, and remains, captured by a coalition of trademark interests and other businesses who believed that they needed to appease the trademark interests to achieve their goal of getting clearance to create additional top-level domains... It remains the case that if you put a committee of foxes in charge of a chicken coop, you tend to get a lot of happy foxes and dead chickens. (Michael Froomkin, 2001, p. 73)

The collision of intellectual property law and cyberspace is a story that has unfolded across and through chat rooms, file-sharing centers, fan websites, proprietary software formats, and dozens of other conflict points on the network. Narrowing the scope a little, trademark law's collision with the domain name system is itself, like all of these instances, a complex issue, which this section will attempt to delineate as best as possible.

As a broad framework however, if ICANN has the power to create new spaces on the Internet and regulate the registrars and registries that provide access to them, the UDRP (which can helpfully be thought of as trademark law's Internet embodiment), fine-tunes who can have *priority* access to the subdivided spaces we know as domain names. The UDRP, in other words, is one of the key instruments through which our branded culture has been and is being grafted onto the net.

This notwithstanding, the institution of trademark law has not had an especially easy time on the Internet. It, along with many others, is one of the Internet's aforementioned conflict points, where opposing formations compete over a variety of resources. From a legal perspective, historical assumptions about the local and sectoral use of trademarks have clashed with the Internet's ability to make content visible across the globe. From a social struggle perspective, the trademark has faced an onslaught of aggressive tactics, including speculation, appropriation, parody and critique.

According to classical economics, the existence of trademarks finds its theoretical roots in a consumer's desire for reliability, one that they can receive the assurance of when a particular brand of product is purchased. Yet this system was never meant to give a trademark holder exclusive rights over every possible commercial use of a word or term. As Michael Froomkin succinctly illustrates:

With the exception of a small class of "famous" names (e.g., "Coca-Cola") where the assumption is that consumers in the region where the mark is famous would reasonably associate the name with any type of goods on which it might appear, the guiding principle behind a great deal of trademark law is that it best achieves its purposes by limiting the reservation of rights in a name to the type of goods and location where those goods are sold. "Joe's Pizza" can get a trademark in the town where it sells pizza, but not for the whole state or the whole country, and different Joe's Pizzas can dot the landscape so long as they do not serve overlapping territories. If one Joe's Pizza becomes a national business, it cannot undermine the pre-existing rights of the Joe's Pizzas already extant, but it can more or less prevent them from expanding their markets. Similarly, Apple Computer coexists internationally with Apple Records because those businesses offer different classes of goods and services (2001, p. 8)

While trademark law can contain within itself the contradiction of multiple users of an identical trademark, the Internet's names and numbers system cannot. As outlined in the last chapter, the alphanumeric string which comprises the address system on the

Internet must resolve to one computer, meaning that <http://www.apple.com> is a singular IP address which only one registered user may dispose of.

This feature of the names and numbers system must furthermore encounter the way in which domain names are distributed, which has historically been on a first-come, first-served basis. Prominent placement in cyberspace is considered so vital to a company's success in the present economic climate that the value of specific names can thus, regardless of the price they are sold for by a registrar, have an extraordinarily high resale value.¹⁹

Similar in some respects to the allocation and use of the radio frequency spectrum, users cannot exert property rights over a domain name. For a fee they may, however, acquire exclusive rights to a second level domain (SLD) in any TLD that will accept their registration and then create as many third or higher-level domains as they wish under that SLD.²⁰

When Postel and IANA brought the DNS into being, three TLDs were created for anyone who wished to register a domain name (.org, .net, and .com). Network Solutions was charged with adding new registrations to the root, a function that was originally envisioned as one that would be carried out for a fixed fee of \$1 million US annually.

¹⁹ This feature of domain names translated itself into the following sales in 1999:

\$7,500,000 - BUSINESS.COM
 \$3,000,000 - WINE.COM
 \$500,000+ - COMPUTER.COM
 \$1,035,000 - WALLSTREET.COM
 \$823,456 - DRUGS.COM
 \$450,000 - ART.COM

For more examples of this, see <http://www.domainhandbook.com/news.html>

²⁰ For example, once I had acquired the rights to enda.com I would enjoy the freedom to subdivide this domain into thesis.enda.com, theory.enda.com, and anxiety.enda.com etc, if I so chose.

Yet as registrations skyrocketed NSI requested and received permission from the US state in July of 1995 to charge a fee for each address added to the root.²¹ With NSI charging \$50 per domain name, the commodification of Internet addresses had begun.

Recently, some of the country-code TLDs have begun to operate according to this logic, offering domain names to anyone on the planet regardless of whether they have any connection with the country in question whatsoever, or in some cases selling the rights to administer their ccTLD outright.²² Some TLDs impose more stringent criteria for the registration of a domain name, such as .mil (reserved for the US military), .gov (US government), .int (international organizations), .edu (educational institutions, mainly in the US), and .arpa .

Yet as domain names came to be seen as possessing this disproportionate financial value, individuals began to snap up all manner of addresses in the mid-nineties from the then-monopoly provider, Network Solutions. A subset of these individuals, sensing correctly that domain names containing the trademark of a large corporation that had been slow off the mark could be registered and sold to that corporation for a high price, began to engage in this form of speculation.

As Milton Mueller suggests (2000, p. 4), a symbolic first shot of this war was fired in 1994, when Joshua Quittner registered mcdonalds.com and proceeded to

²¹ Registrations went from 300 per month in 1992 to 45,000 per month in late 1995. (Mueller, 1999, p. 500)

²² In perhaps the most colourful example of this process, Tuvalu, a tiny island in the Pacific, sold its ccTLD to a California-based registrar, Idealab. The attractiveness of the TLD stemmed from its ending, .tv. The domain name was auctioned off, amid much competition, for a guaranteed \$50 million US over 10 years and a 15 per cent stake in the company's selling rights. Until this deal, the nation, which is made up of nine coral atolls, had relied mainly on sales of its postage stamps and revenue from leasing its international 688

humiliate the corporation in a *Wired Magazine* article. In an era where corporations had seized upon the vast symbolic and productive importance of the brand, this was no small slight. The practice soon acquired a name drawn from an equally threatening behaviour that had been carried out in physical space for decades - it became known as “cyber-squatting.”

While the term is often associated with the registration of popular trademarked names by unscrupulous individuals, it is important to note that there were a few variations of the strategy. A close relative was the registration of so-called “oops!” domains, where a variation of the trademarked term was registered such as that which might be the result of a spelling error (i.e. registering a name like aple.com).

Yet it was not only savvy individuals with no institutional affiliation that registered trademarked terms. Companies themselves at times registered a competitor’s trademark in the hopes of crippling their Internet visibility. Furthermore, they engaged in a practice referred to as “reverse domain hijacking,” in which as owners of a trademark they threatened to sue holders of domains that used the same string as their trademark even though the registrant was acting perfectly legally. In most of these cases the name was registered for non-commercial purposes, which would be outside the realm of trademark law.

While there are many examples of this, perhaps the most famous was the case involving a twelve year-old boy, nicknamed “Pokey” all his life because of his diminutive size. Pokey’s parents had bought him a domain name (pokey.org) and some

telephone code to phone-sex services. Other “repurposed” ccTLDs include Tonga’s .to, and .ws - Western

software as a birthday present. Yet when Prima Toy Company, owners of the Gumby and Pokey trademarks, got wind of this, they threatened to bring him to court if he did not give up the domain name.

The emergence of this scramble for alphanumeric strings clearly had implications for how the system was to be regulated. The conflict-ridden march towards a new form of cyber-law had already begun however, a process in which the root server and who controlled it was to remain central.

3.2.1 The Early History of Domain Name Dispute Resolution

If the Internet has often been compared to the far west of old, then for years Network Solutions Incorporated (NSI) acted as sheriff of the new frontier. In the years of their monopoly over the domain name market, conflicts began to surface over the activities described above. Faced with no appreciable framework with which to resolve these, NSI developed one of it's own.

Its overriding concern during this period was to avoid the threat of lawsuits from companies that felt they had been victims of cyber-speculation. The resulting dispute policy was perhaps the purest form of private regulation - it ignored any mitigating factor there might have been in the registration of an implicated domain name, freezing any

address that was challenged by the holder of an identical trademark. Unless the registrant could produce a trademark of their own, they were out of luck.²³

As the history of domain name dispute resolution comes to be written however, it is essential to avoid depicting the process as a unified, linear one. It had, in a history that is closely tied to that of the control over the root, a series of stops and starts. In the mid-nineties, as it became even clearer that a new body would be needed to oversee the domain name system, the IAHC gambit presented another possible framework for the resolution of conflicts over Internet real estate. The significance of the IAHC to this chapter therefore lies not in its failure to fill the Internet's power vacuum, but in the procedure it agreed upon to protect the brand in cyberspace.

The organization never achieved the essential blessing of the US Government, but blazed a regulatory trail nonetheless by involving WIPO as a key player in the new order that was proposed. It attempted to make WIPO the sole arbitral institution charged with administering any dispute arising from intellectual property related claims. Domain names were not to be operational until a 60-day period had passed. During this time, they would be subject to "Administrative Challenge Panels" run by WIPO. Neither the laws nor the legal principles that would be used to run these were specified. Finally, IAHC proposed that all names corresponding to or even *resembling* "famous" trademarks were to be excluded from the domain name space (Mueller, 1999, p. 502).

3.2.2 The White Paper Process

The United States was not about to let the root out of its control, but by the time the formative documents creating ICANN were being drafted, WIPO was foremost in the minds of those concerned about the manner in which the transferal of trademark law to cyberspace could be accomplished. While the US had passed legislation against cyberspeculation in the form of the *Anticybersquatting Consumer Protection Act*, it was imperative that a faster, more flexible way of protecting the brand in cyberspace be developed.²⁴

WIPO, one of sixteen specialized agencies working under the UN umbrella with 177 member countries, was best positioned to occupy a central role in the formulation and enforcement of a trademark regime. It offered a certain authority as an international organization, yet there could be no doubts as to what its policy priorities might be.²⁵ The organization, (which finds its roots in the Paris Convention for the Protection of Industrial Property of 1883), would play a large part in reassuring vocal trademark owners that their interests were going to be taken to heart before any new TLDs were added.

²³ In a tactic which only globalization could allow, this led to some registrants acquiring Tunisian trademarks, which were apparently the quickest and cheapest in the world. NSI eventually caught on and stopped accepting them as legitimate.

²⁴ Trademark owners were deeply unhappy with having to go through the regular courts, which took a long time by normal standards, not to mention the pace of change characteristic of the Internet. Many of these found that it was faster and somewhat less painful to come to an out of court settlement with the domain name holders, saving time if not money.

²⁵ WIPO's current role, in its own words, is "the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization." (WIPO, 1967) Furthermore, ninety per cent of WIPO's budget comes from fees generated for the services it renders to the private sector, with only the remaining 10 per cent coming from contributions made by member states (WIPO, 2001)

As it had in the area of ICANN's make-up however, the *White Paper* avoided taking direct action on dispute resolution and instead called on WIPO to conduct a study and make recommendations to what would become ICANN. WIPO, it said, should:

...initiate a balanced and transparent process, which includes the participation of trademark holders and members of the Internet community who are not trademark holders, to (1) develop recommendations for a uniform approach to resolving trademark/domain name disputes involving cyberspiracy (as opposed to conflicts between trademark holders with legitimate competing rights), (2) recommend a process for protecting famous trademarks in the generic top level domains, and (3) evaluate the effects, based on studies conducted by independent organizations, such as the National Research Council of the National Academy of Sciences, of adding new gTLDs and related dispute resolution procedures on trademark and intellectual property holders. These findings and recommendations could be submitted to the board of the new corporation for consideration in conjunction with its development of registry and registrar policy and the creation and introduction of new gTLDs. (DoC, 1998)

One of the most interesting specifications made by the White Paper was the need to distinguish between domain name disputes between two trademark holders (which would not be covered by the proposed recommendations) and domain name disputes between a trademark holder and someone without a trademark, which would be the new system's sole focus. This distinction made its way through the unusual policy process, finding a place in both WIPO's eventual proposals to ICANN and subsequently into the UDRP itself. The move is a revealing one, considering that the overwhelming majority of the cases that had actually gone to trial in the US and elsewhere and resulted in a reported decision resulted in victory for a trademark holder over a non-trademark holder (Froomkin, 2001).

On the White Paper's cue, in June 1998 WIPO undertook an international process to develop recommendations concerning the intellectual property issues associated with domain names. Yet due to the fact that the report it was issuing was technically of an

advisory nature, WIPO limited as much as possible the role played by member states in its formulation. Using also the need for prompt action as a reason for circumscribing public involvement, it did not rely on a plenary to adopt its policy proposals. WIPO kept the direct involvement of member states to the very occasional status report, and it opened its public consultation sessions to government speakers. Instead, WIPO's staff set out to meet directly with intellectual property stakeholders and a few others to acquire information and advice, and to draft its proposals basically on their own.

The WIPO Internet Domain name Process was finalized on April 30 of 1999 with the publication of *The Management of Internet Names and Addresses: Intellectual Property Issues* which proposed a new global domain name regulatory regime optimized for trademark protection (WIPO, 1999). The essence of WIPO's report was to be found in a few key proposals made to ICANN. First, it suggested that ICANN leverage its control over the root server, forcing registrars to impose on domain name registrants the necessity of submitting to a binding dispute resolution process. As mentioned before, it limited the scope of the cases to be heard by the resolution process to those between a trademark holder and a non-trademark holder, and went on to outline the substantive rules as well as the administrative procedures to be used in making those decisions.

Most interestingly, it proposed special pre-emptive protections for famous and well-known trademarks, or super brands. Finally, it ignored the reverse domain name hijacking issue, preferring to concentrate on the villain of choice, the much-reviled cyber-squatter.

ICANN eventually adopted each of these features of the WIPO proposal, whether verbatim or with modifications, except for the pre-emptive protection for famous and well-known marks. The *Uniform Domain Name Dispute Resolution Policy* (ICANN, 1999) came into effect in October, the unique features of which escaped few observers. As Milton Mueller suggests, the UDRP “is widely acknowledged to be a unique experiment in the globalization and privatization of intellectual property protection,” attempting to substitute uniform global rules for what was once a largely territorial system of rights and dispute resolution (Mueller, 2000, p. 5).

But what makes this new form of law global and privatized in nature? With regards to its globalization, a rough indicator can be found in the number of domain names that are subject to this form of arbitration. Since WIPO’s proposal, ICANN did indeed leverage its control over the root server in order to commit people to the UDRP. As of 2000, around 70% of domain names fell under the jurisdiction of the UDRP (ibid.). The exceptions so far are to be found in the domain names under the ccTLDs, an increasing number of which are likely to fall under the sway of the UDRP in the future.

The privatization of trademark law occurred at a few levels. The first was the fact that the policy process itself that generated the UDRP was essentially carried out in private, with minimum public intervention. As previously noted, even the plenary assembly of a pseudo-public body such as WIPO was kept away from the proceedings, since the organizations was making “recommendations” rather than creating policy. The same kind of process was replicated in ICANN (a fully private body), with minimum public intervention. Finally, the courts where this new form of law was to unfold were

private. ICANN has since accredited four “dispute-resolution service providers”: CPR Institute for Dispute Resolution [CPR], eResolution [eRes], The National Arbitration Forum [NAF], and, predictably, WIPO’s Arbitration and Mediation Center.

One of the inherent goals of this privatization process was the creation of competition amongst the dispute resolution service providers. Yet an essential feature of the UDRP is that *the complainant gets to choose* which forum they would like to air their grievances in. The potentially pernicious consequences of this are obvious, as Froomkin and Post point out (January 2000, emphasis added):

Complainant choice has the useful property of promoting price competition. Unfortunately, economic theory suggests that *it also will tend to promote other types of competition, including competition among dispute resolution service providers to be perceived as being most "complainant-friendly" in order to capture all, or a disproportionate share, of the market.*

The truth of this has been borne out by all of the earliest research carried out on the UDRP process. The two “service providers” with an early track record of favorable outcomes for complainants (WIPO and the NAF) quickly captured the vast majority of the arbitration business at the expense of eResolution, the least complainant-friendly of the major ICANN-accredited providers (Mueller, 2000). Not only is this the case, but the so-called practice of “forum shopping” has increased over time. In February 2001, only three new cases were launched with eResolution, compared with 183 cases with WIPO and 96 cases with the NAF (Geist, 2001, p. 3).

It is important to point out that trademark domain name disputes are a very small portion of the overall domain name marketplace, and the volume does not seem to be growing. In the first of an excellent series of studies from which I have quoted, Mueller

claims that the number of disputes is at best holding steady and may already be declining (2000). The highest number of cases was in July 2000, when trademark owners became acquainted with the system and understood they could use it to their advantage. The overall number of cases has since dropped, and may be leveling off.

These results point to the fact that the UDRP is a vital tool in ICANN's present structuring process. After all, the same domain name disputes are not going to flare up again and again – once the domain name has been handed over to the trademark holder, cyberspace has been structured with a degree of permanence in the interests of those who structure it. The brand's right to occupy the most prominent place on the Internet has been ensured, bringing the Internet closer to that commercial medium which its more powerful interests want it to become. In the process, the spaces within ICANN's kingdom that could previously have been thought of as a kind of cyber-commons are disappearing, replaced by the subsumptive nature of market relations and the enveloping realm of the brand.

If there was a question as to whether this was an implicit goal of the policy process or a somehow unpredictable byproduct of it, there is a whole category of decisions by the new private justice system that point heavily towards the former conclusion. These are the cases involving those commonly known as the "sucks" domains. Here, registrants with a variety of grievances towards a particular company reserve a domain name with the name of that company followed by "sucks." The number of these domain names that have been stripped from their owners is impressive, including cases such as *directlinesucks*, *dixonssucks*, *freeservesucks*, *guinness-beer-really-really-*

sucks, guinness-really-really-sucks, natwestsucks, standardcharterededsucks, and walmartcanadasucks.

Trademark infringement, at least as applied in real space, is only applicable when the infringing party uses the trademark for commercial purposes. This is in deference to longstanding traditions within societies that consider themselves to be open ones, such as parody and criticism. Yet the reasoning behind most of the previously mentioned decisions was that the domain names might have been “confusingly similar” to the trademarks of the criticized companies, regardless of whether they were used for commercial purposes or not. In an environment where the consumer is constantly spoken of as being a “rational actor” in the marketplace, this kind of reasoning must be seen at best as a transparent underestimation of any Internet user’s cognitive abilities and at worst the most convenient way to strip an Internet user of a legitimate space in which to voice a critique.

As if this whole process were not enough, in a second round of private domain name policy, WIPO intends to expand the rights of established power centres. In what could be referred to as UDRP 2.0, WIPO has launched an attempt to further enclose the spaces available for free speech on the Internet, seeking to combat the “bad faith, abusive, misleading or unfair” use of personal names, international nonproprietary names (INNs) for pharmaceutical substances, names of international intergovernmental organizations (such as the United Nations) geographical indications, indications of source or geographical terms, and tradenames (WIPO, July 10, 2000).

The importance of protecting the brand in cyberspace (whether it be Coca Cola or the WTO) from tarnishing or dilution has not gone unnoticed in trade agreements either. The recently released draft of the Free Trade Area of the Americas meeting implicitly recognizes, albeit in bracketed form, the affinities between trade agreements, organizations such as ICANN and institutions such as the UDRP:

Article XX. [Domain names on the Internet

1. Parties shall participate in the Government Advisory Committee (GAC) of the Internet Corporation for Assigned Names and Numbers (ICANN) to promote appropriate country code Top Level Domain (ccTLD) administration and delegation practices and appropriate contractual relationships for the administration of the ccTLDs in the Hemisphere.

2. Parties shall have their domestic Network Information Centers (NICs) participate in the ICANN Uniform Dispute Resolution Procedure (UDRP) to address the problem of cyber-piracy of trademarks.]

