(at)america.jp: Identity, nationalism, and power on the Internet, 1969-2000

Gretchen Ferris Schoel
College of William & Mary - Arts & Sciences

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Identity, Nationalism, and Power on the Internet, 1969-2000

A Dissertation
Presented to
The Faculty of the American Studies Program
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree of

Doctor of Philosophy

by

Gretchen Ferris Schoel
2004
APPROVAL SHEET

This dissertation is submitted in partial fulfillment of
the requirements for the degree of

Doctor of Philosophy

[Signature]
Gretchen Ferris Schoel

Approved by the Committee, June 2004

[Signature]
Leisa D. Meyer, Chair

[Signature]
David P. Aday, Jr.

[Signature]
Arthur Knight

[Signature]
Jun Murai
Keio University, Japan
DEDICATION

This dissertation and my Ph.D. degree are dedicated to my parents for their abiding support and confidence. Thank you, great parents.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vi</td>
</tr>
<tr>
<td>List of Figures</td>
<td>vii</td>
</tr>
<tr>
<td>Abstract</td>
<td>viii</td>
</tr>
<tr>
<td>Prologue</td>
<td>2</td>
</tr>
</tbody>
</table>

## Part I. Network Improvisations

- Chapter I. Filling in the Blanks: Lessons from an Internet Blues Jam | 20   |
- Chapter II. Razor Blade’s Riddle: Can Code Carry Culture?          | 48   |

## Part II. Cartographers of the Net

- Chapter III. The History, Development, and Significance of the Domain Name System | 95   |
- Chapter IV. The Soup to Nuts of ICANN: Representation, Geography, and Nationalism | 141  |

Epilogue                                                                | 214  |

Appendix A. Japan ICANN Forum’s ICANN Election Illustration Page        | 224  |
Appendix B. Official Voting Results, 2000 ICANN Election                | 229  |
Bibliography                                                            | 235  |
Vita                                                                    | 253  |
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LIST OF TABLES

Table                                                                 Page

1. 2000 ICANN Election Worldwide Registration Totals and Number of Participating Countries: Peak Days 158

2. 2000 ICANN Election Registration Totals, Selected Countries: May 15, 2000 186

3. 2000 ICANN Election Registration Totals: Change Over Time for Regional Leaders in Asia/Pacific, Europe, and North America 186

4. 2000 ICANN Election Registration Comparisons: China and Japan 201

5. Top Twenty Registering Countries for ICANN Membership 201

6. 2000 ICANN Election Regional Group Membership Totals, July 31 209

7. 2000 ICANN Election Regional Group Activated Membership Totals, September 8 210

8. 2000 ICANN Election Returned PIN Numbers (Selected) 211

9. 2000 ICANN Election Voting Results in Asia/Pacific Region 212

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### LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Three Types of Networks</td>
<td>65</td>
</tr>
<tr>
<td>2. 2000 ICANN Election Registration Totals: United States, Germany, Korea, and Japan, May 15 and June 22, 2000</td>
<td>187</td>
</tr>
<tr>
<td>3. 2000 ICANN Election, Top Five Registering Countries</td>
<td>202</td>
</tr>
<tr>
<td>4. 2000 ICANN Election, Top Twenty Registering Countries</td>
<td>203</td>
</tr>
<tr>
<td>5. 2000 ICANN Election, Registrations per Day, China and Japan, February 25 – July 31</td>
<td>205</td>
</tr>
<tr>
<td>6. 2000 ICANN Election, Registrations per Day, China and Japan, June 4 – July 31</td>
<td>206</td>
</tr>
</tbody>
</table>
ABSTRACT

"@america.jp" explores identity, nationalism, and power on the Internet between 1969 and 2000 through a cultural analysis of Internet code and the creative processes behind it. The dissertation opens with an examination of a real-time Internet Blues jam that linked Japanese and American musicians between Tokyo and Mississippi in 1999. The technological, cultural, and linguistic uncertainties that characterized the Internet jam, combined with the inventive reactions of the musicians who participated, help to introduce the fundamental conceptual question of the dissertation: is code a cultural product and if so can the Internet be considered a distinctly "American" technology?

A comparative study of the Internet’s origins in the United States and Japan finds that code is indeed a cultural entity but that it is a product not of one nation, but of many. A cultural critique of the Internet’s domain name conventions explores the heavily-gendered creation of code and the institutional power that supports it. An ethnography of the Internet’s managing organization, The Internet Corporation for Assigned Names and Numbers (ICANN), investigates conflicts and identity formation within and among nations at a time when new Internet technologies have blurred humans’ understanding of geographic boundaries. In the year 2000, an effort to prevent United States domination of ICANN produced unintended consequences: disputes about the definition of geographic regions and an eruption of anxiety, especially in China, that the Asian seat on the ICANN board would be dominated by Japan. These incidents indicate that the Internet simultaneously destabilizes identity and ossifies it. In this paradoxical situation, cultures and the people in them are forced to reconfigure the boundaries that circumscribe who they think they are.
PROLOGUE

At the height of the Internet's first commercial boom in 1999, I became an Internet entrepreneur. I received a small amount of venture capital and used it to begin linking musicians across the world. I envisioned thousands of people in hundreds of different places around the globe interacting online through musical, dramatic, or visual arts in defiance of the linguistic, technological, and financial barriers that had traditionally kept different cultures separated from one another. My vision remains a vision because my money ran out. But the experience led to this dissertation and brought exciting intellectual challenges my way.

Two such challenges set the course of my early research, and from them emerged the conceptual issues central to the dissertation. The first is familiar to those hopeful that a communication technology as new and far-reaching as the Internet might afford valuable opportunities for its users, and might do so without discrimination across social, cultural, economic, and national differences. How can the Internet be used as an enabling technology, with a positive transformational effect on local and global inequities and an empowering influence on individual lives? I approached this question obliquely, by investigating another, very different subject – cross-cultural interaction and its importance to the production of knowledge and ideas. My challenge here was to figure out ways to provide those
without linguistic, economic, or educational means opportunities to interact with foreign cultures.

These two interests seemed powerfully connected. Linking people to people evokes communication, whether through words, sounds, colors, or gestures. The more different these people are (geographically, linguistically, or ideologically, for example), the harder it is to express their ideas and make sense of one another. This mental labor opens up new cultural forms, new ideas, and new meanings. People interacting across differences, then, become producers. It follows that as the Internet is a medium which generates connectivity cross-globally, it also can empower users, permitting them to see themselves not only as consumers of knowledge but as producers, too. In its capacity as a medium of cross-cultural exchange and collaboration, I reasoned, the Internet would be an enabling technology with democratizing influence.

This was the premise behind my project to link musicians from different cultures in an Internet jam session. As it turned out, however, my assumptions were flawed. For one thing, there was no guarantee that those without the money, time, or technology necessary to get involved with other cultures – whether Blues musicians in Mississippi or school children in Africa – would actually want to do so. Why should anyone, rich or poor, find value in learning more about and interacting with other cultures? Indeed, could I really know what was beneficial or empowering for those in contexts besides my own? I found that the mental labor needed to communicate across differences occasionally aroused resentment rather than interest, and encouraged corrosive rivalries. The Internet, moreover, is not a one-way force.
Like any technology, it does not just “affect” its surroundings. The people connected through the Internet affect it. At the same time, the Internet is laden with the biases of its design decisions, and these parameters complicate attempts to enable people who are new to the Internet to engage the technology in their own ways.

I have entitled this dissertation “@america.jp” to highlight the complex relationships between cultures, technologies, economies, and national identities that undergird the Internet’s function as a global communication medium. At first glance, “@america.jp” suggests another story about American culture in Japan. In my title, America is written fully and Japan is abbreviated, as if American culture, though partially bracketed by Japan, dominated Japan. The unequal emphasis seemingly placed on these names reflects the power dynamic between the two countries since they first came in contact over one hundred and fifty years ago. A more informed and careful reading of the title, however, should make one wonder if this is the actual relationship implied. Will this study be a place-based or a space-based analysis – one that is in Japan or on the Net? Moreover, in cyberspace the most right hand abbreviation denotes the highest level on a hierarchical scale. Hence, this dissertation studies an empowered Japan in a digitally-driven relationship with the United States. What subtly lies behind the “@” is one node in a global network that delineates a position of existence, ownership, and knowledge constantly shifting vis-à-vis thousands of other such positions in a political, economic, cultural, and social space. The @-based title suggests that this networked space is rapidly rising as a contender for our loyalties with more conventional arenas that host the same activities.
And what about the fate of the individuals on the left of the @? What are their strategies of working within or their abilities to work beyond the domains of power on their right? Additional questions arise: what individuals or entities chose names with "@"s and "."s in the first place, who decided what order the words and abbreviations would take, and what will it mean when these names appear regularly in Kanji, the preferred writing system of both the second largest economy (Japan) and the most populous country in the world (China), or in Arabic, Sanskrit, or Cyrillic?

Internet Studies as a field did not exist ten years ago. At that time, in 1994, the World Wide Web and the Mosaic browser that made the Web easy to navigate had just been introduced on a large scale and were becoming the network's "killer" applications that would raise mainstream awareness of the Internet itself. The study of the Internet by anthropologists, sociologists, and especially cultural historians was almost non-existent at the time; published writing about the Internet in any discipline other than science was rare. In the latter half of the 1990s, however, studies of Internet use, value, and meaning burgeoned. These "cyberculture" studies, as they came to be called, appeared as monographs and anthologies in academic and popular press publications. Scholarly papers and panels critiquing online activity became regular components of professional conferences in a variety of disciplines, and universities began offering graduate programs for the social and cultural analysis of the Internet and related new media.

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1 Englishman Tim Berners-Lee created the World Wide Web at the CERN physics laboratory in Geneva, Switzerland in 1990. Several computer science students at the University of Illinois (led by Mark Andreessen) created the breakthrough browser, Mosaic, which enabled Web accessibility for average computer users and widespread adoption of Internet technologies.
This introduction reviews the major literature that constitutes Internet Studies. It then positions "@america.jp" within that body of writing, highlights the major interpretive questions and arguments of the dissertation, and finally summarizes the content of each chapter. David Silver, a leading cyberculture scholar at the University of Washington, divides the first decade of scholarship on Internet culture into three stages. "Popular cyberculture," his first stage, spans the first few years of the 1990s and is journalistic and descriptive in nature, usually celebrating rather than critiquing the Internet's use. "Cyberculture studies," most prominent from 1994 forward, focuses heavily on the subjects of virtual community and online identity and is a much more academic and analytical body of work than what preceded it. The third stage of Internet studies, what Silver calls "critical cyberculture studies," expands the concept of "cyberculture" to include the study of online interaction and discourse, interface design of cyberspace, and problems of access and denial to the Internet.

The ideas and rhetoric of popular cyberculture, though dismissed by some as uncritically optimistic, are, for this dissertation, the most relevant body of literature. Treated as secondary literature in Silver's work, popular cyberculture is a rich collection of primary material for mine. The idealism, buoyancy, and lack of nuance in the early writings resonate to this day in government policies, technical designs,

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educational programs, consumer habits, and even legal decisions related to the Internet. Early American Internet authors often embedded their hopeful generalizations in metaphors of American expansion – in particular in the notion of the American “frontier” and its significance to the character of a people and their nation. Writers in other nations, in many ways influenced by American experiences of the Internet as portrayed by U.S. writers, also frequently correlated the Internet with cultural and social expansion into “democratic global frontiers.” Even today, the Internet retains a powerful association with the frontier “myth” as the source of individuality, mobility, and egalitarian thinking in American culture, as a safety valve for burdensome social ills, and as a transformative agent of the average into the great. Understanding how the Internet was imagined when it first appeared in everyday lives and recognizing the American sensibilities in those early renditions of the new technology is crucial to any rigorous investigation of Internet culture.

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5 Inspired by the 1890 U.S. Census Bureau’s proclamation that America’s frontier was “closed,” University of Wisconsin historian, Frederick Jackson Turner, addressed the American Historical Association in 1893 with a speech entitled “The Significance of the Frontier in American History.” In this address, Turner argued that historians had overlooked “the fundamental, dominating fact in United States history” – territorial expansion westward from the Atlantic to the Pacific ocean. Central to Turner’s thesis is the notion that the development of the American frontier helped to shape not only the character of the American people, but also the nature of its institutions. Turner claimed that traits such as individualism, mobility, and egalitarianism, to name the most familiar, developed during the United States’ nineteenth-century push from east to west and had come to dominate by the end of the century the formation of American character. Two important qualities of Turner’s American frontier were its simultaneous functions as “safety valve” and transformative agent. Having a frontier in which to expand not only protected the nation against social ills like poverty or inter-ethnic strife, it also transformed those moving and living within the frontier space into “[men] of coarseness and strength, ... acuteness and inquisitiveness, [and of] practical and inventive turn[s] of mind.” Frederick Jackson Turner, “The Significance of the Frontier in American History,” American Historical Association, Chicago, July 12, 1893.

Turner’s American frontier thesis has been critiqued widely by historians. Its supposed association with egalitarianism, especially, is considered more a “myth” by most scholars than a sound academic hypothesis. It is this myth of the American frontier and its function in American culture that is more important to an understanding of early perceptions of the Internet than any “reality” of America’s nineteenth-century geographic frontier.
Popular cyberculture literature consists of essays, news columns, and books written by net-savvy journalists and early users of the new technology. These cultural critics submitted stories on the Internet, cyberspace, and the “information superhighway” to American newspapers and magazines. In the early 1990s, their articles ran primarily in technology news sections and were often buried in the middle of many pages. Within two or three years, however, profiles of the Internet began to appear on front pages, in business sections, and in lifestyle supplements as feature articles. At the same time, mainstream magazines such as *Time* and *Newsweek* added regular “new media” categories alongside the standard political, business, or entertainment sections. A significant milestone for popular writing on the Internet was the bestselling 1994 how-to book, *The Internet for Dummies*.

One group of popular writers became widely recognized and its work typifies the first generation of cyberculture writing. Occasionally joined by investors and politicians as well, these “technofuturists,” Silver writes, “declared cyberspace a new frontier of civilization” and “a digital domain that would bring down big business, foster democratic participation, and end economic and social inequities.” These authors found platforms in newspapers and magazines, electronic newsgroups, listservs, and websites, as well as organizations such as the Electronic Frontier

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7 Silver, 20.

8 Ibid.
Foundation. Their most frequent appearance, however, was in technozines, a new kind of popular magazine devoted solely to digital technologies. Epitomizing the utopian rhetoric of the technofuturists, Louis Rossetto, the publisher of Wired, described cyberspace as “a new economy, a new counter culture, and beyond politics.” Wired’s executive editor, Kevin Kelly, declared uncritically that “technology is absolutely, 100 percent, positive.” And the magazine’s contributing editor, John Perry Barlow, insisted that “with the development of the Internet, and with the increasing pervasiveness of communication between networked computers, we are in the middle of the most transforming technical event since the capture of fire.”

Vice President Al Gore was the most prominent politician among the “digerati.” Speaking at a conference in Buenos Aires in 1995, Gore claimed:

> These highways – or, more accurately, networks of distributed intelligence – will allow us to share information, to connect, and to communicate as a global community. From these connections we will derive robust and sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care, and – ultimately – a greater sense of shared stewardship of our small planet.

Gore and other early celebrants employed the frontier as a dominant metaphor for the Internet. In 1984, William Gibson coined the term “cyberspace” in his landmark novel, Neuromancer. Gibson defined cyberspace as “a consensual

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9 The Electronic Frontier Foundation is a San Francisco-based non-profit organization created in 1990 to identify and protect against threats to civil liberties online.
10 Mondo 2000, Wired, and bOing bOing are three of the most popular technozines.
12 Ibid.
hallucination experienced daily by billions of legitimate operators ... a graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity."\textsuperscript{15} Cyberspace emerged in \textit{Neuromancer} as a new frontier – a frontier not of land, ocean, or outer space, but of unbounded digital information.

Activists, other writers, and scholars latched on to the frontier metaphor. In the now classic essay, “Across the Electronic Frontier,” Mitch Kapor and John Perry Barlow, both founders of the Electronic Frontier Foundation, described the Internet as “a frontier region, populated by the few hardy technologists who can tolerate the austerity of its savage computer interfaces, incompatible communication protocols, proprietary barricades, cultural and legal ambiguities, and general lack of useful maps or metaphors.”\textsuperscript{16} Awash in stereotypic images of America’s old west, Kapor and Barlow wrote as if the network user were a “cowboy” fighting the “Indians,” wolves, deserts, and U.S. law. Their sweeping simplifications helped the frontier metaphor stick. Internet enthusiast Howard Rheingold observed in 1993: “The pioneers are still out there exploring the frontier, the borders of the domain have yet to be determined, or even the shape of it, or the best way to find one’s way in it.”\textsuperscript{17} In 1994, Douglas Rushkoff remarked, “Nowhere has the American pioneer spirit been more revitalized than on the electronic frontier.”\textsuperscript{18} And finally, though not for a lack of examples, as late as 1997, David Whittle invokes the frontier image as he writes

\textsuperscript{17} Howard Rheingold, \textit{The Virtual Community: Homesteading on the Electronic Frontier} (Boston: Addison-Wesley, 1993), 58.
nostalgically in the midst of his larger discussion on the future of the Internet: “The pioneers, settlers, and squatters of the virgin territories of cyberspace have divided some of that land into plots of social order and plowed it into furrows of discipline— for the simple reason that is natural resources can only be found in the mind and have great value if shared.”

The second generation of cyberculture scholarship, called “cyberculture studies,” was less celebratory and more analytical. It sought to query the complex individual and social negotiations existing in cyberspace, negotiations which, when viewed together, constitute very real identities and communities. This second group of cyberculture writers is best characterized by the precocious cybertheorist, Allucquere Rosanne Stone, who defined cyberspace in 1991 as “incontrovertibly social spaces in which people still meet face-to-face, but under new definitions of both ‘meet’ and ‘face’.”

In other words, Silver explains, “while cyberspace may … lack the physical geography found in, say, a neighborhood, city, or country, it nonetheless offers very real opportunities for collective communities and individual identities.” It is upon these “twin pillars”— virtual communities and online identities— that cyberculture studies has established its legitimacy.

The most referenced authority on virtual communities is Howard Rheingold. In 1993, he defined a virtual community as “a group of people who may or may not meet one another face-to-face, and who exchange words and ideas through the mediation of computer[s]. In cyberspace,” he continued, “… we do everything.

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21 Silver, 21.
people do when people get together, but we do it with words on computer screens, leaving our bodies behind.” Rheingold’s book, *The Virtual Community*, has become a classic text. This is significant because, while Rheingold concludes his book with a “cautionary chapter” highlighting the “potential perils” of the Internet – such as too much commodification, online surveillance, or identity theft – it is his enthusiasm for virtual communities in particular and cyberspace generally that dominates. “We temporarily have access to a tool that could bring conviviality and understanding into our lives and might help revitalize the public sphere,” Rheingold writes. Calling forth the image of the democratic Greek state with its open public spaces for discussion and debate, Rheingold moves further, suggesting that the “vision of a citizen-designed, citizen-controlled worldwide communications network is a version of technological utopianism that could be called the vision of ‘the electronic agora.’”

Sherry Turkle’s *Life on the Screen: Identity in the Age of the Internet* (1995) appeared two years after Rheingold’s and has become equally influential in the field of Internet cultural studies. Turkle examines the concept of online identity by exploring ethnographically virtual environments called Multi-User Domains, or MUDs. Digital, online spin-offs of the popular board game, Dungeons and Dragons, MUDs are text-based, anonymous virtual spaces within which players collectively design, construct, navigate, and inhabit a fictional world. Participants in a MUD are authors “not only of text,” Turkle writes, “but of themselves” and the rules of social

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22 Rheingold, *The Virtual Community*, 5.
23 Silver, 21.
24 Rheingold, 13.
engagement with one another. Most MUDs become highly structured social communities with clear positions of authority and power and defined methods of negotiating one’s character among these positions. The anonymity of a MUD, however, gives people the chance to engage these structures in multiple ways by assuming multiple identities. Turkle finds that while some people use cyberspace to escape an unsatisfactory “real” or offline life, most use virtual environments to exercise or play with their identity, picking and choosing genders, sexualities, and personalities regularly. She even demonstrates that many users of MUDs purposefully fabricate online identities “to help navigate their offline lives.”

Internet sociologist and Turkle protégé, Amy Bruckman, aptly labels MUD environments “identity workshops.”

Like Rheingold, Turkle celebrates the communitarian opportunities afforded by cyberspace. As a result of the enthusiasm found in these scholars’ work, Silver explains, subsequent writers often articulated cyberculture as a “site of empowerment, an online space reserved for construction, creativity, and community.” However, the optimistic bent of the majority of early research and writing in Internet studies often skewed actual events online and masked structural barriers to Internet accessibility beyond the world’s richest countries. One article that appeared in The Village Voice in 1993 contrasted sharply with its contemporaries. Written by journalist Julian Dibbell and provocatively titled “A Rape in Cyberspace;

26 Silver, 20 and Turkle, Life on the Screen.
28 Silver, 21.
or How an Evil Clown, a Haitian Trickster Spirit, Two Wizards, and a Cast of Dozens Turned a Database into a Society,” the article presents the story of “Mr. Bungle,” a member of a popular MUD called LambdaMOO who used a voodoo doll—a program that enables users to control the online actions of their peers—“to rape, violently attack, and force unwanted liaisons” upon several LambdaMOO residents.29 Dibbell “describes the attack, … the community’s outrage, and the public discussion of Mr. Bungle’s punishment.”30 A key moment in LambdaMOO’s deliberations came when the MUD’s chief wizard—the highest ranking member of the community and, in real life, the technical administrator of the LambdaMOO software—reminded community members that, in response to their desire for strengthened self-governance, he had recently revoked his special ability to “toad” (eliminate by turning into a toad) MUD characters. The wizard could no longer oust Mr. Bungle from LambdaMOO, even if the larger community requested it. LambdaMOO users, then, were left to solve the problem on their own, through collaborative decision-making processes. The remainder of Dibbell’s article documents and analyzes these processes, giving special attention to the community’s reaction and response to one resident’s independent attempt to drive Mr. Bungle from LambdaMOO.31

The politics and power struggles that unfold upon this incident in LambdaMOO—a community self-determined to make its own rules and establish guidelines collaboratively without hierarchical authority structures—demonstrate

29 Ibid., 20 and Julian Dibbell, “A Rape in Cyberspace; or How an Evil Clown, a Haitian Trickster Spirit, Two Wizards, and a Cast of Dozens Turned a Database into a Society,” The Village Voice (December 23, 1993): 36-42.
30 Ibid.
31 Dibbell, “A Rape in Cyberspace.”
clearly that the function of a community is not only to include, but also to exclude. LambdaMOO had a commonly enforced ethics of behavior, the violation of which was not tolerated. How those ethics, and the consequences of their violation, were negotiated and finally determined teaches far more about the intricacies of human-to-human and human-to-technological interactions on the Internet than any of Rheingold’s sunny predictions.

Why, then, have Rheingold’s and Turkle’s often uncritical works become canonical texts in Internet studies? Is the rhetoric of American mission, bounty, and possibility that is woven into network language – especially through metaphors of the Internet as frontier – so strong that texts disruptive of that ideology are overlooked? “A Rape in Cyberspace” has become an apocryphal story told and relayed to newcomers setting up online communities, but beyond its value as a warning, it is too seldom recalled for the clever, calculated tactics and strategies of its virtual characters and the real people behind them. The politics of the process by which certain texts are adopted and others are not, certain metaphors taken up and others dismissed, as well as the politics of the process of creating and sustaining an online community are subjects sorely lacking in Internet studies.

In an effort to fill such gaps, a third group of cyberculture scholars has emerged to address them. No longer limiting the field to virtual communities and online identities, authors of “critical cyberculture studies” approach cyberspace not as a place to describe, but in the words of David Silver, “a place to contextualize.”

The latest phase of Internet cultural studies carefully considers the interactions of social, cultural, and economic elements online, even evaluating the ways that stories

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32 Silver, 24.
are told about these interactions during and after they occur. Improving on a significant weakness in the previous scholarship, critical cyberculture studies pays attention to a wide range of factors *offline* which may encourage, enable, or prevent individual or group access to the Internet. Another glaring hole that contemporary Internet studies scholars are trying to fill is the absence of attention to the technologies and technological processes which form the interface between the worldwide network and its individual, local users.33

This dissertation aligns with these critical cyberculture studies in key ways. Yet it also moves beyond them and raises new questions and different perspectives from which to consider the Internet as the imperial medium of global communication.

First, I have highlighted American bias in the most influential Internet studies. Silver and others write as if the field were only relevant and valuable to Americans. At the very least, Silver should qualify his three stages as American stages, since Internet scholarship in other countries has shown entirely different contexts and trajectories. Acknowledging such biases makes it possible to unravel some of the tightly wound rhetoric that disables other countries from engaging and defining the Internet on their own terms.

A second focus that runs through this dissertation is creative ways in which humans respond to cultural disruptions. To be sure, all people sometimes respond to disruption in unproductive ways, such as panicking. In our own time, political leaders, frustrated by their inability to lay their hands on terrorists, have launched invasions of countries whose connection to those terrorists was tenuous at best. Just

33 Ibid., 24-29.
as often, however, humans react to disruption in imaginative ways—not by panicking but by creating adaptive outlets. It is ironic, given that my Internet project began with the goal of finding a way to make the Internet an enabler, that in each chapter the Internet acts as a disruptor. The Internet disrupts familiar patterns of music, social relations, and even geopolitics. Yet these disruptions, like any sort of adversity, often provoke people to reach beyond themselves in ways they would not otherwise have done. Calling upon their reserves of creativity and imagination, they make something new. This is evident in my dissertation on both the micro level—as Blues musicians in Tokyo and Clarksdale, Mississippi respond creatively to disruptions in their Internet-facilitated session—and on the macro level, as Internet users who initially resisted the attempts of The Internet Corporation for Assigned Names and Numbers (ICANN) to impose order on the Net end up discovering ways to impose their own order on ICANN.