Article XX. [Cancellation and transfer of domain name

In the event that a well known distinctive sign has been inappropriately registered in the country of the Party, as part of a domain name or electronic mail address of an unauthorized third party, on request by the owner or legitimate rightholder of that sign, the competent authority shall consider the matter and, where appropriate, shall order cancellation or amendment of the registration of such domain name or electronic mail address, in accordance with the respective national law, provided that use thereof would be liable to have one of the following effects:

1. Risk confusion or association with the owner or legitimate rightholder of the sign, or with his or her establishments, activities, products or services;
2. Cause unfair economic or commercial injury to the owner or lawful rightholder of the sign, arising from a dilution of its distinctive force or commercial or publicity value;
3. Make unfair use of the prestige of the sign, or of the good name of its owner or lawful rightholder.

The action of cancellation or amendment shall prescribe, for a period of five (5) years from the date on which the disputed domain name or electronic mail address was registered, or from the date on which electronic media, whichever period expires later, except where the registration was made in bad faith, in which case the action shall not be prescribed. This action shall not affect any other action that might be available with respect to injuries and damages under common law.] (FTAA Draft Agreement, 2001, p. 8-14)

This final example illustrates, hopefully, how this form of private law has caught the imagination of regional trade agreements as well as international copyright bodies and private regulators. If nothing else it shows that *ICANN's attempt to structure cyberspace*

is part of a broad-based movement, in which many organizations with a global reach are working closely together. Regardless of the fact that ICANN's "home" may be in California, the effects of its decisions ripple across the world-girdling network in a constant space-structuring process in the interests of capital.

3.3 ICANN and TLD Selections: Conjuring Up New Spaces Into the Network

Having smoothed out the dispute resolution process, ICANN had cleared an immensely important hurdle before moving on to the creation of new top-level domains. The reasoning behind the order in which ICANN went about its activities was clear – until a process was in place that would ensure the pre-eminence of the brand in cyberspace, it could not go about creating new cyber-neighborhoods. This would have risked a similar process to that experienced by the .com space, where new and unwelcome tenants had to be forcefully ousted through a policy process set in motion by trademark holders, WIPO, and other private interests.

While perhaps the major one, this was not the only obstacle blocking the road to the much-needed new neighborhoods. The complex issue of NSI's position needed to be sorted out. As mentioned above, NSI had been allowed a monopoly over the domain name market through a cooperative agreement with the NSF in 1993, which ensured their control over domain names until 1998.

By the turn of the millennium, NSI had weathered a few battles in which other interests had attempted to erode its comfortable monopoly. When the gTLD-MoU came out, NSI mounted a lobbying campaign against it, mindful of the fact that the shared registry model that the MoU proposed signaled the end of its root zone dominance.

The writing was on the wall however. With competition being so in vogue NSI had become an unseemly presence in cyberspace, a veritable black eye for the utopian neo-liberal vision of telecommunications regulation. It could hardly hope to maintain its buffered position for long. The other interests that had resulted so integral to the determination of ICANN's structure (the ISOC-gTLD-MoU coalition) regarded NSI with suspicion, and were united in their objective of forcing it to relinquish the undue control it had on the structure of the network. Other strategies had to be devised by NSI to hold on to as much of the revenue stream as could be salvaged.

NSI's tentacles had been allowed by the US Government's non-involvement stance to find their way into ICANN's formation, entering into private negotiations with the IANA, and it was out of this meeting that a joint draft for ICANN was created. The irony of a monopoly provider being an integral part of the creation of a regulatory authority within its field charged with *creating competition* lent an almost surreal quality to the process. Following closely on the heels of the gTLD-MoU attempted coup d'etat, it acted as a welcome for those who were becoming interested in the bizarre world of Internet policy formulation. For NSI it stood as proof that there it could use its influence to leverage access to the most important policy decision involving Internet domain names.

In late 1998, the DoC extended NSI's cooperative agreement (DoC and NSI, October 7, 1998). Yet the rhetoric of competition needed to be acknowledged, and the changes that were in the air made it into the renegotiated document. NSI could continue to operate the root server, but was now forced to offer a mechanism whereby multiple registrars could accept domain name registrations that NSI would then add to the root. In March of 1999 ICANN issued a set of "registration accreditation guidelines" with which hopeful registrars would have to comply if they were to enter the business. The conditions included a series of financial and business qualifications, obtaining \$500,000 in liability insurance, and paying ICANN a one-time fee of \$5,000 plus \$1 a year on each registration. In April of the same year, 5 registrars were selected to participate in the "testbed" phase of the shared registry specifications that had been imposed on NSI. The initial five registrars were CORE, Melbourne IT, France Telecom, AOL, and Register.com.

This agreement did little to marginalize NSI, which still collected \$10,000 a year and \$9 per registration from the anointed registrars. According to ICANN, the move amounted to the creation of "competition," however. It viewed the agreement as one step towards ousting NSI from its dominant position over the network. Opinions over the way the next few years were to unfold however, found ICANN and NSI at serious odds.

Once again, the source of the struggle between the two factions was control over the root server. ICANN's vision was that NSI would be forced to sign an ICANN registrar accreditation contract and join the ranks of the "testbed" registrars." In the process, ICANN aimed to gain authority over the root file, turning NSI into a registrar

and unhinging much of the inherent control it had as master of the root file. This proposed contractual recognition of ICANN by NSI assumed however that NSI would voluntarily give up its chokehold on the names and numbers system, and thus its source of power and revenue streams. It was the solution that the US government had been supporting all along, one that meant it would finally be free to step out of the sector in a significant way and allow ICANN to run the show from then on. In the future, every registry (including ones that were to be created to control the Internet's new neighborhoods) would be licensed by ICANN and under its control, as well as the registrars.

The plan depended on an unrealistic level of acquiescence from NSI however. While its cooperative agreement obligated it to provide the DoC/NTIA with a copy of the database when the contract expired, it never specified whether or not NSI could go on registering domain names after this came to pass. NSI's position on the matter was that once the cooperative agreement ended, as possessor of the root file it would be free to continue registering domain names without the oversight of government. While unlikely, there was a risk that it could do this, and possibly even set up new TLDs without ICANN's blessing.

As the two entities became more and more at odds with one another, ICANN stripped NSI of its voting rights in the Domain Name Supporting Organization (DNSO) constituency and refused to recognize constituencies that might threaten the gTLD-MoU coalition's dominance of the DNSO's policy-making council (Mueller, 1999, p. 514).

For its part, NSI mounted yet another lobbying effort in the US Congress, taking aim at the \$1 fee ICANN had proposed to levy from registrars for every domain name added to the net. With the fee characterized as an “internet tax,” the move was highly successful, tarring ICANN with the brush of government and thus winning the battle of symbols on a post-Fordist field where government was something to be hated first and thought about later. The Clinton administration, which had vowed not to tax the Internet, was embarrassed by the exposure which led to hearings held by Rep. Bliley entitled “Is ICANN out of control?” Framed in such a light, ICANN was forced to give up its only steady source of revenue and went into deep debt. Only a corporate bailout from MCI and Cisco Systems, which donated \$500,000 and \$150,000 respectively, kept ICANN afloat. IBM’s John Patrick brokered the loans (Niccolai, 1999).

Forced to resolve the conflict in some way, in late September of 1999 another round of agreements were reached by the DoC, ICANN, and NSI. In them, NSI finally recognized ICANN and agreed to operate the registry in accordance to the provisions of a “registry agreement” with ICANN. NSI was allowed to be the gTLD registry for another four years (until 2003), and if it fully divested the registry from the registrar functions within 18 months, the contract was to be extended for a further four years (until 2007). NSI agreed not to deploy an alternate root system and to pre-pay ICANN registrar fees of \$1.25 million. Most importantly however, the DoC backed away from giving ICANN complete power over the root. Instead, the DoC noted that it might transfer the operation of the root in the future, but it had no plans to transfer its “policy authority” over it to any entity.

With this agreement the creation of new TLD's was finally in the air, and NSI strove to keep this expansion as limited as possible. On April 19 of 2000, it released a proposal to ICANN to reduce the number of new top-level domains to two. Only one of the two proposed new domains (.shop) would have provided an alternative to NSI's longstanding monopoly, the other being a restricted TLD for banks (.banc). In a truly magnanimous gesture, Network Solutions offered to operate the registry for .banc (Mueller, April 26, 2000).

There was no way that ICANN would consider implementing a plan such as the one proposed by NSI however. The recent bitterness between the two Internet forces was enough to kill the hopes of that, and there was no way that ICANN could have maintained even a shred of credibility around their endeavors even if they had wanted to implement such a plan. In July of 2000, at a board meeting in Yokohama, Japan, ICANN finally agreed to do what the Internet community had been waiting for impatiently for years – create new top-level domains. These, it hoped, would be operational by the spring of 2001. While it gave no precise idea of how many new TLDs were to be conjured up into the network, it was open to any number of applications.

Yet if the right to apply to run new neighborhoods was in theory open to anyone with the technical know-how and a good idea, in practice it was severely restricted by the non-refundable \$50,000 US fee ICANN had made all applications subject to. In the process, ICANN pocketed a tidy fee of \$2,235,000 US from the 47 applications.

When the aspiring feudal lords were examined however, there were more than a few familiar faces. Firstly there was Afiliat, a consortium of organizations that laid claim

in one way or another to over a third of the proposals (Meeks, 2000). Its creators had pounced on the advantages of an informatized nimble economy, constituting Afilias as an Irish Limited Company with offices in Dublin and Newtown, Pennsylvania.²⁶

Hidden amongst the members of Afilias however was Network Solutions, which had decided that no angle should remain unplayed in their search for new revenue streams. Also amongst the members of the consortium was CORE, which since its unsuccessful attempt to form a new governance structure for the Internet through the IAHC had been reduced to treading water as it waited for ICANN to create new TLDs.

Always quick to ask the uncomfortable questions, Milton Mueller voiced the obvious concerns around the matter. If one of a few new domains went to:

a group of registrars who collectively already have 98 percent of the .com, .net and .org market, one would have to ask, 'why?' It seems to be not only bad competition policy, but raises fundamental concerns about how ICANN operates, because the organization would appear to be incapable of awarding resources to anyone but its own insiders (Cited in Meeks, 2000).

Yet the selection of new TLDs had further implications beyond how ICANN would divvy up control over the new cyber-territories. In what amounts to a small peek at what will take up a significant portion of Chapter V, ICANN was faced with the need to expand its control over the *whole* web.

Since 1996, a company called Image Online Design had been running a top-level domain outside of ICANN's control using .web as a suffix. The company had attracted over 20,000 paying customers to its alternate cyber-kingdom in that time, operating as

both registry and registrar. When ICANN finally decided it was ready to add new TLDs, Image Online Design plopped down the required sum of money and placed its bid in to be christened by the company charged with governing the names and numbers system.

Another of the companies bidding for the coveted .web domain, which by many accounts was the most mnemonically marketable of the proposals, was Afilias. A further bid for right to the TLD was listed as coming from NeuStar, which according to its application turned out to be “JVTeam...[a] new company formed by NeuStar and Melbourne IT.”²⁶ Melbourne IT is a member of CORE, and thus a member of Afilias. The hidden scramble for control over the new cyber-territories contained even more questionable tactics however. The JVTeam bid ensured ICANN that it was:

prepared to meet with ICANN and discuss any legal issue relating to a .web registry. If necessary, JVTeam will indemnify ICANN for legal expenses incurred by ICANN resulting from any legal challenges brought regarding a grant of the .web registry to JVTeam (cited in Meeks, 2000).

In essence JVTeam was attempting to reassure ICANN that if Image Online decided to sue in the case of the .web domain being awarded to JVTeam, it would pick up the tab. The proposal sounded a lot like bribery.

On the other side of the political divide, unions and consumer advocates were attempting to gain control over yet to be created parcels of cyberspace as well. When formal expressions of interest were solicited for the board meeting in Yokohama, Ralph Nader’s Consumer Project on Technology (CPT) became involved in the process.

²⁶ Afilias’ mission, as stated on its website is “to expand the Internet as a global resource that fosters communication, commerce, and community for the people of the world. Afilias is committed to enhancing the domain name system while maintaining the stability of the Internet” (Afilias)

Claiming that new spaces were needed which could "facilitate free speech and criticism and enable consumers, workers and others to organize," a list of almost ten new TLDs was put forward (Goldberg, 2000). These included .unite, .isnotfair, .sucks, .consumers, .complaints, .ecology, .isnotgreen, .shareholder, .taxpayer and .union.

How concrete James Love and Ralph Nader's proposal was to actually run one of these domains is debatable. As Love himself said however, "[t]his is all about using the power of top-level domains to address social issues... Perhaps there is a little levity in the names, but we are serious about what this could do for free speech and letting people air their concerns" (cited in Lemos, 2000).

The .union proposal on the other hand, submitted by the International Confederation of Free Trade Unions (ICFTU) and backed by the 10 international trade secretariats and the Trade Union Advisory Committee to the OECD appeared to be an exceptionally solid bid. The new TLD was a "proposal designed to address digital divide issues, target different language communities, and give hundreds of millions of workers their own trade union space on the internet" (ICFTU).

Yet when ICANN made its decision on which of the proposed new cyber-territories were worthwhile, it chose only seven. Afilias and NeuStar were winners, gaining the right to run, respectively, .info and the much-coveted .biz. The Global Name Registry Ltd .name proposal was also deemed worthwhile. This is a category for individuals, which would reserve second-level names such as smith.name and let individuals register john.smith.name or betty.smith.name. In the professional arena,

²⁷ Cited in Meeks, 2000. ICANN's web-site has only archived some of the applications, and NeuStar's

ICANN agreed that a .pro TLD was warranted, allowing doctors, lawyers and the like to register their personal names in a registry run by RegistryPro, Ltd, which is composed of register.com, Virtual Internet and Baltimore Tech. Finally came the specialty TLDs, including .aero, .coop for cooperatives run by the National Cooperative Business Association, and .museum, run by Museum Domain Management Association (a group created through the International Council of Museums).

The decision to create new TLDs was, in a very strict sense, political. Technically there is virtually no limit to the amount of TLDs that could function simultaneously, but even a casual glance at the process revealed the deeply sensitive decisions that were being made. ICANN gave an early thumbs down to multiple proposals for .xxx and .kids for example, underscoring that even in the rarefied environment of self-regulation, some decisions were just too touchy to be left to the companies involved. In this case, ICANN realized that the matter of who would have decided whether a site's content was appropriate to either domain was a deeply sensitive one that could have obvious censorship implications. Furthermore, the idea of a for-profit registrar deciding whether or not it could accept content within its specialized TLD for profit was obviously fraught with contradictions.

The process did little more than underscore ICANN's strange and largely undefined position. If, as a private, not-for-profit corporation the company was strictly concerned with technical issues, then there would have been few reasons for not allowing dozens of new top-level domains from amongst the pool of applications. If it was

.web application is not amongst these.

concerned with creating competition, why did it not allow Image Online Design to run its .web TLD legitimately? And if it were accepting all applications that were both technically feasible and provided a new cyber-neighborhood for which there was demand, why did it turn down the .union proposal?

The answers to some of these (albeit rhetorical) questions became even clearer when in the wake of great protest over the TLD decisions, the US government stepped in once again. Underscoring the intervention was the still vital role that the state played in the process. Under its agreement with the US Government, ICANN can still only *recommend* changes to the root file. The approved TLDs must still get the go-ahead from the Commerce Department's National Telecommunications and Information Administration before they are recognized on the Net, thus suggesting that this model of “self-regulation” is somewhat impure.

Understandably, some of the applicants that had parted with \$50,000 only to receive nothing in return were more than irked. The protests over this and the shadowy way in which the selection process was carried out forced a House Energy and Commerce telecommunications subcommittee to hold hearings in order to examine whether ICANN doled out the new domains in a fair and open manner. It became clear that the process had been fraught with problems. Then-CEO of ICANN Vint Cerf was joined at the witness table by representatives of DotTV in Los Angeles and the International Air Transport Association in Geneva (whose proposals were rejected), as well as representatives from Register.com and NeuStar (whose proposals were accepted),

Internet law expert Michael Froomkin, Alan Davidson from the Center for Democracy and Technology, and Internet entrepreneur Leah Gallegos.

Members of a House of Representatives subcommittee stated their disappointment with the way ICANN chose the new top-level domains, with some going even further. Democrat Representative Ed Markey claimed that "to hear some applicants tell it, events at the Vatican are shrouded in less mystery than the process by which ICANN chooses TLDs" (Reuters, 2001). Republican Billy Tauzin, after thanking Cerf and his "good friend Al" for inventing the Internet, went on to castigate him, saying: "the domains you chose were not necessarily the most qualified, the most worthy and the most attractive to consumers" (Ross, 2001).

The controversy over ICANN's position in the management of the DNS did not end with its second humiliating trip to Congress however. In an early morning phone meeting on April 2 of 2001, ICANN's board of directors voted 12-3 to approve a contract inked by VeriSign and the ICANN staff at the beginning of March. Under the deal, VeriSign will be allowed to retain back-end control over the .com registry until 2007 *and beyond* in exchange for surrendering its control over .org. The proposed arrangement also would give VeriSign an opportunity to maintain its hold over the .net TLD. The contract rescinds the agreement whereby Verisign agreed to divest itself of either the registry or registrar function. It will now be allowed to keep both, but only for the .net and .com addresses (McGuire, 2001b).

3.4 ICANN and Internet Restructuring

I began the chapter by delving into some social theory dealing with a process that can most usefully and succinctly be referred to as *subsumption*. More specifically, I understand the term as referring to the process by which commercial relationships are extended into and intensified in other areas of social life and human experience, imposing their own profit-making logic on these new spaces. Dallas Smythe has offered extremely insightful analysis of how this process, through the corporate-owned media, has affected heretofore-private, unwaged spaces. Elsewhere, Herbert Schiller examined the effects of this process on public spaces and culture. Naomi Klein's recent work gives a somewhat more extensive look at subsumption, choosing the brand as our gateway towards a fuller understanding of how the process has unfolded in recent years. In his own idiosyncratic way, Foucault devoted his life's work to studying the dispersion of power through the social fabric from the institutions in which it (mental, penal, clinical, and intellectual) resided. Finally, various theorists from *autonomia* have suggested over the last few decades that our new field of analysis should expand outwards to look at how a certain kind of social consciousness (based around obedience and consumption) is being produced and reproduced.

It may seem like a leap to go from discussing this process to analyzing the development of the Uniform Domain Name Dispute Resolution Policy or the creation of new top-level domains. I propose that the link is by no means far-fetched.

The development of the Internet as a commercial medium has, after all, recently brought us one of the most powerful (if short-lived) economic booms of our history. Hardware, software and network manufacturers, as well as venture capitalists and millions of ordinary investors staked untold billions on the fact that this process would indeed reach a level of completion, that subsumption would absorb the Internet to a saturation point in an orgy of commodified information, pay-per music, electronic auctions and the sale of every imaginable item. Integral to this process was a kind of social engineering of the population, an inculcation of the promise and joys of the information society (see Winseck, 1998, pps. 280-289).

The point I am trying to make is that subsumption is not just something that Marx discussed in a few obscure passages in *Capital*. The process of subsumption, how to allow it, how to facilitate it, how to propel it, was the focus of boardroom discussions and government policy meetings across most of the developed world. It was never referred to as such of course. Yet even a cursory analysis of a term like “e-commerce” reveals the very kernel of this process at work, in the virtual world just as in the material one. With the electronic networks mostly in place thanks to decades of public financing, the key was to graft a commercial consciousness into the very DNA of the new medium.