The third issue I confront in the dissertation is the familiar assertion by the earliest cyberculture critics and the lingering assumption among many Internet users that the Internet defies and erases national boundaries. This notion possesses a beguiling attraction, and I confess that in my case it initially produced some wishful thinking. My research leaves me, I suspect, sadder but wiser on this issue. Not only has the Internet failed to dissolve national boundaries, it has often heightened cultural chauvinism. Indeed, I found that for many people, it was while using the Internet and thinking about its governance that they became most aware of their nationality. As I study the relationship between the Internet and various conflicting

ideas about difference, I am attentive to the often ignored fact that not all of the people whose lives have been influenced — and disrupted — by the Internet are themselves Internet users.

In keeping with its genesis as an American Studies dissertation, "@america.jp" approaches these three major issues (and a host of minor ones) using a variety of techniques. In tracing the technological, political, and military origins of the Internet, I have employed the tools of the historian and the political scientist. I have also borrowed some of the sociologist’s and anthropologist’s conceptual approaches, studying how the Internet has been received in a variety of societies that are themselves variegated along lines of race, gender, and social class, how those divided societies in turn influenced the Internet, and the ways in which the Internet has itself become a society that replicates many of the schisms evident in the real world. A single question pervades this entire investigation: Who owns the Internet?

Chapter One, "Filling in the Blanks," is an analytical ethnography of the interaction of Blues musicians in Japan and the United States through their music played together over the Internet. This chapter introduces many of the interpretive questions, highlighted above, that run throughout the dissertation. Chapter Two, "Razor Blade’s Riddle," takes the opening case study of an interactive Internet event between two countries one step further by looking closely at how an identical technology developed differently in two distinct cultures. It begins to explore how the Internet as a technology can be influenced by its use as an interactive communication medium across cultures and nations. Ownership of the Internet, and the role of nation-states in the management of the Internet is the topic of Chapters
Three and Four, both of which discuss the organization ICANN (Internet Corporation for Assigned Names and Numbers). The chapters reveal the American power and money that lies behind the Internet even today when the Internet’s management is handled across hundreds of nation-state entities.
PART I
NETWORK IMPROVISATIONS

CHAPTER I
FILLING IN THE BLANKS:
LESSONS FROM AN INTERNET BLUES JAM

It had seemed like such a good idea. Having grown up in Alabama and Mississippi, I had always loved the Blues. Since taking a job in 1996 at the Shonan Fujisawa Campus of Keio University, Japan’s foremost institution for Internet research, I had been delighted to discover so many Blues artists in my adopted homeland. Tokyo was filled with Blues bars. So it was natural enough, I thought, to propose an experiment: an Internet jam session in real time, linking Blues musicians in the two countries. Because Clarksdale, Mississippi, is the reputed birthplace of the Blues, I decided that this global Blues jam would work best during Clarksdale’s annual Sunflower River Blues and Gospel Festival, an event known to Blues aficionados worldwide.

The experiment worked, but not at all in the way I planned. On August 14 and 15, 1999, Japanese and American Blues artists participated in what appears to have been the first Blues jam ever to connect musicians over 6,000 miles apart. Playing through the Internet, about twenty musicians performed the legendary songs
of Robert Johnson, Son House, Muddy Waters, and Johnny Lee Hooker. Artists on both sides of the link also shared some of their own compositions and had the pleasure of hearing their themes picked up by their counterparts across the world. The artists jammed across an ocean, two languages, two cultures, and several time zones, and through a fiber optic cable, a phone line, cameras, mics, and computers, a projector, conferencing software, and all the digital bits and their pathways that comprise what we call the Internet. Jamming through the Net turned out to be everything jamming is supposed to be - improvisational, unpredictable, impassioned, exhilarating, exhausting. As at any successful jam, the musicians in Tokyo and Mississippi created new sound through inventive play upon a set of simple patterns.

But there were also problems - big problems. One was that while one side was drinking coffee, the other was getting drunk. After all, the jam happened on Saturday and Sunday mornings in Clarksdale, already late at night the same days in Tokyo. But the greater challenges were technical. Ironically, given Tokyo’s technological advantages over rural and impoverished Clarksdale, Tokyo was the weaker link. While my students and I had managed to lease a room and the high-speed lines of Clarksdale’s one and only Internet Service Provider, the best we could do in Tokyo’s popular Bright Brown Blues Bar was a phone line. The result was that we often lost our audio connection, the video feed, or both - sometimes in one direction, sometimes in both. Systems crashed and audio-visuals fell out of sync. Songs, jokes, and greetings mixed together.

The disorder was painful, but also exciting. If the connection had not worked at all, we could have given up and gone home. What we got instead was something
probably familiar to almost anyone first experiencing real time audiovisuals across the Net: the frustrating lure of intermittent clarity. Those sitting in Clarksdale’s ISP office and standing in the Bright Brown Bar heard from one another not silence or continuous sound but sporadic bursts of music. At the same time they could see one another, but only in the form of alternately clear and distorted faces. Recognizing that at least they were linked, no one wanted to quit. One incident, characteristic of our exchange throughout both days, elaborates key aspects of our global jam and sets the stage for a discussion of the textured layers of cultural meaning that moved rapidly back and forth across the globe.

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Thirty minutes into the second day of jamming, still we could not get a smooth connection. Amidst this now routine periodic confusion, an unexpected thing happened. In Tokyo’s Bright Brown Bar, the drummer, bass player, pianist, and guitarist were following the lead vocals of a dynamic young man. In Mississippi, where I was, we could see them all well enough on our 18-inch television monitor, but only fragments of the audio were coming through. Most of us kept chatting and ignored the sounds. But Bluesman Hairy Larry, sitting at the center of our Clarksdale crowd, began trying to piece together the Bright Brown Bluesman’s song. Hairy Larry stared attentively at the screen, eyes widening, posture straightening as he noticed familiar moves. Without removing his gaze from the monitor, Hairy Larry reached down into his bag for a harmonica. Tapping his feet and nodding his head to the stops and starts of the audio, he began to play along. Hesitantly at first, he matched his chords with what he heard from Japan and jumped in when bits of their
music made it through. The key and rhythm grew familiar, so he began, as he said, “filling in the blanks.” Several seconds of music came from Japan and then suddenly stopped, at which point Hairy Larry took up the progression and moved it forward with the unique inflections of his own harmonica style. “They’re taking a rest to listen to my solo!” he bragged as the gaps continued but a song became more clear.

By this point excitement was building inside the room, and the rest of us had dropped our conversations and gathered closer to the screen. Two minutes into the exchange, Hairy Larry was playing non-stop, following Japan’s lead and rendering the gaps in their presence almost unperceived. Just at the moment when he topped a musical bar with three strong E’s and exclaimed, as if finishing, “I kept in time with them pretty good!” Japan came across with the celebrated refrain “I got my Mojo workin’!” We could hear an excited echo in the Japanese audience’s response. The call was repeated. Japan’s vocalist sang out “I got my Mojo workin’,” and we in Mississippi, in rough unison with the audience in Japan, mimicked in thrilled reply “I got my Mojo workin’.” From that point on we were all engaged in the jam. Hairy Larry changed roles and became our conductor, turning toward us, moving to the edge of his seat, and waving his arms to lead our response. Back and forth, call and response four times in a row, building until the song wound down with the barely audible lament from Japan “but it just don’t work on you.”¹ Hairy Larry finished off the final notes with his harmonica, smiled widely, and remarked, after a pregnant pause during which we could hear only the frantic typing of our technicians, “Well that was fun. Jammin’ with Japan! We got that J thing goin’ on.”

¹ Legendary Bluesman, Muddy Waters, sang the first recorded version of Mojo Workin’ in December 1956 under the aegis of Chess Records. Courtesy of the Blues Archive, University of Mississippi, Oxford, Mississippi.
In Mississippi we broke into a lively discussion about how great the exchange had been. Stuttered applause came through from Tokyo. We clapped in return. “Good job! Let’s do it again!” one person screamed into the mic. Hairy Larry laughed, so delighted with this success. Gradually the energy wound down and the conversation turned to making sense of what had happened. There were comments about the technology, the time difference, and the skill of Japanese Blues men. I mentioned the parallel with the call and response form of traditional African-American music. Hairy Larry jumped in. “It’s the whole basis of the Blues,” he said emphatically, and then reflected, “Yea, that’s right. The call and response work song. … They were coming through and we singing along.”

Indeed Japan was coming through with Mississippi singing along and this three and a half minute moment became one of our most memorable. For us in Mississippi, the jam was like a global explosion of spontaneously synchronized ideas, feelings, and knowledge stretched halfway around the world. For a brief moment, distance had disappeared and though 9:30 on a Sunday morning we were just as surely inside that Tokyo bar at 11:30 that Sunday night. But none of this happened due to the ease of a fluid connection. It was the uncertainty that made this happen and the endeavor to make things clear. It was the creative mental effort of first Hairy Larry and then the entire group as they worked to grasp fully what was coming across the screen. Jamming across the Net meant thinking through a novel

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2 In total there are thirteen sixty-minute digital videotapes that document the global jamming on August 14 and 15, 1999. The recordings document both sides of the exchange, Tokyo and Mississippi, and capture a minimum of two and as many as four different perspectives in both locations at all times during the jam. Unless otherwise noted, all quotations and details in this and later descriptions of the global jams come from these recordings. The wide range, top quality, and thorough detail of these recordings explains how I am able to know most of what was done and said in Japan even though I was in Mississippi at the time. I have the superb students of Keio University (SFC) to thank for that good work.
mix of disembodied faces and discontinuous sounds. It meant guessing the rhythms and words and reacting confidently to play along when these were present and fill in when they disappeared. And it meant an inventive application of local knowledge to make whole the broken messages coming through. Knowledge of the key, musical progression, and participatory nature of "Mojo Workin'" as well as a sense of when and how to coordinate the local group became crucial resources in the success of this event. By inserting themselves into the exchange, Hairy Larry and crew closed the ambiguity, gave meaning to the sounds, and turned the jam into a true collaboration.

In this experience of interaction through the Internet, a distinctive style of communication comes into view. It is a style vitalized by absences in the expected flow of information, by tricks played upon the eyes and ears, and by disruption to the conditioned feel for the timing, pattern, and nuance in a human exchange. Its fundamental energy goes toward negotiating this ambiguity and collaborating to find common points of interest, focus and understanding. Fueled by attributes of the technologies themselves as well as the cultural differences and geographic distances that these technologies bridge, this quality of ambiguity encourages quick, imaginative thinking and makes producers out of participants as they work to sustain a connection with one another. As Internet technology improves, gaps and delays will disappear, diminishing the need for the ingenuity witnessed in Clarksdale. But interaction through the Internet may always generate something new - new versions of old songs, unprecedented global camaraderie, re-makes of shared traditions, new kinds of jokes or words, or even the creation of a global space. For even when audio and video signals flowed perfectly during the jams, the Clarksdale-Tokyo connection
remained full of room to play. So this improvisational tendency is not short-lived, nor is it unique to a global jam. Rather it is something that warrants attention with the increasing use of the Internet as a medium of communication, interaction and collaboration across cultures. The ambiguity pervasive throughout this kind of exchange heightens the role of the imagination not only in the single mind, I contend, but within social and cultural systems as well. The implications, therefore, are broad.

Recall Benedict Anderson’s signal work on the emergence of the concepts of the nation, nationality, and nationalism and the concomitant creation towards the end of the eighteenth-century of the nation-state geopolitical system. Anderson attributes these developments partly to the predominant information technology of the time-printing. The significance of printing technology and with it the printed word, Anderson writes, was that it fostered a new style of imagining the world among even the most ordinary people. This style of imagining helped nurture into being political, economic, social and cultural communities as yet unseen and perhaps undreamt of: the sovereign, geographically distinct nation. Considering Anderson’s work while at the same time examining the Mojo jam prompts the questions: what kind of imagining does the Network foster and what might we create as a result?

3 Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1983). Other prominent scholars corroborate Anderson’s thesis and move it forward. Anthropologist Arjun Appadurai’s numerous studies of late twentieth-century globalization and global culture point to the “historically situated imaginations” of once geographically cohesive but now globally dispersed persons and groups as an important source for understanding contemporary developments between and within economies, cultures and politics worldwide. Echoing both Anderson and Appadurai, sociologist Manuel Castells locates the ingenuity behind our “information age” in the millions of people using the era’s novel technologies, as much as in those who formally make them. At the first annual conference for the Association of Internet Researchers in September 2000, Castells stressed repeatedly that being alert to the resourcefulness of those millions is an astute way of gaining insight into the meanings a technology might assume within whole cultural groups. For full documentation of relevant works by Appadurai and Castells, see notes 6, 11, 12, and 13 below.
Certainly the global Blues jam has its limits as an explanatory model; it cannot be used to identify Network behavior that is common to all. There is likely no such thing. In fact, for the participants in the Tokyo bar, nothing close to a global-scale jam took place during the Mojo song. Far from engaging the Mississippians with the same animated enthusiasm, the Blues men of Tokyo stared impassively at a wall where, via live and life-size images, the Delta’s Blues players once had joined them in the bar. Contrary to expectations and experiences up to that point, however, no one showed up on the wall for this song and Hairy Larry’s harmonica solos sounded more like, in the words of one patron, “a radio breaking down.” The lead guitarist even looked a little bored. While he kept his body turned hopefully toward the wall, his mouth hung open lazily and his eyes were half shut. The main vocalist, too, finally gave up singing at a vacant wall and turned back to his local audience, rousing from them the collective comebacks that Mojo Workin’ needs. Some part of the technology had failed the Tokyo side. The only strong evidence of global contact was Microsoft’s NetMeeting logo and the panicked dialogue in the chat room that linked my two research teams.

Nothing of Mississippi was clearly there for the Japanese. At the same time Hairy Larry reveled in the “J thing” and those with him boasted of “being” in the

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4 My students who worked on the Tokyo side of our global jam projected the video streamed from Mississippi onto a long wall to the front and left of the band. So, for everyone in the Bright Brown Bar, the interface with Mississippi was at eye-level on a wall they commonly faced and with images at least life-size. In addition, the students fed Clarksdale’s audio stream through the bar’s stereo system. This made the sounds from Mississippi much more robust than those which would have come through the computer alone. Had we had the space and equipment in Mississippi, my students and I could have done the same there too, channeling both sights and sounds beyond the limited scale of the computer. As it was, while Clarksdale’s ISP office had the faster Network connection, it had much more meager material surrounds.
Bright Brown Bar, Tokyo’s musicians were not aware of, much less engrossed in, a cross-the-globe exchange. It follows, then, that despite appearances on our screen, there were not really any Japanese jamming with the Clarksdale crowd. They did jam, but they did so locally. Such a stark contrast in the two experiences of the same moments in time, the same connection, and the same activity complicates Mississippi’s sense of the collaboration that occurred. The discrepancies demonstrate quite dramatically that the international intimacy felt by the Mississippi group depended not on the presence of the Japanese, but on their absence. Or rather, the tie derived from digital bits alone, which gave only representations of activity in Japan. In hindsight we know that those representations hid most of Bright Brown from view. And because of this, we also know that the vibrant connection for Mississippi was only in the mind. For Mississippi the Mojo jam was an imagined event.

* * *

Nonetheless what an event it was! Forget the rush of excitement in Clarksdale’s ISP office. The opportunities raised by the dissonance of this jam are in themselves a cause for celebration. The Mojo ironies confront head-on the persistent challenges of culturally divergent perspectives. They inspire serious reflection on the meanings wrapped up in words such as “global” and “real” or even “here” and “there.” And they muddle any attempt to say positively which country had the more genuine global jam. If indeed the absences and tricks of the Network heighten the use of the imagination and increase the need to apply local knowledge to make whole the meaning in the messages we receive, does not this suggest a multiplicity of wholes, each shaped within the histories and cultures of the individuals and
communities involved? If so, it underscores the limitations of the claim that homogenization is the inevitable and invariable twin of globalization. More critically, it illustrates the need for a conceptual approach to global culture that takes heterogeneity as fundamental and organizes its questions around the complexities therein. The Mojo jam makes it clear that improvisation around heterogeneous elements is a genuine possibility for activity on the Net. What is more, improvisation on a sound, image, typescript or movement can come from multiple directions simultaneously. And finally, agents of improvisation are intertwined. Thus they invent around differences that are constantly in flux. To understand how these


6 In *Modernity At Large*, anthropologist Arjun Appadurai states, “the globalization of culture is not the same as its homogenization.” Rather, he explains, “globalization involves the use of a variety of instruments of homogenization (armaments, advertising techniques, language[s] ... and clothing styles) that are absorbed into local political and cultural economies, only to be repatriated as heterogeneous dialogues of national sovereignty, free enterprise, and fundamentalism.” A basic premise of Appadurai’s work in *Modernity At Large* is that theories of global culture and development have been too simplistic to wrestle successfully with the “complex, overlapping, disjunctive order” of the late twentieth century global cultural economy. Appadurai poses as a replacement to the dualistic models of center-periphery, push-pull, surplus-deficit, consumer-producer or homo-hetero a multidimensional theory of global cultural flows that emphasizes increasingly non-isomorphic paths and deep disjunctures between economy, culture, and politics. Arjun Appadurai, *Modernity At Large: The Cultural Dimensions of Globalization* (Minneapolis: University of Minnesota Press, 1996), 42, 32. Appadurai elaborates on these ideas in “Disjuncture and Difference in the Global Culture Economy,” in *Global Culture*, ed. Featherstone (1990), “Sovereignty without territoriality: notes for a postnational geography,” in *The Geography of Identity*, ed. Patricia Yaeger, 40-58 (Ann Arbor, MI: The University of Michigan Press, 1996), “Grassroots Globalization and the Research Imagination,” *Public Culture* 12, no. 1 (2000): 1-19.
shifting positions intersect and the significance of what happens as they do is the primary challenge driving this chapter.

The post-colonial theorist Homi Bhabha reminds us that "cultures are never unitary in themselves." As a basic condition of their existence, they are always intertwined with one another. Cultural theorist Judith Butler agrees, finding in her analysis of gender identity that "the disruption of the Other at the heart of the self is the very condition of that self's possibility." In other words, cultures, like people, define and produce themselves in relation to what they are not. This view on the formation of identity has gained widespread acceptance throughout scholarly communities. Fundamental to Net technology is an interactive capacity and a global expanse. Together, these attributes provide fertile ground for the cultural interconnections that, according to Bhabha, Butler, and other theorists, generate identities into being. Considering this, too few scholars of the Internet have explored in sufficient detail its contours as a medium that links cultures. Anthropologist Arjun Appadurai discusses the Internet in terms of the "communities of interest" that it enables among otherwise "diasporic" people and he introduces ways in which diasporas may change in light of new forms of electronic mediation. As well, throughout his three-volume treatise on The Information Age, sociologist Manuel Castells highlights the capacity of Internet technologies to connect economies,

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7 Homi Bhabha, The Location of Culture (London: Routledge, 1994), 35-36.
10 Appadurai, Modernity at Large, 195.
people, and ideas around the world in novel fashions and with fresh implications. His particular interest is in how these multi-dimensional, cross-cultural connections "specifically [refer] to the emergence of a new social structure." Castells declares that all societies at the turn of the century are living through a "rare interval" in history that is "characterized by the transformation of [their] 'material culture[s]' [via] the works of a new technological paradigm organized around information technologies." 11

Castells' bold endeavor to explicate the appearance of a new social order that he ties, in part, to the Internet's faculties as a cross-cultural channel deserves concerted attention. In his keynote speech at the first annual conference of the Association of Internet Researchers (AOIR) in September 2000, Castells requested that more time be given to research in this area. 12 He also urged that whatever facet of the Internet we choose to study, "we need specificity in our research." 13 The steady outpouring of case studies of Internet experience attests to a general effort to achieve the specificity Castells advised. As for his first appeal, though, attempts to explore the ways that the Internet brings together disparate linguistic, ethnic, racial, and national groups remain few and far between. 14 The subject does appear

12 In his ten-point list of the "lessons of Internet history," Castells lamented the dearth of academic projects aimed at unveiling the multicultural influences on the creation of Net technologies. Castells stated, "It is false that [the Internet] is an American creation." Manuel Castells, keynote address, Association of Internet Researchers, Lawrence, Kansas, September 15, 2000.
13 Manuel Castells, Roundtable Discussion, Association of Internet Researchers, Lawrence, Kansas, September 16, 2000.
14 Note that in Bell and Kennedy, The Cybercultures Reader (2000), the articles that address links across cultures are themed under the term "cybercolonization" which suggests not interaction or heterogeneity but domination and absorption by one (i.e., west/white/center) of another (i.e., east/black/periphery).
peripherally, as a suggestion for future scholarship or as a subdued ingredient of
general discussions on information technology and global change. In addition, an
increasing body of work compares dissimilar geographic, linguistic, cultural and
national groups of Internet users with one another. This work offers invaluable
insight into what makes each people distinct in its relationships with this new
technology, but it does little to investigate the effects of cross-cultural electronic
interaction.\textsuperscript{15}

Perhaps the reason for a general absence of an explicitly cross-cultural focus
in Net research is that there are so few opportunities to actually do this kind of work.
After all, linguistic barriers are high and translation systems immature - if available
at all. Digital divides, governing controls, and other cultural obstacles also get in the
way. Theoretically, though, the Internet is a medium that collapses time and space.
Its technologies not only enable but encourage visual, aural, textual, and even kinetic
interconnections among people scattered all over the world. In this sense, it is a
border space in which diverse cultures can introduce, exchange, negotiate and
collaborate around the wide-ranging values, habits, and ideas they each have. While
this abstract and glowing perspective on the Internet may seem naive or a decade old,
like at the jam in Mississippi, could it also be that if we engage possibility, reality
will unfold? We can only know by assuming the \textit{entire} challenge posed by Manuel
Castells: “seek specificity” in the research that you do, he reiterated numerous times,

\textsuperscript{15} Some of the most cutting-edge conceptual work that examines the Internet as a connecting medium
across and within its abundant and diverse global contexts comes out of the bi-annual international
conference on Cultural Attitudes Towards Technology and Communication (CATaC), 1998, 2000,
and 2002. The expanded versions of 1998 papers can be found in Charles Ess and Fay Sudweeks,
eds., \textit{Culture, Technology, Communication: Towards an Intercultural Global Village} (Albany, NY:
SUNY, 2001). Also see Gail Hawisher and Cynthia Selfe, eds., \textit{Global Literacies and the World-Wide
Web} (London: Routledge, 2000) and \textit{New Media \& Society} 3, no. 3 (2001).
but at the same time recognize that “there are genius intuitions” and “you should not lose those,” but rather follow them in balance with the facts you find.  

Jumping back to Mojo, then, but considering it through the experience of the Japanese in the Bright Brown Bar, the “real” absence of Mississippians from the Mojo exchange meant that a “fictional” presence of Mississippians was maintained. That is, the inability to confirm whom they were jamming with required the Japanese to jam on the faith that their expectations would unfold. Of those expectations, the most basic was that Mississippians were present on the other side. Unable to see or hear them, though, an imagined “other” had to serve in lieu of the Clarksdale people. As Hairy Larry was filling in blanks to construct the Japanese, so too the Japanese filled blanks to produce him. A vast literature in Japan is devoted to the study of Japanese uniqueness. Called Nihonjinron, these “discourses on the Japanese” help disseminate throughout Japan the idea that “cultures possess definable, pure, and uniform essences.” No different from conventional thinking almost anywhere in the world, the premise of this literature is that “there is a genetically determined and therefore immutable, proprietary relationship between race and culture.”  

Color of face and hair match habits of everyday life. The habit at hand in our global jam was a talent for the Blues. Tokyo’s Bluesmen may have been yellow, but their Blues ideal was the color of black. So strong was this ideal that, if “anticipation conjures its object,” as Judith Butler maintains in her studies of gender and culture, then when the Network’s malfunction was corrected and visual data began streaming into the

16 Castells, Roundtable Discussion.
bar, the color of the Mississippians projected on Bright Brown's wall should have been nothing other than black. 18

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But alas, absent as well on this day were any "real" blues players, meaning African-American. At least, black was the imagined color of Delta musicians in the minds of the Japanese in the Bright Brown Bar. As "bluesy" as Hairy Larry was with his bare feet, simple attire, and Southern inflections, he is not African-American. In fact, Hairy Larry is on the lighter side of white. "Ara! Hakujin da na" - "Hey! That's a white guy!" - someone exclaimed when Hairy Larry first appeared on the wall in Bright Brown.

"Eeh?" "Honto?" ("What?" "Really?")
"Deruta deshou?" ("They're in the Delta, right?")
"Okashii na." ("That's strange.")

The surprise reverberated throughout the bar as heads turned for confirmation. "Ah, honto da. ... Jya!" "Oh yea, you're right. ... Well, whatever! Let's get on with the jam!" is the implication of these words. In his discerning study of jazz in Japan, E. Taylor Atkins stresses that "for any Japanese performing or identifying with a musical genre typically characterized as 'black' ... ethnic authenticity and credibility are major issues." 19 Anyone can play the blues, notes Mie Seno, founder and editor of Japan's Blues Market Magazine, but the Japanese presumption is that blues is,

19 Atkins, Blue Nippon, 27.
fundamentally, "a black thing." "Not surprisingly, the best blues is typically thought to be black blues."\(^{20}\)

Hairy Larry did not cut it with the Tokyo crowd. But the surprise at his color underscores the gratification Bright Browners felt when actual black bodies came into view. This happened on the first day of the jam, when five of the six musicians in Mississippi were African-American. The most famous of those musicians was Super Chikan (a.k.a., the Chikan,\(^{21}\) pronounced "chicken"), whom everyone in Bright Brown knew. "Super Chikan is actually there!" a woman screamed from the back of the bar. When Super Chikan leaned into the camera lens and cackled loudly like a chicken, the Japanese roared with laughter and gave a standing ovation. Local Bluesman Razor Blade was also a part of the visual data that streamed into Bright Brown Bar. Grinning mischievously, he sang, "Uuh Huh, Ooh wee wee y'all, Aaw!" as his self-introduction. This electrified the audience in Bright Brown and had nearly every patron yelling for more. "*Hatarake, hatarake! Nanika yatte kudasai yo nanka...*" ("Get to work, get to work! Come on and play something, please?")

"*Nanka yare!*" ("Do something!") "*Buruzuman, [buruzu o] yaro!*" ("Hey Bluesman, play some blues!")

As luck would have it, at just about this moment the audio stream to Mississippi broke apart. So we in Clarksdale decided to disconnect the live exchange and send the Tokyo viewers a video recording of the Chikan’s festival performance.


\(^{21}\) The meaning of "chikan" in the Japanese language is "pervert." It is possible that the association of this meaning with Super Chikan’s name fed the license and sexual innuendo of not only the Kameisaharp Man exchange (explored next), but also the entire jam session that day. The name did raise eyebrows, and a confused or embarrassed silence ensued for most of the Japanese when they saw the name in print. But beyond this - despite the loaded meaning of the word when seen in writing - the Japanese seemed to ignore "chikan" and both see it and read it as "chicken."
the previous day. Thus they got what they wanted – blues performed by a black
Bluesman. Their energy sustained, it was primed to explode when the live
connection resumed and an unforeseen player came on the scene. This was 14-year-
old Kameisa, daughter of a Delta Bluesman known and admired by the Bright
Brown crowd. She is black. The Japanese saw her first in the festival recording. She
was the leader of a small troupe of young girls dancing beside the Chikan on the
stage. Bright Brown was hugely impressed. Two prominent Bluesmen in Japan,
Ishikawa-san and the “Harp Man,” led the chorus of praise for young Kameisa.
“Yeah, yeah!” “Sugoi ne.” “Sugoi na.” (“Great!” “Wow!”) People in the back of
the bar waved their arms and some mimicked the choreography of Kameisa’s dance.

Bright Brown loved Kameisa. So when the two venues reconnected in real-
time, the Japanese were thrilled to discover that Kameisa’s face was the one
projected on the wall. She introduced herself. “Hello my name is Kameisa Carter.
And I play drums, bass, and trumpet and I also dance. I am 14 years old.” “Sugoi
ne” came the reaction. The Harp Man joked, “Sweet sixteen years ando.” “And
never been kissed” was implied, an expression which everyone seemed to know, as
almost everyone laughed. When the Harp Man took the stage, he flirted still more
blatantly. He was the lead singer in the second song performed in the Bright Brown
Bar that day.

Do me a favor?
Keep your business to yourself.
Please, darlin’, do me a favor
Keep your business to yourself.

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22 To protect the identity of this individual, I have changed her name to “Kameisa Carter.”
The Harp Man had chosen a tune in which the singer addresses his lover, urging her to keep their affair undisclosed. Blues musicians always put something of themselves into their renditions of songs, but the Harp Man had taken a step further, assuming the role of choreographer as well as vocalist. Looking straight at the image of Kameisa, the Harp Man belted out these words and added gestures to match. He wagged his finger sternly and shook his head to suggest the gravity of his plea.

Please baby.
Woman, you just keep it to yourself.
Don't you tell nobody
Don't you mention it to nobody else.

The Harp Man’s plea became a demand.

Don’t tell your mother.
Don’t tell your father.
Don’t tell your sister.
Don’t mention to your brother.

Please babe.
Just keep it to yourself.

The singing lecture continued but grew more severe. The Harp Man raised both hands in mock exasperation, singing,

You have a husband.
I have a wife.

His hands came down and one of them waved across his throat like a straightedge razor. The Harp Man warned his secret lover,

You start talkin’ something
Go messin’ up our lives.

Still looking at Kameisa, he concluded the song.

Please baby.
Woman, you just keep it to yourself.
Don’t you tell nobody.

* * *

A true Bluesman indeed. By the end of the performance, the Harp Man had rendered the young woman a gossip, a lover, a liar, and a whore. Yet his choice of song and his play with words simply showed that he knew the Blues and its conventions. Since its beginnings, the male Blues tradition has objectified black women as merely sexual beings. African-American novelist Gayl Jones indicates how strong this ideology is through the voice of her male protagonist in the Blues-based Corregidora: “As long as a woman got a hole,” he explains, “[she] ain’t got nothing to worry about.”

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23 The title of the song from which these lyrics derive is Keep It To Yourself. The probable first “author” of the song is Sonny Boy Williamson (a.k.a., Rice Miller). However, according to curators at the University of Mississippi’s Blues Archive, there is no guarantee that this song was sung by Sonny Boy Williamson. No date or place of an original recording could be found. The Blues Archive’s inability to find complete information about the particular Blues lyrics that the Harp Man chose to sing underscores the African-American oral traditions within which the Blues developed. Most Blues have no original written version and thus no definitive first author. Most Blues share themes, refrains, and rhythms with other Blues. This is not considered copying, but rather an expression of identification with a wider Blues community and culture. For more information on the subject of Blues as an oral tradition, see the works of Angela Davis, Alan Lomax, Hazel Carby, Houston Baker, LeRoi Jones (Amiri Baraka), and William Ferris, among others.


Male musicians at Bright Brown would not say it in the same way, but essentially they would agree. At least, in their personae as self-conscious "Bluesmen" they would agree and as far as they conform to Japan's deep-rooted associations of dark races with sex.26 "I want a sweet little girl that will do anything I say" was the refrain of the first song played in Tokyo. It came just before the Harp Man's performance of the clandestine affair. The third song was even more blunt. A shy, giggly Japanese man played it by sliding a bottle up and down the neck of an acoustic guitar. From its earliest practice in the Mississippi Delta, "bottleneck guitar" has signified the prowess and ingenuity of the Bluesman as well as the poverty and peril endemic to his world. Fueling these connotations were the words of the song itself:

Yea, I feel like stuffin' a pistol in your face.
Yea, feel like stuffin' a pistol in your face.
I'm gonna leave my drink here, woman,
Be at a girl friend's place.27

Participants in both countries laughed at the bold incongruity of this timid Japanese man belting out the meanest, and most misogynous, message yet. But his performance also shocked them. The owner of Bright Brown was even embarrassed. He looked into the camera and apologized, reasoning that his patron had played left-


27 Curators at the Blues Archive, University of Mississippi, could find no recorded song with these exact lyrics. However, they guessed that it derived from Pistol Slapper Blues, first recorded by Blind Boy Fuller in 1938 under the aegis of Document Records.
handed on a right-handed guitar and in addition was completely drunk. "Sono mama hiitan de, honto wa mo chotto umai desu." ("He had to play under these [rough] conditions, so really he’s a little better [than what you heard].")

Besides Super Chikan’s pre-recorded performance, Razor Blade’s “Ooh wee wee y'all,” and Kameisa’s trumpet solo toward the end of the jam, the only song initiated in Mississippi on this day was entitled “My Black Mama.”28 A white male New Yorker chose the song, played it, and sang the refrain.

You take a brownskin woman’ll make a rabbit move to town.
Say, but a jet-black woman’ll make a mule kick his stable down.

His words addressed blatantly the relation between female sexuality and the shades of black skin. Super Chikan and Razor Blade exchanged glances and grinned.

Bluesman Ishikawa-san sat spellbound throughout the song and repeated three times “Shibui na,” which suggests that something is cool in a mature way. At the same time, the Harp Man playfully worried that if Bright Browners only stared the Americans would think that Japanese could not swing to this kind of song. ("Mukou aitsura nori warii na to omotteru yo na.")

All of these songs, and the actions that accompanied them, tap into a deep reservoir of cultural meaning associated with the Blues and the physicality of black women. The Harp Man’s song was only one of many in a similar vein. But it stands out among the others because its performance exposed the mechanics behind the objectification of black women endemic to male Blues and pervasive throughout the cultures of both countries. Kameisa’s body was not just discussed, but seen. The visibility of her body enabled the Harp Man to focus the attention of his audience.

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28 My Black Mama was recorded first by Son House in May 1930 under contract with Document Records. Courtesy of the Blues Archive, University of Mississippi, Oxford, Mississippi.
squarely upon it. He pointed at her, eyed her, threatened her, and claimed her, not as a partner in his jam, but as a sexualized hazard to his own life. With his audience as witness, the Harp Man captured Kameisa into the prison of his own ideas and reaffirmed the degraded status of the black female. Feminist historian Patricia Collins calls this process of looking, accusing, and colonizing “highly visible sexualized racism.” Often gazed upon, the black woman is stopped short of gazing back.\textsuperscript{29} The “gaze” to which this refers is not just a look or stare, but a viewing relationship privileging the perspective of the entity most empowered. As a young black woman raised in a land with echoes of slavery, Kameisa knew well what her actions were supposed to be.

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But Kameisa looked back, not away, flouting the cultural clout that the Harp Man assumed. Critically, the Harp Man saw Kameisa looking back. What is more, in her eyes, facial expressions, and body movements as she looked back, the Harp Man saw himself and his censure of a black female body. No longer only an object looked upon, Kameisa had become a subject looking back. The Harp Man’s own gaze, expressions, and gestures came to mirror those of Kameisa’s on the wall. What the two of them independently saw gradually intertwined. They got tangled in a loop of looking relations. Taking cues from one another, Kameisa and the Harp Man

effectively jammed out obstructions to the circulation of cultural conventions that make the black female body a sex object.

At first, the signals between them moved linearly. The Harp Man performed within the parameters of a deeply entrenched sex-race paradigm. Kameisa looked back into his gaze, thereby breaking a cardinal rule. This caught the Harp Man’s attention and he performed more vigorously, adding gestures with sexual innuendo. Kameisa kept looking, but also flashed an uncomfortable smile and squirmed in her seat. With this the Harp Man knew that Kameisa knew something was up. His audience also started catching on, adding new pathways to the information flow. They laughed at his acting, which encouraged him. He performed more forcefully, including gestures that gave commands. Still looking, Kameisa shifted her weight, smiled shyly, and darted her eyes from screen to camera. The Harp Man raised both hands in mock exasperation. This time Kameisa turned away, not out of shame or fear, but as if to feign nonchalance or perhaps to check if anyone had noticed her intimate link. The audience laughed some more and followed the lines of the gazes back and forth from wall to stage.

Still looking, Kameisa began to nod her head steadily in time with the music’s beat. Both the Harp Man and his audience immediately recognized that Kameisa had joined the game. The Harp Man was performing upon her, but she was performing back. So he puffed up the drama and mimicked the movement of a knife across his throat. Unmoved, Kameisa kept looking and nodding her head. “Ooooh.” The audience let out this slow, embellished response acknowledging, in effect, that Kameisa had not only survived the latest challenge, but increased the stakes. Tension
rose inside the bar. Kameisa had defied all of the main parameters of the Harp Man’s sex-race frame. What the Harp Man was saying and doing appeared more and more absurd. One patron hissed in playful annoyance. Another one booed. The terms of this jam exchange had altered entirely. The Harp Man’s reputation as a leading Bluesman was on the line.

As the song wound down, Kameisa applauded the most generously of anyone in either place. Metaphorically, this delivered the final strike to the ideological model the Harp Man had used. In her influential work on African-American Blues women, cultural historian Hazel Carby concludes, “the physical presence and visual display [of female Blues performers] was a crucial aspect of their power.” 30 Not only were women aware of their objectification on the part of their male peers, but as audience members or performers themselves, they actively engaged in an ongoing dialogue with the Blues community about these gender relationships and their shared African-American lives. Like the experiences of Carby’s Blues women, Kameisa’s own “dialogue” with the Harp Man occurred through her physical presence and visual display.

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Comparisons between Kameisa and Blues women and the Harp Man and Blues men suggest that as Blues people, Kameisa and the Harp Man understood the ideas behind the music and were practiced in the behaviors that matched. But more than this, such comparisons point to the intersections between the Blues and the Internet as two very different, but equally valid information media. This, in turn, is not to imply that there is an absolute correspondence between Blues music and the

30 Carby, “It Jus Be’s Dat Way Sometimes,” 18.
Internet, but rather it is to open for analysis the significance of social, cultural, ideological, and technological mixtures in the work of the Internet. The central premises of *Nihonjinron*, call-and-response patterns in African-American music, the revelry of Bright Brown late at night, behavioral conventions of “highly visible sexualized racism,” linguistic barriers, faulty software, intelligent hardware—all of these elements and more intertwined with the inherent technological capacity of the Internet to interconnect simultaneously a theoretically infinite number of points around the world. This ecology of factors, not simply technological features alone, determined the process, outcome, and meaning of our global Blues jam.  

Hairy Larry’s exposure as a white man highlights a dominant ingredient in the particular Network ecology of the global jam. That is vision. To understand the obstruction of old knowledge that took place between Tokyo and Clarksdale, one must explore the new kind of looking relationships that the Internet affords and the cultural ideologies that are likely to change as a part of this visual structure. Recall that the “gaze” that the Harp Man first employed is “an historical deployment.” It consists of “lines of light and lines of knowledge that are entangled ... with lines of power and subjectivity.” In other words, “vision and knowledge are not simply causally related, but are entangled with each other in the schemas and complexities of specific histories and specific events.”  

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31. This mixture of social, cultural, and technological Network attributes is an on-going theme in Janet Abbate’s work, *Inventing the Internet*. The invention of the Internet, she writes, was “a tale of collaboration and conflict among a remarkable variety of players.” The Internet’s “identity as a communication medium was not inherent in the technology; it was constructed through a series of social choices.” The meaning of the Internet, then, “had to be invented—and constantly reinvented—at the same time as the technology itself.” Janet Abbate, *Inventing the Internet* (Cambridge: MIT Press, 1999), 3-6.

applied in his interactions with Kameisa situates an object to be looked at and acted upon. It is unidirectional and tied to particular patterns of thinking about hierarchies of race and sex. Yet, the visual structure that the Network presented and that he actually experienced was reciprocal. Instead of the panoptical power and authority that the Harp Man expected, the reciprocal viewing structure interrupted and destabilized his vantage point, putting him into the picture and, via the eyes of Kameisa, making him an object of his own gaze. What became apparent to the Harp Man via Kameisa’s look were the specificities of his own position and the inevitable restrictions to his point of view. The visual mutuality of the jam forced him to stop, think, and look again.

Manuel Castells states that “what characterizes the current technological revolution is not the centrality of knowledge and information, but the application of such knowledge and information to knowledge generation and information processing. [There is] a cumulative feedback loop between innovation and the uses of innovation.” The “logic” of the Network, Castells explains, is “the immediate application to its own development of technologies it generates.”

The Kameisa-Harp Man jam – as well as the Mojo jam and most every other jam moment over the two days – demonstrated this loop of innovation in process. Kameisa and the Harp Man did not generate material technologies, but they did generate cultural technologies, and with these new uses of material information technologies.

Kameisa had pushed the boundaries of black female marginality in the Japanese

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33 Castells, The Information Age, 1: 32-34.
context. The Harp Man’s only choices were to continue with his viewing habits in isolation of his local audience or to apply his new awareness and work with Kameisa and his audience to negotiate a new understanding of her relationship vis-à-vis the Japanese in the Bright Brown Bar.

By the end of the jam, Kameisa had become Bright Brown’s welcome authority on contemporary African-American music and film. She had also become a translator into slow, clear English of the many comments and questions by Bluesman Razor Blade. In addition, the owner of Bright Brown had extended to Kameisa a sincere invitation to come to Japan as a Blues dance instructor. Along with this invitation came cheers of encouragement from everyone in the bar, including the Harp Man, and a group shout “We love you!” as the cameras were closing down. The Harp Man’s choice, then, is obvious. He had reconsidered the ideological lens through which he viewed Kameisa. By the end of the jam, the Bright Brown audience and its musicians had not only accepted Kameisa as an active participant in the jam, they had gone so far as to redraw their cultural boundaries and include Kameisa – and her black skin – in the “in-group” of Bright Brown.

* * *

The significance of this change in Kameisa’s status vis-à-vis the Japanese group can hardly be exaggerated. Japan historian John G. Russell argues, “the tendency to dehumanize and belittle blacks disguises another tendency, [which is] to employ the Black Other as a reflexive symbol through which Japanese attempt [to] deal with their own ambiguous racio-cultural status in a Eurocentric world.” Japanese images of blacks, Russell continues, are “inextricably linked to Japan’s
unequal relationship with the West.” The Black Other gives the Japanese a way to “reappraise their status vis-à-vis whites and the symbolic power ... they are seen to represent.” In other words, blackness “is employed as a category mediating White Otherness and Japanese Selfhood.”35 Even more clearly stated: kept at arm’s length, blacks make Japanese feel more like whites.

But what happens if blacks disappear? They can be imagined into being, but visual exposure can challenge even that. Destabilized, what becomes of the relationship between the Other and the Self? To survive, Judith Butler contends, it must be reenacted over and over again, with the line between the two deeply underscored. Ironically, disruptive Internet technologies simultaneously infuse new dynamics into relationships while also demanding their reenactments of the status quo. In the history of the Internet in the U.S. and Japan, this dance of possibility and expectation is a constant. The U.S. and Japan generate one another into being in their dealings with the Internet.

CHAPTER 2

RAZOR BLADE’S RIDDLE:

CAN CODE CARRY CULTURE?

Razor Blade (in Mississippi): My name is Razor Lee Blade. My dad's name is Butcher Knife. ... I don't speaka no English. I mean, no Japanese. Uunh hunh, ooh wee wee y'awll. Aaw!


Jam participant in Mississippi: (To Razor Blade) Do it again! Do it a couple of times!

Razor Blade: Uunh hunh, ooh wee wee y'awll. Aaw!

Jam participant in Mississippi: Try and translate that!

Razor Blade: Get it? That's my thing, "Uunh hunh." It's patented, now. You got to leave it in Jay-pan -- that's where you're at ain't it?

- Razor Blade's self-introduction at the August 14, 1999 Internet Blues Jam

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1 See footnote two in Chapter One for an explanation of the research material that I gathered from the August 1999 Internet Blues Jams. Unless otherwise noted, all quotations and details in this and later descriptions of the jams come from the digital video recordings that constitute the bulk of that material. Except for the public stage names of professional Blues performers, all names of jam participants have been changed to protect identities. Footnote citations of individual performers include public stage names (e.g., Razor Blade), but do not reveal official full names.
During the Internet Blues jams in 1999, Razor Blade, the Clarksdale, Mississippi Bluesman with the trademark growl, underscored more plainly than anyone else the potential for cross-cultural interaction through the Internet to encourage critical thinking about one's own and other cultures. Like the Harp Man's, Razor Blade's antics signified long-held conventions in the Blues and deep-rooted ideas about Blues people. But like Kameisa, Razor Blade responded to the music he heard from Tokyo's Bright Brown Bar and the Japanese he saw on the screen before him in a manner unexpected to jam participants in both Japan and the United States. Rather than sing "authentic black man's Blues," as the Japanese especially wanted, or try to play in sync with Tokyo's band, as the Americans liked to do, Razor Blade instead sat down in front of the camera with questions about Japan, the Japanese, and their love of the Blues. His questions, taken together, explored two basic problems: what role does nationality play in one's ability to learn the Blues (or any "type of culture"), and does the Internet do anything to affect this? No clear answers emerged for Razor Blade, but his probing mind steered that day's jam in fascinating

2 "Unh hunh," for example, has a long history in the stories passed down through African American communities in the American south. Whether Razor Blade intends to evoke that history or not, his signature groan plainly recalls it. In her 1935 collection of African American stories and oral histories, Zora Neale Hurston records "how the devil coined [the] word" "unh hunh" when he kidnapped some angels from heaven to get more labor in hell. As Hurston tells it, the devil had a mouth full of angels and was "flyin' low over de earth lookin' for a place to land. A man saw him and said 'Ole Devil, Ah see you got a load of angels. Is you goin' back for mo'?" Devil opened his mouth and tol' 'im, 'yeah,' and all de li'l angels flew out of his mouf and went on back to Heben. ... So [the Devil] went back after another load. He was flyin' low agin and de same man seen him and says, 'Ole Devil, Ah see you got another load uh angels.' Devil nodded his head and said 'unh hunh,' and dat's why we say it today." See Zora Neale Hurston, Mules and Men (Philadelphia: J.P. Lippincott, 1935; New York: Harper Perennial, 1990), 160-61. Razor Blade's name, as well, suggests the danger, violence, and desperation often associated with the Blues. At the same time, in the humorous ways he and others use it, the name "Razor Blade" also connotes the playfulness and mischief of the "signifying" practices inherent to the Blues. See Chapter One for more discussion of the relation between Blues and African American communication practices called "signifying," and the relation of both of these to the Internet Blues Jams.

3 Seno, interview, 1998 (see chap. 1, n. 20). See also Atkins, Blue Nippon and the discussion in Chapter One of Japanese and American expectations of the Internet jams.
directions. For a short time, Razor Blade successfully shifted the focus of the jam away from the Blues toward impressively broad questions about national identity, the relation between that identity and one’s capacity to understand a “foreign” culture, and the significance of the Internet, if any, as a channel for sharing culture across national borders.

My academic summary of Razor Blade’s interests pales in comparison to the beauty of his own words. His inquisitive reaction to the jam and his persistence despite the more popular desire to perform the Blues was striking. Razor Blade’s concerns and the way he presented them provide a bridge from my analysis of the Internet Blues Jams to a broader investigation of the development of the Internet in the two countries that participated in the jams, the United States and Japan. In trying to understand “how ... Blues here [is] different from Blues there,” Razor Blade also wondered if “our computer might be different from their computer, [and if so,] is what’s comin’ through their computer the same as what’s comin’ through ours?” The answer to his query – if based solely on our Internet jams – is unequivocally “no.” What Japanese and Americans saw was at times wildly different. After all, for much of the Mojo song, Bright Browners had to imagine the Mississippian into being. But Razor Blade’s question, seen in the context of his others, demands a broader application. He cared less about the jams and more about the way a distinctive form of cultural expression like the Blues might appear and develop when not in its native milieu, in particular if transmitted through an electronic medium not identical on either end. Razor Blade’s thoughts went beyond the musical exchange to interrogate the medium that carried it and the people and cultures that engaged it. For
Razor Blade, the computer was a malleable thing – as much a cultural product, he presumed, as the Blues itself.

The first section of this chapter presents Razor Blade’s ideas and questions during the Internet jam in 1999. His comments anticipate my two major topics. First I explore the technologies that constitute the Internet. I consider the Internet’s similarities with other communication media and I investigate its differences, asking what, if anything, makes the Internet unique. In the latter half of the chapter, I offer a comparative historical analysis of the Internet’s development in Japan and the United States. Examining the differences and similarities between the Internet’s expansions in the two countries offers insight into the strengths and weakness of the common claim that the Internet is an “American” technology that inevitably spreads “American” values and culture. I argue that though in some fundamental ways this claim is correct, in other more important ways the claim is badly flawed. Indeed, many aspects of Internet technologies and Internet cultures in Japan would be unrecognizable to most American eyes.

Razor Blade did not arrive at the jam planning to question his Tokyo peers. In fact, he did not understand clearly that Blues performers and fans in Tokyo would be “present” at the Internet jam until after observing the first few minutes. Razor Blade had not imagined the three main components of the jam – the Internet, Japanese in Japan, and Mississippians in Mississippi – as simultaneously interacting and contingent. As indicated through a “Survey of Internet Use” which we collected from jam participants...
stood at the back of the small crowd in Mississippi and until the latter half of the jam contributed little beyond the self-introduction excerpted above. What caught and kept Razor Blade's attention – eventually drawing him to the chair closest to the computer – was his initial disbelief that the people on the screen were actually Japanese, in Japan, and singing Blues. Razor Blade’s joke that his growl was patented also revealed his uncertainty over just who it was he had shared that patent with. “You got to leave [my uunh hunh] in Jay-pan,” he said to the pixeled faces, and then questioned them, “that’s where you're at ain’t it?” First in whispers with his American friends – “They’re in Japan, right?” “That’s Tokyo?” – and later directly with the Japanese, Razor Blade strove to verify the identity of his digital peers and comprehend just how it was that Japanese in Japan could be singing the Blues with Mississippians in Mississippi.

At first it was less the technological novelty that intrigued Razor Blade than the simple fact that Japanese people could sing the Blues, much less support a dedicated Blues bar. Razor Blade’s assumptions about who could play the Blues were as spectacularly challenged that day as Bright Browners’ expectations that Hairy Larry was black or the Harp Man’s sexist notions that Kameisa should avert his gaze. Astounded after the shy Tokyo Bluesman played the bottleneck version of one of Son House’s roughest tunes, Razor Blade asked incredulously, “Is he

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in both countries, Razor Blade’s understanding of the Internet prior to the jam was minimal. Though he had known of the Internet and had a very open mind toward the technology, our jam was one of Razor Blade’s first exposures to the Internet. (Razor Blade, Survey of Internet Use, Clarksdale, Mississippi, August 14, 1999.) This was true of many of the Clarksdale locals. Fourteen-year-old Kameisa was the most Internet savvy of the local residents present with Razor Blade on the first day of jamming, August 14, 1999. The surveys on Internet use indicate that, in general, Mississippians knew less about the Internet than did the Japanese. In total, I collected twenty-two surveys from jam participants – nine in Mississippi and thirteen in Tokyo – on individual Internet use and understanding prior to the jam events.
Japanese?" "Yeah, he’s Japanese," my Japanese student assured him. Not convinced, indeed as if he needed confirmation from a local that a foreigner could play the music of the most legendary Mississippi Bluesman, Razor Blade turned to Kameisa’s mother, Gwendolyn Carter, who sat next to him.

Razor Blade: He’s doing great! For him to be ... He’s Japanese, right?
Gwendolyn: He’s Japanese. He’s doin’ good.
Razor Blade: For Japanese he’s doing great!
Gwendolyn: We gotta realize he’s not from the United States.
Razor Blade: Wonder how I would be tryin’ to learn some of their culture.
Gwendolyn: For him not to be a United States citizen, he’s doin’ good! You play some Japanese ...
Razor Blade: I’d like to see what I’d be like trying to play some Japanese! ... But I bet we’d have a good time.
Gwendolyn: Mmmhmmm.

Once Razor Blade accepted that Japanese could play the Blues and do so in Japan, he wanted to know why, “as Japanese,” they would want to do so (“What to them is so special about this type of culture?”) and how, “as Japanese,” they had learned.