One of the hundreds of ways in which this happened was the policing of the names and numbers system. It also happens to be one of the most important. The newly created cyber-territories of .com, .org, and .net were indeed a kind of frontier, into which settlers slowly trickled in the early nineties. When the trickle thickened into a river and

the territories were recognized as having a potentially huge value, certain practices were deemed threatening and had to be stamped out.

The history of this process teaches us a few things. The first is that under post-Fordism there are areas where the wheels of state-administered justice simply move too slowly for capital, and the regulation of domain names is one of these. Beyond this need for speed, the global nature of the Internet required a set of pseudo-legal procedures with an equally global scope.

The institutionalization of this system, soon to be known as the UDRP, was closely tied to the largely hidden ebbs and flows of Internet politics. The two government contractors at the heart of DNS administration and profiteering (ISOC/IANA and NSI) were also deadlocked over the development and control of the names and numbers system. Each had its own reasons for the powerlust. For NSI (and, after the acquisition, Verisign) it meant the maintenance of a steady flow of massive profits deriving from its control over a single file of computer data. For ISOC, it meant achieving the trappings of authority, including the lavish budgets, salaries, and expense accounts that went along with it.

Perennially caught in the middle of the titans was the development of a system that could ensure that cyber-territories were safe for commerce. At each new takeover attempt such a system was proposed, and every time the attempt met with failure it was re-shelved.

Vital to the creation of such a system however, as well as to the creation of a system of governance for the DNS itself, was the intervention of the state. By the time

the US Government did this however, certain key features of what would become the UDRP were becoming obvious. As previously mentioned, these were the breadth (global) and quality (private, rapid enough to keep up with Internet time) of the system, as well as the fact that WIPO, in one way or another, would be involved. All of these factors, when taken together, meant that the UDRP was in effect a global cyber-squatting rapid response team at the service of the brand. As the history of dispute resolution shows however, the process could not be implemented until the state consented. As of yet the US government still has ultimate policy authority over the root, a condition that seems likely to persist indefinitely.

Once the UDRP was in place, ICANN could go about creating new cyber-territories. The bizarre way in which this happened however further underscored the uniqueness of the organization's position. Charged with creating, coordinating and policing flows of wealth, ICANN had not yet assured a way to secure a steady stream of revenue for itself. Stuck in its hybrid role of private corporation/global telecommunications regulator, whatever action it took seemed suspect. As a private corporation, it quickly found that taxing domain names was a public relations black eye. The move amounted to an admission that it was at the very best a regulator (which it swore up and down that it was not), and at worst a new kind of government. Considering the level of fear and loathing with which government has traditionally been viewed in cyberspace (not to mention by the private sector under post-Fordism), any such association was one to be eschewed.

When NSI exploited this fact and denied ICANN of a huge projected source of revenue, the organization had to resort to the part of the private sector that held high hopes for it to boost the depleted coffers. The situation, viewed from this perspective, goes some way towards explaining why ICANN attached such an onerous fee to the right to apply for a new cyber-territory.

Yet it does little to explain why no more than seven (and an odd assortment at that) were chosen. The most likely reason for this however can be found in most classical economics textbooks dealing with the relationship between value and scarcity. Had ICANN blessed a hundred new TLDs it would have done a lot towards finding room for everyone on the Internet, but little for keeping the value of domain names high. Furthermore, there is the not insignificant fact that the more TLDs there are, the more money corporations have to dish out to protect their brand. A company like Pepsi for example, faced with new TLDs has little choice but to go out and register pepsi.biz, pepsi.info, and so on, not to mention pepsi-sucks.biz, pepsi-really-sucks.biz, etc.²⁸

At the heart of this decision for inaction on the part of ICANN therefore lies a fundamental tension inherent in private governance. When forced to choose between robust, predictable profits and the public good, the latter stands a poor chance of emerging victorious. Since ICANN has been conceived, the public interest has systematically received a thrashing at the hands of this private regulator, and this only when it was taken into consideration at all.

²⁸ Incidentally, most of the companies granted the right to run new primarily commercial TLDs set aside a “sunrise” period in which registered trademark owners could register their domain names before the remainder of the Internet population could register an address.

At the heart of it all lies control over the root server, a power that allows the ability to decide the shape of the official network. While control over this chokepoint is still being fiercely fought over in a policy process insulated from public input, the fact remains that every significant decision over the structure of the network has been made by leveraging this control. And as has been demonstrated above, every structuring decision thus far has been made in the interests of commerce, from protecting the pre-eminence of the brand to creating new spaces into which capital and its circuits of accumulation can expand and flourish.

Chapter IV

Theories of Resistance and Historical Change

...but with this there also grows the revolt of the working class, a class constantly increasing in numbers, and trained, united and organized by the very mechanism of the capitalist process of production.

(Karl Marx 1990, orig. 1867, p. 929)

But one thing is clear, they may agree on the causes of their suffering but you can't make much out of an alliance of negatives. This needs nothing less than the reconstruction of the left on a new basis... I think a territorially based popular mobilization may be a way forward here. (Raymond Williams, 1989, p. 239-240)

If, in an era of an apparently triumphant market, one refuses to concede that we have somehow reached the end of history, then we are forced to at least re-articulate notions of social struggle and opposition. Whether spurred by hundreds of thousands of people besieging global trade meetings, or hijacked planes gliding into the symbols of America's economic and military power, this re-articulation might be timely.

I have spent considerable time thus far delineating how global capital functioned under Fordism (Chapter I), how it has been restructured into a lighter, more flexible version of itself (Postfordism and ICANN, Chapter II), and the process by which it is characterized (the continual subsumption of human activity, Chapter III). Thus capital, in and through cyberspace, has regenerated (created new territories for commodification)

and restructured (re-regulated itself and found new methods of coercion) itself in order to ensure steady rounds of accumulation.

Yet there here have been only passing descriptions of resistance to the subsumptive nature of market relations and references to theories that could explain this. I have left this task until now in the interests of dealing with these tasks in a systematic and coherent fashion. This chapter will thus occupy itself in its entirety with theories of resistance and opposition as they have been understood by Raymond Williams, David Harvey, and autonomia. It is constructed as a theoretical springboard from which I will be able to launch into a description of the contours and composition of the movements resisting ICANN and the subsumption of cyberspace in Chapter V.

As a point of departure, it is important to note that these three theories of resistance (and thus versions of historical change) are united in the contemporary tendency towards a less mechanical reading of marxism. This initial affinity is not casual. If a teleological approach is to be eschewed in favour of human agency, the focus must turn towards the location of a revolutionary subject and an assessment of its potential for enacting social change. The onus then is on these theorists to describe both the contours of contemporary social struggle and the terrain on which it plays itself out.

In order to elaborate a theoretical framework for this thesis that is as flexible and yet striated as the information society itself, it is imperative that we seek ways in which we can understand and evaluate resistance to ICANN and the private regulation of cyberspace. This chapter then, beyond laying a theoretical base for what will come next,

is also part of a larger project to re-articulate marxist thought for post-Fordism and postmodernity.

Two main concerns will accompany us as we evaluate concepts such as Raymond Williams' "militant particularism", David Harvey's "dialectical utopianism", and autonomist marxism's "class composition":

The first is how these integrate technology in general and communications technology in particular into their understanding of history –in other words, can they handle the information society? Whether or not one subscribes to the idea that capitalism has been dramatically restructured since at least the 1970's, the importance of communication technology to its present functioning, as I have discussed before, is indisputable. This has been accompanied by a growing use of communications technology by oppositional movements however, suggesting that *technology itself is part of the terrain on which the struggle of history is waged*.

The second and less fore-grounded concern will be to position them with regards to post-Fordism's companion in affinities, postmodernism (understood as a general structure of feeling *and* a body of intellectual thought). Marxism, as the Enlightenment incarnation of theories of struggle, has had to deal with the trenchant critiques it has endured at the hands of postmodernism, and the theorists who will be examined are no exception. After the failed experiments of past revolutions, and the distortion of symbolic value occurring when the Soviet Union is tied to the word "communist", marxism would do well to listen. There are few signs that it is dead however. If Derrida's treatment of Marx (1994) is any indication, then marxism is equally something

which those bent on deconstruction must deal with if a radical politics for the 21st century is to emerge.

Throughout all of this, not to be forgotten, there is Marx himself. While his work has been justifiably interpreted and renewed by all of the theorists I will examine, it remains as a fundamental guide to what this chapter (and in a larger sense this thesis) seeks to achieve. Throughout my discussion of the various stances on class struggle, I will frequently refer back to his work and that of his longtime collaborator, Friedrich Engels.

4.1 Agency and History

Marx's work is characterized by a highly interpretable notion of history and the struggles that characterize it. This seeming uncertainty has produced a body of writing that now undoubtedly outweighs by hundreds of times the voluminous amount of literature produced by Marx himself. Yet, as Williams' understanding historical change (see Chapter I) is an example of, different theorists have drawn on different readings of how history unfolds, and it is therefore important to understand the basis for these.

On the one hand, we have the Marx seen predominantly in *The German Ideology* and the *Communist Manifesto*, who squarely places human activity at the centre of historical change. Reacting against German idealism, utopianism, and socialism, Marx declares that historical change is:

... nothing but the succession of the separate generations, each of which uses the materials, the capital funds, the productive forces handed down to it by all preceding generations, and thus, on the one hand, continues the traditional activity

in completely changed circumstances and, on the other, modifies the old circumstances with a completely changed activity (1998, orig. 1845, p. 58).

Here Marx explicitly suggests that the “active influence” of humans, enabled or constrained by the stage of development of the mode production, changes history. We can only understand where we are now by understanding the material struggles that preceded us, not some “evolutionary process of consciousness” (*ibid.*, p. 98).

There is however also a sometimes teleological component in Marx’s understanding of historical change. The source of this is to be found in his concept of the mode of production. In the first volume of *Capital* for example, he speaks of small-scale manufacturing as bringing “...into the world the material means of its own destruction. From that moment, new forces and new passions spring up in the bosom of society, forces and passions which feel themselves to be fettered by that society. It has to be annihilated; it is annihilated” (1990, orig. 1867, p. 928). Further on, he goes as far as to invoke the inexorability of natural processes when discussing how capital “begets its own... negation” (*Ibid.* p. 929). This leaning on teleology is a discernible line in the unfolding of his work. Earlier, in the *Preface to the Contribution to the Critique of Political Economy* (written in 1859), Marx suggests that

in the social production of their life men enter into definite relations that are independent of their will, relations of production which correspond to a definite stage of development of their material productive forces (1971, orig. 1859, pps. 20-21).

This initial distinction in the work of Marx is important. As I suggested in the introduction, each of the three sections that follow deal with a theorist or school whose thought takes root in the former marxist understanding of history. This is of course to

different degrees, and with many qualifications and differences of focus. To a large extent however, I believe that they possess a shared distrust of mechanical notions of historical change and how it occurs. This serves as a good starting point as we turn our attention to the work of Raymond Williams.

4.2 “A Decentralized Politics For The Future”

The continuous process of our human organization is itself a continuous action and adjustment in relation to all that is not human, and the central fact of this action and adjustment is a process of learning and communication which has grown through continual variation and the effort to transmit variation. We must not think of society or the group acting on the unique individual, but also of many unique individuals, through a process of communication, creating and where necessary extending the organization by which they will continue to be shaped.

(Raymond Williams 1961, p. 99)

Raymond Williams’ body of work stands as one of the most important contributions to and reworking of marxist theory. His thought spans the breadth of communications studies, cultural studies, literary theory, and political economy, and yet there is no single work that can be pointed to as containing a full articulation of his theory of working class resistance.

There are however, scattered throughout his body of work, frequent attempts to refine certain categories through which we understand social relations. In his clarifications of these conceptual tools, in the meticulous process of theoretical reevaluation, a theory of opposition can be delineated from amongst his many works.

His understanding of traditional marxist categories such as class is an excellent way to start piecing together how Williams envisioned historical change coming about. In his detailed analysis of the term’s history he traces a split in the term between its use as

a “descriptive grouping” on the one hand and as an economic relationship on the other. Subsequent to Marx’s heavy influence on the use of the term, this split persisted. Therefore “[a] class seen in terms of economic relationships can be a category (wage-earners) or a formation (the working class)” (1976, p. 67). The main tendency in Marx’s work, Williams suggests, is the latter. This appears to be borne out by earlier work of Marx’s such as the *German Ideology*, in which he says that the “separate individuals of a class come together only insofar as they have to carry on a common battle with another class; in other respects they are on hostile terms with each other as competitors” (p. 85). This more flexible understanding of class both captures the theory of Williams and deals with an important part of constructing a theory of resistance for the information society. In a world where “all that is solid melts into air”, “fast-frozen relations” such as class cannot be chained to old coordinates (1998, orig. 1848, p. 6).

Another example of Williams’ flexibility that is pertinent to building a theory of resistance is his treatment of one of the great targets for critics of marxist theory – the base/superstructure metaphor. Here Williams’ analysis of the word “determination” is critical to his understanding of the metaphor. For there are two ways of understanding the word:

There is on one hand, from its theological inheritance, the notion of an external cause which totally predicts or prefigures, indeed totally controls a subsequent activity. But there is also, from the experience of social practice, a notion of determination as setting limits, exerting pressures (1991, p. 408).

His suggestion that the latter is vital to our understanding of how to think about the relationship between structures and agency yet again sets out a more flexible set of guidelines in the analysis of historical change. The lives of human beings are fortunately

not always predicted or prefigured by the structures of the world that they came into. This notion of determination, besides prefiguring the work of Giddens (1984), is also consonant with much of the work of Marx himself. This “flexible” Marx is captured best by the oft-celebrated quote from the *German Ideology*, in which he states that humans make history but not under conditions of their own choosing.

The continual reminders of human agency are an integral part of Williams’ work. They contribute to his previously discussed understanding of human change, in which he sets out the categories of “dominant,” “emergent,” and “residual.” These flow from a belief that culture is contested at any point of human history. In discussing the role of dominant ideology, he suggests that:

It is not only the depths to which this process reaches, selecting and organizing and interpreting our experience. It is also that this is continually active and adjusting; it isn’t just the past, the dry husks of ideology which we can more easily discard. And this can only be so, in a complex society, if it is something more substantial and more flexible than any abstract imposed ideology. Thus we have to recognize the alternative meanings and values, the alternative opinions and attitudes, even some alternative senses of the world which can be accommodated within a particularly effective and dominant culture (*ibid.* p. 414).

This notion of history as “continually active and adjusting” leads to “new meanings and values, new practices, new significances and experiences” which are “continually being created” (*ibid.* p. 416). This does not mean that these alternative practices are benignly tolerated, for when they become oppositional “in an explicit way” they are “approached or attacked” (*ibid.* p. 418).

While Williams’ stress on the importance of having a dynamic view of history is a vitally important contribution, he is perhaps guilty of not following this theoretical path a little further. For if history is continually active and adjusting, it seems as if asking what

exactly it is adjusting *to* might be a fair question. While class struggle is never far from his work, in this instance Williams appears to miss a vital link that could further enhance his overall theoretical framework. If we understand history as a succession of struggles over resources, who exactly is the motor of the process, and what are the dynamics by which this struggle plays itself out? And if class is to be considered a descriptive grouping, then what are its contours in the information society. The quibbles are small ones to be sure, but important nonetheless. As I will argue later, the theoretical gap has since been confronted with important results (see section 4.4).

Williams devoted much time and attention to the evaluation of a materialist view of history. In his analysis of how the materialist ought to understand human struggle he made the vital point that human agency, besides having to deal with political and economic structures, was at the same time engaged in a struggle to “override the physical realities which persist in and through and beyond all historical causes.”

Indeed to restore this substance of human life to all effective social perspectives is a matter of great urgency. First, because no significant social perspective can exclude these substantial experiences, or treat them as marginal. It is only by infection from the social orders that we are fighting that any such exclusion or reduction is possible. But also, second, it is the perspective that then suffers, since the people who hold to it, and who struggle according to it, are all themselves within these conditions (1980, p. 114).

The virtual world we have spent chapters exploring cannot be abstracted from the world that helped to create it, from that “form-giving fire” (labour) which brought it about. Cyberspace and the information society did not emerge fully formed, and its denizens similarly are born, live and die in unavoidably material spaces. The depth which this materialism affords Williams allows him to suggest that “many contemporary projects of liberation... have decisively reclaimed our physical existence and fulfillment

as inseparable from any significant project of political and economic liberation” (*ibid.* p. 114). These connections which Williams makes create the basis for what is perhaps his most important contribution to a marxist theory of resistance, the praxis-laden notion of *militant particularism*.

Marx and Engels’ polemic, the *Communist Manifesto*, had amongst its chief concerns the unification of worker struggles which were separated by nationality and geography. We will take a look at how Harvey approaches this work further on, but in many ways Williams’ notion of militant particularism extends and elaborates on the pressing need which Marx and Engels outlined. The notion emerges in some of Williams’ more overtly political work, perhaps being captured best in *Resources of Hope*:

The unique and extraordinary character of working-class self-organization has been that it has tried to connect particular struggles to a general struggle in one quite special way. It has set out, as a movement, to make real what is at first sight the extraordinary claim that the defence and advancements of certain particular interests, properly brought together, are in fact the general interest. That, after all, is the moment of transition to an idea of socialism. And this moment comes not once and for all but many times; is lost and is found again; has to be affirmed and developed, continually, if it is to stay real (1989, p. 249).

This rooting of a general oppositional struggle within varying particular circumstances is striking in its potential to absorb much of the impact the most intransigent of postmodern criticism might throw its way.²⁹ No longer is the struggle so totalizing that it supersedes local realities in terms of importance. To the contrary, a multitude of local struggles begin to band together, which then results in a movement, a formation, or a class. Within what Gramsci would refer to as an “historic bloc,” individuals become committed to a larger cause due to their personal experiences,

history, and sense of place. The basis upon which this can happen, upon which struggles can begin to circulate and recognize each other, is communication. Yet, while Williams was not less aware than others of the failures of progressive movements for social change in the former Soviet Union and the People's Republic of China, his concern for the specificities of the "local" do not supercede considerations of the need to organize at a societal level as well:

This now is our crisis: that we have to find ways of self-managing not just a single enterprise or community but a society. We can begin by questioning one old but still current formula: that socialism is the rational use of resources in the public interest. If this were true, the expert plans still proposed would be sufficient. Yet we have learned, the hard way, that 'public interest,' in this simple and abstract form, does not exist (1989, p. 290).

In many ways Williams is one of the first postmodern-compatible marxists.

While overstating this compatibility would be unfair, his continual concerns with agency, mutability, particularity, and popular cultural forms, seem to continue the slide in marxism towards greater theoretical flexibility and openness begun by figures such as Rosa Luxemburg, CLR James, and Antonio Gramsci.

I would like to discuss one more area of his work that expresses the same openness, and these are his considerations on technology. Predominantly contained in *Television, Technology, and Cultural Form* (1974), Williams' thoughts concerning technology were compatible with what we now understand as social construction theory. His approach began with debunking any determinist temptations in understanding how technologies were created and implemented:

²⁹ The original article in which the quoted section appears ('The Forward March of Labour Halted?') was published in 1981, a critical juncture where postmodernism became a participant in academic discourse

It is never quite true to say that in modern societies, when a social need has been demonstrated, its appropriate technology will be found. This is partly because some real needs, in any particular period, are beyond the scope of existing or foreseeable scientific and technical knowledge. It is even more because the key question, about technological response to a need, is less a question about need itself than about its place in an existing social formation (*ibid*, p. 19).

The previously outlined materialist base that Williams has established is firmly present in his reading of technology. Not only does he relate the development of technology to material social need, but he takes care to illustrate that its development is more often than not contingent upon where that need is located within a social structure.

This does not leave him open to charges of overlooking agency however. Much as a political and economic base will set limits and exert pressures on cultural forms, the uses to which technology are put are very rarely completely predicted or prefigured at the moment of its production. In discussing the complex historical relationship between the development of the printing press, religion and literacy for example, Williams claims:

There were many complications. Some of those arguing that the poor must be able to read the bible, as a means to their moral improvement, overlooked the fact that there is no way to teach a man how to read the Bible which does not also enable him to read the radical press (1989 (b), p. 179).

Williams, beyond having hope for a working class agency that engaged in the re-appropriation of technology, arguably had high hopes for the potential that technology in general and communications technology in particular held for humankind. In an interview towards the end of his life, Williams expressed hope for television as a vehicle for a decentralized politics in creating working class unity:

Getting a policy on community cable is acting positively. The Left must move out of its old phase. The new political economy of TV will be smaller audiences, such as Channel 4 experiences, based on communities of interest. If we can work it out, we can connect to these multichannel networks. This is one of the most interesting and possibly rewarding challenges faced by a decentralized politics for the future.

It would be interesting to know what Williams' view of the Internet and the central role it occupies in global antagonistic movements would be. The decentralized politics of which he speaks is arguably emerging with the massive and coordinated protests against the institutions of international capital and, as we will see, has been an important part of resisting the new Internet order.

4.3 Spaces of Hope

But at a time when class struggle has receded as a unified force in the advanced capitalist world (though still present in a thousand and one fragmented forms), is this not also a time when the painting of fantastic pictures of a future society has some role to play? (Harvey, 1999, p. 49)

It is again a time for manifestos. Harvey begins his latest work, *Spaces of Hope*, with an in-depth “historical-geographic materialist” reading of Marx and Engels’ polemic, *The Communist Manifesto*. It appears as if this organizational choice is not casual, as Harvey’s book itself could be characterized as a prolonged manifesto for the kind of marxist theory he has been so instrumental in creating.

With regards to elaborating a theory of resistance, struggle, or opposition, *Spaces of Hope* is perhaps his most comprehensive work. It is also his most overtly political. There are some key concepts introduced therein that I will elaborate on, including his view of the relationship between “the body” and “globalization” and that of “dialectical utopianism.”

It is useful to situate Harvey within marxism-postmodernism debate however. Indeed one of his most important contributions to marxist theory was a re-elaboration of

work done by Ernest Mandel and subsequently by Fredric Jameson. The latter's now-famous article, "Postmodernism, Or, the Cultural Logic of Late Capitalism", was a trenchant critique of postmodernity (understood as a cultural aesthetic as well as a burgeoning academic mode of analysis). Drawing on Mandel's famous work, *Late Capitalism* (1975), Jameson argues that postmodernity is the vapid face of capital's terminal phase. When culture has been completely industrialized, the result is a proliferation of symbols and signs which mean little or nothing, further distancing people from the reality of their relationship to the mode of production.

This brief description of Jameson's 1984 work is important because it gives a context for Harvey's vastly important contribution to the debate. In the *Condition of Postmodernity* (itself a play on Lyotard's *The Postmodern Condition*, 1999, orig. 1979), Harvey traces in a much more thorough way the development of postmodernity (1989). Providing impressive documentation of the political and economic transformations that have occurred in industrialized societies since the early 1970s, he suggests that the development of what he refers to as flexible accumulation (elsewhere referred to as post-Fordism) has led to postmodernity.

His contribution is a more thorough application of historical materialism to the analysis of postmodern aesthetics, theory and politics. The work is important, because rather than dismissing postmodernity outright as being devoid of any liberatory potential, he engages with it in a vastly more critical way than Jameson did. While never overlooking its most troubling manifestations, Harvey appears here and there to be open to this new terrain on which struggle is played out:

A mode of thought that is anti-authoritarian and iconoclastic, that insists on the authenticity of other voices, that celebrates difference, decentralization, and democratization of taste, as well as the power of imagination over materiality, has to have a radical cutting edge even when indiscriminately used. The hands of its more responsible practitioners, the whole baggage of ideas associated with postmodernism could be deployed to radical ends, and thereby be seen as part of a fundamental drive towards a more liberatory politics, in exactly the same way that the turn to more flexible labour processes could be seen as an opening to a new era of democratic and highly decentralized labour relations and co-operative endeavours (1989, p. 353)

I discuss *The Condition of Postmodernity* because it is perhaps Harvey's most formative period as an academic, one that has had a significant effect on his later work. *Spaces of Hope* in fact, can be seen as an extended reflection on how struggle plays itself out on this new terrain, on how to imagine alternatives in an era of deconstruction. One could on the other hand be unkind, and suggest that Harvey's work since *The Condition of Postmodernity* has been a constant attempt to out-manoeuvre the postmodern critics in an endless search for solid ontological ground upon which to construct an alternative.

The truth most likely lies somewhere in between. He himself states that "[o]ne of the consequences of this... is that it is impossible to discuss Marx or Marxism outside of the dominant terms of the debate" (1999, p. 12). This is most true, and thus even Harvey's most recent effort *cannot* be understood outside of this tension. This manifests itself most notably in his attempts to conjoin an understanding of globalization with academia's recent bout of preoccupation with the body.

The body has been one of the central concerns of academic theory in the last two decades, finding a home in fields such as women's studies, queer theory, and cultural studies. Harvey himself notes that this has much to do with postmodernism, suggesting that "a contemporary loss of confidence in previously established categories has provoked a return to the body as the irreducible basis for understanding" (p. 97).

What ensues in *Spaces of Hope* is an occasionally awkward attempt by Harvey to reinterpret the body through a marxist framework. While Marx himself grounded both his ontological and epistemological arguments firmly upon sensual interaction with the external world, Harvey's attempt to outline a theory of the body as an "accumulation strategy" is at times forced. Harvey ends up focusing on the effects of labour on the body, suggesting that "the exigencies of capitalist production push the limits of the working body – its capacities and possibilities – in a variety of different and often fundamentally contradictory directions" (p. 103). There is something to be said for extending a marxist analysis to new terrain however, perhaps even just to see what happens. Harvey's attempt is a shrewd one, aimed at creating a basis within "the particular" from which he can move on to "the general." The labouring body is therefore "a site of resistance that achieves a political dimension through the political capacity of individuals to act as moral agents" (p. 49).

There is little doubt however as to where Harvey's analysis will end up, and the way he gets there is through a familiar theoretical concept: Williams' militant particularism. *Spaces of Hope* of course harks back to the collection of Williams' writings, *Resources of Hope*,³⁰ and having conceded that "the beginning point of class struggle lies with the particularity of the laboring body" (p. 56) he is eager to link this with the process of globalization.

³⁰ It would be interesting to see what Williams' reaction to this strategy might be. While he spoke of the "particular," a strong case could be made that he was referring to the social relations between people at a local level and thus might have had problems with any reduction of this to "the body" as a starting point for resistance.

To those who have followed Harvey's theoretical progression over the years it might not come as a surprise that he relies on his historical-geographical materialism to provide an understanding of globalization. The points he starts out with however are scarcely more recent than Marx himself, providing not much of a departure from his thought:

First, capitalism is always under the impulsion to accelerate turnover time, to speed up the circulation of capital and consequently to revolutionize the time horizons of development...
Second, capitalism is under the impulsion to eliminate all spatial barriers, to 'annihilate space through time' as Marx puts it, but it can do so only through the production of a fixed space.

The need to understand both the space and the time of capitalism is important, and could not be more consistent with what Marx attempted in *Capital*. At the same time however, Harvey's insistence is almost always on the latter, suggesting that "[even] temporal accounts of class struggle turn out to be territorially bounded" (p. 56). This is undoubtedly true, but cannot in itself serve as a reason for allowing temporal accounts to languish.

Perhaps the largest problem with *Spaces of Hope* is related to this - its virtually intentional avoidance of communication as an important factor in any project of liberation. In the brief paragraph that he allots to the discussion of the "media and communication system," he notes the explosion of interest in concepts such as that of the information society, but quickly suggests that "it is easy to make too much of this" (p. 62).

While this is accurate, it is also easy to (as he does) make too little of it. This void can be traced back to his sometimes problematic insistence on the importance of

space as the primary object of study. This is not to say that space is unimportant, but arguably Marx's work is equally concerned with time and the relentless manner in which it is employed by power to overcome space.

Perhaps the most important means by which this happens, then as now, is communications technology. Even a cursory examination confirms that Marx was keen to point out, as he does when discussing "Machinery and Large-Scale Industry," capitalism's need for an efficient communications infrastructure in order to better coordinate production at a larger scale.

In the same way the means of communication and transport handed down from the period of manufacture soon became unbearable fetters on large-scale industry, given the feverish velocity with which it produces, its enormous extent, its constant flinging of capital and labour from one sphere of production into another and its newly created connections with the world market. Hence, quite apart from the immense transformation which took place in shipbuilding, the means of communication and transport adapted themselves to the mode of production of large-scale industry by means of a system of river steamers, railways, ocean steamers and telegraphs (1990, orig. 1867, p. 506).

Harvey's focus leads to undoubtedly important observations on capital's need to commandeer labour through an endless series of "spatio-temporal fixes." As we have seen in the previous chapters, the construction of the Internet and the creation of ICANN can be seen as stemming from this recurring feature of the economic system. Yet ignoring (at best) or writing off (at worst) the importance of communication and how it allows capitalism to manage space more efficiently does great damage to some aspects of Harvey's work. In relating postmodernity to flexible accumulation for example, one would think that the centrality of communications technology to the perceived shift from mass production would be obvious. As such, the struggles over its control are amongst the most important of our age.

Furthermore, for all of Harvey's attention given to the need to relate local struggles to global processes, there is little mention of how this could come about. How else might it be possible to "connect the microspace of the body" with "the macrospace of what is now called 'globalization'" if not through communicative processes? This becomes particularly important when the need to connect multiple local struggles to each other is considered. Although Harvey's use of Williams is important and can be said to ultimately bear fruit, the Welsh theorist's concern with communication technologies as both instruments of oppression and potential ones of liberation is completely lost in the process.

While this is a significant weak point in the book, the work remains a valuable contribution to the theoretical furthering of oppositional movements. Harvey's concept of dialectical utopianism is, while based on Engels' abstraction of what Marx noted was a characteristic particular to capitalism (the dialectic), interesting in its scope. Particularly insightful (and once again deeply indebted to postmodern theory) is his concern with the mutability characterizing human existence and the flexibility that any plans for the future must have. Harvey's suggestion for utopianism is that it be "explicitly spatiotemporal," although once again he is, here and there, open to the charge of favouring the former over the latter.

In a thought distilled from the work of Roberto Unger, Harvey suggests that "[o]nly by changing our institutional world can we change ourselves at the same time, as it is only through the desire to change ourselves that institutional change can occur" (p. 188). Utopia must be more than a pure signifier of hope, something which postmodern

purists might suggest needs to be continually deferred. Utopia is something that needs to be solidly envisioned for it to be effective and lead anywhere.

Once again Harvey walks a fine line between the postmodern discomfort with (even envisioned) structures and a more modernist need to outline what an ideal future might look like. In defining this future and acting upon it, there is a role for some sort of avant-garde to play, but

This does not mean an old-style avant-garde party that imposes a singular goal and arrogates itself such clarity of vision as to exclude all other voices. But it does mean the creation of organizations, institutions, doctrines, programs, formalized structures, and the like, that work to some common purpose. Such political activities must be firmly grounded in the concrete historical and geographical conditions under which human action unfolds. Between the traditional avant-gardism of communist parties (the specter of the Manifesto given form by Lenin) and the idealized avant-gardism dominant in the academy – the spectre of someone like Derrida – there lies a terrain of political organization and struggle that desperately cries out for cultivation. That terrain is not, fortunately, empty of possibilities (p. 49).

Thus if we are to abandon utopia as a continually deferred project and work towards making it a material reality, we need to recognize that “[t]he materialization of anything requires, at least for a time, closure around a particular set of institutional arrangements and a particular spatial form” (p. 188).

Having made some break with those (such as present-day anarchist formations) who would reserve only distrust for structures beyond that of the affinity group, Harvey moves on to discuss the figure of the architect. This sophisticated play on Marx’s oft-quoted passage on the difference between the best of bees and the worst of architects lies at the basis of his hopes for human agency. Thus to:

...construe ourselves as ‘architects of our own fates and fortunes’ is to adopt the figure of the architect as a metaphor for our own agency as we go about the daily practices and through them effectively preserve, construct, and re-construct our life-world (p. 200).

Once again the focus is on spatial metaphors rather than temporal ones, a quality running through most of Harvey's work. Building on the metaphor of the architect, he goes on to argue that any social change which can be brought about needs to occur over a protracted period, thus presumably avoiding the catharsis of a short, dramatic revolution. "The perspective of a long revolution is necessary" (p. 238), one which is continually able to mediate between "the security conferred by fixed institutions and spatial forms on one hand and the need to be open and flexible in relation to new socio-spatial possibilities on the other" (p. 243).

Harvey's latest work is thus concerned first of all with a theoretical sketch of how the possibility for working class-driven political change can be "imagined." This is, as we will have chance to examine later in the conclusion, is both the strength and the weakness of his work. On the one hand he rightly brings to the fore the need to imagine alternatives before we set about building them. On the other, he frequently shies away from examining the working class alliances present in the here and now upon which we might be able to start building this alternative, not to mention the ashes of previous movements from which there have always arisen new formations. As we will see, this is perhaps the foremost concern of the school of marxist thought known as *autonomia*.

4.4 Resisting the Social Factory

The alternative... is to begin from a strategic analysis of the pattern of development of working-class power as the only possible ground for answering the question of how that power can be increased. Such an analysis requires starting from an examination of workers' actual struggles: their content, how they have developed, and where they are headed. By this I mean the struggles of the workers themselves, not of their 'official' organizations (trade unions, parties, etc). The actions of these organizations may accurately reflect the struggles of the workers themselves, or they may not. They are often completely at odds with them. It is because of this that we must begin with the unmediated struggles themselves." (Harry Cleaver, 1979, p. 43)

What is now called “autonomist,” “open,” or “subjectivist” marxism has a disparate history which can be traced from recognizable currents within council communism and anarcho-communism at the beginning of the twentieth century.³¹ These continued in the work of schools such as the Johnson-Forest Tendency in the United States and *Socialisme ou Barbarie* in France, finding a special incarnation in the Italian radical left of the 1970’s.

To make the switch between discussing the work of separate theorists to the quite large body produced by all of these schools over the years would be exceptionally difficult and certainly beyond the scope of this chapter.³² For this reason, while occasionally bringing in or alluding to perspectives from the pools of radical thought which inform it, I will focus mainly on the Italian *autonomia* tradition, the theory of whom, according to some has translated into nothing less than “a *sui generis* twenty first century radicalism” (Dyer-Witheford, 2002).

There are two reasons I personally feel *autonomia* to be deserving of particular attention. First of all, they arguably anticipated many postmodernist concerns, thus making their landing on the new terrain of material and academic struggle much softer than that of more orthodox marxisms. Secondly, their particular attention to the study of

³¹ Much of my analysis of *autonomia* is indebted to the work done thus far by Harry Cleaver (1979), Michael Ryan (1982) and Nick Dyer-Witheford (1999) to introduce the tradition to a North American audience.

³² While the contributions cited above have been valuable, there is a void where a thorough genealogy of the theoretical stream and its social context should be.

technology, and specifically communications technology, allows them a privileged position in what is after all a communications thesis.

Autonomist marxism, at its core, offers a different way of understanding the recurring crises and subsequent reconfigurations of capital. These arise not from the "internal" contradictions of capitalist accumulation, but from the *external* one of the working class struggle against exploitation. The focus of this lesser-known strand of marxist theory is thus Marx's description of the relationship between waged labour and capital. This is true of the work of Italian theorists such as Sergio Bologna (1980), Antonio Negri (1979, 1988, 1989, 1991, 1999 orig. 1992, 2000), Mario Tronti (1966, 1973), Mariarosa Dalla Costa (1974), and Raniero Panzieri (1976, 1980), as well as for the next generation of North American figures who can be counted as within this tradition - Harry Cleaver, Michael Ryan, Michael Hardt, and Nick Dyer-Witheford (see footnote 31). Where these theorists depart from many conventional visions of struggle is where they choose to lay their theoretical focus - on class composition. This stems from a reading of Marx which foregrounds the power of the working class, a power which capital must continually try and incorporate in an unending project of what Marx referred to in *Capital* as "subsumption":

It therefore requires a specifically capitalist mode of production which, along with its methods, means and conditions, arises and develops spontaneously on the basis of the formal subsumption of labour under capital. This formal subsumption is then replaced by real subsumption. (1990, orig. 1867, p. 645)

Such an analysis, while hopefully not losing sight of capital's awesome power, is "aimed at assessing the capacity of living labour to wrest control away from capital" (Dyer-

Witheford, p. 66). This strategy often emerges from a focus on Marx's more overtly political analysis. Cleaver's *Reading Capital Politically* for example pays great attention to Marx's discussion of the workers' struggles to shorten the working day, while Negri's seminars on the *Grundrisse* (collected in *Marx Beyond Marx*) point to it as the political high-water mark, as the "summit of Marx's revolutionary thought" (Negri, 1991). This focus has resulted not only in a refreshed look at the class dynamic, but also in a veritable alternative history of capitalism by what is arguably the furthest outpost of marxist theory. In the most recent example of this, Peter Linebaugh and Marcus Rediker (2000) have impressively documented the struggles primitive capital faced when attempting to impose itself on other forms of social organization during its expansion in the seventeenth and eighteenth centuries.

The writings of the autonomists, while containing some of the most detailed analyses of Marx's writings, nonetheless strenuously resist reading his work as if it were a set of religious documents to be deciphered rather than interpreted.³³ There is therefore something familiarly irreverent about the autonomists' approach to Marx's texts to those familiar with postmodernist work. The autonomists might easily claim that amidst the tremendous corpus of work that has been produced *because of* Marx, the true goal of his work has been lost – that is, praxis. To be able to engage more actively and successfully

³³ This insistence becomes vaguely humorous when Harry Cleaver, in his introduction to *Marx Beyond Marx* claims: "We can leave to Marxologists the debate as to whether Negri is right about what Marx really meant. We can read Negri for Negri, and judge the insightfulness of his comments on their own merits. When...Negri questions the correctness of his interpretation, we are tempted to say it doesn't matter. If Marx did not mean what Negri said, then so much the worse for Marx." Introduction to Negri, 1991, p. xix

with our social structure, we need to examine how this has happened in the past as well as how it is happening right now.

Capitalist restructuring is viewed as a perennial *reaction* against the tendency of the workers to periodically compose themselves as a collectivity. The most recent round of restructuring, in which information technologies play a central role, is seen less as an attempt by capital to overcome some kind of internal crisis than as what Harvey might term a “spatio-temporal fix” in the face of widespread social unrest during the sixties and seventies. The deployment of technology by capital against the demands of the Fordist “mass worker” has succeeded in both reducing and dispersing workers that were once brought together on the shop floor. But even this process, argues the autonomist perspective, has had unforeseen and potentially very troublesome results for capital. The reconfiguration has only succeeded in creating a “factory without walls” so highly dispersed in its productive nature that the world itself has become a kind of “social factory” (see Chapter III, Section 3.1). Tronti suggested as early as the 1960’s that in our current situation, capital’s growing resort to state intervention and technocratic control had brought about a situation in which “the entire society now functions as a moment of production” (quoted in translation, 1973, p. 105). This is however the premise for the emergence of the “socialized worker,” and thus a renewed kind of struggle.

Herein lies what is arguably the perspective’s most important contention. If the countermoves of capital only succeed in creating new forms of labour, then the character of resistance and opposition must continually be changing. It is this point where *autonomia* parts company with more orthodox versions of marxism. If work has escaped

the factory walls then all sorts of other groups can be considered workers (the homeless, students, landless peasants, and unwaged housewives being the most immediate examples). This has led to a variety of attempts to name the working class of our age, from Tronti's "socialized worker" through Negri and Hardt's nebulous revolutionary subject the "multitude" to Dyer-Witheford's most recent articulation of the "value-subject." While the move away from class as a rigid category (as we saw with Williams) is not completely new, the directions *autonomia* have taken it most certainly are.