Razor Blade: How do they ... as Japanese, how do, ... how does he adapt, how long does it take them to adapt to this type of culture? [And] how did they adapt to play as well as they did for this type of music?
Emcee in Mississippi: Who do you want to ask?
Razor Blade: That guy that just played ... all of them. All the band, too. ... Oh, and, I have another question. Ask ‘em how do they think Blues here [is] different from Blues there."
Gwendolyn: It’s gotta be different.

5 To protect the identity of this individual, I have changed her name to Gwendolyn Carter.
Razor Blade: *Japan's* different! ... [Blues] is somethin' that grows in you, you don't have to [try to learn it]. But not bein' in the United States ...

Gwendolyn: Born with it in the bones, we were born with it in our bones.

Razor Blade: How they learned somethin' that I was born and raised with ... ain't no way it's not different. ... But [they look like] they're havin' the time of their life.

Tokyo participants took six years to learn the music, they responded, and it was easy for them to adapt to "Delta Blues culture" because they themselves were "country."

Razor Blade: Oh yea? He's a country man?

Gwendolyn: Tell him to keep lovin' the Blues!

Emcee in Tokyo: *Soro, soro* ... (Well, maybe we should start wrapping things up.)

Razor Blade pressed on, despite emcees' attempts to draw the jam to a close.

Razor Blade: But I bet it'd be less [than six years] with the computer. ... Ask them if they think I can learn their culture in about six years.

Gwendolyn: You can learn how to ... say 'hello'! You can learn *that* in six years!

Razor Blade: If our computer's not like ... Our computer might be different from their computer, [so] is what's comin' through *their* computer the same as what's comin' through *ours?*

Jam participant in MS: Better just to do it the old fashioned way.

Razor Blade: Their music might be more like the United States if it came through this computer, but more like Japan if it goes through theirs. Does it, ... we need to know do all these wires honestly carry our type of culture and their type of culture?

Gwendolyn: The computers aren't gonna be any different.
Jam participant in MS: And anyway! You’re not gonna be learnin’ Japan’s music, so [it doesn’t matter]!

Razor Blade: ... I doubt we’d be havin’ this entire conversation if we were all in Tokyo!

Jam participant in MS: Yea this is o.k. but I think there’s no substitute for goin’ and face-to-face contact.

Were Razor Blade not a Bluesman, he could easily become an academic. He moves from disbelief and amazement over the nationality and location of his Blues jam partners to determined attention to the cultural processes through which the jam was taking place. His questions were not naïve. Razor Blade sensed that there was more to the jam than the jam itself. He confidently shared his thoughts, and in doing so, led his peers to reflect momentarily on their own culture, and on their shared backgrounds as Blues people. Razor Blade raised the intellectual bar even higher by considering the computer – by which he meant the amalgam of technologies in front of him, e.g., the Internet – as something that, like music, could be culturally informed.\(^6\) Japan’s Internet might be different from the United States’ Internet, Razor Blade mused, and if it was, then figuring out how Japan’s Blues were different from the United States’ Blues would have to include a look at the computer – at least, if the computer was the medium through which the Blues moved.

\(^6\) For lack of a more accurate term, Razor Blade used the word “computer” to refer to the technologies enabling the global connection he was experiencing – a kind of connection and experience that even now (four years later) is hard to label precisely with one word or simple phrase. Most commonly, a real time, interactive, multimedia connection between two separate groups over the Internet is called an “Internet video conference.” But this term is anachronistic and imprecise. The jam was not a conference, video was only one of several media, and the forms of communication between Japan and the United States were much more multi-faceted and uninhibited than those implied by the standard name. It is interesting that there is no generic way to classify our Internet jams. This indicates to me that the use of the Internet to achieve multi-sensory real time interactive connections between people located in different geographic places is limited and still novel, and that, like Razor Blade, few can conceptualize such connections without firsthand experience.
the Internet, everywhere the same, Kameisa’s mother contended. Certainly, then, she implied, what we send is what they receive – it is Japanese people that change our culture, not the computers that transmit it. Can the “wires” of the Internet “honestly” carry American culture to Japan (or, Japanese culture to the United States), as Razor Blade asked? Absolutely, Gwendolyn would answer. Yes, but not unadulterated, Razor Blade would respond, because the Internet is a cultural item, too, shaped within the countries it resides.

Razor Blade’s mind continued to spin in interesting directions, and his very last comment before the session had to end underscored yet another puzzle. “I doubt we’d be havin’ this entire conversation if we were all in Tokyo!” he said with a satisfied sigh. While in part a statement of closure, the remark also invites the question, “Well, why not? Why wouldn’t they talk about these issues in Tokyo?” Would there be no need for a discussion about differences if the jam session had occurred in the same place with no Internet mediation? Rather than talking through interpreters, would musicians only play? Something about the Internet, Razor Blade suggests, is going to make a jam different than it otherwise might be. The medium matters in Razor Blade’s view. As much as the content it carries and the people it serves, the channel we use to convey our ideas helps to shape their significance once received. This chapter picks up where Razor Blade left off. It asks why the Internet matters, whether the Internet is a cultural product, and if the Internet’s code can carry national culture. These questions are intertwined and each encompasses related

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7 Also informing my analysis of Razor Blade’s ideas and questions at the jam is a personal interview that I conducted with Razor Blade by phone in November 2000 and two surveys that he completed in August 1999 regarding his knowledge and experience of the Blues and the Internet. Razor Blade, phone interview with author, 5 November 2000, Razor Blade, Universally Blues Survey, Clarksdale, Mississippi, August 14, 1999, and Razor Blade, Survey of Internet Use.
issues. All of them I explore in the context of a wider, comparative analysis of the histories of the Internet in the U.S. and Japan.

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If we apply the "lessons" of the Internet Blues jams in Chapter One, then the absence at a more traditional jam event of the "entire conversation" that Razor Blade inspired would result, at least in part, from an absence of the ambiguities characteristic of Internet communication across cultures, languages, and time zones. The global jam moments that I examined demonstrated that ambiguity is routine in cross-cultural network interaction and that its ubiquity encourages imaginative thinking like Razor Blade's. One could argue, however, that regardless of the situation or media through which they move, human interactions are fraught with gaps in understanding and most exchanges involve efforts to fill these holes. The literature is vast, for example, challenging the common notion that mass media merely feed ideas rock-solid into the public mind. Roland Barthes' intimation that the author had died—an idea that would become a central tenet in post-structuralist thinking—unleashed increasing doubt about the control texts have over the messages they convey.8 The individual writer (or speaker, painter, musician, carpenter) is a socially and historically constituted subject, Barthes argued, whose products are not self-determined and intentions never wholly fulfilled. Every text has traces of multiple authors and there is room in any text for multiple readings. Michel Foucault, Stanley Fish, Raymond Williams, and other scholars followed Barthes, making it clear theoretically that readers are also writers and any text unfolds as a collective

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production of an author's intentions, a reader's response, and the material contexts surrounding them both.9

Applying these conceptual turns to systematic studies of two popular media forms, Janice Radway and Henry Jenkins have questioned the association of reading or viewing with passivity. In her celebrated study of Harlequin Romance readers, Radway concludes that rather than merely an escape into fantasy, “[romance reading] can be conceived as an activity of mild protest” against the stultifying categories of patriarchal culture. Readers engage texts with “imaginative opposition,” Radway contends, and in this way they gain “a strategy” for making their actual lives more fulfilling.10 Jenkins’ *Textual Poachers* demonstrates a similar sense of empowerment felt by the fans of television series. But Jenkins steps beyond private experience to reveal television fans as active producers and skilled manipulators of program meanings. Borrowing materials from popular shows such as *Star Trek*, *Twin Peaks*, or *Beauty and the Beast*, fans create zines, folk songs, or videos and construct for themselves “alternative social communities.”11 So the information conveyed through familiar media too, people engage creatively, applying their own knowledge, ideas, and expectations as they incorporate this information into their lives.

How, then, are my findings any different? Does one move through a novel any less imaginatively than one moves through the Net? Are the gaps in a television

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series more or less evocative than the gaps in a global jam? Messages are porous, regardless of their form. Yet it is the form that shapes the message, at least to some extent. Harlequin Romance in a paperback cover is much more controlled on audiotape – even the most advanced digital technologies offer no aural equivalent to the visual and tactile experience of skimming and the resulting ability of readers to assess, in mere seconds, a book’s plot, thesis, or outcome or find, by flipping pages, its steamiest romance scenes. Likewise, DVD Star Trek at an IMAC theatre provides material unnoticed on the nineteen-inch screen. H. G. Wells’ The War of the Worlds (1898) provoked mass panic only when Orson Welles dramatized it for radio in 1938. Such simple examples make it easy to argue that media shape messages through the scale, pace, and pattern they introduce into human affairs. Marshall McLuhan’s 1964 classic, Understanding Media, featured this point and suggested that an overemphasis on the content of media had blinded individuals to the character of media themselves. “The electric light escapes attention,” he writes, “till [it] is used to spell out some brand name.” Meanwhile, unnoticed before our very eyes, electric light had “eliminated time and space factors in human association” and effected a revolution in the organization of everyday life. Likewise the wheel introduced speed which fostered extension, separation, and specialization in space, print encouraged uniformity and continuity, creating nations, and the telephone elevated the authority of knowledge over the authority of command.

Such conceptual pronouncements are normal fare in McLuhan’s work. Though some have not withstood the test of time, collectively they demonstrate that

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the use of any new medium alters the patterns of interdependence among people and
the speed and scale at which these patterns unfold. New media stress the routine of
life. My findings about the role of the Internet in shaping the global Blues jams are
significant less for the gaps and creativity per se and more for the fact that these
features accompany one of the latest media to press upon human affairs.

So what scale, pace, and pattern might the Internet bring anew? Can we speak
about the Internet with the same breadth that McLuhan used to describe the wheel,
the printing press, or electricity? Of course we cannot, one simple reason being that
we do not have McLuhan's advantage of historical perspective. But more incisively,
we cannot because the fate of a technology is not determined upon its creation. The
Chinese invented the printing press as early as 600 AD, but it was not until 1455 that
this press made possible the mass production of text. Alexander Graham Bell's initial
design for a hearing aid became the patent for a telephone in 1876. Marconi's
wireless two-way telephone of 1895 transformed within a decade into the one-way
radio we know today. And the Internet itself has shifted directions already several
times. Most dramatic, as I explore below, is the accidental "discovery" of email and
the consequent shift in the very theory and practice of networking. Also striking is
the advent in selected countries of a "Mobile Internet" which not only may turn into

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13 See Tom Standage, The Victorian Internet: The Remarkable Story of the Telegraph and the
Ruling the Waves: Cycles of Discovery, Chaos, and Wealth from the Compass to the Internet (New
(Cambridge: Harvard University Press, 1998), and James Brook and Iain A. Boal, eds., Resisting the
Virtual Life: The Culture and Politics of Information (San Francisco: City Lights, 1995).
an entirely new medium, but also is making possible certain kinds of human actions (sometimes called “smart mob” capabilities) not viable before.\textsuperscript{14}

Media historian Paul Levinson calls this tendency “evolution by misadventure” and stresses that “to the degree that the consequences of these, like all technologies, are unintended, we can expect little guidance from their inventors and purveyors.”\textsuperscript{15} Levinson’s broader point is that the most valued functions of a technological invention, the manner of its incorporation into individual lives, and the ripples the technology may send through a society are not immediately evident because what ultimately decides the trajectory of an innovation is a multifarious mix of cultural, social, economic, and biological as well as technological factors. The relative insignificance of printing in seventh century China, for instance, had far more to do with centuries old socio-political philosophies manifest in institutional mores and an ideographic writing system than with the technology of printing per se.\textsuperscript{16} Likewise printing in fifteenth century Europe caught fire through the harmonious fit of the technology, the phonetic alphabet, and the impending crises of authority attending the Protestant Reformation.\textsuperscript{17} Technologies feed and are fed by the cultural matrixes through which they move. The character and degree of each ingredient comprising the milieu of a technology shift regularly and make complex any effort to project the full significance an invention brings to the world.

\textsuperscript{16} O’Donnell, \textit{Avatars of the Word} and Levinson, \textit{The Soft Edge}.
\textsuperscript{17} Ibid.
Nonetheless, a technology's evolution is not haphazard. The Internet's development, for example, has been meticulously guided and controlled in key ways, not without success. And its core technologies, commonly known as its "code layer," have attributes and effects that are the same in whatever capacity they are used. The code layer makes the Internet the Internet, and understanding it provides insight into why the Internet matters. In an address on the "lessons of Internet history," sociologist Manuel Castells included as number two out of ten the tendency for those who study society and culture "to forget the actual technology" and fail to notice that "the open architecture of the Internet is key."18 Lawyer and legal scholar Lawrence Lessig has highlighted the importance of the network's open architecture repeatedly and passionately, arguing that there is a link "between [the] structures of code and the world this code enables." Lessig notes that "selections about code are ... in part selection[s] about who, what, and ... what ways of life" will be valued.19 It is the Internet's open code, ultimately, that enabled Mississippi and Tokyo locals to jam through the sundry mix of hardware and software that they did. So, despite the "evolution by misadventure" that does characterize some aspects of the Internet's development, there are components that, if not changed, all but guarantee certain outcomes.

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18 Castells, keynote address (see chap. 1, n. 12). The italics reflect the emphasis that Castells himself gave to these words in his spoken address. See also Manuel Castells, The Internet Galaxy: Reflections on the Internet, Business, and Society (London: Oxford, 2002).
The ultimate source of information on Internet code is a collection of ideas, proposals, and reports called the "RFC series." RFC stands for "Request for Comments," and is the name for technical and organizational notes about the Internet written and used by network engineers. Documents in the RFC series are informal, and, as their name suggests, they lend themselves to feedback, debate, and revision. Engineer Steve Crocker, at the time a UCLA graduate student, wrote the first RFC in 1969, coining the name and style of what has become the Internet technical community's document standard. While an "RFC Editor" does regulate RFC publication, there are no restrictions limiting who can read or respond to RFCs. The database is open — available for anyone to peruse and critique. This is one part of what is meant by "open code." One can learn how the Internet is constructed — one can learn its code — by studying the RFC series, and this series is accessible to all.

But there are aspects of the code itself that are "open." One such open element includes the concept of "distribution." A basic feature of the Internet is its distributed nature. A distributed network differs from other networks such as centralized or decentralized in the arrangement of its internal structure. Figures 1, 2, and 3 on the

20 In RFC 3, entitled "Documentation Conventions," Crocker explained what an RFC should be:

The content of [an RFC] may be any thought, suggestion, etc. related to the HOST software or other aspect of the network. Notes are encouraged to be timely rather than polished. Philosophical positions without examples or other specifics, specific suggestions or implementation techniques without introductory or background explication, and explicit questions without any attempted answers are all acceptable. The minimum length for a NWG note is one sentence.

These standards (or lack of them) are stated explicitly for two reasons. First, there is a tendency to view a written statement as ipso facto authoritative, and we hope to promote the exchange and discussion of considerably less than authoritative ideas. Second, there is a natural hesitancy to publish something unpolished, and we hope to ease this inhibition.

Steve Crocker, Documentation Conventions, RFC 003, Network Working Group, UCLA, April 1969.
next page diagram these three different kinds of networks: centralized, decentralized, and distributed.  

A centralized network is hierarchical and controlled. It consists of a single center – a center, hub, or host of power – to which radial nodes are attached. The hub of a centralized network is connected to all of its satellite nodes, but each satellite node connects only to the center and never to a peer. The centralized network in Figure 1 demonstrates that “You” (a satellite) have only one route to contact “Me” (another satellite), and that route leads “You” through the central hub. The American judicial system and Delta Airline’s flight paths are concrete examples of centralized networks. A decentralized network, on the other hand, has multiple points of power, each with its own set of satellite branches. No one hub of power controls all the others. Radial nodes may connect with more than one hub, but they cannot connect directly with one another. Figure 2 shows a decentralized network. “You” have more than one way to reach “Me” in this diagram and “You” do not have to travel through one hub only. “You” have a choice of hubs through which to travel in order to meet “Me.” So, the pathway from “You” to “Me” in a decentralized network is more flexible and less hierarchical than in a centralized network, and it allows for diversity of content. But the downside of a decentralized network is that “You” are required to go through intermediary hubs in order to reach “Me.” While less inflexible than in a centralized system, the paths available to interconnect in the decentralized arrangement are also limited. The overall airline system – centralized branches Delta,  

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Figure 1

Three Types of Networks

A. Centralized Network

B. Decentralized Network

C. Distributed Network
United, American Air, and others included – is a good example of a decentralized network, as is the governing structure of the United States.

The widest array of opportunities for “You” to reach “Me” is going to be found in a distributed network (Figure 3). Each node, corner, or turning point in the diagram in Figure 3 is neither a central hub nor a satellite node. In addition, each point may establish direct communication with any other point in the network without having to appeal to an intermediary or higher authority. In a distributed network, “You” may contact “Me” directly via one of multiple path combinations.

This kind of network, writes protocol specialist Eric Hall, has “intelligent end-point systems that are self-deterministic.” Distributed networks, of which the Internet is the most prominent example, are acentered and nonhierarchical. They are not directional nor confined, but adaptable and expansive. Distributed networks shun central bureaucracy and vertical hierarchy, but embrace autonomous actors and action. Another existing distributed network besides the Internet is the Dwight D. Eisenhower System of Interstate and Defense Highways, better known as the interstate highway system. Interstate highways lack centralized hubs, instead offering direct links from city to city through a variety of road combinations. Routes are not preordained, and if one road is closed, another will suffice. The distributed network is the most flexible of the three networks, and is by far the most user-friendly.

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It is telling that both the Internet and the U.S. Interstate Highway system were developed in the same time period and for generally the same reason—to facilitate mobility and communication in case of war. The Internet was built to provide a communications system that would withstand nuclear attack. It was designed as a solution to the vulnerability of the United States military’s centralized system of command and control during the late 1950s and beyond. No central command centers meant no central targets and a reduction in overall damage upon attack. “If nuclear war is the most highly energetic, dominating, and centralized force that we know,” media historian Alexander Galloway writes, “then the Internet is at once the non-solution to and inversion of this massive material threat—it is precisely non-centralized, non-dominating, and non-hostile.”

The institutional origins of the Internet reside in ARPANET, “a computer network established by the Advanced Research Projects Agency (ARPA) in September 1969.” Under the auspices of the Eisenhower administration, the United States Defense Department created ARPA in 1958. Following the Soviet Union’s successful launch of Sputnik the year before, the Pentagon assigned ARPA the task of mobilizing the United States’ scientific research resources around the development of “technological military superiority over the Soviet Union.” Initially ARPANET was a minor program in a relatively minor ARPA department, the Information Processing Techniques Office (IPTO). “As defined by its first director, Joseph Licklider, a psychologist turned computer scientist at the Massachusetts Institute of Technology (MIT),” the department’s mission was to “stimulate research

26 Castells, The Internet Galaxy, 10.
27 Ibid.
in interactive computing.” IPTO justified the building of ARPANET as a way to research, and then improve time-sharing between the computers, computer centers, and research groups working for ARPA.

To construct its interactive computer network, “IPTO relied on a revolutionary telecommunications transmission technology” called packet switching. “Developed independently by Paul Baran at Rand Corporation (a California think-tank often working for the Pentagon) and by Donald Davies at the British National Physical Laboratory,” packet-switching technology is precisely what enabled distributed information networks. Rather than sending messages whole, as does a telephone line, packet-switching technology divides messages into smaller segments called “packets,” sends each packet independently to its destination, and then reassembles the packets into one “whole” message once they all reach a shared destination. The first nodes of ARPANET in 1969 included the University of California, Los Angeles, SRI (Stanford Research Institute), the University of California, Santa Barbara, and the University of Utah. By 1971, “there were fifteen nodes, most of them university research centers.” Bolt, Beranek and Newman (BBN), a Boston engineering firm founded by MIT professors and “usually staffed by MIT and Harvard scientists and engineers” implemented the design of ARPANET. The first successful demonstration of the network took place in 1972 at an international conference in Washington, D.C.

28 Ibid.
29 See Abbate, Inventing the Internet, Castells, The Internet Galaxy, and Hafner and Lyon, Wizards.
30 Castells, The Internet Galaxy, 10.
31 Ibid.
32 Ibid., 11.
33 Ibid.
34 Ibid.
A primary reason that ARPA’s packet-based distributed network ultimately succeeded was because of a family of codes, also called protocols, known as TCP/IP. Transmission Control Protocol (TCP) and Internet Protocol (IP) are the leading codes for the actual transmission of data from one computer to another over the network. TCP and IP work together to establish connections between computers and move data packets effectively through those connections. Because of the way TCP/IP was designed, any computer on the network can talk to any other computer, resulting in a nonhierarchical, peer-to-peer relationship.\(^{35}\) This is yet another reason that the Internet’s code is called “open.” As Hall’s technical manual puts it: “IP uses an anarchic and highly distributed model, with every device being an equal peer to every other device on the global Internet.”\(^{36}\)

TCP/IP, then, represents heterogeneity among networks. It is needed as a common language between points in a distributed network that are not necessarily the same and that do not have to move through centralized hubs. TCP/IP, along with packet-switching and the distributed networks that both of these technologies enabled are the core attributes of the Internet that do not change no matter where the Internet goes.

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The Internet was born in the United States “at the unlikely intersection” of scientific advance, military research, and a culture valuing individual freedom as a supreme value.\(^{37}\) “Major research universities and defense-related think-tanks were

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\(^{35}\) See Galloway and Castells, 26-7, 38.

\(^{36}\) Hall, *Internet Core Protocols*, 407.

\(^{37}\) Castells, 17.
essential" conduits for "these three sources of the Internet."\textsuperscript{38} In Japan, the situation was much different. The origins of the Internet in Japan were much more anti-establishment and individually inspired.\textsuperscript{39} True, had the United States not felt threatened by the Soviet Union after Sputnik and used its post-war riches to fund the Pentagon's research, perhaps Japan would not have the Internet it has today. So in its ties to twentieth-century U.S. economic and military might, the beginnings of the Internet in Japan conformed to the most powerful establishment of all. But in terms of Japan's own national experience and the predominant social structures and cultural values of the country at the time, the dawn of the Internet in Japan was anything but institutional. In fact, its first appearance was illegal, and its "criminal" debut has become a symbol in Japan – positive for most, negative for some – of daring, independence, and individuality.

Unofficially and through an event not widely documented, Japan's network appeared in 1980. As in the United States, a graduate student launched the network; unlike in the United States, the student had no organizational support, nor authorization. That student was Jun Murai, who at the time was earning a Masters degree in computer science from Keio University in Tokyo. Murai crawled into one of the university's drainpipes and connected two computers to a telephone line. He succeeded in getting the machines to exchange information, thereby networking the

\textsuperscript{38} Ibid.

\textsuperscript{39} In an early academic essay comparing aspects of the Internet's development in the U.S. and Japan, Reiko Mashima and Katsuya Hirose commented: "While in the U.S. the Internet was originally a government system that was later opened to research institutions and then to the general public, in Japan the Internet has developed primarily through a grass-roots movement." Reiko Mashima and Katsuya Hirose, "From Dial-A-Porn to Cyberporn: Approaches to and Limitation of Regulation in the United States and Japan," in "Emerging Law on the Electronic Frontier," ed. Anne Wells Branscomb, special issue, \textit{Journal of Computer Mediated Communication}, 2, no. 2 (September 1996).
computers.\textsuperscript{40} Nothing immediately came of Murai’s achievement because, in 1980, Japan’s government-owned, monopoly telecommunications provider, Japan Telephone and Telegraph Corporation (JTTC), forbade the use of its equipment and technology for anything other than JTTC purposes. Connecting “foreign” objects to the nationalized phone line was against the law. Five years later the law changed.\textsuperscript{41} Jun Murai’s first-hand experience, plus his continued studies as a computer engineer, placed him at the forefront of Japanese efforts to make new uses of a deregulated communication system.

That a graduate student in his twenties could be at the forefront of a major transition in a core national resource is incomprehensible to most. Japan in the 1980’s was very wealthy. The country was riding a wave of prosperity as many years long as Murai was old.\textsuperscript{42} The contrast between the rising per capita riches of Japan’s mid-twentieth century and the sacrifice and poverty endemic to the decade spent preparing for, executing, and badly losing World War II was stark. The different Japans produced different Japanese. Murai grew up during the years of his country’s most aggressive postwar growth (mid-1950s to the early 1970s), and he came of age just as Japan entered one of the most affluent decades (the 1980s) any country has ever seen.\textsuperscript{43} Japan’s young adults had lifestyle options in the 1980s that their


\textsuperscript{42} Murai was born in 1955.

\textsuperscript{43} Japan’s swift rise from postwar devastation to economic superpower was one of the more surprising and impressive turns in twentieth century world history. Many have called it an “economic miracle” and vigorous debate persists among economists and political scientists over the reasons for Japan’s success. From 1954 to 1958, Japan’s Gross National Product (GNP) grew at an average rate of 7.0 percent per year. From 1959 to 1968, GNP growth accelerated steadily, reaching an average of 10.9
forbearers could hardly imagine. They were far more independent in thought and action than previous generations and could afford to take paths less traveled.⁴⁴

Jun Murai epitomized the free spirit and inventive outlook encouraged by the heady growth of a wealthy Japan. Not only was his personal life trajectory atypical (he took six years for college, started a business, traveled abroad, and played in a band while most of his male contemporaries graduated from college in four years, joined an established company, and spent the remainder of their careers climbing to its top), his approach to computer science also differed from most.⁴⁵ Murai saw what

percent annually. Between 1969 and 1973, GNP settled at 9.6 percent. In contrast, after an early postwar surge (9.3 percent GDP growth through 1954), West Germany's growth slowed to 6.6 percent per year in the late 1950s, 5.0 percent between 1960 and 1965, and 4.7 percent during the years 1965-70. Not only did Japan make the stronger and more durable recovery after World War II than other defeated nations, but it also survived the "oil shocks" of 1973 and 1979 in tact and with the ability to reduce costs, lower consumption, develop new products, and expand exports in the 1980s. Japan's accomplishments in these decades mystified other nations and would become "the stuff of economic legend." John McCreery, *Japanese Consumer Behavior: From Worker Bees to Wary Shoppers* (Honolulu: University of Hawai'i Press, 2000), 18. Ezra Vogel's best selling 1979 publication, *Japan As Number One: Lessons for America* (Tokyo: Tuttle), helped to remove lingering doubts among leading national economies — namely the United States — that "Japan Inc." was a power to be reckoned with.