This process by which that nameless revolutionary subject is formed is what many autonomists refer to as a "cycle of struggle." Thus while capital's power may seem overwhelming, the theorists of *autonomia* take their name from a quality, or potential, which they see as inherent in the working class. Dyer-Witheford synthesizes this view:

Behind the perennially renewed conflict of capital and labour lies an asymmetry of enormous consequence. Capital, a relation of general commodification predicated on the wage relation, needs labour. But labour does not need capital. Labor can dispense with the wage, and with capitalism, and find different ways to organize its own creative energies: it is potentially *autonomous*. (1999, p. 68)

As we have seen, the theorists of *autonomia* have assigned a place of utmost importance to technology during these periods of capitalist reconfiguration. This is most consistent with the work of Marx, who in his analysis of "Machinery and Large Scale Industry" in *Capital* gives the deployment of technology by the owners of the means of production a central position in the work:

Modern industry never views or treats the existing form of a production process as the definitive one. Its technical basis is therefore revolutionary, whereas all earlier modes of production were essentially conservative. By means of machinery, chemical processes and other methods, it is continually transforming not only the technical basis of production but also the functions of the worker and the social combinations of the labour process. At the same time, it thereby also revolutionizes the division of labour within society, and incessantly throws masses of capital and of workers from one branch of production to another. Thus large-scale industry, by its

very nature, necessitates the variation of labour, fluidity of functions, and mobility of the worker in all directions. (1990, orig. 1867, p. 617)

While it is true that this strategy converts the worker into “a living appendage of the machine”(ibid. p. 614), it also throws masses of workers from one branch of production to another, feeding into the class struggle dynamic and thus beginning the cycle of class composition once more. This process was the exact same that Marx and Engels spoke of in *The Communist Manifesto*, observing that the “ever-expanding union of workers” is “helped on by the improved means of communication that are created by modern industry and that place workers in different localities in contact with one another” (1998, orig. 1848, p. 12).

The process discussed here is one that the autonomist perspective pays close attention to – the circulation struggles. For if capital remakes all space in its own image, paving the way for the circular production process, then it is equally true that at every point this process is met with resistance. From the shop floor to the moment of consumption, struggles inevitably emerge. A vital feature determining the success of these struggles is whether they circulate or not, a feature that explains the period of revolutionary activity on a global scale during the sixties and seventies. Key to this is communication technology, which blankets the contours of the information society. In the case of this thesis, the notion is doubly important, because *the struggles examined are over control of the communications technology that is the Internet, a medium which is concurrently being employed as a critical tool in that struggle.*

Autonomia’s writings on technology, at their best, capture both faces of the technological coin. With regards to the emancipatory possibilities offered by technology,

they stay away from the view that information society theorists and certain kinds of socialism both held – that capitalist technological development would naturally and with a minimum of conflict lead to a better life for all. Yet while human agency is central in making technology compliant with the full spectrum of human needs, it does not mean a rejection of the tools that hundreds of years of labour have created. “We can accept that machines are stamped with social purposes,” notes Dyer-Witheford, “without accepting that all of them are so deeply implanted with the dominative logic of capital as to be rejected” (1999, p. 71).

Both the teleological and rejectionist views of technology are decisively shunned by autonomists like Panzieri, who suggests that working-class emancipation through technology can come about only when their revolt assumes a “wholly subversive character” (1980, p. 57).

The radical line towards the appropriation of technology is continued by Negri, who in *Domination and Sabotage* suggests a strategy for the working class which goes back at least as far as the Luddites: outright sabotage. This is the most transgressive example of autonomist thinking, one that found an articulation in Italian factories and continues to find incarnations in the monkeywrenching advocated by some of the most radical unions. The seizure of control over technology therefore plays a vital part in the accounts of the theorists skimmed so far. As Panzieri says, if capital “interweaves” technology and power then this weaving can be undone, and the threads used to create a different techno-social fabric (cited in Dyer-Witheford, 1999, p.71).

There are a few reasons why autonomist marxism has remained a vital school of thought and appears to be enjoying increased popularity. Their traditional focus on agency and resistance in many ways anticipated the concerns of the best varieties of cultural studies that Raymond Williams was so instrumental a figure in. Their theoretical distance from the texts of Marx allowed them more flexibility in their maneuver through present terrains of struggle. Their frequent distrust for the “official” representatives of the working class has allowed them to mesh here and there with the typically postmodern distrust of structures. Their continually changing notion of class has allowed them to avoid static formulations that seem to work during one historical period but are insufficient to understand another one. Finally, the school’s increasing focus on communications technology allows them a deeper understanding of the information society.

As with any body of thought there are complications however, and these arise most obviously when the ultimate goals of *autonomia* impose themselves on the school’s capacity for critical assessment. For when one has committed to the notion that the working class (always and regardless of the circumstances or names one assigns to it) contains within itself the certain rumblings of revolutionary activity, the incentive for finding this impulse becomes obvious. At its worst, *autonomia*’s innovative perspective can be used to discern the proof of an insurgent working class in activities such as stealing cable and calling in sick to work. While the example is purposely extreme, it serves to illustrate the problems the perspective courts.

Most recently for example, Michael Hardt and Antonio Negri's *Empire* demonstrates a similar predisposition to what is perhaps unguarded optimism. Their revolutionary subject - the "multitude" - is in a process of recomposing itself, much to the chagrin of transnational capital. Yet due to the fact that their work is part social theory and perhaps more significantly part manifesto, their hopes for this subject often become fused with the possibilities they present for it. As Hardt and Negri state shortly before engaging in ruminations on the manifesto form, their "standpoint of analysis" is "both strategic and tactical, when the two are no longer different" (2000, p. 63). The move away from Hegel is explicit, when they say they "are not repeating the schema of an ideal teleology that justifies any passage in the name of a promised end" (p. 47).

Yet in a move that might have been particularly disconcerting to a Marx busy taking Hegel to task, they then suggest a *materialist* teleology that harks back to Spinoza:

Today a manifesto, a political discourse, should aspire to fulfill a Spinozist prophetic function, the function of an immanent desire that organizes the multitude. There is not finally here any determinism or utopia: this is rather a radical counterpower, ontologically grounded not on any 'vide pour le futur' but on the actual activity of the multitude, its creation, production, and power. (p. 66)

Embodied in what they refer to as "prophetic desire," Negri and Hardt are intent on smuggling in the back door that which has been a delicate question for marxism from the beginning. The "multitude", in the parlance of our times, will not be denied. Yet as we have seen countless times throughout the history of capitalism, there is no irrefutable reason why this might be so. When one takes into account the accumulated advantage that it presents - accumulation of struggle notwithstanding - the analysis of capital's weakest links cannot always stand in for an understanding of its power as a whole. The

error is particularly grievous when it involves underestimating the very forms of power that the autonomists are making increasingly central to their work, such as the construction of subjectivity discussed in Chapter III.

It is this fusion of potentiality with inevitability, of intellectual and political engagement, that Aristotle would surely point out as *autonomia*'s greatest strength *and* weakness. It is that which gives them the vital perspective of working class autonomy, and at the same time opens up the related danger of making too much of it.

4.5 Theories of Resistance for Cyberspace and the Flesh-Bound Dimension

Having taken a look at three versions of historical change and thus implicit or explicit theories of resistance, I have shown that the bodies of work examined thus far are closer to the friendlier, less mechanical Marx. While his writing is internally varied to the extent of making any distinctions (Althusserian or non-) between an "early" and "late" Marx difficult to support, the tensions between these two versions of historical change are central to any theory of resistance or opposition.

Considering that the theorists examined thus far explicitly or implicitly tend to deny any inevitable unfolding of history (in Hardt and Negri resorting to a new teleology is a tactical move), then the onus is on them to explain both how change occurs and how the process of an expropriation of the expropriators might come about. The challenge is not an easy one, for our verification of their accuracy will occur in the next chapter (V).

Williams suggested that capital, while it had immense power to shape history, could at the very most “set limits” and “exert pressures” within which the working class had to operate. *Autonomia* holds a perspective which is in many ways complementary, claiming that this power of capital is perpetually wielded as a weapon against the working-class tendency to periodically recompose itself into a united front. While Harvey’s concern in *Spaces of Hope* is to outline the ways in which active and productive opposition could be brought about, there is throughout his work the sense of historical change being driven by the tension between capital and the working class - a tension the outcome of which remains to be determined. His discussion of the figure of the architect is a powerful argument for the inherent potential of the working class to shape the physical world as well as the social relations that are played out therein.

This thesis is not about a self-contained cyberspace, but of a cyberspace that has emerged out of and continues to be shaped by struggles that have characterized capitalism since the very beginning. Towards the end of *Capital* Marx takes great pains to point out that the very first appearance of this system involved the frequently violent expropriation of labour from the land. The advent of ICANN – perhaps capital’s most important emissary in cyberspace – has been eerily similar, precipitating a steady restructuring of the Internet for the purposes of accumulation.

As we shall see, the appearance of what could be termed primitive cyber-accumulation, the forcible removal of cyber-tenants from their addresses, the subjection of netizens to the exigencies of creating surplus value, has met with often fierce resistance. Yet this land, while characterized by the same features of our flesh-bound

dimension, also presents elements that are particular to a virtual and information society-driven realm. Imagine if the native Indians, when forced to accept the laws of accumulation or die, had had the possibility to create an alternate continent outside of the expanding bounds of capitalism. It would have mirrored capitalism's ability to continually create new markets in its image, to perpetually reach out for and obtain higher levels of abstraction.

This new dimension, virtual, pliable, yet never devoid of blood and dirt, is quintessentially postmodern. As such, in the analysis of this abstracted level of human activity, marxism has a new theoretical terrain upon which it is forced to move. In the three preceding sections, I have examined the work of theorists who, for a variety of different reasons, have outlined theories of working-class adaptation that have the strength and flexibility to survive and thrive in this new land.

For Raymond Williams, this included the understanding of class as a formation, as well as the notion of militant particularism. That quality of successful working class movements to "connect particular struggles to a general struggle in one quite special way" is a special one. The ability of this notion to grasp the particular, as well as the general, is one that contributes to its enduring usefulness. As we shall see, there is a growing convergence between online cultures of resistance and the "new combinations"(Dyer-Witheford, 2002, p. 3) busily tearing down the fences erected by global capital.

It is, after all, no mistake that Harvey turns to Williams when attempting to outline the shape that any profound change to our political, economic, and cultural

structure might take. Here Harvey's marxism concedes that the particular is important (although arguably there might have been other facets of "particularity" which he could have chosen), but refuses to lose sight of the general. This is an important step for marxism to take, even as it maintains the validity of its own understanding of general processes under capitalism (i.e. commodification, circulation, accumulation, etc). Much like the hacker who realizes her struggle cannot merely reside in the technical dimension and thus morphs into a hacktivist, marxism must cross boundaries, interrogate itself, and adapt to the continually changing world around it.

The *autonomia* theorists, with their deep and at times verging on paranoid distrust of structure, have been successful in their attempts to understand not only the particularities of locally rooted struggle, but also the particularities of struggle in each historical period. While their analysis can sometimes be overly eager to find examples of working class autonomy, one must also remember the historical period and setting from which they emerged.³⁴ This historical context has deeply affected their thinking about working class-driven social change, bringing them at many junctures much closer to anarchism than orthodox marxism. They therefore share with both Raymond Williams (who made great strides towards a less mechanical understanding of culture) and David Harvey (who has significantly re-interpreted marxism and stressed the importance of

³⁴ *Autonomia* developed around a stunning new series of working-class struggles in Italy and France during the late 1960's and through the 1970's. As Cleaver accurately points out:

"Unlike the situation in the United States where the return to Marx took place under the predominant influence of neo-Marxism, in Italy and France it emerged out of conflict with the Communist party and the communist-dominated trade unions... When, in both cases, the Communist party joined with capitalist forces to try and contain the movements of revolt, it revealed its nature as an organization within capital." (1979, p. 51)

geography in the face of postmodernism) a respect for Marx's work, but also the belief that it needs to be *reworked*.

This reworking needs to involve an understanding of how a class, understood as a social formation, composes itself and thus moves beyond the inherent alignment of its members to one another towards actual *commitment* to a cause.³⁵ Particularly useful in this project is the work of Raymond Williams and *autonomia*, which has carefully evaluated the role that technology in general and communications technology in particular plays in this critical process. A properly dynamic theory of how human beings join to actively oppose domination needs to take in to account the role of communication, that of technology, and the physical or virtual spaces in which this process is played out. Our foray into class composition in cyberspace in the next chapter will involve just that.

³⁵ See the discussion of Williams on alignment and commitment in Denning (1997) pps. 58-59

Chapter V

The Outlaw 'Net: Opposition and Resistance to the New Internet Order

It is difficult to picture ICANN, an obscure entity with an odd acronym, as anything more than a footnote to the rise of the Internet. But a year ago it would also have been hard to imagine violent protests disrupting the WTO meetings in Seattle. The world is changing. Old boundaries are being eroded by commerce, transportation and communications. And government is adapting, taking new forms to accommodate the new reality. In this sense, ICANN is an important harbinger of the controversies to come.

(Jonathan Koppell, 2000)

ICANN has serious structural problems. Hacking ICANN might be the next logical step.

(Andy Mueller-Maguhn, cited in Kettmann, 2001)

ICANN could wake up one morning, and the Internet has just moved someplace else.

(David Post, cited in Orlowski, 2000a)

The last chapter grafted several theoretical streams together into the basis of a theory of resistance capable of withstanding the transition from Fordism and modernity to post-Fordism and postmodernity. The task of this chapter is to use that theoretical base in a move from the examination of theories of resistance to the strategies engaged in by those opposing ICANN in practice.

The Internet is a stunningly complex new terrain, as varied and multi-faceted as the millions of humans that make it real. This quality is intensifying, in both its quantitative and qualitative facets. Some claim the network is simply unmanageable, a chaotic space, subject to a kind of organizational anarchy that stems from its famously non-linear shape. As I spent chapters II and III elaborating, this rhetoric is fiercely

overblown. ICANN's tenuous authority over the root of the Internet, the one node through which all information must pass, means that the material basis for prescriptive rights is solidly in place. All that needs to follow, according to Cutler, Haufler, and Porter's chilling outline of "private authority," (see Chapter II) is the consent of the governed.

Yet despite the overstated ungovernability of the Internet, there are wisdoms to be gained at the heart of the hacker motto, "information wants to be free." If we shed the unfortunate anthropomorphization of ones and zeros, we notice that there are *groups of people* that want information to be free, and that their power in cyberspace is not one to be overlooked. To understand these formations, we need to understand DARPA's unruly cultural progeny a little better. And to do this, we must survey the various points of conflict on the Internet, from file sharing to hacking, from dissident web-sites to alternate top-level domains to net strikes. All of these activities, to various degrees, can be understood as forms of resistance and opposition to those who would structure the network (and the world) purely for the purposes of accumulation.

The chapter will begin by examining two overlapping cyber-cultures I see as aligned in the struggles against the private structuring of cyberspace. The first - cyber-libertarianism - is a complex creature, yet its unmistakable anti-authoritarianism contains within it the seeds for progressive social action in cyberspace. The second - the hacker ethic - has begun to experience a shift in focus from largely technical concerns to hacktivism as an explicitly political commitment to addressing social problems. After

having outlined these cyber-cultures cum-movements, it will be time to explore the resistance that has been launched against the corporatization of the DNS.

This will be broken into two sections. The first will deal with the creation of an Internet outside of ICANN's control, that is the alternate root servers and the thousands that make up this space. There are currently more than 500 top-level domains being operated around the world by some 200 administrators, *all lying outside the official domain name system*.³⁶ Beyond this, the spectacle of ICANN has been attacked directly, whether through the subversion of the script it had written for Internet elections of new board members or the outright hacking of the namespace lynchpin, the root server. Finally, I will analyze this resistance through the lens of the theory we have explored thus far, assessing its potential for creating meaningful social change in the regulation of the Internet.

What I have taken pains to illustrate thus far is that changes occurring in the governance of global telecommunications are merely part of the ebb and flow of class politics in a shrinking, hardwired world. If cybernetic capitalism has taken decisive steps towards breadth, depth, and flexibility however, if it has resorted once again to conjuring up wholly new institutions in this reconfiguration of power for the digital age, then this transformation is not without its opponents.

When the Prema Toy Co. sent its cease and desist letter to a twelve year-old boy by the name of Chris "Pokey" Van Allen demanding that he turn pokey.org over to them, an increasingly exposed nerve in cyberspace was jabbed yet again (see Chapter III). This

³⁶ The figures cited refer to mid-2001, and are taken from Weiss, 2001.

time however the ugly spectacle of a large toy manufacturer threatening a child with legal action was so starkly obvious as exactly such to any observer, and something snapped.

Pokey had received the domain name as a birthday present from his parents, who had even registered the site in the supposedly non-commercial .org portion of the Internet. The space, deftly run by a youngster who in any other circumstance would have been proof positive of the information society's promise come true, featured pictures of his dog, praise for cultural products such as South Park, and musings on what to do when you are bored (see Van Allen).

It being late 1997, the privatized cyberlaw of the UDRP had yet to be fully hammered out. Prema Toy Co. accordingly filed a complaint with Network Solutions, a veritable trump card considering the draconian way in which the monopolist had up until that point filled the roles of judge, jury and executioner in domain name disputes.

Yet then something happened which had never graced the company's radar screens. Pokey's father recounted the story of Prema Toys' strong-armed tactics at an ISP convention in Baltimore, and suddenly Pokey became a *cause celebre* for netizens who were increasingly worried about the diminishing space for individual self-expression on the web (Miller, 1999). The news item made its way into most popular online news sources such as Slashdot, C/Net, and ZDNET.COM, and word of the twelve year-old spread like wildfire across the network. Hits on the web-site of contention surged, and several thousand emails were received from netizens expressing their support.³⁷ TONIC,

³⁷ Pokey's own web-site (Van Allen) says there were over 14,500, other sources such as the Miller article suggest that there were around 4,500.

the registry for Tonga, and the Australian Root Server Confederation each offered Van Allen his own "pokey" domains in solidarity.

A user's post on the massively popular Slashdot was indicative of both the kind of anger that had boiled over and the desire to help the diminutive domain name holder:

The site has nothing to do with Gumby, it's just a kids [sic] web page. Opinions?
I'd like to help this kid somehow, anyone have an idea how? Perhaps we can find an email address so we can contact Prema and tell them that they are acting like mean jerks and not like a company that owns something like Gumby should? (CmdrTaco)

Submerged by the kind of publicity that a company (especially one whose primary market is children) could ill-afford, Prema Toy reined in the lawyers they had sicked on the Van Allens. Art Clokey, the creator of Gumby and Pokey, wrote to the Van Allen's attorney "in the spirit of Gumby" to apologize for the whole "misunderstanding." While the company had been and was involved in over 35 online disputes by that point, apparently the lawyers had neglected to tell Clokey that this one involved a child.

I open with the Pokey case because apart from being a remarkable story, it serves as an excellent metaphor for this chapter's topic. Who were the legions of anonymous netizens that sent electronic messages to Pokey, Prema Toy Co. and anyone else who would listen? What cyber-formations or communities are they a part of? What are the prevailing political impulses and cultures that characterize them? Could it be called a movement, akin to the environmental or global justice ones, or are they simply a culture, one that is slowly being displaced? How do we judge their tactics, and what potential do they have to ensure that the Internet remains that vast repository of human expression and exceptionally efficient means for open, unhindered communication? Finally, is it

possible to trace lines between this mysterious, multiplicitous virtual subject and struggles that are occurring on the ground in our material, meat-hindered dimension?

The task of this chapter is therefore to trace the contours of this movement, to better grasp the various political currents within it, to assess its effectiveness as well as its shortcomings.

5.1 Cyber-Cultures of Resistance

5.1.1 The High-Tech Libertarians

But high tech, like any human artifact, is not culturally tasteless, odorless, colorless. It contains attitude, mind-set, philosophy; and with geeks, the attitude, mind-set, and philosophy is libertarianism, in many-blossomed efflorescence. (Paulina Borsook, 2000, p. 3)

The DARPA project brought about by the US Government unleashed a culture that, over the years, has developed its own momentum and steadily increasing complexity. Of late there have been several excellent attempts to grasp the essence of smaller subcultures within the online world, from which I will draw freely in this section.

The first and most prominent of these emanated from Silicon Valley and, increasingly now, from wherever there may be a cluster of high tech businesses. This unnerving offshoot of the military-industrial complex's brainchild is described in most entertaining and incisive fashion by Paulina Borsook in *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High-Tech*.

The techno-libertarians, linked as they so obviously are to a time and a (material) place where young men in their twenties retired as millionaires, might make one want to rethink criticisms of a crushingly mechanistic base-superstructure model. Yet closer examination reveals that this culture, which upholds some of the most dominant political

and economic position of our age, overlaps with some exceptionally strange neighbours. This may be due to its provenance, for what Streeter refers to as “technology-based economic libertarianism” has as perhaps its most important tributary a “1960s counter-cultural social libertarianism” (1999, p. 58). As the baton of political sensibility was passed between the two cultures, the libertarian emphasis shifted towards an obsessive preoccupation with negative freedoms (the freedom *from*) from its former, civil rights-based concern with positive freedoms (the freedom *to*).

To the high-tech libertarians, the fight to free themselves from *the powers that be* (or TPTB in Internet-speak) translates into a somewhat pathological fear and loathing of government. Corrupt and inefficient at best, totalitarian at worst, governments are the source of virtually all problems, online and off. Whether through withering taxes or blatant attempts to censor the Internet through legislation such as the (ill-fated) *Communications Decency Act*, government, in the language of the much-favoured bionomics³⁸, cannot but corrupt and impinge on the free market “ecosystem” as imagined by the high-tech libertarians.

As Streeter points out, a radical distinction between law and politics is central to this understanding of the world: “Law, as the theory goes, underpins a system of individual liberties neutrally and mechanically, whereas government involves the arbitrary and subjective political interference with those rights” (1999, p. 58). This seriously warped understanding of the state-form was perhaps best illustrated by the livid

³⁸ For an exceptional analysis of bionomics and the unswerving adoption of this new-age cross between Deepak Chopra and neoliberal economic theory by Silicon Valley, see Borsook, (2000) Chapter 1: “Bionomics in Your Daily Life” (pps. 29-72)

and hysterical reaction by the cyber-libertarians when the *Communications Decency Act* was tacked on to the *Telecommunications Act* of 1996. Computer pundit Brock Meeks (whom I have quoted elsewhere in this thesis) flooded the Internet with outraged diatribes in which the repetition of “What part of NO LAW don’t you understand?” was employed as a dramatic rhetorical device (cited in Streeter, 1999, p. 59).

I have neither the room nor the need (the ground has been well covered already) to go into any depth with my analysis of this dominant variety of cyber-culture. As should be obvious, it is at times a perfect complement to the post-Fordist understanding of how the “friction-free” capitalism described in Chapter II ought to function. There is a philosophy which ranges from this most mainstream, Friedrich Hayek-inspired neo-liberalism to what Borsook calls “anarcho-capitalism,” a vision of history in which humanity will only reach its full potential when the state, choked of its very reason for existence, withers away in virtually marxian fashion (p. 18).

Yet the innate distrust of government and its actions around encryption, censorship, and surveillance which inform the most radical end of the techno-libertarian spectrum are never pointed out by Borsook as potentially liberatory drives. While not wholeheartedly, she implicitly places her faith in the state as the only guarantor of stability and democracy. It is this approach, peppered by extremely level-headed suggestions of how much the state actually contributed to Silicon Valley’s existence in the first place, which nonetheless limits her ability to see where a deep mistrust of government might contain in it the seed of a radical and progressive cyber-movement.

Observers that are in any way critical however have likely already noticed that there is one essential actor missing from the techno-libertarian worldview. As the philosophy is predominantly held by those who work in the hyper-capitalist private sector, it comes as no surprise that private enterprise is viewed as virtually interchangeable with what others might see as civil society, or a public sphere outside of the realm of both state and commerce. Theirs is a pastoral vision of society, unclouded by the dripping, tangled mess that is history. To the cyber-libertarians, high-tech and Silicon Valley somehow emerged fully formed in the desert of northern California, and the Internet was brought about by legendary engineers who somehow were not collecting a paycheck from the American death machine. The private sector, not humanity at large, is the truest source of human creativity and most representative of what real freedom looks like.

Yet some ask what might happen if this explicitly anti-authoritarian stance were to turn its scowl towards the private sector as well? The answer is that in many ways it already has.

After all, the offshoots of this culture in the policy domain have been noteworthy. The Electronic Frontier Foundation (EFF, co-founded by former Grateful Dead lyricist John Perry Barlow) is perhaps the most prominent defender of electronic civil liberties, and in its mission it concerns itself with the nefarious doings of the private sector just as much as with government. The Computer Professionals for Social Responsibility (CPSR) is now a long-standing progressive organization which has branched out to focus

on such topics as women and computing, weapons and peace, participatory design, and, as we will see later, Internet governance.

This holistic focus on authority at the most progressive end of the cyber-libertarian spectrum overlaps with another rebellious cyber-subject however, to which we now turn our attention.

5.1.2 Script-Kiddies, Hacktivists and the “Hacker Ethic”

When the Cult of the Dead Cow was started in 1984, the average age [of our members] was 14, and they spent their time hacking soda machines. But the last couple of years has [sic] marked a turning point for us. Our members are older, politicized, and extremely technically proficient.

(Oxblood Ruffian, cited in McKay, 1998)

I'm talking about people shutting down a city's electricity, shutting down 911 systems, shutting down telephone networks and transportation systems. You black out a city, people die. Black out lots of cities, lots of people die. It's as bad as being attacked by bombs.

(Richard Clarke, cited in Miklaszewski and Windrem, 1999)

Often, the best indication as to the extent of a social movement's threat to constituted authority is the reaction that it provokes in the latter. Enter that mysterious, much-feared and lauded subject, the hacker. The Richard Clarke quote above was taken from 1999, when he was the USA National Security Council Terrorism coordinator. It concerned the potential effects, according to him, that a hacker attack on the US information infrastructure might have. "It's not a matter of if America has an electronic Pearl Harbour - it's a matter of when," redoubled Rep. Curtis Weldon, R-Penn (cited in *ibid.*).

February 1998 saw the establishment of the National Infrastructure Protection Center, a \$64 million (US) project to protect the US from just such eventualities, real or imagined. As a recent report issued by the agency illustrated, their fear of such attacks is growing rather than shrinking:

Political events and emerging international situations will increasingly lead to cyber protests. The cyber protests that have occurred thus far have had little impact on U.S. infrastructure. As computing technology becomes faster and better, and hacking tools become more advanced and easier to use, cyber protesting and hacktivism will become more significant to U.S. national interests. Cyber protesters are becoming increasingly more organized and their techniques more sophisticated but, most likely, will continue to deface web sites and perform DoS attacks. There will also be an increase in the number of apparently unrelated hacking groups participating in the cyber protests. National boundaries will not always be clearly delineated in attacks on opposing organizations. International activity will also tend to spill over into the United States. Because the United States is a multicultural, world-leading nation it will suffer from attacks on culturally related sites and structures in the future (NAIPC, 2001).

The future culprit of such civilization-shattering cyber-strikes will most definitely be “a hacker.” Yet as with the cyber-libertarians however, those who search for a singular, definable culture for hackerdom are condemned to emerge disappointed.

The term itself dates back as far as MIT's Artificial Intelligence (AI) Laboratory, where advanced research was conducted in the 1960's. At its most basic, argues Pekka Himanen, hackerism is an *ethic*, an emerging way of being in the hardwired world. In the loosest employment of the term, virtually anybody could have the potential to be categorized as a hacker regardless of their understanding of firewalls or encryption technologies. The radical nature of this worldview, according to Himanen,

...consists of its proposing an alternative spirit for the network society – a spirit that finally questions the dominant Protestant ethic. In this context, we find the only sense in which all hackers are really crackers: they are trying to crack the lock of the iron cage. (2001, p. 13)

Despite the fact that the Protestant ethic has been questioned almost since its appearance by a large and historically assorted collection of social groups, Himanen might not be far off the mark by opting to discuss the *spirit* implied by the term rather than trying to describe it through other indicators.

In any case, this ethic's symbolic first encounter with the subsumptive nature of capital occurred in distant 1977, when a relatively unknown nineteen year-old Bill Gates penned (or more accurately pecked) his cyber-commercial manifesto, "Open Letter to Hobbyists." The treatise, published quickly in a number of hacker newsletters, asked the question: "Who can afford to do professional work for nothing? What hobbyist can put 3-man years [sic] into programming, finding all bugs, documenting his product and distribute it for free? ...Most directly," Gates accused the hackers, "the thing you do is theft" (cited in Grossman, 2000, pps. 82-83). In a very real sense, from that point onwards the mother of all lines between cyber-cultures had been drawn. A mere quarter of a century later, the Internet population has grown so much within the more privileged sectors of the global population that several varieties of hacker have emerged from the initial anti-Bill genesis.

The most eminently postmodern of these would have to be the script kiddies. Scorned by the more serious hackers and perhaps unreasonably feared by corporations, script kiddies are the digital equivalent of vandals. As the Internet became used more widely, younger generations especially began to adopt the medium. Script kiddies engage in the textbook directionless rebellion of the teenage years, typically infiltrating an organization's web-site to alter or deface it in some manner. Often a simple tag will be left behind, like graffiti made virtual and emptied of its social content. This could be the kiddie's alias, instructions to the owner on how their site was breached, or messages written to others in 31337 (elite) speak, the preferred computer language of the subculture.

The script kiddie population is perhaps the nightmare of any “serious” social activist, cyber or non-. Their actions are symptomatic of the sad postmodern underbelly of the information society. In an interview Nemesysm stated his or her reasons for belonging to script kiddie culture: “The world we live [in]... everything is the same, so incredibly boring. I feel if I deface, at least, I'm making some kind of difference” (cited in Lemos, July 2000). Another interviewee confirmed this source of motivation: “It's a way to escape a lot of the bullshit that I get in real life... Because I don't have that much going on in my life.” As if to confirm general assumptions as to the age of the cultural demographic, Artech ended the interview by typing “My dad just said 'Now!'... that's when I gotta get leaving” (cited in *ibid.*). Yet this classic cultural symptom of Emile Durkheim’s anomie-ridden society is perhaps only the most recent sub-variety hacker citizen. As the Oxblood Ruffian quote at the beginning of the chapter was partially meant to suggest, things change with time, and resistance to the social factory tends to intensify as subjects grow older and more mature.

Oxblood’s own organization, the cyber-legendary CULT OF THE DEAD COW, has been going about its hacker ways since 1984, and claims to have coined the term “hacktivist” (CULT OF THE DEAD COW). A combination of the terms hacker and activist, hacktivism increasingly represents the digital equivalent of the global justice movement seen in Seattle, Quebec City, and Genova. Just as activists in real space occupy roads, squares and offices in order to emphasize their demands for progressive social goals, hacktivists have increasingly penetrated and overrun areas of the network in order to make their goals known. As Stefan Wray of the a US-based group Electronic

Disturbance Theatre told a group of activists gathered for an “anti-Columbus Day” meeting in 1998, it is, in effect, “transferring the social-movement tactics of trespass and blockade to the Internet” (cited in Harmon, 1998).

The methods employed by hacktivists range from the now common posting of dissident websites (referred to elsewhere by Wray as “grassroots infowar”, 1998), to the altering of corporate or government websites, to the flooding of servers in order to make them inoperable (referred to as “denial of service” attacks). The latter tactics now form the core of what is increasingly being referred to as “electronic civil disobedience,” and the phenomenon, as in the real world, is growing.

Just as every global trade meeting now finds itself besieged by protesters, the websites hosting these events’ pages now find themselves subject to “netstrikes,” in which thousands of people all over the world log on to the space and render the server inoperable, often for hours at a time. Special software has been developed (“Floodnet” a “virtual sit-in tool,” available for both pc and mac) which can multiply the requests one user can make for any website to about ten per minute, facilitating this kind of tactic immensely. Most recently, the World Economic Forum (WEF) web-site was rendered inoperable for several hours over the course of the meeting, with Electronic Disturbance Theater and the Federation of Random Action claiming responsibility for organizing the strike (Ginori, 2002).

Netstrikes such as this have unmistakably become an increasing part of the hacktivism landscape since the mid-nineties. Not requiring the technical skill demanded by altering the actual code in targeted websites, the method has been embraced by

political groups who have moved online as a part of the large boom in Internet use experienced during the nineties. One of the first and most cited examples took place in 1998, when on Mexican Independence Day Electronic Disturbance Theater targeted the Web site of Mexican President Ernesto Zedillo. The action was carried out to protest Zedillo's ruthless treatment of the Zapatista rebels in Chiapas, and was participated in by over 8,000 people (McKay, 1998).

This move online of political activists has been paralleled by the steady politicization of a significant segment of online hackers. As John Vranesevich, founder of the computer security Web site AntiOnline points out, "the first generation of the kids that grew up hacking are now between 25 and 35 — often the most politically active years in peoples' lives" (cited in *ibid.*). As if to prove this, CULT OF THE DEAD COW (cDc) member Oxblood Ruffian announced that the legendary group would create a more consciously political offshoot by the name of Hacktivism. The goals of the group embody the anarchist yearnings of the techno-libertarians, divorced from the obsessive belief in free enterprise and newly wedded to a sober mistrust of the private sector:

Hacktivism is a special operations group sponsored by the CULT OF THE DEAD COW (cDc). We view access to information as a basic human right. We are also interested in keeping the Internet free of state-sponsored censorship and corporate chicanery so all opinions can be heard. (CULT OF THE...)

As a part of this, the group, in conjunction with an international group of hackers and as yet unnamed social justice groups, is developing a Web application that should enable Internet users to get around censorship and filtering (Deane, 2000). Intended specifically for countries in the world where the Internet is filtered, the software project is just another example of two distant and idiosyncratic worlds moving closer and closer

together. As theorists of *autonomia* would undoubtedly point out, it is an indication that struggles are increasingly circulating from one space to the next.

This convergence between rebellious spirits from two different lands in the online world has most certainly made its presence felt to ICANN. The hacker spirit, which we have only grazed the surface of, has been a problem for the organization since its inception. From that moment it was as if, in yet another reincarnation, cyberspace was reliving that fateful day when Bill sent his manifesto off to the hackers and the political fault lines were created in that land forever. Yet unlike that moment, the hacker ethic is engaging not with the iron cage of Weber's protestant work ethic, but with its descendant, the diffuse spectacle of the social factory. What we are witnessing is a new cycle of struggle, where different links are being forged between particular struggles and the general interests of the information society's subjects.

5.2 Resistance to the New Internet Order

We're de-territorializing the Net... bringing it back to its original ideal of virtual space without borders or hierarchies.
(Paul Garrin, cited in Ferguson, 2001)

Our apologies for any trouble this DNS [domain name system] protest has caused you... We think we exercised restraint in the use of our latest DNS technology for this protest. We terminated the protest configuration at 8 a.m. Monday, July 14. (Notice appearing on the AlterNIC website after InterNIC was hacked and users were rerouted to AlterNIC, cited in Macavinta, 1998)

From the moment the US Government announced its plans to relinquish some control over the coordination of the names and numbers system, a broad coalition amongst several netizen formations and individuals became discernible. This coalition not only attacked ICANN, but the several powers that together had established a firm grip

over the Internet domain name system. Hans Klein, a member of the Computer Professionals for Social Responsibility, refers to this formation as the “pro-democracy” movement, and contrasts its activities with what he refers to as the “e-commerce” community within ICANN (2001a). The characterization, as should be obvious from the way I have discussed the formation of ICANN within the larger subsumption of the Internet by capital, is an accurate one. Yet his description of the group’s composition is limited.

For Klein, as many involved in strictly policy-based attempts to combat the abuse of power, sees only the strategies and groups that engaged in the policy process to try and limit the “e-commerce” faction. Yet this pro-democracy movement is *also* made up of groups and individuals that employed strategies and tactics outside of the formal policy process, many of which fall into the category of electronic civil disobedience. These formations took it as a given that the process itself was rigged from the beginning, and only engaged with it when they had to.

My own discussion of the broad movement will be as one which, in its totality, can be understood as being positioned in a Gramscian complex relationship with respect to the hegemonic ethos of privatization. The precise documentation of the entirety of this movement would fill many more pages than are available. As such, and since the formal policy process has been the focus of most analysis in the area thus far (Klein 2001a, 2001b, 2001c, Marlin-Bennett 2001, McDowell and Steinberg 2001, Froomkin 2000a, Mueller 1999) I will try and fill out the rest of the picture. This will be done by concentrating on the groups that engaged the private structuring of cyberspace from a

position that was primarily *outside* the oft-grotesque spectacle that was and is the DNS policy process. The epitome of this political philosophy is found in the creation of a land outside of the officially charted Internet. This analysis will then shift its focus inwards, following the traces of this movement as it engaged in policy skirmishes, infiltrated the process itself, and formed alliances with groups engaged on that front. This should offer a more nuanced and accurate snapshot of what has verged on an anti-ICANN insurgency. For while Klein suggests that the pro-democracy movement “supported Internet privatization,” my own view is that the coalition we are discussing demanded *self-management*, which is considerably different. The former understanding, bogged down as it is in the inevitable associations with the profit motive, obscures more than it reveals. Most importantly it risks unadvisable linkages between the profit motive and democracy, while ignoring the fact that for many of these groups a free marketplace was not the issue at hand. The issue was, rather, the desire for a decentralized, democratically accessible form of governance which could ensure that open communication was a possibility for everybody, not just those with the greatest accumulation of capital.

This demand for self-management became palpable around the time of the attempted GLT-MoU coup, and has not abated since then (see Chapter II). Prior to the formation of ICANN, the Department of Commerce requested submissions regarding the appropriate policies for domain name administration. It was at this point that the policy community began to coalesce in its efforts to ensure that the new institution would be democratic and not captured by the GLT-MoU cabal. As the policy process began in earnest however, it became increasingly apparent that the policy route was only one of a

variety of strategies towards this end. The first group of these has involved harnessing the flexibility built into the Internet by routing around that single point of failure in Herndon, Virginia. The second challenged the spectacle of DNS management directly, perhaps infecting it fatally with that particularly human code, democracy.

5.2.1 Routing Around a Single Point of Failure

What Klein's account manages to ignore is that the most stunningly inventive oppositional tactic, one that I have deliberately skirted around thus far, was by the time of the GLT-MoU an established reality in the unfolding of the network's history. While Network Solutions was the gatekeeper of the officially sanctioned Internet, by 1997 there already existed a growing and diverse cyber-territory lying outside of its control. The official root server in Virginia, unlike Debord's awesome yet disempowering description of the spectacle, is not a map which exactly covers its territory (1983, orig. 1967, #31). Alternate root servers, which enable unsanctioned top-level domains, have existed since around 1995, when netizens became fed up with the limited choices available (.com, .org, etc) and realized a way that they could harness their own creativity and technical know-how to extend the existing namespace.