The GNP statistics above come from the United Nations Statistics Division; however, I got them from McCreery's first chapter in *Japanese Consumer Behavior*, "Material Conditions," pages 14-29. In this chapter, McCreery has an outstanding summary of Japan's overall economic conditions from the war to the present day and he does an excellent job of synthesizing the latest scholarship on the social, cultural, political, and economic factors that fed Japan's postwar success.

could be in the realm of communication technology and took risks to make it happen.

"On any list of people who’ve influenced Japan’s Internet development," writes California-based technology correspondent, Dan Gilmore, [Jun Murai’s] name almost always comes first. In fact, Murai is widely known as the “father” of the Internet in Japan. On some levels, it is hard to debate this clichéd moniker. Murai has been a leading source of energy, brains, and inspiration to Japan’s network enthusiasts since his student days and he deserves credit for encouraging and enabling ordinary Japanese to use the new technology. He has attained celebrity status in Japan, and more than one network specialist abroad has said that “Jun is it, he is [Japan’s Internet].” Yet, attributing such a complex and dynamic

(Sampson) studies of the typical life and career choices of Japanese men. Also see Ezra F. Vogel, Japan’s New Middle Class: The Salary Man and His Family in a Tokyo Suburb (Berkeley: University of California Press, 1963) for an early model of postwar Japanese “life course studies.”


Scott Bradner, Harvard University’s technical security director and a long-term and active contributor to the world’s chief Internet standards body, the Internet Engineering Task Force (IETF), said to me at the Internet Society conference in July 2000 that “it’s impossible not to run across Jun Murai if you are involved in the Internet in Japan. Because Jun is it, he is [Japan’s Internet].” Scott Bradner, in discussion with author, July 19, 2000.


Finally, though not having exhausted relevant sources by any means, two of the earliest and well-known U.S. writers on the cultural aspects of the Internet, Howard Rheingold and Carl Malamud, call Jun Murai the “Internet Samurai” and “one of the most distinguished researchers in the Internet community.” See Howard Rheingold, “Rheingoldian Roadshows: Tokyo Wired,” August 1995,
technological transformation to one person is misleading. As we have seen in the collective manner of the Internet’s design in the United States, the Internet is not a monolithic entity. It is and always has been the work of many hands, and Japan is no exception in this respect. Like they did in the United States, the technologies of the Internet encouraged—even required—participation and cooperation among many in Japan, in a non-hierarchical and decentralized fashion.

The establishment and growth of the first official (and more-or-less legal) network in Japan is the prime example of the collaborative manner in which the Internet emerged. Hideyuki Tokuda, a few years older than Murai and also a Keio alumnus, remembers when, in 1984, he, Murai, and several friends “were installing the cables by ourselves” for a network that would link three universities: Keio, the University of Tokyo, and the Tokyo Institute of Technology. This three-node network system, Tokuda said, “was the origin” of Japan’s Internet. Tokuda attributes the initiative of JUNET—the Japan University Network as it came to be called—to Jun Murai, who “wanted to exercise [the grassroots Unix-based] software” that was at that time rapidly interconnecting U.S. college campuses. But

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49 Hideyuki Tokuda (provost, Keio University), interview by author, July 13, 2000.

50 Tokuda, interview. In my interview with Professor Tokuda, he poked fun at Jun Murai, as many have, about the eponymous name of Japan’s first network. “So [Murai] created something called the JUNET, Japan University Network,” he said, “or Jun’s Network, or whatever you like to call it.” Tokuda’s remark—“or whatever you like to call it”—refers to still lingering confusion over the actual meaning of the acronym JUNET. There are three names routinely assigned to JUNET: (1) Japan Unix Network, which my research indicates was the original meaning of JUNET as it emphasizes the software used; (2) Japan University Network, the name most people use today and the term that became more accurate as the three-node network expanded among universities and as other networks using Unix software emerged in Japan; and (3) Jun’s Net, a name that would eventually help to
he credits the labor and commitment behind JUNET more widely to a group of pioneering students and recent graduates whose enduring professional relationships with one another, as much as anything, would encourage the Internet to root deeply in Japan.51

Still operating ahead of and in violation of telecommunications law, which would not privatize JCCT and deregulate Japan’s telephone communications until April 1985, this small group of young engineers “scammed” a phone line from university administrators, connected two modems, and then launched JUNET, the computer network that would, within a year, link Japan to the global Internet.52 Tokuda recalls that obtaining permission to use the phone line was the first “major hurdle” in establishing the network and is notable for its bureaucratic rather than technical nature.53 An independent, external phone line that did not have to pass through the internal campus operator was essential for exchanging digital packets, Tokuda explained. Yet, exceptions to the rules — no matter if technologically driven — threatened routine order. Murai had already strained that order by abandoning the discussions of senior researchers on “how to take advantage of deregulation” and instead embarking on his own to install an actual network.54 “‘I was young,’” Murai has said, “‘and [discussion] was boring .... What I wanted was to have a network, to

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51 Mashima and Hirose, cited in n.30 above, agree, writing of the Internet’s origins in Japan, “A scholar with the passion of a classic hacker [Jun Murai] connected the information systems of three universities in 1984. The system then gradually expanded through the experiments of various enthusiasts.” Mashima and Hirose, “From Dial-A-Porn to Cyberporn,” Journal of Computer Mediated Communication; brackets mine.

52 Malamud, Internet Travelogue. The Japanese government turned JTTC (Japan Telephone and Telegraph Corporation) into the now well-known private company, Nippon Telegraph and Telephone, or NTT, in April 1985. See Funk, The Mobile Internet and Sakaguchi, “Accessing the Japanese Internet.”

53 Tokuda, interview.

54 Malamud, Internet Travelogue.
do actual operation and development, so that we could find out what the problems related to computers and communications were, then solve them.”

Murai’s aggressive style paid off. JUNET “proved immediately popular with Japanese academics starved for e-mail.” Researchers could “all of a sudden” create newsgroups and exchange ideas “any time,” Tokuda remembers, just as they had experienced or heard about in the United States. “It [was] ... like network democracy started,” he said, and “people were very happy.” At the same time, however, the unregulated use of still nationally owned phone lines upset high-ranking technocrats. JUNET challenged the centralized nature of the telecommunications industry. Some felt that it offended the honor of the corporate culture that had transformed Japan in the 1950s, 60s, and 70s into the world’s second largest economy and, many believed, its “most perfect modern industrial society.” Thus the first decade of the Internet’s appearance in Japan saw an unrelenting succession of “really nasty” battles, notes prominent network activist, Izumi Aizu, between people and groups whose visions of Japan’s future were strongly opposed.

Likening conditions to “a head-on collision of two cultures,” a 1994 *Wired* magazine feature on Japan’s Internet expansion

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56 Ibid.
57 Tokuda, interview.
58 Sakaiya, *What Comes Next*, as presented in McCreery, *Japanese Consumer Behavior*, 25. Japan’s rise from defeat to prosperity was led by a core of centralized institutions from government, industry, and finance that harnessed the energy and loyalty of Japan’s people through guaranteed lifetime employment and a pay scale based on seniority. This system encouraged fidelity to corporate ideals and discouraged independent thinking and acting. (See notes 34, 35, and 36 above for additional literature regarding Japan’s postwar social structure.) Japanese who came of age in the 1970s and 1980s, though their privileges were based on Japan’s corporate success, would cause this system to begin to crack through lifestyle choices (such as using vacation time, not joining colleagues for drinks after work, or even, in the case of the JUNET founders, launching projects without institutional backing) that did not conform to corporate preferences.
59 Izumi Aizu (principal, Asia Network Research), interview with author, June 3, 2000. Aizu went on to say about these battles that “Jun [Murai] has a positive character and doesn’t really indicate how bad the fighting was ... Credit was not given, names were necessarily excluded when credit for work was given, and so on.”
characterized its first decade as a showdown between technology pioneers and stodgy bureaucrats. "The freewheeling, democratic style of the Internet," the writer informs, "has run smack into traditional Japan at its most authoritarian."\(^{60}\) A defining characteristic of the Internet's early years in Japan, and one that would have a lasting impact on the shape of the Japanese Internet, Japan's network founders would have to struggle more often with bureaucratic and political tangles than technical puzzles.

One struggle they did not have was building relationships with network researchers overseas. From the beginning, global connectivity — in technological as well as professional terms — was a basic operating principle of JUNET.\(^ {61}\) In this respect, Hideyuki Tokuda was vital to the introduction of the Internet in Japan. Tokuda received his Ph.D. at the University of Waterloo, Canada, and his first job was as an assistant professor of computer science at Carnegie Mellon University (CMU) in Pittsburgh, Pennsylvania. Tokuda, who had studied at Keio for his BA and MA degrees, became JUNET's point person in the United States. Connected to ARPANET in 1971, Carnegie Mellon was one of the first fifteen nodes on the exclusive U.S. network, enabling Tokuda to operate at the center of the most cutting edge research in computer networks.\(^ {62}\) Tokuda provided the software from CMU for JUNET's first newsgroups, and in 1985, from his office in Pittsburgh to Murai's in


Tokyo, he exchanged the first network packets to connect Japan internationally.\(^63\)

The same year that Tokuda joined the CMU faculty — 1983 — ARPANET split into two networks, one military and another academic, and it adopted the TCP/IP protocols for internetworking. Tokuda’s work at CMU enabled him to obtain, in 1985, the software necessary to run Japan’s network using TCP/IP code (rather than using only Unix, which did not interconnect different networks). With TCP/IP, JUNET could connect to any network in the world that was also TCP/IP enabled. TCP/IP made JUNET truly global.

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These momentous occasions in the history of Japan’s Internet would mean little if the Japanese had not been able to use their written language online. The academic debates, bureaucratic battles, and technical challenges involved in enabling Japanese people to use Japanese characters to communicate, and yet still be participants on the global Internet, are indicative of the Internet’s significance to Japanese society, and of the influence Japan has had on the rest of the global Net. From the beginning, Japan’s technical establishment opposed JUNET because it did not follow conventional Japanese paths. It did not, for example, wait to achieve agreement among all interested parties before acting. It did not enable centralized monitoring. Its founders did not defer to seniority. And perhaps worst of all from the perspective of its adversaries, it sought to be unconditionally global. The Internet

\(^63\) Tokuda, interview. Of the packet exchange, Tokuda said: “I do remember when the first packet came from his office and my office. We were doing chat – the talk command, [writing] ‘Wow, unbelievable! 190 milliseconds! Can you imagine?’ We were sending [chat] like that.” Tokuda also told stories of significant historical moments, such as the Challenger explosion in 1986, that are associated in his memory with the earliest use, between his office and Murai’s, of JUNET’s international network connections.
challenged what it meant to be “Japanese.” It opened Japan further to the world and presented greater choices. “Who are we as Japanese” was the question at the core of discussions and debates about the appropriate development and use of the Internet in Japan. To those more conventional in 1984, Jun Murai and Japan’s University Network were not being “Japanese.” They are “‘naïve guys,’” one rival would say years later, “‘they don’t know how to play the game in their own country.’”\footnote{Johnstone, “Wiring Japan,” 42.} The Internet became an instrument of identity in Japan, for its producers and users, both.

The accusations that Murai was not adequately “Japanese” are ironic, because it was Murai who developed the code that enabled Japanese people to read and write Japanese characters online. In doing so, he asserted the importance of a Japanese presence on the global Internet and reaffirmed the value of Japanese ideas and experiences for the world. When JUNET began, international communications had to be in English or romanized Japanese. As relatively few JUNET users could write quickly and fluently in English or with roman letters, Japan gained a reputation as a “black hole” of information, with a lot flowing in but very little flowing out. Though it would seem that the Japanese had nothing to say, what actually caused their reticence on the Internet was a technical bias in favor of romantic languages, especially English. The standard text code that was adopted for the Internet was the code that the United States used in all of its computer programs: American Standard Code for Information Interchange (ASCII). ASCII code, however, could not accommodate such complex written languages as Japanese or Chinese because of the large number of character combinations needed to write these languages. ASCII code allowed for 256 character combinations, which is plenty for English letters and
punctuation. But when writing modern Japanese (which consists of three distinct written languages: hiragana, katakana, and the Chinese characters called kanji), no less than 7,000 character combinations are commonly used. Inherently through one of its basic protocols, the global Internet as designed by U.S. defense researchers excluded the exchange of information and ideas by most of the world’s languages.65

JUNET researchers quickly saw in the number (too few) and type (foreign educated) of people using their network that the linguistic imperialism of ASCII code could imperil Japanese computer communications. Murai and his colleagues reacted by creating a language code (officially identified as JIS X0202) that was at once interoperable with the international standard, ASCII, and at the same time capable of carrying most of the Japanese character combinations.66 Once Japanese researchers could communicate easily with one another in Japanese through JUNET, “then boom,” Tokuda recalls, the amount of public traffic, as well as JUNET membership, soared.67

Japanese traffic on the Internet increased so dramatically with the advent of JIS X0202 that a non-Japanese participant complained at a conference in 1989 that the increased traffic in public newsgroups was all in Japanese and had excluded those not practiced with the language. Murai replied to this comment, “‘Ah, but we have done our part in making it accessible. Learning Japanese is still up to you.’”68 Murai was in no way a pushover in the face of the linguistic biases embedded in

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65 Shapard, “Islands in the (Data)Stream,” 247. Also see Nanette Gottlieb, Word-Processing Technology in Japan: Kanji and the Keyboard (Richmond, United Kingdom: Curzon Press, 2000) and Sakaguchi, “Accessing the Japanese Internet.”
66 JIS stands for Japanese Industrial Standard.
67 Tokuda, interview.
68 Shapard, “Islands in the (Data)Stream, 260.
Internet technology. While he did not disregard JUNET's basic principle of global connectivity, he also refused to conform to what he saw as an egregious prejudice inherent in the technology. Instead, he upped the ante, pioneering the use of an international standard in the Japanese context, while at the same time introducing that context to the rest of the online world.

In contrast to Murai and JUNET, the Japanese government and individual computer makers and software developers in Japan shied away from collaborating with international standards. Paradoxically this made them victims of the ASCII bias. The Japanese government remained committed to a computer standard for Japanese characters that it had defined in 1983 – JIS C6226, a code with character combinations too numerous for ASCII-based machines. Hardware and software companies, on the other hand, each created their own variations of text code. None of these codes were easily interoperable with one another or with ASCII text. Neither the government nor the companies considered the situation in non-proprietary, global terms. 69

Jeffrey Shapard, an early student of the Internet in Japan, characterized the resulting inability of average computer users to interact outside of their local networks as "the Dejima Syndrome." Dejima refers to an island in southern Japan, which from 1641 to 1856 was the only place in the country open to foreigners and the only place closed to most Japanese. Shapard writes, "In a way that resonates strangely with history, the Japanese language and the prevalence of character codes incompatible with international standards results in a new kind of natural seclusion" 69

for contemporary Japanese.\(^{70}\) Differences in languages and the character codes
eeded to support them on a global network was an issue that demanded broad and
swift attention, JUNET operators perceived. Otherwise, the linguistic biases of
ASCII code could too easily infuse the new technology with cultural biases and
national prejudices, thus destroying the inclusive character of the Internet as well as
distancing non-English speakers (and non-Americans) from an increasingly
important global cite of information exchange and knowledge creation.

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Since 1984, the Internet has advanced tremendously in Japan. By September
1998, there were more than eighteen million web pages in Japan, increased from ten
million just seven months earlier. Japan’s Ministry of Posts and Telecommunications
estimates that eighteen million pages is equivalent to thirty-six billion Japanese
characters, which exceeds the total number of characters published in conventional
Japanese newspapers and magazines in a year.\(^{71}\) By the late 1990s, Japanese had
increased to become the second most widely used language on the Internet after
English. And by March 2001 there were 36.94 million wireless Internet users in
Japan, a four-fold increase over one year prior. By April 2002, that figure grew to
almost seventy million.\(^{72}\)

But the Internet in Japan has advanced in a manner unlike that in most other
countries. Rather than adopt personal computers as their primary interface with the
Internet, Japanese have chosen mobile phones as their preferred entrée onto the

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\(^{70}\) Shapard, “Islands in the (Data)Stream,” 255.

\(^{71}\) Ministry of Posts and Telecommunications, *Tsushin Hakusho* (White Paper on Communications)

\(^{72}\) Nanette Gottlieb and Mark McClelland, eds., *Japanese Cybercultures* (New York: Routledge,
2003), 5.
global network. This choice reflects the significance of the Internet as a means of self-expression for Japanese and the assertion of individuality. The “mobile Internet,” while a much more advanced suite of technologies than those that fueled JUNET, accords with the design principles of Japan’s first network and the independent, globally aware, yet faithfully “Japanese” working styles of JUNET’s producers.

The most obvious reasons for the success of the mobile Internet in Japan are first, the lack of space for desktop, and even laptop, computers in the average home, and second, the high “mobility” rate of Japanese people themselves on a daily basis and in public places, such as trains, buses, and subways. Japanese telecommunications firms, in particular NTT DoCoMo (a subsidiary of Nippon Telephone and Telegraph), have fueled the popularity of the mobile Internet by implementing business plans based specifically on the expected or imagined profiles of new users and new uses, rather than, as North American and European companies initially did, on existing research data of current or former users. Affordable prices for cell phones are also clear reasons that a mobile Internet has flourished in Japan. Either through their own or their parents’ means, teenagers can now attain the hardware necessary to get themselves online. By spring 2001, 90 percent of Tokyo-

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73 See John Beck and Mitchell Wade, eds., DoCoMo: Japan’s Wireless Tsunami (New York: AMACOM Books, 2002), Jeffrey L. Funk, Mobile Disruption: The Technologies and Applications Driving the Mobile Internet (Hoboken, New Jersey: Wiley, 2004), Funk, The Mobile Internet, and WuDunn, “Forced to Compete in Wireless Technology, Japan Becomes a Global Power,” and Rheingold, Smart Mobs, 7-12. These and other scholars argue that NTT DoCoMo’s success and leadership in Japan’s cell phone market is due in large part to a decision to hire someone from outside of NTT culture and the engineering community to design the ideal device for wireless Internet service. DoCoMo hired a woman, Mari Matsunaga, whose specialty was launching magazines, but who was computer and Internet illiterate. NTT DoCoMo bet rightly that Matsunaga’s fresh and initially uninformed perspective would generate a product popular with everyday Japanese. See Mari Matsunaga, The Birth of i-mode (Singapore: Chuang Yi Publishing Pte Lt, 2001).
area high school students possessed a mobile phone, a technology diffusion that exceeds the adoption of the personal computer in Japan in both rate and scope.  

Yet, there are more subtle motivations for a movable, miniaturized network interface. Hideyuki Tokuda explained the overwhelming preference for mobile networking (e.g., using the Internet through a hand-held portable cell phone) in Japan by first explaining the meaning of the Japanese word “information.” Of the two kanji characters in “joho,” which together stand for “information,” the second, “ho” indicates concrete, factual news, such as the cancellation of a meeting or the prediction of rain. The first character in joho, however, has subjective, emotional content, such as “oh, too bad, I don’t like to hear that.” The presence of the way a person feels about the data being conveyed in the very word or grammatical structure through which he or she conveys it is a characteristic of information exchange in Japan. As such, mechanisms that enable the more subjective “jo” in joho to come across when communicating facts are likely to be much more successful communication tools in Japanese society.

Numerous aspects of the mobile phone enable joho exchange as opposed to merely information exchange. Some are clearly evident, some less so. The intimacy of the tiny device – approximately three inches by one inch as opposed to the ten-by-ten size of a small laptop – makes it like clothing. “It’s [a] very private, very personal item,” Tokuda said, “like … your watch or your shoes.” You can take it anywhere; it is a part of you. Like other personal items, the mobile phone is easily

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75 Tokuda, interview.  
76 Ibid.
made more personal. Users can download their favorite music directly onto their phones, include in their exchanges drawings of how they feel or what they mean, or precede each email with images of themselves and where they are. Japanese cell phones come in multiple colors, and brand name accessories and clothes are designed to match them. This kind of a device, and this kind of marketing, argues Larissa Hjorth in her essay “Cute@keitai.com,” has caught on in Japan because the cell phones give people a better way to express their individuality than do communication devices such as desktop or laptop computers or land-locked home phones. People are “happy to present a tiny difference,” Tokuda said. “[Japanese] are so homogenous,” he continued, that something as trivial as a bar of music “can show you my identity. I like this music and, hey, it is different from you guys.” The cell phone gives one a personal tool to announce very publicly, but without disturbing anyone against her will, who they are, what they are like, and why they are significant.

Not only do Japanese users access the Internet more through mobile phones than through mobile or stationary computers when compared to Internet users in other countries, they also utilize their phones in different ways. Increasingly, and especially among young people, mobile phones in Japan are used less for talking and more for “texting.” Talking is oral, texting is written. Texting entails using the phone’s keyboard (and one’s thumbs and fingers) to communicate. Even more than music or color, texting greatly personalizes an already personal item. Besides

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77 Larissa Hjorth, “Cute@keitai.com,” in Japanese Cybercultures, 50-59.
78 Tokuda, interview.
enabling communication to take place anytime, anywhere, and with anyone without disturbing those around you (texting is silent), texting enables a more finessed and precise transfer of joho and expression of self. This is because message size must be limited on a cell phone, usually to 250 characters per message. This brevity fits Japanese habits of communication, even when communication happens face-to-face. The Japanese language uses few words to express many things simultaneously, and gesture and intonation are equally or more important than words. As such, Japanese people have adapted very quickly to cell phone text communication. Rather than the verbosity encouraged on a large blank screen, succinctness, precision, and clear subtleties are admired.

Paradoxically, given the ASCII prejudice that early networkers had to face, not only have Japanese warmed to text-based phone communication, but also – much like JUNET researchers’ response to ASCII code’s roman language bias, Hairy Larry’s improvisation on an imagined Mojo jam, or Henry Jenkins’ textual poachers – they have engaged the technology creatively and through texting have invented new words, new meanings of old words, new grammatical structures, new language characters, and new concepts – some of which have moved into mainstream society, others which serve to separate “insiders” who know the texting world from “outsiders” who do not. Anthropologist Mizuko Ito, a specialist on cell phone use in Japan, believes that the portability and text capacity of mobile phones have triggered an “intergenerational power shift” in Japan. They have freed young people, she contends, from “the tyranny of the landline shared by inquisitive family members, creating a space for private communication and an agency that alters possibilities for

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80 See, for example, Ben-Ari, et al, Unwrapping Japan.
social action.” For Ito, Tokuda, Hjorth and many other scholars of the Internet in Japan, the story of the mobile Internet is also a story of the growing experience, appreciation, and significance of the individual in Japan and his or her independent actions and expressions.

While text messaging and its creative results are common in every country with mobile phones, John Beck and Mitchell Wade’s study of NTT DoCoMo, by far Japan’s most successful cell phone company, finds that Japanese users employ text applications at a much higher rate and volume than their overseas counterparts. At the same time, because kanji characters require twice as much computing capacity and screen space as the roman alphabet, Japanese users of one-inch wide phones have had to be extraordinarily clever in matching characters to meaning. 39 is widely known now as “thank you.” 83 88951 means “Hurry up, I’m waiting!” Depending on the previous message sent or received, “saaaaa, nanka” can have an array of meanings: “this class is so boring, why the heck did I even take it,” “uurrgh, I’m in another traffic jam, this always happens to me,” or, with a smiley-face emoticon at the end [: )], “wow, why do I deserve your great kindness.” 85 The term kogaru, while initially denoting a fashion style of teenage girls (ko means “little one” and garu is the Japanized version of “girl”), has come to refer as well to a predominant

81 Ito, “Mobile Phones.”
82 Beck and Wade, DoCoMo.
84 88951 in Japanese reads “hachi, hachi, kyu, go, ichi” if the numbers are read in isolation. If these particular numbers form phrases, however, they read “ha-ya-ku-ko-i.” Hayaku means hurry. Koi means come. So 88951 literally means “come quickly.” See Sugimoto and Levin, “Multiple Literacies and Multimedia,” 138.
kind of texting vocabulary on the mobile Internet. Implied in the word *kogaru* are the
speech patterns of Japan’s teenage girls—middle characters in compound words are
often dropped, with the first and last characters moved together to form entirely new
words. *Totemo kawaii desune* (A very pretty [little girl], isn’t she?) becomes *Cho kawa* (Extreme pre) and *Aah, sore wa subarashii* (Oh, that is wonderful!) becomes *sbashi*. *Kogaru* words and other texting innovations move from text to speech
rapidly in Japanese society. So, not only have those who text forged a new and
exclusive place of communication and independence and produced a language to
accompany, strengthen, and signify that place. Through the spread of their language
patterns, they also have moved the habits and values of their mobile network
community into mainstream Japanese practice and inadvertently reinforced a late-
twentieth-century shift in Japanese society toward the acceptance and perceived
worthiness of independent thought and action and a heightened sense of self. Jun
Murai’s crawl through the drainpipe certainly anticipated the challenge to convention
that the mobile network would bring.

The list of playful and inventive literacy practices on mobile phones is
enormous, and no doubt distinctive for each country. No non-Japanese speaker
tapping into the Japanese Internet would be able to decipher 88951, 39, saaaaaa,
*nanka, cho kawa*, or even 0298, which simply means “butcher.”\(^{86}\) Texters in Japan
were a familiar site long before they appeared in other countries, and their practices
contributed to Internet scholars, engineers, companies, and consumers who sought to
think or act ahead of their contemporaries. Heads down and thumbs moving rapidly

\(^{86}\) Sugimoto and Levin, “Multiple Literacies and Multimedia,” 138.
while they walk, sit, or stand, Japan’s texters have earned the collective label oyayubisoku, or “the thumb tribe.”