The way an alternate TLD becomes a possibility is relatively simple, especially when contrasted with the messy human politics surrounding the technical aspect of the issue. First the information in the official NSI root server (it being available to any Internet user if they know where to look) is downloaded and reproduced in its entirety. The root server is, after all, just a list, regardless of the fact that it is one of the most

valuable ones on earth. Once an individual owns this list there is not much of a qualitative difference between them and Network Solutions – with access to the information and the proper software, anyone can operate a root server. Pursue this line of thought to its logical conclusion and it becomes evident that any netizen with the time, the equipment, and the inclination suddenly has within their grasp a pale copy of what is Network Solutions' ultimate source of power. They have the ability to act as an alternate map and information centre for the network, adding any number of additional domains. By exploiting the abundance that was once designed into the domain name system and has been artificially stifled since then, *individual users have the potential to modify the structure of the Internet.*

There is a hitch of course, and it is a major one. In a situation reminiscent of an Italo Calvino novel, if nobody uses the map then the territory practically disappears. The two dominant browsers on the market (Netscape's *Navigator* and Microsoft's *Explorer*) are set to use NSI's map of the Internet, and the vast majority of Internet users most likely have no idea what a root server is, not to mention the fact that there may be alternate ones. Yet all of this notwithstanding, users can, usually through a small reconfiguration of their browser's settings, point their computer to an alternate root and not the one controlled by NSI. Once this is done a whole new portion of the Internet suddenly becomes visible to their machines - a veritable world beyond ICANN's kingdom. And while these disobedient netizens may be outnumbered by those who use

their machines as intended, the use of alternate roots is by most accounts growing.³⁹

There are currently at least 15 alternative roots, the operators of which range from outlaw libertarian free marketers to noncommercial collectives like OpenNIC.

These alternate DNS, including eDNS, AlterNIC, and Name.Space, are nonetheless united in their rebelliousness to ICANN's exclusion of their endeavors from the authoritative root server. eDNS for example, standing for "enhanced DNS" and set up by Karl Denninger, has structured various alternate TLDs, including .k12 for material aimed at children and .biz for general business use. All but Name.Space, which we will examine below, have begun to cooperate by banding together under two shared alternative root networks: the Open Root Server Confederation (ORSC) and PacificRoot. By coordinating their efforts, these coalitions attempt to ensure that no TLDs are added that conflict with existing alternate ones.

By far the most idiosyncratic innovative of the alternative TLDs (in both form and content) has been Name.Space, created by Paul Garrin. Garrin is a New Yorker who gained notoriety in activist circles for videotaping the 1988 Tompkins Square riot, where on a cold December day demonstrators violently squared off with New York police over the clearing of a square occupied by squatters and the homeless. His personal website, mediafilter.org, presently hosts work such as "Seattle and Beyond: Disarming the New World Order" by Michel Chossudovsky, while another one he runs is devoted to raising

³⁹ Data on the use of alternate namespaces is difficult to come by and a few shades away from conclusive. There are indications however, if we put aside trying to pin down the actual *use* of these alternate roots for a moment and look at the portion of the Internet to whom (whether through configuration on their own part or an agreement between the alternate DNS operator and the user's Internet service provider) this new

awareness about “corporate control” of the network, describing ICANN as the “World Trade Organization of the Internet” (see Garrin). These explicitly anti-authoritarian claims of allegiance with the global justice movement, when paired with the fact that he runs a for-profit organization, offer yet another bizarre but vibrant fusion of rebellious Internet cultures and progressive activist principles.

While eDNS and AlterNIC began to offer a limited array of somewhat staid domains (the aforementioned .biz, .web, .sex, etc) outside of federal and private control in the mid-nineties, Garrin had a much more radical vision of what the namespace could be. Working with hackers like Phiber Optik and system administrators he'd met through media-art conferences abroad, Garrin set up a network of servers in the U.S. and Europe that allowed users to register virtually any TLD, not just the ones Name.Space decided on. In August 1996, Name.Space generated an initial list of 30 new top-level domains with suffixes such as .art, .video, .museum, and .cam. It then invited the Internet population at large, or at least those aware of the new territory being created, to come up with their own choices.

Garrin and his partners signed a charter laying out principles for a new and more democratic naming system in which domains could be shared among cooperating registries. Name.Space would offer free software to enable nonprofits and community groups to act as registrars for their own domains, bringing the control of the domain name system down to a grassroots level. Placing himself squarely within the hacker tradition,

territory is *accessible*, that as a percentage this is growing. Estimates for the percentage of users that have access to alternate TLDs range between 5 and 30 percent.

Garrin began to publicize Name.Space in listserv groups as the "ultimate shareware project."

If Garrin's notoriety amongst Internet users (or those who actually know about DNS issues) initially stemmed from being an outsider, his position as such has been intractably reinforced by NSI and ICANN. When he petitioned Network Solutions in 1997 to add his burgeoning namespace (some 300 TLDs by that point) to the root, they underscored their virtually unassailable position and simply refused. Irrked by this, Garrin resorted to state-sanctioned challenges to authority. He sued the company as well as the Department of Commerce, charging that NSI's policies violated antitrust laws and the right to free speech (see Grossmann, 2000, p. 47). After three years of legal wrangling the courts ruled in January of 2000 that Network Solutions somehow had immunity from antitrust claims because it operated the root zone under a cooperative agreement with the U.S. government.

Likewise, when ICANN announced that it would be accepting applications for new top-level domains, it shut out Garrin's proposal, leaving Name.Space \$50,000 poorer and with nothing to show for it. Making matters worse, ICANN awarded the administration of some TLDs (.museum, .pro, and .info) that were already a part of Name.Space's offerings to other bidders. To be perfectly fair, and to fully appreciate what sort of a character Garrin is, it must be remembered that he applied for the right to run an astounding 118 new TLDs. When ICANN asked him to narrow this down to three, he refused, stating that his business plan involved a subsidization of the less popular domains by those that met with greater commercial success. The statement,

reminiscent of an argument Bell Canada might make before the CRTC, illustrates the maddeningly conflicting politics within Name.Space as a project. What the organization stands for often seems dependent on who wants to know. Garrin is just as passionate when decrying the business he has lost due to ICANN or NSI's obstruction of the TLD market as he is when making considerations on rhizomes and the "deterritorialization of the 'net.'"

Despite the fact that the TLD selections outcome was highly unlikely to have been different if he *had* settled (ICANN undoubtedly used the process to sideswipe some alternate roots, which it has always seen as a threat), his tactics have made Name.Space an uncomfortable presence for many in the alternate root community. From the latter's more neo-liberal quarters, Chris Ambler of Image Online Design is not as hesitant to pin him down politically as I might be – when discussing the Name.Space system, he recently stated that "in my book, that's called communism, or socialism at best" (cited in Ferguson, 2001). Summing up the position of some of the more moderate groups, Richard Sexton of the Open Root Server Confederation (of which Name.Space is not a member) may have a more cogent, if simple critique: "His mentality is, it's my way or the highway" (cited in *ibid.*).

Less individualistic, and perhaps an ultimately more laudable project, is that presented by OpenNIC. As a way of introducing the OpenNIC project, a brief detour through how I found out about it may be telling - it illustrates once again the way in which the politics of our flesh-weary world is beginning to overlap with the rebellious cyber-cultures described above.

On a doubtlessly monitored meander around infoshop.org (perhaps the most widely used anarchist information site on the web) I decided to drop into the “Against Intellectual Property” section of the web-site. Under the hyper-linked title “Feasibility of alternative namespaces” lay a path which, thanks to the good graces of a legacy root server somewhere, led me to kuro5hin.org,⁴⁰ where a discussion on the topic had been brewing for some months. There, on June 1, 2000, an article had been posted advocating the need for a democratically governed domain name system (see Arkady, 2000). OpenNIC was born out of the resulting online discussion (which I had happened upon), a version of democracy fully contiguous with that advocated by the global justice movement.

The OpenNIC project has blossomed into a user owned and controlled Network Information Center offering what they describe as a “democratic, non-national, alternative to the traditional Top-Level Domain registries” (OpenNIC). While the rhetoric of “openness” and “democracy” can be misused in the case of some alternate TLD operators, the claim appears to be somewhat backed up by organizational facts in the case of OpenNIC. Firstly, unlike ICANN’s proposal to limit membership in its “At Large” branch to only those who own cyber-property, membership in the OpenNIC is open to every Internet user. Decisions are made either by a democratically elected administrator

⁴⁰ Kuro5hin.org is a site “about technology and culture, both separately and in their interactions” run by hosts “rusty” and “Inoshiro”. In their words, “This is a site for people who want to discuss the world they live in. It’s a site for people who are on the ground in the modern world, and who sometimes look around and wonder what they have wrought.” Available at: <http://www.kuro5hin.org/?op=special;page=mission> (Last accessed February 15, 2002)

or through a direct ballot of the interested members and all of them, regardless of how they are made, are appealable to a vote of the general membership.

Users of the OpenNIC DNS servers, in addition to being able to resolve host names in the OpenNIC-operated namespaces, can do the same in the official DNS and in the namespaces with which the organization has peering agreements (at this time those are AlterNIC and The Pacific Root). The hacker spirit of technical innovation, combined with the grassroots form of decision-making, appear to be the very lifeblood of the project - this Internet commons now has a search engine created, fittingly, by one of its members. In a move symbolic of their politics, August of 2001 saw OpenNIC vote overwhelmingly to add a new TLD to their root - .indy.

As I noted earlier, the best way to gauge the threat a certain practice poses to power is to examine how power reacts to it. In this respect, ICANN's behaviour has underscored the potential that the alternate root server movement has. During the selection of new TLDs, as previously mentioned, the organization literally annexed some of these territories, awarding them to allied feudal lords. Following on the heels of this was the publication of a "discussion draft" around the issue of alternate root servers, entitled "A Unique, Authoritative Root for the DNS." The draft, reflecting anything but "bottom-up" coordination of DNS policy,

...reaffirms ICANN's commitment to a single, authoritative public root for the Internet Domain Name System (DNS) and to the management of that unique root in the public interest according to policies developed through community processes. This commitment is founded on the technical and other advice of the community and is embodied in existing ICANN policy. (ICANN, 2001)

As this new space continues to develop, it is more than likely that ICANN will leverage whatever authority it has in order to make alternate root servers fully illegal. With its renewed focus on “internet security” after September 11 (see McGuire, 2001a), the road to this could be paved by its progenitor, the US Government.

5.2.2 Hacking the Spectacle

Returning to the pre-ICANN years we find the beginning of a sometimes less cogent but often more dramatically direct series of challenges to ICANN’s authority. These acted as flash points as the policy process dragged on, drawing attention to issues and contributing to the overall confrontation with the matrix of ICANN’s power. Whatever coordinates the different groups targeted, they found themselves overwhelmingly united in their *directly* antagonistic stances ranging from dissent to disobedience.

As the policy process that would create the organization was beginning to churn out its predictable results, Eugene Kashpureff decided that he was fed up waiting. The founder of AlterNIC,⁴¹ one of the oldest alternate root zones, hacked the official root server owned by NSI in June of 1997, modifying it so that it would allow up to 90 percent of the Net to access his alternative namespace. With no reconfiguration on their part, suddenly AOL users and services such as Webcrawler, Yahoo, and Lycos were resolving AlterNIC sites and accepting them as valid URLs (Stutz, 1997). For a brief

⁴¹ AlterNIC is a play on NSI’s InterNIC, the “network information center” where Internet users can look up officially blessed domain names and their registrants.

period (until NSI fixed the hack), netizens (whether they knew it or not) were able to route around NSI's swelling Internet domain name monopoly.

Not content with this piece of anarcho-capitalist hacktivism, Kashpureff twice hacked the Internet's underlying infrastructure in July of the same year, redirecting Web site queries for www.internic.net and www.netsol.com (the company that runs InterNIC) to an AlterNIC Web page. Upon arriving at the AlterNIC page, the user could either read the AlterNIC protest or follow a link to the InterNIC site (Elgin, 1998).

In a statement on his website, Kashpureff made his motives clear: "By redirecting the domain name 'www.internic.net,' we are protesting the recent InterNIC claim to ownership of '.com,' '.org,' and '.net,' which they were supposed to be running in the public trust" (cited in Macavinta, 1997)⁴². The hacks made Kashpureff notorious in the online world, and quickly alerted US Federal authorities to the vulnerability of the network's underlying infrastructure. The attention-grabbing stunt raised the ire of the FBI and led to his October 31 gunpoint arrest in Toronto, where he was to be extradited in order to face wire fraud charges in the US.

As what is now referred to as the "Kashpureff saga" unfolded, it only drew more attention to the DNS policy process. Here groups such as the Computer Professionals for Social Responsibility, the American Civil Liberties Union, the Association for Computing Machinery, and consumer rights organizations such as those affiliated with Ralph Nader began to fight their own kind of battle, forming allegiances and parceling out work in the policy process. As might be expected the overwhelming majority of

⁴² NSI had recently claimed that .com was intellectual property which it had "branded."

coordination employed the very same medium they were trying to wrest from the stifling grip of commerce.

From mid-1997 into 1998, Ira Magaziner and the DoC solicited public input regarding the appropriate instruments through which the DNS would be administered. As the aforementioned groups began to submit comments, according to Klein they also “both educated themselves on issues and began to recognize each other” (2001a). The coalition was broadening.

After the release of the White Paper, which stated that the task of designing the new organization was the province of the “Internet community”, a second policy effort was undertaken by the policy coalition, this time under the auspices of the International Forum on the White Paper (IFWP). A series of meetings were held in Virginia, Geneva, Singapore, and Buenos Aires between 1 July and late August. As Mueller discusses, many in this community took the US Government rhetoric of a “bottom-up” structuring process at face value, assuming:

...that the policy statement was an open invitation for the internet community to set aside their differences and come together to forge a new consensus on what would be the new organization’s structure, powers, and initial Board members. (1989, p. 506)

Extensive records of the consensus points produced at the meetings, ones that differed significantly from the GLT-MoU. What the participants found out however, despite the tremendous volume of work accomplished over the international conferences, was that those who had been the main players in the domain name system were not about to relinquish authority over it so easily. The Internet Assigned Numbers Authority (IANA) and the Internet Society (ISOC) carried out their own negotiations behind closed

doors. IANA supporters on the IFWP steering committee, rather than submit to the consensus that was being formed, pushed to disband the process. ICANN's predecessor eventually entered into private negotiations with NSI and produced a joint draft for the management of the DNS. The "pro-democracy" policy faction had been routed around.

While the process was a significant defeat, it created an outcry the effects of which are difficult to overstate. Lines had been drawn and ICANN, with its self-appointed board, was declared the enemy of netizens. As Mueller notes:

We can say without qualification that ICANN has failed to provide a vehicle for developing 'stakeholder consensus'. ICANN's creation has not resolved the DNS wars; it has simply fostered a political competition that allowed one faction to win at the expense of others. It is a serious mistake to view the dissent as a product of NSI's opposition alone. Virtually every major academic who follows ICANN is positioned on the critical side of the spectrum; opposition to ICANN has united Naderites and libertarians. (*ibid.*, p. 518)

Academics have indeed taken a prominent place in the hacking of ICANN, in their own idiosyncratic style. Foremost amongst these have been law professors engaged in that new and terribly flashy academic and legal field, cyber-law. Following ICANN's first heavy-handed attempts to wield its authority, law professors David Post (Temple University), A. Michael Froomkin (University of Miami) and telecommunications professor David Farber (University of Pennsylvania) set up the unforgiving icannwatch.org site. Its purpose inscribed in the name, the web-site is now run on slashdot code and features daily items concerning ICANN's activities and other DNS news. While somewhat more filtered than indymedia, anyone's contribution will be posted if it is deemed relevant enough.

Icannwatch has taken its place alongside several other web-sites dedicated to making ICANN's activities visible to the Internet community. This sense of constant

scrutiny that the organization is subjected to, achieved through the very medium that ICANN was put in place to enclose, should not be underestimated. Coupled with the possibility for Internet users to respond to the various posts on these sites through the discussion thread format (something that often results in intense and important discussion of DNS issues), it results in the creation of a public sphere where ICANN's instrumental rationality is temporarily neutralized. This alternative and more open method of organization, as Ted Byfield, (another much-respected close follower and critic of ICANN's activities on his site, the Roving Reporter) contributes towards filling the democratic void in the DNS governance:

ICANNwatch and the ICANN Blog both serve functions that ICANN itself *could and should be doing*: providing a useful forum for input and dialog, and providing timely, informative, and neutral news on its activities. (see Byfield)

The ICANN Blog⁴³, operated by Bret A. Fausett, like the Roving Reporter, has entered the firmament of critical ICANN sites. Here we have yet another of the unique features of net resistance to ICANN. Some of the most important sites reporting on its activities are the results of individuals who simply believe the issues to be important ones:

My blog is pretty narrowly focused on ICANN and DNS issues. I've been following and participating in the activities of the Internet Corporation for Assigned Names and Numbers since it was formed in 1998. After the conclusion of the November, 2000 annual meeting, I decided to spend a few extra minutes each day and clip the new and interesting items I found in my daily troll through the ICANN-related web sites. Those items are posted here. (Fausett)

Another notable effort to inform netizens about DNS issues from a critical perspective (one that my own research has undoubtedly benefited from) is run by Ellen

Rony. *The Domain Name Handbook* (1998), written by her and her brother Peter, “provides a comprehensive and practical history of the policies, protocols, procedures, principles, controversies, and initiatives associated with the domain name system.” The book spawned the web-site domainnamehandbook.com, one of the most staggeringly comprehensive collections of information about DNS issues on the Internet. Besides archiving or linking to virtually every important document on the DNS, the site contains links to hundreds of articles written around these issues from 1998 to the present.

A quick look at these archives underscores the fact that DNS issues, with the possible exception of the New York Times, were systematically ignored by mainstream news media throughout the late nineties. The reason for this, Grossman suggests, lies in the fact that “editors generally thought the story was too boring, complicated, and arcane for mass audiences, even though the upshot was that an entirely new and important international power structure was being created” (2000, p. 12).

Rushing in to fill the vacuum was a deluge of new sources covering Internet news, such as C/Net, Internet Week, TechWeb, ZDNET, The Register, and Slashdot. While varying along the political spectrum, these sources primarily reported the DNS process as being exceptionally controversial, adding fuel to the virtual fire. They have become critical outlets for netizens, filling the information void and educating them daily on the issues at hand.

If there were any doubts as to the growing importance of DNS to the online community and the anger that had been generated by ICANN’s creation and theatrics, the

⁴³ A “blog” is netspeak for “web log,” and is understood as one person’s thoughts or running notes on a

spectacle of the first “global Internet election” must have settled them. ICANN’s public relations move to make itself seem a part of this community was widely denounced by many of the sources discussed above as a transparent attempt to limit rather than augment democratic input into its structure. While half of ICANN’s board of directors were supposed to have been elected members of the Internet community, the appointed members of the board thought it best to limit the election to 5 new representatives and not nine.

An uproar ensued. Sandra Kegel suggested, in a *Frankfurter Allgemeine Zeitung* article reprinted on the Common Dreams News Center, that ICANN had “reserved all the best seats for the corporate elite” (2000). In a widely circulated article Froomkin referred to the four remaining board members as “boardsquatters,”(2000b) and *The Register*, citing a pre-election analysis of the ICANN-proposed candidates by the CPSR noted that:

Six of the nominees have ties to the supply industry... including representatives affiliated with Verizon, France Telecom, Deutsche Telekom, Fujitsu, the US Information Technology Industry Association and the International Chamber of Commerce. (cited in Orlowski, 2000b)

Yet if ICANN's board had hoped that they might be able to steer an unnoticed election to a series of favourable results, they were wrong. Their initial expectation that at most around 10,000 people would vote proved to just as disconnected as their policies - over 158,000 people went to the registration site. In an event laden with symbolic meaning, ICANN was forced to shut down the overloaded site due to the inconvenient amount of interest expressed by netizens (Charny, 2000).

When the results were tallied, the elections brought ICANN two fervent critics of the organization as its board members, a hack of the highest order. While Harris Miller (head of the industry trade group Information Technology Association of America) received just 179 of 3,449 North American votes, Karl Auerbach, yet another strange fusion of libertarianism and populism (he is an engineer for Cisco Systems) was elected to represent North America. He has been quoted as saying that he “wouldn’t trust ICANN for anything” and constantly suggests that corporate control of the network needs to be fought (cited in Pressmann, 2000).

Auerbach found an ally in Europe’s choice, the hacker and unrepentant anarchist Andy Muller-Maguhn.⁴⁴ Muller-Maguhn is the most notorious member of the Chaos Computer Club (CCC), a cadre of German-based cypherpunks who first gained worldwide attention in 1986 by breaking into NASA’s computer system. “It must be really strange,” he said in an interview with Time Magazine, “for Americans to see someone like me on the board of ICANN” (cited in Feist, 2002). His election has been a prime example of the versatility of radical organizations positioned outside of the policy process. In this case, the hacker ethic was unleashed outside the bounds of the technical, infecting the ICANN spectacle with the human code of dissent.

That the CCC should be the first hacker organization to challenge ICANN’s right to structure cyberspace is fitting. The organization has always been famously political amongst hackers, the walls of its headquarters in Berlin bearing mottos like “Burn

⁴⁴ In a post-election interview, Muller-Maguhn stated: “What is anarchy? A parallel existence of cultural entities with their own space, respecting each other. Yes, that’s what I want. And if you want to call that anarchy, call that anarchy.” Cited in Perera, 2000.

Venture Capital, Burn!” It humiliated Microsoft on German TV by demonstrating how hackers could use the Internet Explorer browser to make unauthorized bank transfers from computers using Quicken software. The CCC were proto-hacktivists, offering both form and content to the term before it was coined. “There has to be more than just playing around with stuff,” Muller-Maguhn stated at the 2001 Hacking At Large (HAL) festival in Eschede, Holland. “We have to take some kind of political position” (cited in King, 2001).

Since becoming a director, Muller-Maguhn has subverted and exposed the ICANN machine whenever possible. A prime example of this came recently, when he drew attention to its bizarre decision-making process by abstaining from a vote to approve the minutes of the previous meeting. The hacker explained that he had not read the minutes. As it turned out, there were no such minutes, a fact every other board member except Auerbach chose to ignore. The ensuing slew of Internet media articles resulted in another terribly embarrassing week for ICANN. “But that is the mentality on the ICANN board,” Muller-Maguhn quipped. “Always to say yes. It’s a lot like in the old East Germany” (cited in Kettmann, 2001a).

The immediate effect of Muller-Maguhn and Auerbach’s election to the Board has been to erode ICANN’s authority even further. They are the forward edge of a broad coalition that has managed at least in some respect to infiltrate the organization, exposing even further its nefarious workings and ham-fisted attempts to exert power.

When ICANN’s choices for new TLDs resulted in a predictable uproar, the pro-democracy movement demonstrated its versatility. The US Government decided to look

into the activities of its wayward child through hearings held by the Senate Commerce, Science and Transportation subcommittee on communications and its counterpart in the House. On Capitol Hill, Auerbach, speaking as a representative of the organization, spared no prisoners: “ICANN is ill-designed, has been ill-operated, has brought upon itself significant ill will within the Internet community and has greatly exceeded its proper scope” (cited in Cha, 2001). Alternate TLD operators and Michael Froomkin joined him in his criticism of the domain name authority.

This cyber-swell of resistance against DNS authority has continued to oscillate between these forms of policy hacking and the more traditional technical variety. Occasionally the latter technique has been employed towards only vaguely discernible ends. In July of 1999 NSI discovered that its various web-sites had been hacked, and that these were redirecting visitors to the Internet Council of Registrars (CORE, see Chapter II) and to ICANN (Macavinta, 1999). The political point of such an action most likely was some combination of embarrassing the root server’s administrator from a technical standpoint and bringing attention to its undue dominance of the domain name market. A December 2000 hack on ICANN’s web-site, most likely courtesy of a script kiddie, was characteristically less politically motivated. Visitors to the site were greeted by the appearance of a message in their browser title stating that ICANN was owned by a hacker called “mista_dns” (Lynch, 2000). It was visitors that alerted the organization of the breach.

If script-kiddies and hackers are the black bloc of the cyber-resistance movement, the most recent policy formation, Internet Democracy Project (IDP), represents the

movement's version of Drop the Debt. The American Civil Liberties Union (ACLU), Computer Professionals for Social Responsibility (CPSR) and the Electronic Privacy Information Center (EPIC) joined together in July of 2000 in order to open up the spaces for a cyber-"civil society". Formed shortly before the elections, IDP may have played an important part in the election of dissident board members. The "civil society" perspective they have articulated on Internet governance, their "information clearinghouse" on DNS issues, and the forums they have helped sponsor represent one more voice in the at times concerted, at times cacophonous resistance to ICANN and the DNS managers.

ICANN's responses to these attacks have been constant and mostly confused. After the obvious way in which the elections backfired on the organization, in November of last year an internal committee recommended that only those who owned domain names be allowed to vote in any future elections (Glasner, 2001). This leap back in time to the most primitive and transparently instrumental forms of democracy was put forth in the name of avoiding future election fraud, a move that elegantly implied the possibility of wrongdoing in their first outing. As we will examine in Chapter VI however, the most profound and telling response from ICANN in the face of the democratic impulse amongst netizens came with the recent plans to restructure itself. The move will have long-lasting implications for the DNS and whether its democratic governance will be a democratic affair. Yet paradoxically, I suggest that it represents a significant victory for the Internet community. Forced to fight battles on virtually every front, ICANN has

finally had to come out into the open, revealing the fact that democracy, even the crude versions it was forced to adopt, has never been amongst its goals.

5.3 ICANN Besieged

Telepolis: Do you think that the so-called "boardsquatters"-- the four interim directors still in place -- should resign and hand over their positions to the At Large community?

Vint Cerf (Former CEO of ICANN): Boardsquatters?

Telepolis: Well, didn't you see quite a lot of guys with buttons at the annual meeting demonstrating against the "boardsquatting"?

Vint Cerf: Oh, I must have missed that one. But now I know what you mean. (Cited in Krempf, 2000)

I think we need lots more diversity, and there is no technical reason why not. Why not just have a network of parallel universes, instead of trying to make one big culture? This attempt at an Internet world government, or however you want to call it, is more or less an attempt at cultural imperialism, and I'm not a friend of that." (Andy Muller-Maguhn, cited in Perera, 2000)

If a significant number of Internet users were to simply point their machines to another root server, where would ICANN be? The only reason it has authority is because of inertia.

(Karl Auerbach, cited in Kettmann, 2001b)

Like the categorization of a global justice movement as an "anti-globalization" one, the "anti-ICANN" tag is a misnomer for a larger and more complex political impulse. As I have shown, its present composition finds roots in online cultures that far predated ICANN, and its battle is the same one being waged on other virtual fronts. All of these conflicts, whether over file sharing, free software or technical standards, have emerged as an integral part of that post-Fordist realm – cyberspace.

Yet these in turn, whether they be the puzzling offshoots of the civil liberties movement or the increasing phenomenon of hacktivism, have been, are, and will be informed by movements and struggles taking place on the ground. In this sense, as I will

discuss further in the conclusion, *struggles in cyberspace are only extensions of the ones playing themselves out in the material world that we all inhabit*. These struggles, now as for the last few hundred years, are primarily clustered around capital's need to subsume its subjects' creativity within the matrix of commodification.

This having been said, discussing the battle for the management of the domain name system as a strictly policy process would be like reducing the G-8 protests in Genova to Bono meeting dignitaries behind tall and heavily guarded fences. A wide variety of tactics have been employed, falling into two main groupings. The first of these clustered around human creativity, exploiting the openness that the creators of the Internet programmed into its structure in order to generate new territories outside of ICANN's project of commodification. The second involved infecting ICANN's lumbering spectacle directly, whether through hacking, constant monitoring, symbolic challenges to its authority, or the virtually agit-prop tactics of its newly elected ultra-dissident board members.

Measured in terms of the outcome for democracy, the sum total of these tactics result in a political glass that should be seen as half full rather than the opposite. I say this if for the only reason that cyberspace has discovered itself as a *political* space once and for all. For netizens, the ones that have managed to escape the virtual and mental "walled gardens" (see Winseck, 2002) of capital, have come to understand that the relationship they occupy with what strives to be authority is an at least complex and often oppositional one. These battles, until the rest of the world is allowed or forced online, have undoubtedly taken on qualities of skirmishes by a cyber vanguard formation. Yet as

we have seen, with more and more activists moving online the challenge has been to hold the fort until they deepen the political struggle for the future of the electronic commons.

The most important feature of this movement is the growing understanding that, as Mueller-Maguhn said in a recent interview, “you can't solve social problems by technical means” (cited in Kettmann, 2001a). While some of the opposition to ICANN is undoubtedly due to inter-cine capitalist squabbling over the parceling out of surplus value,⁴⁵ I am confident that there is evidence that cyberspace has been politicized in the netizen imaginary. A line has been drawn that runs right through cultures like cyber-libertarianism, and finds ICANN, NSI, and others on the side of Bill Gates, who traced out his pastoral capitalist version of perfect information at the dawn of the information society. Those who forced Prema Toy to drop its attack on Pokey increasingly find themselves on the other side of that subsumptive border and are actively fighting to push it back. While there is little doubt that the campaign rising up against instrumental rationality in the name of a twelve year-old was led by some of the more privileged sectors of the global population (Pokey's father runs an ISP), it is equally true that something in their gut feeling that an injustice was being perpetrated showed the potential power of a progressive cyber-movement.

This formation has, if nothing else, been successful in making ICANN feel besieged on all sides by an enemy it does not understand. It has infected ICANN's machine, torn away almost every veil the organization has put between itself and

⁴⁵ Evidence for this is to be found in examples such as NSI flying in ICANN detractors to meetings in Santiago, Chile, or Leah Gallegos from the alternate TLD operator PacificRoot testifying at Federal hearings that ICANN robbed her company of its intellectual property by giving someone else .biz.

netizens, and intensified its project of routing around its technical basis for authority.

Whether this amounts to anything (ICANN's latest counter-movements will be examined in the conclusion) remains to be seen. But the lines that have been drawn are significant, and full of potential for ensuring that cyberspace becomes an open, communal medium rather than a closed, instrumental one.

Chapter VI

ICANN Restructures Itself: The Cycle Completed?

...the Board wishes to move forward with energy and enthusiasm to build a meaningful structure for informed participation by the full range of Internet users, and seeks avenues to achieve these objectives that are bottom-up, self-organized, and self-sustaining. (ICANN, 2002)

The Board is not persuaded that global elections are the only or the best means of achieving meaningful public representation or the informed participation of Internet users in the ICANN process. (ICANN, 2002)

This thesis has addressed the development of and control over the domain name system, situated within the restructuring of capitalist production from a Fordist logic to that of post-Fordism (as discussed in Chapters I, II, and III). In a larger sense, even the productive restructuring on the part of capital has been offered as part and parcel of a history defined by social struggle (as discussed in Chapters I and IV). This feature of history penetrates all social spaces, material and virtual. The struggles progress in cycles, through move and countermove: capital restructures in order to incorporate the millions of subjects that create value for it, and labour - broadly conceived - re-composes itself in order to escape the continual expansion and intensification of commodified space.

The primary contribution that this work makes is to demonstrate that cyberspace is not immune from this process. It is, infact, characterized by exactly the same social divisions evident in our own material dimension. The history of the names and numbers system, despite the dreaded sea of acronyms that characterizes it, stands as a colourful metaphor for this process in its present information-society variant. The struggles over

this vital telecommunications resource are thus the particular from which we can begin to understand the general. Accordingly, in this last section I will begin with a discussion of ICANN's latest strategy, and then go on to integrate it within the framework offered thus far.

6.1 ICANN's Counter-Maneuver

Dissent has been the information society's shadow. If, after spending chapters in the network, we arose again to regain our heavenly view of the earth, we might look for an alternative world of light. If one pinpointed every computer on the world which had accessed the anarchist information list a-infos, another, small network would emerge. If the same were done with computers that regularly accessed indymedia, an overlapping and much larger network would come to light. Add to this the thousands, perhaps millions of web-sites devoted to everything from ending sweatshop labour to enabling the flow of humanity across borders, from environmental groups to those pushing for a guaranteed minimum income. This global network, a shadow because it does not shine as spectacularly as the "information society," has within it the potential to address the imbalance, and reclaim some of the light that has been stolen from it.

The movement challenging ICANN has been a microcosm of this network, one that is connected to it at an increasing number of nodes. As I showed in Chapter V, it has often been an effective formation. The adjectives such as "controversial", "troubled", and "besieged" that are placed before the organization's acronym in virtually every news

item discussing its activities underscore the fact that the move towards the private regulation of the domain name system has not been as frictionless as some hoped.

Faced with the ill will of the Internet population, ICANN responded as best it could. The most recent, and by far most important reaction to this insurgence has been, just like the answer was for Fordism, to restructure itself. At its last meeting in Ghana, ICANN ordered an internal committee to develop a restructuring plan in advance of the organization's next meeting, scheduled for June of 2002 in Romania.

The committee on ICANN "Evolution and Reform" will draw on the recommendations of a dramatic proposal submitted by President Stuart Lynn last month. In that document, Lynn called for the replacement of ICANN's existing governance structure and the elimination of direct elections of ICANN leaders by rank-and-file Internet users (McGuire, 2002). The proposal, if adopted, would see the At-Large elected representatives (five out of what was supposed to be nine) replaced by representatives nominated by governments. As Andrew Orlowski of *The Register* was quick to point out:

...candidates of the caliber of North America's elected representative Karl Auerbach, a veteran Internet engineer responsible for some of the key technical landmarks in the Net's history, and with years of constructive input into Internet policy, will be replaced by C-grade donors to national ruling political parties. And what a treat *that* nomination process promises to be: with anonymous, club-class Midlands biscuit entrepreneurs, Tennessee-based ball-bearing manufacturers, shire dames and if we're lucky... Prime Minister's Mistresses, all vying for the honor of contributing to ICANN policy. (2002)

Orlowski's prediction is over-dramatic, but captures the substance of the restructuring process to come. Leaving aside prime minister's mistresses, we can be sure that those appointed will have perspectives on the DNS much closer to that of those

presently piloting the organization than that of the overwhelming majority of the netizens. ICANN's move, if anybody still needed proof, demonstrates to what extent those running ICANN's activities regard democracy as a kind of contagion. Allowing its spread within their organization would risk severely hampering its goal – that of ensuring that cyberspace is a predictable sphere for the accumulation of capital.

There are other factors impinging on the decision, ones that I will end this chapter with. But the very fact that this restructuring is being undertaken suggests that the opposition to ICANN's activities on the part of the ICANN activity have been sufficiently threatening. If the organization ever believed they could carry out their activities with the cooperation or even tacit consent of the Internet community, they were wrong. This latest move can only deepen the divisions over control of the DNS.

6.2 Post-Fordism, Private Governance, and the Coercive State

ICANN's counter-maneuver occurred against a quickly changing backdrop. For the struggle over the governance of the DNS is by no means exempt from emerging features of global political economy after the event that shall perhaps forever be referred to by the date on which it happened. Even while attempting to avoid platitudes, it is difficult to deny that the effects of September 11 have rippled across the globe. The waves have washed right through the DNS and thus this thesis, making it impossible to avoid the implications. An immediate and Baudrillardian result of the terrorist attack, predictable perhaps, is described in a Salon.com article:

Over the course of the morning, as new developments were reported, registrants snapped up hundreds of new names, all variations on the same grim themes. The names wtccrash.net and wtccrash.org went quickly, followed by wordier versions like wtccplaneccrash.com and tradecentercrash.com. After United Airlines Flight 175 crashed into the south tower at 9:03 a.m., plural replaced singular and worldtradecentercrashes.com and wtccrashes.com (nabbed by a registrant in Switzerland) were claimed. When the Pentagon was hit at 9:43 a.m., domain registrars faced a rush on names like pentagonattack.com, pentagondisaster.com and pentagoncrash.com. And then, back in New York, the towers began to fall. (Geon, 2001)

If I have avoided discussing the unsettling implications of September 11, 2001, it is because I have tried to discuss a regulatory time and place that seemed blessed to those who made the rules. To some it must indeed have felt as if history had ended, as if there was little need for the state now that the long-awaited blessing of “friction-free” capitalism had arrived. Ira Magaziner’s thoughts on the regulatory models possible for the Internet betrayed a deep sense that capitalism had reached some kind of evolutionary peak, a plateau where the only conflict would be the scientifically regulated competition amongst businesses. At that moment, his comment on the role of government being “simply to set a predictable legal environment for commerce” seemed to make a lot more sense (cited in Fraser, 1999, p. 114). Post-Fordism, bolstered by the fall of the Berlin Wall, represented a checkmate that seemed to preclude future cycles of struggle.

Magaziner’s comments managed to ignore capital’s monopolistic tendencies, as if this were an issue that somehow had not arisen in the new economy. At that very time Network Solutions Inc. held a virtual monopoly in the domain name registration business, one that had been created by the state. Further contradictions arose when ICANN’s stated goal of creating competition in the registry and registrar businesses conflicted with its obvious incentive to achieve monopolistic control over the root server and stem the

proliferation of alternate TLDs. Furthermore, while ICANN may be formally committed to creating and managing competition in these sectors, it has actively tried to keep the TLD resource (which is potentially close to infinite) as limited a one as possible. Value, of course, is also to be found in scarcity. Finally, Microsoft's recent announcement that it would purchase Verisign suggests this new economy is not exempt from the internal cancers that afflicted the old.

But all of these issues were before the WTO protests in Seattle and the events of September 11 reminded us that history had no intention of disappearing. Magaziner was unable to foresee, for example, the possibility that a hacker would become a democratically elected member of the yet-unnamed organization. One step above that, the Clinton administration had only begun to understand the critically new role that the network would have in the exercise of power. The Bush administration has, since the attack on the World Trade Center, demonstrated that it feels no area of life to be legitimately exempt from its purview. The network of networks referred to as the Internet and its lynchpin, the DNS, are obviously central to its security concerns.

What I am saying is that contrary to what some might believe, the state, and the coercive power that it embodies, is not some secondary level of analysis to be dispatched in the face of experiments in private regulation. Every technology discussed in this thesis came about in the context of strong nation-states seeking to colonize new spaces. As these technologies were developed, the key differences in their regulation lay in where the power to determine the standards of their operation was located.

Under Fordism the state, or a group of states, was the dominant force that structured *and regulated* technology. In the case of Intelsat, one of the first regulatory hybrids for the post-Fordist era, the standards-setting function was handed over to the private sector. Similarly, we should remember that ICANN's authority was *delegated to it* by the state, after several failed coups on the part of the private sector.

ICANN's inability to fully establish its authority over the Internet user population has undoubtedly raised eyebrows amongst the US Government and, in a post-September 11 world, could be a reason for the state to hedge its bets, declare the experiment a failure, and reassert the totality of its authority over the root server. Already there have been discontented murmurings from people such as Senator Conrad Burns (R-Montana), who suggested that "more fundamental questions also need to be addressed, such as whether ICANN is even the most appropriate organization to be tasked with such a critical mission, which is central to our national security" (cited in McCullagh, 2002).

These factors will all come into play in the future of DNS governance. Whether this is the end of a cycle of struggle for cyberspace remains to be seen. What is certain is that the primitive cyber-accumulation I discussed earlier (see Chapter V) has encountered an array of problems to which a set of drastic solutions may soon be applied. This struggle, as a part of the broader one over communications technology, is amongst the key issues of our age.

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