Inspired by a trip to Tokyo in 2000 – specifically to the “most mobile-phone-dense neighborhood in the world,” the Shibuya station crosswalk, where 1,500 people cross from eight different directions every time the lights turn and eighty percent of them carry a cell phone, Howard Rheingold launched a study of these thumb tribes.\(^8^7\) A prolific and prescient writer on the state of Internet technologies around the world, Rheingold calls oyayubisoku “smart mobs” because they “consist of people who are able to act in concert even if they don’t know each other.”\(^8^8\) The individuals who compose smart mobs cooperate in ways never before possible because their mobile phones possess both communication and computing capabilities. Not only can a texter communicate with anyone anywhere, without those in close proximity comprehending if he prefers, a texter can also connect his mobile phone with other information devices in the environment – such as microchips in cars, clothing, or buildings. A handheld communication device, in other words, enables its user to interconnect tangible objects, material places, and physical people in her daily life with online content and processes.\(^8^9\) Japan’s mobile phones have allowed Japanese users to coordinate action simultaneously with others around the world and people nearby – a development reminiscent of JUNET’s insistence on global and domestic interoperability. As a thumb in a tribe or brain in a mob, those using mobile Internet phones are gaining new forms of social power,

\(^8^7\) Rheingold, *Smart Mobs*, xiii. 2. Rheingold notes in his footnotes (page 217, n. 1) that on average 190,000 people traverse the Shibuya Crossing on weekdays and 250,000 people cross it on weekends. 
\(^8^8\) Ibid., xii.
\(^8^9\) Rheingold predicts that cell phones will become unrecognizable as such and “mutate into wearable remote-control devices for the physical world.” Ibid.
Rheingold argues. Unlike the wired, stationary, or disconnected, they can organize
their interactions and exchanges “just in time and just in place.”

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Just what does this mean for Japan? Does it mean anything different for
Japan than for those countries just beginning to experience the smart mob
phenomenon? Razor Blade wondered if the Blues music of an online jam would be
affected by the origin of the wires and computers through which it traveled. “We
need to know,” he said, “do all these wires honestly carry our type of culture,” or
even, he continued, “[Japan’s] type of culture?” Many have wondered the same thing
in different contexts. Because the Internet was conceptualized, designed, constructed,
and first deployed from within the heart of the American military, is it the latest form
of U.S. imperial power? Is the culture of its youthful creators permanently embedded
in its code? Has the corporate capital behind its dramatic growth left a permanent
mark? In other words, can code carry culture, and if it can, to what extent does it do
so “honestly” as Razor Blade put it – without adulteration from the wires, distances,
or speeds?

Code can and does carry culture. The decision to build a distributed network
was driven by the United States’ desire to remain the unthreatened leader of the
world. That cultural (in the broadest sense) motivation preceded technical
knowledge. The technical product reflects a nation’s disposition at a certain point in
time. The question then becomes, how significant to the people who eventually use a

90 Ibid., xiii.
91 The smart mobs of teenage American girls reported to be “stalking” Great Britain’s Prince William
in spring 2004 is good evidence of the global spread of thumb tribes. Weekend Edition, National
technology is the cultural milieu in which that technology was formed? Must China, France, India, or Peru follow in America’s footsteps if they fully embrace an American-made Net? Will Iran, Korea, or Israel become more like Japan because they copy its code for writing non-roman script? Because the mobile cultural style of Japanese people has deeply influenced the contemporary direction of the Internet’s development, does that mean it will also affect the actual people and cultures who use the Net?

Such questions are themselves problematic to the extent that they presume a linear, cause and effect relationship between different cultures and between culture and technology. But these are the questions that have been asked, discussed, and debated first and foremost by cultural critics, politicians, and government and business leaders around the world. There is embedded in the questions a fear by users and a hope by creators that the culture, power, or wealth behind a technology will preside over those who use it. In his 1995 book, The Internet, Murai himself foresaw conflict in Japan and elsewhere because American ideas toward the Internet are based on individualism, but European and Asian users are more accustomed to knowledge and information systems centered around authority and control. The concern itself assumes that code carries culture, and does so fairly “honestly.” But what Murai went on to say shows that there is more to the technological conveyance of culture than just the technology itself. Though Internet technologies may cause significant upheaval outside of the United States, Murai says, it is not necessarily a bad thing. Murai writes optimistically that the “American model will influence

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Japanese citizens to rethink their notions of the proper life.” Inherent in his statement is the idea that Japan has something to learn and America is there to teach it. This kind of rhetoric permeates the comments of leading Japanese citizens on the Internet in Japan. The opinion that Japan is behind and must catch up to the U.S. in terms of democracy, individualism, and freedom is often heard. Internet scholar Toru Nishigaki even states that Japanese should not be wondering how their country will change in the face of an influx of “multimedia culture ... indisputably based on an American worldview.” Rather, he advises, they need to be asking how the Internet and its associated multimedia should change Japanese society. In the words of Japan’s leading economist, Heizo Takenaka, what Japan needs is “a social system that allows a second chance.” Such comments imply that Japan has failed to develop a sophisticated cultural outlook toward late twentieth century information technologies and in comparison to more experienced counterparts like the United States.

This kind of language contradicts the facts of Japan’s Internet history. True, Japan launched its Internet slowly in comparison to the United States. But why should Japan be compared to the United States? Japan adapted early Internet technologies to suit its own needs, and it has since turned into a global leader in next generation networking. Japan’s mobile network is something entirely different – in all but its core technologies – from the United States’ stationary desktop practices. While the ultimate origins of the two nations’ networks are the same, and admittedly

93 Ibid.
deeply American, Japan’s experience demonstrates that nations’ individual histories and cultural and linguistic practices can turn technologies into forms that look, feel, and function so distinctly that they come to seem “unique” national products. The Internet has become a tool of self-definition in Japan, as much as or more than it serves as a tool of communication or information gathering. While there is recognition of the Internet’s healthy presence in Japan and pride at the development of a “Japanese” style network that has notably influenced worldwide trends, there remains a sense of being behind and second-best in terms of the economic and cultural attributes that are thought to accompany the global net.

In February 2000, Japanese Internet enthusiast Izumi Aizu wrote an article in Technology Journal Asia that was soon after taken up as a special to the Wall Street Journal. Entitled “Why Asians Should Join the Domain-Name Fray,” Aizu urged Asians to participate in global Internet governance because, he said, there was “a war [being] fought over rights to new lands in cyberspace” and “central to these battles” were questions about ownership, authority, and management over names and identities on the Internet. Aizu’s plea reflected both sides of Japan’s reaction to the Internet – its embrace of the network in its own way and its fear or intimidation of being left behind in a networked world. Specifically, Aizu suggested that Asians get involved through a particular organization, the Internet Corporation for Assigned Names and Numbers (ICANN). And indeed, in the late 1990s, continuing throughout the year 2000, ICANN became an arena for Japanese Internet users to consider their place and identity as a part of the global Internet. ICANN became a platform for

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dialogue among many countries, in fact, about what it meant to be a global citizen on
the Internet, where national identity fit in, and how (or if) different cultures,
economies, and languages should govern themselves as one. The following chapters
offer a close look at ICANN and the Internet naming system that it manages.
PART II
CARTOGRAPHERS OF THE NET

CHAPTER 3
THE HISTORY, DEVELOPMENT, AND SIGNIFICANCE
OF THE DOMAIN NAME SYSTEM

Few people know of the organization ICANN. Its acronym is catchy, but its long form reads like a technical manual. Yet the Internet Corporation for Assigned Names and Numbers exercises a profound influence on modern life: it assigns and manages the numbers and names that comprise the Internet’s address system.

Allocating addresses to the millions of people and devices connected to the Internet is an administrative and technical task crucial to the organization of information flowing through the Internet. Without an individual or group to oversee and archive the delegation, maintenance, and scaling of numbers and names, Internet traffic would become chaotic. Yet, the mundane task of administering addresses and ensuring that they work has received little scholarly attention. Dazzling profits, deadly viruses, and hot new software applications have garnered more attention than the routine chores of system maintenance, and so for the most part, ICANN has operated in the shadows of the Internet’s history. The imbalance is ironic. Be they economic, technical, legal, social, or other, milestones in the Internet’s development have depended on – and been shaped by – the effective coordination of the network’s
address system. Address administration is so vital, in fact, that the ability to control
the Internet lies with those who do the job.

To make such a claim – that the Internet can be controlled – flies in the face
of the decentralized network portrayed in the first two chapters. A guiding interest
behind the Internet’s creation, after all, was to develop secure communication
pathways that could \textit{evade} control – of a Soviet attack, for example, or proprietary
code. Different cultures, we also know, have fashioned the Internet in dissimilar
ways, with the result that one culture’s Internet can appear foreign to the others.
Another irony, then, one plainly manifest in the formation and oversight of Internet
addressing, is that the Internet is as bound a communications system as it is
boundless. Its elemental construction is at once open and closed. This paradox
animates this chapter, which moves the dissertation away from analyses of network
elements that are malleable and loosely defined and toward those that restrict or are
restricted.

A critical reading of any network address – whether a personal email
(gretchen@wm.edu), a World Wide Web site (http://www.weather.com), or a mobile
phone (212.74.112.66) – reveals that these contrasting qualities have coexisted all
along. They are embedded in the Internet’s earliest code, and are a ubiquitous feature
of its cultural milieux. For the most part, too, these contrasts have productively
balanced one another and helped to fuel the rapid expansion of the Internet. But
attributes of the network have been shaped over time, and to a large degree the mid-
way shift in this dissertation parallels the historical trajectory of the Internet itself.
Controlled and controlling features of the Internet have become more prominent. The
assault on Napster in 2001 and the increasing deployment of surveillance software in both public and private life demonstrate the rising culture of control shaping Internet use. But even stronger evidence of such restrictive pressures exists in the strikingly simple structure of an Internet address. Critically reading that structure not only exposes the contradictions inherent in network code, it also shows that the limiting aspects of the Internet have surged to the fore.

While encouraging global interconnectivity among increasingly diverse groups, an Internet’s address structure also categorizes its users (and indirectly, its non-users) into distinct social hierarchies. The architecture of an address always and actively includes, excludes, and sorts individuals. Address structure is based on a set of computer codes. Computer code is text and it can be analyzed in the same way we read other texts, such as novels, films, or legal contracts. Network address code has a particular syntax and grammar, was created in a specific community under specific cultural conditions, and holds shared meanings and values for those who make and use it. Stanford University Law Professor, Lawrence Lessig, has become one of the leading authorities on the relationship between code and culture. In his 1999 book, *Code, and Other Laws of Cyberspace*, Lessig argues that code is to the Internet as a constitution is to society. “Code is law,” he declares, and, like law, it codifies the values of a society. Lessig reminds us that constitutions “are built, ... not found,” by certain individuals in particular contexts. Likewise, “code is never found; it is only ever made, and only ever made by us.” Whoever makes code, Lessig argues, also

The remaining chapters of this dissertation (Chapters Three and Four) explore the Internet's address system, focusing on the power embedded in address code and the politics surrounding the code's management, deployment and use. The current chapter is, essentially, a critical analysis of the structure of an Internet address. Filling its pages are the people, places, events, and ideas involved in the design of address code, its implementation across the network, and the early efforts to ensure its enduring status as one of the "standard" Internet codes. It becomes clear through this chapter that the Internet's name and address system is the locus of control for virtually every activity on the Internet. ICANN -- the organization created to oversee the address system -- is the principal arena in which the power to control the Internet is contested. In Chapter Four, I argue that through its management of address code, ICANN determines who is on the Internet and where they can and cannot go. In this way, ICANN performs the work of a cartographer, mapping and labeling available spaces across the network worldwide. The global map that ICANN has drawn solidifies boundaries between nations and encourages nationalism and parochial pride. The ICANN experiences of two countries in particular, China and Japan, reveal that the pivotal power behind ICANN is the United States. The real
cartographer of the net, then, is the United States itself, embodied in the leadership of ICANN and imprinted for the world on the Internet’s address code.

* * *

Everyone but the homeless has an address in most modern postal systems. Even a newborn baby can be reached by mail, as long as she has a name and those to whom she is born have a registered address. This is because postal addresses work hierarchically, with at least one level in the hierarchy devoted to an individual. In the United States, an individual’s name appears on the top line of the address. In Japan it is the opposite, with broader units (e.g., zip code or country name) at the top of the hierarchy and narrow ones (e.g., individuals or groups) on the bottom. Whatever the order, effective postal systems require standardized sets of information in order to get something from one place to another. This information consists of numbers, letters, and actual words arranged so that a mail carrier, or a long-lost friend or FBI agent, can, amidst vast and dispersed possibilities, hone in on your location. Despite slight variations that reflect different social structures, the world’s postal systems are interoperable because they are all standardized around a hierarchical rendering of geographic location.

The Internet’s address system works similarly. It locates individuals, groups, or information through a hierarchical organization of identifying numbers and names. Whereas the traditional mail system moves tangible materials between distinct geographic places, the Internet moves intangible material between distinct digital spaces. Explained another way, a postal worker delivers matter by physically walking to your door; an Internet provider delivers electronic currents through
cables, radio waves, or satellite signals that you can reach. Those currents contain information in the form of an infinite number of combinations of 0s and 1s, the two digits in the binary number system. Decoding the 0 and 1 combinations is analogous to opening an envelope to find out what's inside. The form of delivery clearly differs between the postal and Internet systems, even if the content of the delivery (a letter, a picture, a music video, a bill) might be the same. Just as to receive matter one has to be present physically, to receive an electronic charge one needs to be present electronically. That is why every entity on the Internet, whether person, dog, or machine, "resides" somewhere and has a unique electronic address. Instead of a house, office, or P.O. box, a residence on the Internet is called a "site." Every site exists within a "domain," just like every home exists within a city, town, village, or rural area. Hence, most properly, the Internet's address system is called the "Domain Name System," or DNS. Like the postal system, if you want to "exist" on the Internet and participate in its services, having an address in a specific domain is essential.

As with our regular mail system, we rarely notice the Domain Name System until something goes wrong. We rely on it unwittingly. We may boast of messages sent to or received from elite (Harvard), exotic (Mars), or illicit (Tina's Free Live Web Cam) locations, but generally, unless our routines are disrupted, we take for

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2 This is a reference to a discussion in Chapter One about the internationally known New Yorker cartoon that pictures a dog using the Internet. See Chapter One; also see Peter Steiner, "On the Internet, Nobody Knows You're a Dog," The New Yorker (July 5, 1993): 61.

3 The planet, Mars, has already been assigned an Internet address. This fact has been bragged about plenty, even though Mars' address will not be fully functional until 2005. Mars is part of the Interplanetary Internet Project, which is connecting all of the planets, satellites, and spacecraft in our solar system to the Internet. Any search engine will produce much information about this project, but my most recent source is Richard Gray, "On the Edge: Interplanetary Internet," Tech Edge Magazine (May 2, 2003), http://www.space.com/business/technology/technology/ontheedge_0305.html.
granted or are unaware of the fact that there exists a meticulously constructed system that routes every bit of the information we find and produce online. Yet that system is the primary conduit for some $18 billion per day ($6.8 trillion per year) in commercial transactions around the world. In 2002 it supported 13.3% of annual sales in the United States and 16.4% in Australia and Korea. In 2003, Internet-related industries will provide over 10% of the jobs held in the world’s five major economies. Along with such massive movement of money is the movement of information by 619 million Internet users worldwide. These “netizens” exchanged over 25 billion text messages in the United States alone in June 2003. During the same period, 182 million network users from 207 countries accessed close to 4 million different websites.4

Millions of average individuals across the world now depend on the Internet to help them organize, support, and enjoy their daily lives. At the same time, as Manuel Castells, Sherry Turkle, Lawrence Lessig, Janet Abbate, and other scholars have demonstrated, whole economies and social structures, as well as deeply rooted cultural mores and patterns of thinking, learning, and acting, have been affected by and forced to adapt to this new mode of communication and information exchange.


Measuring worldwide Internet use is a young and inexact science. There are countless sources for the number of Internet users in any given country, and often these produce widely differing accounts. The International Trade Union, for example, determined that 655 million people worldwide had become Internet users in 2002, whereas the CIA World Factbook reported only 604 million. eMarketer projects 709 million users by the end of 2004. In contrast, the Computer Industry Almanac estimates as many as 945 million. Differences derive from varying statistical research and analytical methodologies, which themselves derive from the varying priorities among research groups.
Who defines and oversees the address system also defines to some degree the ways in which these economies, societies, and cultures will be involved. Rather than wonder why anyone other than a technical expert would have an interest in the corporation that assigns names and numbers on the Internet, the pertinent question is why are not more people interested in, much less aware of, the Domain Name System and the organization that makes it tick.

* * *

All who use the Internet share the Internet. The perception and experience of the Internet may be different across cultures, but the Internet's basic technologies are the same no matter where they are and regardless of who created them. TCP/IP, the set of codes discussed in Chapter Two and again below, is a good example of a fundamental element of the Internet that is collectively shared. The thousands of digital networks that are connected through the Internet are extremely diverse — some are radio, some satellite, and some computer, for example. Yet, for all of them, @ is the sign that separates humans from machines. Digital packets are the form in which information travels, :// indicates a command, and TCP/IP enables them to converse. Recall the "standards wars" that raged through network mail lists in the 1970s. That fundamental codes nonetheless exist shows that choices were made among multiple possibilities, with the result that most code was rejected, and a special few codes were embraced. The manner in which the network's first engineers made such decisions has become essential network lore and offers insight into the authority of the DNS and the management muscle of ICANN.
Three terms typify most descriptions of the Internet architects’ decision-making style: meritocratic, consensus-based, and self-governing. In the often cited history of the Internet, *Where Wizards Stay Up Late* (1996), Katie Hafner and Matthew Lyon argue that “proclamations of officialness didn’t further the Net nearly so much as throwing technology out onto the Net to see what worked. ... When something worked,” they explain, “it was adopted.” Several years after *Wizards*, Wendy Grossman’s book, *From Anarchy to Power* (2001), reiterated what by then had become accepted fact: the designers’ process of managing ideas and making decisions “was and is a model of cooperation: if something was valuable, it was widely adopted.” Indeed, she maintains, “probably no human invention has ever been such a lengthy collaborative effort of so many disparate individuals and organizations.” Sociologist Manuel Castells writes in *The Internet Galaxy* (2001) that the engineers’ “communitarian approach to technology” was coupled with “the preservation of the spirit of freedom that is at [the Internet’s] source.” He contends that the “truly surprising accomplishment [of the Internet] is that [it] reached ... relative stability in its governance without succumbing either to the bureaucracy of the U.S. government or to the chaos of a decentralized structure.” Castells explains that such a consensus about navigating cyberspace “was mainly the accomplishment of [the] gentlemen of technological innovation ... who truly sought to maintain the openness of the network for their peers, as a way to learn and share.”

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5 Hafner and Lyon, *Where Wizards Stay Up Late*, 205.
7 Castells, *The Internet Galaxy*, 33.
So just what, exactly, did these “gentlemen” do to earn so much praise? The early inventors of today’s global network infrastructure—initially a group of four young male graduate students—made decisions by consensus. They believed that the value of an idea should be decided by empirical proof of feasibility or, in the language of the engineers, by “running code,” not by top-down command or uninformed democratic selection. The famous credo of the Internet engineering community—“We reject presidents, kings and voting; we believe in rough consensus and running code”—reflects this modus operandi. Consensus followed quality, and quality emerged by “running code” on the open network so that anyone could use, test, or modify it.

The open database of 3,798 (as of May 31, 2004) Requests for Comments (RFC) is a testament to this process. These informal memos began in 1969 and were intended by their student authors to be a fast way to share ideas with other network researchers. The effect of RFCs was to create a positive feedback loop, with ideas or proposals presented in one RFC triggering another RFC with additional ideas, and so on until consistent sets of ideas emerged. Research teams then implemented and tested the ideas, publishing results through new RFCs, which further fueled the

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8 David Clark, a leading developer of the Internet since the mid 1970s, made this statement in 1992 in the context of an ongoing battle inside the Internet engineering community to purge the community of several leaders who had made egregious mistakes. Someone in Clark’s audience printed this statement on a t-shirt and made one-thousand copies, which subsequently made the statement legendary. Clark explained the origins of his statement in a conversation with Harvard University Law Professor, Jonathan Zittrain, in 1997. A transcript of this conversation is available in the online archives of Harvard Law School’s Berkman Center for the Internet and Society, http://cyber.law.harvard.edu/fallsem97/trans/clark/.

9 Chapter Two offers additional detail on the graduate student who initiated the RFC series and on the broad significance these documents have retained.
feedback loop. This knowledge-driven, non-proprietary process of achieving consensus generated the Internet standards most familiar today.\footnote{The 3,798 RFCs mentioned here are officially adopted RFCs that have gone through a rigorous vetting process and are based on many thousands more draft RFCs. Many sites on the Internet contain complete collections of the RFC series. Some of these include: The RFC Editor Homepage, \url{http://www.rfc-editor.org}, Internet RFC/STP/FYI/BCP Archives, \url{http://www.faqs.org/rfc}, Internet Engineering Task Force, RFC Pages, \url{http://www.ietf.org/rfc}, and Roxen Community: RFCs, \url{http://community.roxen.com/developers/idocs/rfc/}. To read more about the RFC series, the best place to go is straight to the source, the RFC archive, and in particular to RFC 2555, a commemorative RFC entitled “30 Years of RFCs.” Almost all Internet histories include an explanation of the engineering community’s Request For Comments series. Particularly useful are Milton L. Mueller, \textit{Ruling the Root: Internet Governance and the Taming of Cyberspace} (Cambridge: MIT Press, 2002), 32, Barry M. Leiner, Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts, and Stephen Wolff, “A Brief History of the Internet,” The Internet Society, \url{http://www.isoc.org/internet/history/brief.shtml}, and Hafner and Lyon, \textit{Where Wizards Stay Up Late}, 144-45.}

Such a fluid, productive method of inspiring, selecting, and executing ideas has come to serve as a model for emerging Internet institutions in the twenty-first century. This is ironic, though, because as explored in Chapter Two, the meritocratic consensus-building processes and the open approach to technological design that characterized the Internet’s origins were \textit{cultural products of a particular time and place}. If there ever was true consensus with no politics or power among the students, their professors, or their patrons from the Pentagon, it was short-lived. The paradox of the early Internet community’s creative and collaborative triumphs is that the value of the invention squelched the effectiveness of its inventors. Achieving “rough consensus” by “running code” is a slogan that still inspires, but it is a practice that no longer works for overall network development. The Internet has outgrown its “trial-and-error” tradition. It is stronger, faster, and bigger, and it has millions of users in hundreds of countries as opposed to hundreds of users in a handful of countries, as was the case in its early years. Nevertheless, the need for broad consensus over
fundamental changes to the Internet continues, because all who use the Internet share the Internet and have a stake (however small) in its future.

This situation poses a managerial nightmare. Only 45% percent of Internet users share a common native language (English), so achieving positive feedback loops by exchanging text-based memos is problematic. Most of the countries on the Internet are democratic, but some are communist, and others socialist or autocratic, so the prevailing governing processes of today’s worldwide Internet community are extremely diverse. Some societies are wealthy, but many are poor, hence access to the Internet varies and organizational and technological needs differ. There are dozens of other reasons why hopes for the direction of the Internet’s future differ tremendously across the globe. Yet, the Internet remains a globally shared medium, and because it is shared there are some fundamental aspects on which everyone has to agree. How to garner that agreement, and how to decide just what it is that needs to be agreed on, are difficult questions that have demanded the time and energy of Internet leaders for well over a decade. What was once a matter of proving expertise and recognizing quality now requires technological as well as diplomatic and cross-cultural finesse. Sites of technical change have become sites of negotiation across cultures. There is no better evidence of this fact than the history of designing and administering Internet address code.

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11 And even a “democratic” country might approach the Internet in less than “democratic” ways. The United States’ sponsorship of ICANN (and the expansion and security of the DNS, which is ICANN’s reason for being) is the example at hand, but the United States’ Telecommunications Act of 1996 arguably violates U.S. citizens’ first amendment rights, the European Union’s 2003 directive on the retention of communications data places some countries’ Internet users, according to GreenNet and other watchdog groups, under blanket surveillance, and the process by which Japan’s Communication Interception Law took effect in 1999 has been deemed unconstitutional by legal experts in Japan, and the law itself is criticized by leading politicians and computer scientists. For more information, see the website of the Association for Progressive Communications (http://www.apc.org), one of many organizations that track and work to advance “Internet rights” around the world.
At the beginning of the 1980s, the Internet included only a small number of networks, and most of these still had contracts with the United States Department of Defense, the institutional home of the Internet for its first fourteen years. Huge advances in the size, strength, and versatility of computers in the late 1970s and 1980s began to change this by encouraging the manufacture of small, locally controlled “personal” computers that could be used in a home or office. A big disadvantage of single-user computers, however, was that, unlike the large, multi-user time-sharing computers of the 1960s and 1970s, personal computers did not enable an easy exchange of information between users. To remedy this weakness, in 1975 Xerox PARC researcher Robert Metcalfe designed a way to network personal computers within a local area. Called the “Ethernet,” Metcalfe’s local-area network (LAN) technology was an immediate hit. Building LANs became the rage throughout the 1980s for universities and businesses with large numbers of small computers. By the mid-1990s there were five million Ethernet LANs in operation.

The popularity of personal computers and LANs was significant because together they fueled a demand from individuals and organizations outside of the government’s Internet project for farther-reaching network connections. Trading data

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A good example of a basic local-area network in action is a computer that tells a printer down the hall to print. Contemporary intranets in businesses and organizations are also local-area networks.


Other histories that inform this paragraph include Abbate, Inventing the Internet, 186-87 and Hafner and Lyon, Where Wizards Stay Up Late, 251.
or discussing research from room to room without uttering a word or moving from one's seat was one thing, but doing the same from state to state or across national borders was quite another. "Wide area networks" – networks that act as a "backbone" to connect smaller networks together\textsuperscript{14} – were already running, and computer users across the country were itching to join them. The only wide area network in existence in the United States when LANs and PCs debuted was ARPANET,\textsuperscript{15} the computer network of the Defense Department's Advanced Research Projects Agency (ARPA),\textsuperscript{16} and the experimental precursor to the Internet. It was to ARPA, then, that the local networks turned for broader connectivity.\textsuperscript{17}

With little hesitation, ARPA allowed its contracted institutions to connect their LANs to ARPANET. Additional users on the network were advantageous, ARPA managers believed, because they enhanced the value of ARPANET as a research experiment. This position is not surprising given that in the late 1970s and early 1980s, Vinton Cerf and Robert Kahn, the two computer scientists who invented the sin qua non of networking, TCP/IP, had become ARPA managers.\textsuperscript{18} Besides this though, expansion of ARPANET through the expense and effort of local groups could hardly be denied. As long as local area networks assumed responsibility for

\textsuperscript{14} Good examples of wide area networks, or WANs, include the Japan-based WIDE network (Widely Interconnected Distributed Environment network) and the U.S.-based NSFNET (National Science Foundation Network), both discussed in Chapter Two.

\textsuperscript{15} President Dwight D. Eisenhower founded ARPA in 1957 as a part of the United States Department of Defense (DoD). The ARPANET, a vast DoD network of smaller, usually DoD contracted networks located in universities and businesses across the United States, gave birth to what we call the "Internet." Chapter Two examines the origins of the Internet in greater detail.

\textsuperscript{16} ARPA changed its name to the Defense Advanced Research Projects Agency, DARPA, in 1971. In 1993, DARPA changed its name back to ARPA. In 1996, the agency again called itself DARPA. To avoid confusion, I refer throughout to ARPA, the original name. On this subject, see Leiner et al., A Brief History.


\textsuperscript{18} TCP/IP is the acronym for Transmission Control Protocol/Internet Protocol.
maintaining their own networks, and also followed the few rules that were observed on APRANET, the decentralized growth of their wide area research network was a welcome development for ARPA. Internet historian Janet Abbate explains that such an informal policy was politically feasible at the time because “few outside the research community knew or cared about the Internet.” This nonchalance would change as the potential value of the Internet became clearer to more people. But for the time being, even LANs that had nothing to do with ARPA beyond an institutional affiliation were encouraged to connect. The number of ARPANET networks rapidly grew from fifteen in 1982 to more than 400 in 1986.

The increased networking of networks meant more than just a larger ARPANET. Most notably, it meant the dawning of the full-fledged Internet. To connect to ARPANET, the number one “rule” a local network had to follow was to adopt the networking protocol, TCP/IP. Designed in 1973 by Cerf and Kahn, TCP/IP (Transmission Control Protocol/Internet Protocol) is a set of digital codes that enable packets of data to move between two networks. It is a handshake of sorts, or a bridge, allowing very different networks to connect to one another. To be sure, there

19 Computer scientist, Robert Metcalfe (of Ethernet fame), encouraged ARPA’s embrace of additional computers and networks to ARPANET by arguing that the value of a network (computer or otherwise) increases exponentially with each new connection. Specifically, Metcalfe maintained that the value of a network (V) is equal to the square of the number of its users (N), or V = N x N. This theorem became known as “Metcalfe’s Law” and has remained influential since Metcalfe proposed it in the early 1970s. While this idea might not seem worthy of a mathematical theorem today, at the time, the notion that computers should contain built-in networking capabilities was novel and the idea of networking itself arcane. Metcalfe’s Law had implications for individual computer users as well. Just as more networks, computers, and people connected to ARPANET were predicted to increase the value of ARPANET as a whole, so too would the power of individual computers (and their users) on the network rise with each additional computer connected to it. See Richard A. Spinello, Regulating Cyberspace: The Policies and Technologies of Control (Westport, CT: Quorum Books, 2002), 27, 75.

20 Abbate, Inventing the Internet, 188.

21 “Requirements for Internet Gateways – Draft,” RFC 985, Network Working Group (NWG), National Science Foundation (NSF), Network Technical Advisory Group, May 1986. Also informing this paragraph are Abbate, Inventing the Internet, 187-88 and Hafner and Lyon, Where Wizards Stay Up Late, 243.
are other protocols that can link digital networks. What distinguishes TCP/IP is that its architecture is open. Most other internetwork protocols require one network to become a component or subset of another, adopting most of its design. But TCP/IP enables networks to be peers and choose for themselves a particular network structure.\(^2^2\) TCP/IP requires compliance to a specific architecture only for the fleeting moments that two networks meet and only in the act of exchanging data.

Pleased with the versatility of this protocol, in 1982, ARPA and the Department of Defense selected TCP/IP as their internetworking standard. In line with this decision, on January 1, 1983, ARPANET made its official transition to TCP/IP. ARPANET’s subsequent requirement for TCP/IP-equipped LANs, plus the healthy commercial market that grew up around this prerequisite, meant that within a short time almost every computer network in the United States included TCP/IP code.\(^2^3\) It also meant that, for the first time, all of these networks could interact with one another.\(^2^4\) New frontiers of inestimable value were now open for computer users, and, a victim of its own success, ARPANET’s singular status gave way to an impressive system of interconnected networks around the world with no need for one backbone at its center. This distributed, decentralized system was called the Internet.\(^2^5\)

\(^2^2\) My understanding of TCP/IP is based on presentations and discussions at numerous Internet conferences and meetings (most notably INET, the annual meeting of The Internet Society, AOIR, the Association of Internet Researchers, and ICANN), and on the following published sources: Leiner et al., Brief History, 1996, Lessig, Code, Abbate, Inventing the Internet, Hafner and Lyon, Where Wizards Stay Up Late, and Segaller, Nerds 2.0.1.

\(^2^3\) In order for a LAN to be connected to ARPANET, the LAN had to run TCP/IP, as explained, and it had to set up a “gateway” — more commonly called a router — between its network and ARPANET. Both routers and TCP/IP-equipped computer products were commercially available by 1985. See Abbate, Inventing the Internet, 188.

\(^2^4\) Sources that inform this paragraph include Hafner and Lyon, Where Wizards Stay Up Late, 220-27, Lessig, Code, 101-02, Segaller, Nerds 2.0.1, 110-12, and Abbate, Inventing the Internet, 188.

\(^2^5\) There is some contention over when “the Internet” began. (See, for example, the introduction to Hafner and Lyon, Where Wizards Stay Up Late.) Most network engineers and scholars agree that technologies do not often have singular start dates or inventors because new technologies are
For good reason, 'open,' 'flexible,' 'decentralized,' and 'dispersed' are terms frequently associated with the Internet. These qualities characterize the Blues jams of Chapter One, and they epitomize the cultural analysis of Internet architecture and history in Chapter Two. But there is another aspect of internetwork history that is harder to see and less often shared. That aspect is evident in an observation that Vinton Cerf once made about the function of TCP/IP. In an interview for a public television documentary on the Internet, Cerf noted that the "whole [network] system couldn't work if there wasn't a way to interconnect everything and hide the fact that there was this nonhomogeneity throughout the system. So it's absolutely vital," he emphasized, "to have a set of protocols that smooth out the differences and, essentially, are network independent." 26 Here Cerf explains TCP/IP in terms that his viewers could readily understand. TCP/IP allows and facilitates diversity by hiding it. It smoothes over differences so that differences can exist. In theory at least, TCP/IP is the quintessential non-partisan mediator. If Cerf's comments were heard out of context and not associated with his famous name, one might think they referred to a social or political philosophy. They do not, but they are nonetheless cumulative and collective efforts. This subject is discussed at more length in the previous chapter. Four dates in particular, however, do stand out as possibilities for an Internet "birth" day. Each day and the events that happened on these days are examined in the main text of this and the previous chapters; nonetheless, briefly these birth dates include the formation of ARPANET in 1969, the design of TCP/IP in 1973, the split of ARPANET into two large networks in 1983, and the implementation of the Domain Name System in 1984. The actual word "Internet" was shorthand for "the inter-networking of networks" and came to be used commonly among ARPA computer scientists around 1973, when TCP/IP was introduced. Even so, today many scholars tend to use the word "Internet" to refer to network research and network technologies that developed before this time. Given the fifteen-year span of origination dates, it is not surprising that the word "Internet" is used very loosely vis-à-vis the chronology of the earliest network research. In this dissertation, I try to use the word "Internet" sparingly and with precise purpose when I am discussing network history any time before the mid 1980s.

26 The documentary, which aired in 1998, and a subsequent book are both titled Nerds 2.0.1 – A Brief History of the Internet. See Segaller, Nerds 2.0.1, 111.
significant from a cultural point of view. Cerf’s description of TCP/IP reveals a productive tension between heterogeneous and homogeneous elements that was designed into the system—inauditently at times, deliberately at others. To the network engineer, these elements are purely technical—all networks move digital data packets (homogeneity), but some networks are connected by satellite, radio, or computers, and some networks have millions of users, while others only include a handful (heterogeneity). To the network user, however—whether a casual Web surfer, an investor in AOL, an activist in China, a commuter in Japan, or the leader of an entire country—these elements are deeply cultural, sometimes personal, and often national in effect. Efforts to maintain a balance between these dichotomies have been ongoing since the Internet’s earliest days and are an integral part of Internet history.

The story of the DNS—another suite of protocols like TCP/IP—is a story of such balancing. The Domain Name System is an accumulation of technical standards that put structure into a network which, Abbate writes, “seemed at times to verge on anarchy” under the strain of its “meteoric” growth and diversification in the 1980s.27 The popularity of LANs and small computers, TCP/IP and its commercial availability, ARPA’s relaxed policy, the Internet’s political insignificance, and email, the “killer app” introduced to the network in 1972 and only a few years later standardized to fit most network software programs, had all combined to send networks and people to the Internet “in droves.”28 Between 1985 and 1989, the

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27 Abbate, Inventing the Internet, 182, 186.
28 Ibid., 188. See Hafner and Lyon, Where Wizards Stay Up Late, 191-205, for the history of the invention of electronic mail.
number of computers with access to the Internet jumped from 2,000 to 159,000.\textsuperscript{29} Individual users rose from just over one thousand in 1980 to one million by the end of the decade.\textsuperscript{30} Such exponential growth stressed the network to the point of breaking. By 1983, ARPANET had become so large that to secure materials meant exclusively for the Department of Defense, ARPA had to split the network into two parts – MILNET, for military operations, and ARPANET, for computer research. Only six years later, on its 20\textsuperscript{th} anniversary, ARPANET was decommissioned altogether, having been superseded in speed and strength by the networks it had spawned.\textsuperscript{31} USENET, BITNET, CSNET, and NSFNET were just a few of the many new, wide area networks in the United States that served communities far beyond the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{31} In September 1989, the University of California at Los Angeles sponsored a conference called the “Act One Symposium” to explore “very high speed” Internet networks, but also to celebrate ARPANET’s 20\textsuperscript{th} anniversary and its imminent decommissioning. Though the tendency is to think of the Internet’s RFCs (Request for Comments) as dense technical documents, some RFCs were light and humorous, documenting the Internet’s development from perspectives other than technical code. RFC 1121 is a good example. It is titled “Act One – The Poems” and is a collection of poems that some of the speakers at the Act One Symposium presented in commemoration of ARPANET. Vinton Cerf, contributor to Internet history in so many varied ways, presented the following poem, “Rosencrantz and Ethernet” on the second day of the conference.

\begin{verbatim}
All the world's a net! And all the data in it merely packets come to store-and-forward in the queues a while and then are heard no more. 'Tis a network waiting to be switched!

To switch or not to switch? That is the question. Whether 'tis wiser in the net to suffer the store and forward of stochastic networks or to raise up circuits against a sea of packets and, by dedication, serve them.

To net, to switch. To switch, perchance to slip! Aye, there's the rub. For in that choice of switch, what loops may lurk, when we have shuffled through this Banyan net? Puzzles the will, initiates symposia, stirs endless debate and gives rise to uncontrolled flights of poetry beyond recompense!

\end{verbatim}
\end{itemize}
\end{footnotesize}
national government, and even outside of the computer science field.\textsuperscript{32} Networks burgeoned internationally as well. JUNET opened in Japan, Minitel in France, EUNET in Europe, JANET in the UK, and AARNET in Australia, integrating into a once wholly U.S. network a wide variety of additional networks from around the world.\textsuperscript{33}

Internetworking on a global scale was highly desired by network users and engineers, and in fact prompted the designs that resulted in TCP/IP. Cerf, Kahn, and others involved in the creation of an internetworking protocol envisioned dynamic, fluid connections between networks located anywhere in the world, and between people separated by any distance. But, there was a price to be paid for the openness of TCP/IP code. That price was the weakening of a central guiding vision from ARPA and the concomitant fragmentation of network control. In contrast to ARPANET, which had been centrally planned, the Internet developed haphazardly, in an extremely decentralized, ad hoc manner, fueled primarily by the energy, ideas, and decisions of local participants at each network’s home base. This meant that a

\textsuperscript{32} USENET, so called because it used Unix software, was an inexpensive network founded in 1979 by three students (Tom Truscott, Jim Ellis, and Steve Bellovin) at Duke University and the University of North Carolina. USENET served many universities that had no other access at the time to a national network. BITNET, the “Because It’s There” or “Because It’s Time” Network, was founded in 1981 by researchers at the City University of New York. BITNET linked area schools, providing email, listserv servers, and file transfer capabilities. Also founded in 1981, CSNET, the Computer Science Network, grew out of a collaborative effort (spearheaded by Lawrence Landweber at the University of Wisconsin) of computer scientists around the country to provide networking services to university scientists with no access to ARPANET. And NSFNET, the National Science Foundation Network, began in 1986 as a way to support not simply ARPANET connection, but very high speed ARPANET connection for selected universities and research centers across the country. See Abbate, \textit{Inventing the Internet}, 200-05 for a clear, comprehensive, and succinct explanation of these and other networks. Also see Robert Hobbes Zakon, Hobbes’ Internet Timeline v7.0, http://www.zakon.org/robert/internet/timeline.

\textsuperscript{33} JUNET initially stood for Japan Unix Network, but soon came to be called Japan University Network. Minitel, a France Telecom project, was the first nationwide computer network in France. EUNET, JANET, and AARNET are the acronyms for, respectively, the European Unix Network, the Joint Academic Network, an education and research network for the United Kingdom, and the Australian Academic and Research Network. See Abbate, \textit{Inventing the Internet}, 200-05 and Zakon, Hobbes’ Internet Timeline.
variety of new actors were gaining responsibility for parts of the system. These actors often had competing interests in the Internet and different visions of its future. Such diversity — not only of networks but of people, too — was a welcome but unfamiliar phenomenon in the tightly knit networking community. Working with this diversity to achieve an Internet open and accommodating to everyone was the challenge posed by the success of TCP/IP code. DNS was a direct response to this challenge — a complementary set of codes that functioned to maintain and facilitate the heterogeneity that TCP/IP had first begun.

* * *

The Domain Name System (DNS) is a method of identifying the parts of the Internet that talk to one another — networks, hosts, personal computers, and people, for example. As TCP/IP enables the parts to talk, so the DNS gives the parts identities. A formal identity is essential. A network with no name (or other identifying mark) is no network at all because it cannot be recognized and therefore cannot interconnect. Computers, people, or other interactive components of the Internet suffer the same need. Without an identity, they cannot act, speak, or even exist on the Internet. "Denial of access to [a recognizable name]" on the Internet, writes Internet policy expert, Hans Klein, "is the equivalent to banishment from the Internet." Simply attaining an identity, however, is not enough to guarantee one’s survival on the Internet. To continue existing as a participant on the Internet, a person or machine must have an identity that is unique. Two identities that are

34 Abbate, Inventing the Internet, 182, 187-88.
35 Hans Klein, “Technology, Contracts, and the Internet: Private Governance for Global Communications” (School of Public Policy, Georgia Institute of Technology, n.d., photocopy of working paper), 5.
exactly the same will effectively cancel each other out. For example, in the early 1980s, computer science students all seemed to want to name their computers “Frodo” after the character in J.R.R. Tolkein’s highly popular *Lord of the Rings.* Two machines named Frodo, though, could not co-exist because searching for one would bring up the other, and vice versa in a vicious circle until in essence, from the perspective of the person, machine, or network trying to make contact, neither Frodo existed. Despite this conundrum, Frodo was the name in demand at the time, and friendly arguments abounded over who would get to use this name. Only if there was a way for each Frodo to differentiate itself and become unique could all the Frodos exist together and communicate with each other.\(^{36}\)

The Domain Name System resolved this problem, at least in theory. New protocols for assigning names and addresses to the growing number of networks, computers, and users on the Internet were announced through an RFC in November 1983, right on the tail of ARPANET’s split.\(^{37}\) Originally called the “Internet Naming Convention,” the DNS protocols took effect in stages over 1984 and 1985 and were in widespread use across the Internet by the beginning of 1986.\(^{38}\) When ARPA launched its network in 1969, Jon Postel, a graduate researcher at the ARPA-funded Network Measurement Center of the University of California, Los Angeles (UCLA), undertook the task of assigning, recording, and maintaining the names and addresses of all of the host computers on the network. Postel compiled a list, called a “host

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\(^{36}\) For the best story on the Frodo name demand, see Hafner and Lyon, *Where Wizards Stay Up Late,* 252. This anecdote is also mentioned in Abbate, *Inventing the Internet,* 190.


\(^{38}\) RFCs 810, 811, 814, 819, 881, 882, 883, and 973, all published between 1982 and 1986, document the discussion and process of DNS implementation. See footnote n.10 for a list of RFC archives.
table,” of all name and address pairs, and, as new hosts joined ARPANET, he sent updated versions of the list to system administrators across the network. By the late 1970s, however, adequate administration and timely dissemination of the host table could hardly keep up with the burgeoning size of the network. 39 This, combined with the potential shortage of network identifiers that the Frodo quandary foreshadowed, encouraged a number of engineers to argue that ARPANET’s “Official Network Host Table ... no longer suit[ed] the needs of the [networking] community” and “some fresh techniques [would] be required to deal with the internet of the future.” 40

In the summer of 1982, Jon Postel – still all but single-handedly managing the addresses of every computer on the Internet and by then affectionately dubbed the “czar” of network addressing – delivered those “fresh techniques.” 41 He produced an RFC introducing the concept of “domain style names” and challenged his readers “to explore the implications of [adopting this style] for Internet name service.” 42 Paul Mockapetris, a colleague of Postel’s, who was then at the University of Southern California’s Information Sciences Institute (ISI), largely designed the

39 As the Internet grew, host table upkeep began to dominate the work hours of researchers. The expanding host tables were also taking individual host machines inordinate amounts of time to download, meanwhile slowing other traffic on their networks. Some host administrators tried to avoid the sluggish task of downloading by using their own unapproved tables, but this inevitably produced errors in the system as a whole. See Abbate, Inventing the Internet, 189 and Hafner and Lyon, Where Wizards Stay Up Late, 249.


new name system. But it was Jon Postel who managed the system until the formation of ICANN fifteen years later and who most passionately defended the system in the second half of the 1990s against the encroaching directives of corporate interests around the world and the United States government at home.

Though seldom mentioned in published Internet histories, Postel’s RFC – RFC 819, “The Domain Naming Convention for Internet User Applications” – gives the most conceptually rich explanation of the domain system available in the RFC series. Critically reading RFC 819 is analogous to critically reading Internet address code, which is my aim for the next several pages. In RFC 819, Postel describes the new naming convention using metaphors that signify concepts recognizable in everyday life. The system as a whole, he writes in surprisingly non-technical language, resembles an “inverted tree,” with the root at the top and the branches at the bottom. Postel labels his upside-down tree an “in-tree.” The branches and leaves that populate an in-tree are “parents” and “children,” he says, and long family lineages reach from deep, stable roots at the top to the newest branches far below. Naming styles that do not conform to domain name conventions he calls “foreign,” and those who use them are “foreigners.” The in-tree “world” has multiple “administrative universe[s]” that instruct citizens and foreigners alike on where they can and cannot go. The list of metaphors in RFC 819 grows longer with each new aspect of the domain convention explained. By the end of the essay, Postel has

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turned his proposed name and address protocol into a genealogical table that reaches back, metaphorically, to the first network being.\footnote{Postel, "Domain Naming Convention," RFC 819.}

Postel’s use of metaphorical rather than literal language to explain his technical ideas is in part an attempt to write in a manner that any reader can understand, as I discuss further below. But his language also indicates how he understood in his own mind the way that the new system should work. Postel’s metaphors offer some of the best insight available on his subsequent management of the DNS and emergence as one of the Internet’s most respected and influential leaders. His words also foreshadow the imminent controversies regarding network ownership, authority, and governance that would erupt in the 1990s. As commercial entities and individuals from a widening variety of countries came to depend on the Internet, interest in the system that coordinated each user’s network address heightened. Interest in Postel likewise heightened. Postel’s professional position and day-to-day work did not change in any dramatic way between 1982, when he announced the DNS and assumed management for it, and 1998, when he died unexpectedly of heart failure. For all of those years – in fact since 1977 – Postel had remained at USC as head of ISI. Yet, while his professional status may not have changed much during those two decades, the Internet he helped design did. As the administrator of the domain name space, Postel would find himself by the late 1990s sitting at the apex of the most valuable database on earth. In 1997, the witty and incisive \textit{Economist} magazine playfully hailed Postel as the “supreme being of the Internet,” betting that “if the Net does have a god, he is probably Jon Postel.”\footnote{“Postel Disputes,” \textit{Economist Magazine} (February 8, 1997): 88-89.}
This "god" who begot the Internet's (inverted) family tree in RFC 819 reminds us through his low-tech metaphors that if it were not for the involvement of humans on the Internet, there would not have to be any naming convention. Digital technologies speak with numbers, so addresses on the Internet are in fact numerical, not alphabetic. Internet Protocol addresses, or IP addresses, as they are called, typically look like this: 128.239.109.206. As explained above, every computer connected to the Internet must have a unique address as a means of identification. It is only because humans cannot remember so many numbers at one time that Internet name systems evolved. The current name system, DNS, pairs each numeric address with an "alphanumeric identifier" – or more simply stated, a name, which is often, but not always, a recognizable word. This name refers to the entity being addressed. So, for example, the address of my computer is 128.239.109.206, but because it is difficult to remember, swem.admin.wm.edu is mapped onto it. In sum: DNS protocols map names onto addresses, and they do this solely for the sake of the human brain.  

While Postel reminds us of the humanity in DNS code, his focus in RFC 819 is on the particular way that DNS code maps names onto addresses. He begins by making it clear that whereas the ARPANET name convention was "topology dependent," the new Internet name convention would be "administrative
dependent.47 A topologically oriented system arranges name and address pairs according to patent natural attributes of the named entity. Mails to MIT's Lincoln Laboratory, the ARPA head office, or Jon Postel on terminal "F" at ISI were addressed as @MITLL, @ARPA, and Postel@ISIF, respectively. Under an administratively organized system, these same addresses (in 1982) would be written as @LL.MIT.ARPA, @DIRECTOR.ARPA, and Postel@F.ISI.ARPA. Comparing the two systems side-by-side helps to visualize their differences:

<table>
<thead>
<tr>
<th>Topology Dependent</th>
<th>Administrative Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARANET Name Convention (Host Table)</td>
<td>Internet Name Convention (Domain Style)</td>
</tr>
<tr>
<td>MIT Lab</td>
<td>@MITLL</td>
</tr>
<tr>
<td>ARPA Hdqt.</td>
<td>@ARPA</td>
</tr>
<tr>
<td>J. Postel</td>
<td>Postel@ISIF</td>
</tr>
<tr>
<td></td>
<td>@LL.MIT.ARPA</td>
</tr>
<tr>
<td></td>
<td>@DIRECTOR.ARPA</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Postel@F.ISI.ARPA">Postel@F.ISI.ARPA</a></td>
</tr>
</tbody>
</table>

The differences in these addresses are subtle, but significant. First, administrative organization cares about the hierarchy of responsibility in a certain social context. It cares about what you do and how what you do relates to what others do. Topological organization cares only about where you are and what your name is — it does not matter what you do or how you relate to other people. Under the first name system (Postel@ISIF), Jon Postel is located at ISI on computer "F." His address indicates a place — in theory the place where he sits, in practice (because he can log in remotely) the place where his computer sits. Under the second name system (Postel@F.ISI.ARPA), Postel works at the bottom of a hierarchy that is crowned by the U.S. government agency, ARPA. ARPA has a superior relationship to the Information Sciences Institute whom it has contracted to purchase computer

“F.” Using computer “F,” someone, like Jon Postel, can work. As Postel’s work takes place on a computer owned by and strictly designated for ARPA, it follows that Postel works under the auspices of ARPA, or, more accurately, the U.S. government.48 The hierarchy that is important to an administratively oriented system is highly visible in its address form. Dots make a sharp separation between each level in the hierarchy. Embedded in Postel@ISIF are the same relationships, but they are not explicitly written into the address. The original name convention did not differentiate social position in its address form.

This point is crucial. The moment that domain style addresses came into use across the Internet was the moment that Internet addresses in and of themselves became valuable. As a necessary tool to get on the Internet and send and receive information, an Internet address was already a valuable possession. But its value depended, almost entirely, on how one used it. The early Internet addresses afforded access to information and a mode of communication not available to those without one. Having an address was a privilege, and could be empowering. The worth of this resource, though, hinged on employing it conscientiously to access material or people important to one’s personal or professional life but, for the most part, exclusive to the Internet. Domain style addressing, in contrast, confers value to its users, and to its creators, through the structure of the actual address. Its value does not depend on the manner in which an address is used. Instead, the value of a domain

48 Appreciation goes out to the Internet History mailing list at the Information Sciences Institute of USC for replies to my question regarding the “F” in Postel@ISIF. J. Noel Chiappa, e-mail to Internet History mailing list, September 13, 2003, http://www.internethistory.postel.org, Bob Braden, e-mail to Internet History mailing list, September 13, 2003, http://www.internethistory.postel.org, and David Mills, e-mail to Internet History mailing list, September 14, 2003, http://www.internethistory.postel.org.
style address lies in its arrangement of names and in the information conveyed about the identity of the address holder through this name arrangement.

In the new name system outlined by Postel, the word "domain" signifies an "administrative arena." The federal government, a university, a company, a project group, or a professor's research lab (in effect, units that manage resources) are "administrative arenas." Each group of letters in Postel@F.ISI.ARPA is its own administrative arena, or domain. In a single address, domains are arranged hierarchically, with the most general domain (in our example, ARPA) to the far right and the most specific all the way to the left (the individual). Early in RFC 819, Postel likens this right-to-left move from general to specific names to an inverted tree. General domains sit at the top of the "in-tree" and form the tree's root. Specific domains lie at the bottom of the in-tree, making branches or leaves. An in-tree diagram of Postel@F.ISI.ARPA looks like this:

```
    ARPA
     /\  
    / \ 
   ^^ ^^ 
  ISI 
 / \ 
/   / \ 
 |   | F 
 |   | 
Postel
```

Postel intends for his readers to envision this in-tree when they see the linearly written address. After introducing his In-Tree Model [see page 31 for the actual diagram he provides], Postel no longer uses the words "general" or "specific" to describe the administrative hierarchies embedded in domain style addresses. Rather, he replaces these words with the more vivid "top," "root," or "parent" on the one
hand, and "bottom," "leaf," or "child" on the other. Such metaphors are easy to conceptualize because they signify concrete hierarchical relationships familiar to our everyday lives.49

Genealogical analogies are Postel's favorite and, along with the inverted tree, they become the dominant tropes of his paper. In the diagram above, for example, Postel is the "child" of ISI, which in turn is the child of ARPA.50 ARPA, then, is the "parent" of ISI, and ISI is the parent of Postel.51 This makes ARPA the "grandparent" of Postel, and Postel the "grandchild" of ARPA. ARPA is the grandparent for many other network entities as well because it is the absolute root of the inverted tree. In RFC 819 terminology, the root of the tree is the "ancestor of all domains," also called the "ancestor of all network entities." ARPA's power — or, more precisely in the language of Postel's metaphorical logic, ARPA's reproductive power — could not be more clear. Complicating matters, but still mimicking family lineages, Postel describes situations when domain children have "multiple parentage" and are descended from two, three, or four "parent domains."52

50 Of likely interest to any email user is Postel's statement in RFC 819 that "User mailboxes may be viewed as children of their respective domains." Ibid.
51 According to Postel's description of the new system, most accurately, the computer station labeled "F" is the parent of Postel, and ISI is the parent of "F." However, Postel does imply in RFC 819 that there can be gaps and anomalies in his system, so for purposes of clarity and brevity, I am ignoring momentarily the rich implications of the parental status of Postel's computer. Of children with multiple parents he stated: "The general implications of multiple parentage are a subject for further investigation." Postel devoted Appendix B of his essay to a closer examination of the "anomaly" of multiple parentage.

52 Holding several addresses because one has several jobs that entail an Internet connection is a simple example of such a case. Ibid.

It is fascinating that Postel accommodates divorce, death, and remarriage in his address system. He even accommodates birth out of wedlock. I later show through my investigation of his so-called "foreign" domains. At this early stage in the development of the system, however, Postel was not yet comfortable with exceptions to the rules, which did occasionally appear in the network family. Of children with multiple parents he stated: "The general implications of multiple parentage are a subject for further investigation." Postel devoted Appendix B of his essay to a closer examination of the "anomaly" of multiple parentage.
Postel’s description of the proposed domain name system is thoroughly gendered. He never mentions males or females, but by metaphorically turning his inverted tree into a family tree, he implies a conventional nuclear family order. That family order is based upon an historical legacy of patriarchal relationships between men and women, which, in the simplest terms, means relationships in which authority is invested in men. Postel does not label the “ancestor of all network entities” – ARPA in our running example – as male, and his grandparents and parents are never grandfathers or fathers. But even so, the grand ancestor in Postel’s inverted family tree we can assume to be male because Postel lived and wrote in a patrilineal society. Patrilineal societies trace family lineage through their fathers, as such typical family trees map the bloodlines of men. This means that not only is the in-tree’s “ancestor of all domains” figuratively male, but its intermediate domains as well (e.g., ISI) invest their authority in men.

It is probable that Jon Postel – a network scientist and engineer his entire adult life – thought nothing of the gendered aspects of his in-tree. If he did, he gets credit for recognizing the bias in family trees, as his language is noticeably absent of patently gendered nouns (son, mother), pronouns (he, she), and adjectives (masculine, feminine). But it does not matter, really, whether Postel intended to gender or de-gender his RFC. The fact is, in choosing the trope of the family tree and populating it with metaphorical parents and children, he presents his ideas in a patrilineal framework and invokes relationships that are organized around authority. This framework was familiar to his 1982 readers – largely American, some European, and an inconsequential number of people from outside of these two
regions, the majority of whom were male. His readers, too, may not have thought
consciously in gendered terms. Even if they did not – in fact, especially if they did
not, that they could glean through Postel’s overarching analogy the fundamentals of
the new address system (and by all accounts, they could) meant that they identified
with the cultural norms implicit in the family tree and applied them to make sense of
the technical problem at hand.

The benefit of knowing that from the very start the DNS was framed within a
patriarchal construct is twofold. First, it provides a fresh example of the ways in
which technology and culture are intertwined, a subject that I explore throughout the
dissertation. Second, it helps establish the basic principles upon which DNS code is
based. Patriarchal societies care about authority, the sources of authority can be
identified easily, relationships in such societies reflect those in power, and members
are recognized vis-à-vis proximity to power. All of these characteristics are endemic
to the DNS. Compare them with Postel’s description of “absolute naming,” a
guideline for choosing the names of domain “children.”

“Absolute naming,” Postel writes, “implies that the ... names are
assigned with respect to a universal reference point. The advantage of
absolute naming is that a name thus assigned can be universally
interpreted with respect to the universal reference point. The Internet
naming convention provides absolute naming with the naming universe
as its universal reference point.”

In other words, all names are assigned with respect to one, universal name (the
“universal reference point”). This practice makes it easy to recognize, or at least
understand the origins and significance of, any name on the network because all you
have to know is one universal name. That one name, Postel explains in his last

53 Ibid.
54 Ibid.
sentence, is the "naming universe," which is, alas, our "ancestor of all domains," the root of the family in-tree. Postel provides the following diagram to aid his explanation of the new name convention.

```
  U
 /|
 / |
 | | | U -- Naming Universe
 | | I -- Intermediate Domain
 I E I
 / |
 ^ ^ |
 | | |
 I E E E -- Endpoint Domain
 /|
 ^ ^ |
 | | |
 E E E
```

"The In-Tree Model for Domain Hierarchy"55

The "absolute naming" guidelines for selecting the name of each in-tree domain are in contrast, Postel elaborates, to the "relative naming" practices that were popular at the time. "Relative naming" selects names in relation to local conditions and therefore its names are "interpretable" only to local users. A relatively named domain might read "ichi!ni!!san!!GO!" and a non-Japanese speaker would not have a clue as to its etymology or connotation. At least temporarily, then, under the new name system "local" communities – such as the entire country of Japan – would have to conform to (American) English names and their associated meanings. Here again we see shades of control. Local names must make sense vis-à-vis the universal name

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55 It is telling that Postel refers often in RFC 819 to the "naming universe" (the "U" in his image), even as he seldom uses the terms "intermediate domain" or "endpoint domain" (the "I's" and "E's" in this diagram). Postel replaces these two terms with the previously discussed parent-child metaphors. The relative absence of these proper terms from his essay and their replacement with indirect metaphors makes Postel's repeated use of "naming universe" stand out. The contrasts in his language reinforce his own arguments about the most effective way to choose domain names. He has, in effect, practiced "absolute naming" and written "with respect to a universal reference point." Ibid.
that presides at the root of the in-tree. This might not matter if the ancestral name was not cloaked with power and inscribed with particular cultural values and norms. But it is, as we know through Postel's detailed analogies to patrilineal order. Because it is, we must think of the implications. The naming universe of Postel's new email address in 1984 (Postel@F.ISI.ARPA) was ARPA. ARPA is an agency of the Pentagon, and the Pentagon in 1984 (and for that matter, at all points between 1969 and 2000, the timeframe of this dissertation) was the most powerful department of the United States government. The United States government at that time (and between 1969 and 2000 as well) was the most powerful government in the world. The only way that Postel's ancestral name could have been cloaked with more power would have been to call it DOD (Department of Defense) or USG (United States Government). Postel was two steps away from inheriting the most potent family name in existence besides "GOD," which, we have seen, he himself eventually received.

Not all universal names are ARPA, but arguably all universal names are USG. That is, within the thirty-one years between 1969 (when ARPANET was launched) and 2000 (when ICANN held its at-large elections for board members), all domain names reflected the authority of the U.S. government. Figuratively speaking, all domain names had an invisible ".USG" on their far right ends or at the tops of their upside-down trees. For even more endemic to the DNS than elements of patriarchy is the power of the United States military as the sole financial backer of the Internet project until 1993. The Pentagon's hands-off oversight of the network did not mean that its contracted institutions were not accountable for their research or
aware of who signed their checks. As an extension of the Pentagon, ARPANET was a U.S. imperial project and no researcher associated could avoid that fact. It is not surprising, then, that Postel mixes metaphors, and what is at once the parent in the family tree is at the same time the director of the “region of jurisdiction” in which his children reside. The “naming universe” is an “administrative universe” and the “universal name” an “administrative entity.” It is hard to tell at times if the domain name tree represents a family or a nation-state. It is safe to say that it represents both, because both are founded upon and framed by similar principles of authority and power.

* * *

Presumably, Postel did not intend for his essay to be interpreted literally through its metaphors. What Postel, Mockapetris, and other engineers liked about the DNS in fact contradicts in some ways the analysis of the in-tree model. They liked the DNS because it scaled – in other words, the name space could grow to accommodate increased Internet users – and as such encouraged greater diversity of users and uses, it quickened the process by which addresses were matched to names, and it decentralized Postel’s responsibility for maintaining the name-address database by distributing that database among domains at every level. These advances were made possible by transforming the flat, one-dimensional list of host table names into a two-dimensional, tree-structured hierarchy which could grow up and out for as long as its root remained in place. In Postel’s words,

The hierarchical structure of the Internet naming convention supports decentralization of naming authority and distribution of name service capability. It readily accommodates growth of the naming universe. It
allows an arbitrary number of hierarchical layers. The addition of a new
domain adds little complexity to an existing Internet system.\textsuperscript{56}

In November 1983, a little over one year after Postel introduced the domain
name idea, Mockapetris produced RFCs 882 and 883, which, along with Postel’s
RFC 881, officially announced the name-address code as the new naming style for
the Internet. Mockapetris explained the advantages of the new system in words
similar to Postel,

As applications grow to span multiple hosts, … networks, and finally
internets, these applications must also span multiple administrative
boundaries and related methods of operation (protocols, data formats,
etc). … The need to have a mapping between host names (e.g., USC-ISIF) and ARPA Internet addresses (e.g., 10.2.0.52) is beginning to
stress the existing mechanisms. … What is needed is a distributed
database that performs [name-to-address mapping], and hence avoids
the problems caused by a centralized database.\textsuperscript{57}

Both Postel and Mockapetris hailed the DNS as a decentralized and distributed
set of codes. Its origins, indeed, lay in the need for naming codes that could expand
to accommodate, maintain, and facilitate the heterogeneity that TCP/IP had first
begun. Yet most people familiar with the DNS – certainly those who have read RFC
819 – would not characterize it as a set of codes that functions to advance diversity.
That is because the DNS reacts to differences by organizing them. This balance
between mixture and structure is somewhat similar to the way that TCP/IP
encourages variety by masking it. DNS code works so well that what most people
see is the order that it produces, not the mixture that it serves. This is again similar to
the accomplishment of TCP/IP – what people see and think they experience on the
Internet is one network, not thousands. At their origins, both sets of code, TCP/IP

\textsuperscript{56} Ibid.
\textsuperscript{57} Mockapetris, “Domain Names – Concepts and Facilities,” RFC 882. Also see Mockapetris,
and DNS, sought to harmonize the diversity that they also functioned to advance. But controversy has swirled around the DNS, the resources of an entire corporation are needed to manage it, and competing name systems still abound. TCP/IP, in contrast, had early, strong competitors, but since its initial acceptance as the principal internetworking code, it has thrived and continues to be lauded as the basis of the Internet. What accounts for the differences in the long-term reception of these two fundamental Internet protocols?

Despite his claim that the new address system would support “decentralization” of authority and “distribution” of service, Postel’s vision of the DNS was one of order and central control.\(^58\) Though at the time leading network engineers predicted that “an upper limit of about 1,000 networks” would eventually share the Internet, even that limited (in retrospect) projection was enough in 1982 to compel a more organized address system into being.\(^59\) The Domain Name System’s inverted family tree, complete with neat slots for second marriages, kissing cousins, and illegitimate children, is a metaphor for beautiful and perfect order. Even foreigners could join the family if they could fit in the right slot. Postel’s description of a foreigner’s manner of joining the domain name world shows how his hierarchical vision fit with his claim that the new address system was decentralized. “There might be a naming convention, say, in the FOO\(^60\) world,” Postel mused. “Allow[ing] interoperation” with FOO people “need[s] to be accommodated,” he stressed. “One way of accommodating [the FOO world] … is to declare it as a foreign system,” attaching “.FOO” on the end of its unfamiliar name so that it

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\(^{59}\) Clark, “Name, Addresses, Ports, and Routes,” RFC 814.  
\(^{60}\) This is not an acronym.
conforms to the DNS, thus becoming a child on the inverted tree. "What is implied here," Postel explained, "is that no standard convention for naming needs to be imposed to allow interoperations among heterogeneous naming environments." All you had to do was make sure to label it foreign (e.g., ".FOO"), and any entity from an "outside world" could enter your system with no trouble to themselves or to you. Postel's imagined design integrated differences by making them, and it did so in a way that did not confuse the family tree. Difference was welcome, but disorder was spurned.

Assimilation is a conservative way to accommodate difference. In Postel's plan, FOO world people would adapt to the domain world by allowing themselves to be assimilated to fit domain name people's needs. Heterogeneous naming environments (a FOO environment, a Domain environment, etc.) can coexist, but as far as domain name inhabitants are concerned, if those from other environments want to walk in the domain name world, they have to share in domain name conventions. Postel further educated RFC readers on this very topic a year after introducing it in 1982. "If some host in a domain somehow misbehaves in interactions with hosts outside the domain, ... the responsible person for the domain must be able to take action to eliminate the problem." Eliminating the problem is equivalent to the "banishment" from the Internet discussed earlier in the chapter. The DNS is benevolent (e.g., it will let you in), but it is not a pushover. Conform, or get out.

There is nothing wrong with this clear-cut way of building and managing an information network. Postel, Mockapetris, Cerf, Kahn, Metcalfe, and others had the

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63 Klein, "ICANN and Internet Governance," 5.
right to build the network as they pleased, as long as they satisfied the interests of their funding sources. They clearly did, because in the early 1980s there was still a healthy cash flow from the U.S. government, via ARPA, to the Internet project. In addition, as Janet Abbate and other network historians have documented, almost no one in the federal government was paying attention to the network scientists because almost no one understood what an internetwork was. The Internet engineering community in its earliest years was extremely independent, especially considering the institution it served, and there were few outside of this community pondering the long-term implications of their designs.64

Yet were the domain name world to become the biggest and strongest world, with the greatest resources, what would this mean for other naming environments? Could FOO people survive? Would they even want to survive as FOO people? Would any foreign community, for that matter, opt to remain and toil with few resources rather than conform to the dominant group? If not, would it matter? If so, what would its presence mean for the leading name universe? Could it continue as the root of the inverted tree? These are questions that in the early 1980s Postel and his peers – in daily practice accountable to no higher authority and vying with no other name systems – had the luxury to ignore. What was important to them at the time was the basic need for the domain name protocols to succeed.

To this end, in the mid 1980s, Postel issued a series of RFCs that took networks step-by-step through the process of abandoning the host table and adopting

64 Abbate, Inventing the Internet, 188.
DNS. The new name system swiftly expanded the Internet’s name and address space to the outer limits of anticipated future need. It tamed the chaos of the TCP/IP-inspired rush, eased anxiety over attaining popular names, provided collectively shared structure, and distributed the work, responsibility, and privileges of address administration. All of these attributes combined brought to the Internet greater numbers and kinds of networks and network users. The DNS organized and thereby encouraged the Internet’s continued growth.

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By the early 1990s, the Internet’s crucial suite of codes, TCP/IP, and its name and address space, DNS, had, in combination, achieved global interoperability in computer networking. Concomitant with the dramatic growth and global expansion of the Internet in the 1980s was the emergence of a cohesive Internet technical community. Two decades of government programs that supported internetworking had created, in the words of Milton Mueller, author of an engaging and meticulously researched history of Internet governance, a “cadre of technologists committed to the promotion and development of Internet protocols,” namely TCP/IP and DNS. This close-knit group, Mueller explains, matured into an internationally distributed community that thought of itself in the terms of the earliest network engineers – self-governing, meritocratic, and consensus-based – and therefore fashioned “its own

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66 Mueller, Ruling the Root, 73.
As the Internet turned into a mass medium and commercial product, the senior leaders of this community, "a technical priesthood," Mueller describes, "backed by federal largesse," had to work hard to maintain control of the Internet's name and number resources. Their claim to ownership rights, however, though persuasive to this day, would prove tenuous. They did not assert authority in the name of the United States or its government, but in the name of a stateless, emergent, and loosely defined "Internet community."

Waves of commercial growth popularized the Internet throughout the 1980s and early 1990s due to the success of TCP/IP and DNS and again after 1993 with the introduction of the World Wide Web. The power and reputation of the network's designers flourished as interest in the Internet increased and diversified. Their status as researchers, though, gradually faded as their roles as managers and protectors of the Internet standards they had created strengthened. As the importance and size of the Internet grew, its architects built a succession of formal organizational structures around themselves and their work. Mueller and other scholars maintain that the Internet's leaders intended these organizations to help safeguard their positions as "stewards of the Net." The first organization to emerge around the engineers' work

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67 Ibid.
68 Ibid.
69 Mueller offers the best account of the emergence of an elite, self-defined Internet leadership that worked meticulously to shore up control over the Internet's most important protocols and its future directions as a global (and even universal) communication medium. His book is a must-read for anyone interested in Internet governance. Also informing this paragraph are Adam Thierer and Clyde Wayne Crews, Jr., Who Rules the Net? Internet Governance and Jurisdiction (Washington, D.C.: Cato Institute, 2003), Abbate, Inventing the Internet, and Grossman, Anarchy to Power.
70 Mueller, Ruling the Root, 90. Two other experts who have informed my work on this subject are A. Michael Froomkin, a professor of law at the University of Miami, and Hans Klein, a professor of public policy at the Georgia Institute of Technology. See Froomkin, "Wrong Turn in Cyberspace: Using ICANN to Route Around the APA and the Constitution," Duke Law Journal 50 (2000): 17–184, Klein, "The Constitutional Convention of 1998: Designing Institutions for Internet Governance,"
was the Internet Activities Board (IAB) in late 1983. In practice, the new IAB functioned like previous ARPA committees and therefore (Mueller implies) consisted of “a self-selecting group of the original Internet people with no legal identity.” Nonetheless, the IAB held the official status as an “advisory board” for the Internet’s development. In a similar manner to the way that the IAB formalized the labor behind the Internet, Jon Postel’s name and address tasks became the Internet Assigned Numbers Authority (IANA) in 1988 and the technical cadre’s protocol development community became the Internet Engineering Task Force (IETF) in 1989. None of these organizations had any legal authority during their first few years. The institutionalizing frenzy culminated in the formation of the Internet Society (ISOC) in 1992. ISOC, a professional membership organization advertising on its website a commitment to “the Internet for everyone,” placed an “organizational and legal capstone” around the other institutions, like IAB or IETF, and was the most significant step, prior to ICANN, in the formation of a governance hierarchy for the Internet.

Just as they had done as graduate students twenty years before, the networking leaders created their canopy of protective institutions almost entirely independently of any greater authority. Still, at this time, neither the U.S. government nor major corporations were paying quite enough attention to notice that the Internet’s elite had created a non-governmental and non-profit segment of society

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For details on the purposes and activities of these organizations, see, in addition to Mueller’s work, Abbate, *Inventing the Internet*, Grossman, *Anarchy to Power*, and Thierer and Crews, *Who Rules the Net?*

into which government and business could not enter without playing by "Internet rules." John Perry Barlow’s celebrated “Declaration of the Independence of Cyberspace” best captures the spirit of the times:

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. ... You do not know us, nor do you know our world. Cyberspace does not lie within your borders. ... It is an act of nature and it grows itself through our collective actions.\(^74\)

The engineers’ moves toward formalization prompted opposition to their authority and methods. Disagreement coalesced around one question: who should control the root of the Internet’s name and address space? Whoever controlled the root of the Internet’s address tree, controlled the direction of the Internet, and likewise the growing interests in the Internet. Jon Postel had control over the root, independently until 1988, after that under the auspices of IANA until his death – and ICANN’s almost simultaneous creation – in 1998.\(^75\) Postel had more knowledge about the domain name system and its root than any other person alive. Even the U.S. government in the early 1990s, with little anticipation of the economic,

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political, and cultural significance that the network would develop worldwide, was content to defer to the technical community. But the technical community, the evidence makes clear, itself deferred to Jon Postel, at least when it came to the Internet’s names and numbers, the coordination of RFCs and their database, and numerous other seemingly mundane, but in fact vital and influential administrative tasks. “From a legal or organizational standpoint,” Milton Mueller contends, “the lines of policy authority” over the Internet “were tangled or nonexistent. But informally,” policy authority over the Internet “converged on one man.”

Gradually, however, the idea of one man controlling a database of increasing value became politically untenable. Ownership and control of the address root became an explicitly debated issue. Even Postel acknowledged in an October 1994 report on the difficulties caused by the rapid growth of domain name registration that the bigger problem underlying it all was that “it is unclear who actually [should] control the name space and what is fair procedure.” Battle lines formed with commercial interests on one side (wanting policies that were more proprietary than the technical community desired), the U.S. government on another (rightly claiming its position as the Internet’s original and most generous funder), and the technical community (which included most international interests) in the middle with the gold

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76 Mueller, Ruling the Root, 103. A contemporary of Postel’s and significant contributor to the Internet’s early formation, Craig Partridge, has said that in fact, “Jon Postel was the ‘defacto Internet standards process’ and the ‘IAB [only] served as his reviewing team.” Craig Partridge, email communication with Milton Mueller, July 2001, in Mueller, Ruling the Root, 280.

The top page of the RFC Editor website, http://www.rfc-editor.org, indicates the power of Postel’s position as RFC editor from 1969 to 1998. It explains the job of RFC editor in the following terms: “The RFC Editor is the publisher of the RFCs and is responsible for the final editorial review of the documents. The RFC Editor also maintains a master file of RFCs called the "RFC Index", which can be searched online. For nearly 30 years, The RFC Editor was Jon Postel, today the RFC Editor is a small group funded by the Internet Society.”

(e.g., de facto control over the root). As the technical community’s default consultant on the DNS, Jon Postel became the primary target of interest, admiration, and anger throughout the late 1990s as the struggles for the root intensified. Postel’s actions—and how they were perceived and acted upon—would greatly influence the formation of ICANN as the culminating stage in the twentieth century’s battle for the Internet’s root.

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In 1997, as part of the Clinton Administration’s Framework for Global Electronic Commerce, the U.S. government called for the “privatization” of the management of the DNS. Because of the Internet’s commercialization, its management had already moved in 1995 from the Department of Defense to the Department of Commerce (DOC). Two years later, the network’s commercial use had increased so much that commercial interests began to demand more authority in its management. International participation, as well, had increased, and many countries complained that the Internet was developing irreversibly in a U.S.-centric way. On June 5, 1998, the Department of Commerce published a White Paper stating its official policy on the Management of Internet Names and Addresses. The White Paper addressed the “pressures for change” in the Internet’s technical organization. Specifically, it commented on the lack of competition in domain name registration, the need for new mechanisms to resolve increasing conflicts between rival claims for the same address space, the appeal from the business community for a more formal and accountable management structure, the increase of non-U.S. Internet users and

their desire for a stake in the Internet’s coordination, and the inappropriate role of U.S. research agencies in directing what had become highly commercial. The DOC White Paper called for the “development of robust competition in the management of Internet names and addresses” and stated its intention to enter an agreement with a not-for-profit corporation managed globally. 79

The Internet Corporation for Assigned Names and Numbers, ICANN, was a direct result of the DOC’s call. Designed by the dominant coalition of network specialists who had created the domain name system in the first place, ICANN, a private, non-profit, California-based corporation, signed a “memorandum of understanding” with the DOC on November 25, 1998, becoming the first U.S. government sanctioned DNS oversight organization. Jon Postel, co-creator and long-time manager of the DNS, led the way to ICANN’s success. He drafted ICANN’s by-laws, chose the members of its initial board, and secured the DOC’s official blessing only hours before his death. 80 Embedded in ICANN’s structure for managing the DNS, then, is Jon Postel’s vision of a domain name world that is hierarchical, controlled, and patrilineal.

CHAPTER 4
THE SOUP TO NUTS OF ICANN:
REPRESENTATION, GEOGRAPHY, AND NATIONALISM

Anyone can attend a meeting of the Internet Corporation for Assigned Names and Numbers. Meetings happen quarterly and they last three to four days. In a single year, each ICANN gathering takes place in a different region of the world, and with one exception (the United States) no country has hosted a meeting twice.1 Accra, Shanghai, Montevideo, and Montreal are a few of the twenty locations ICANN has gathered within its first five years. ICANN’s peripatetic style reflects its effort to accommodate a globally dispersed constituency. That constituency is, in principle, the world’s seven hundred million Internet users.2 To effectively serve seven hundred million different people – much less seven hundred or seven thousand as the numbers once stood under Postel and IANA – is difficult at best. ICANN’s only consolation might be that its mission is narrowly technical – at least in theory. Mandated by the U.S. government as a “global consensus entity” to “coordinate the technical management of the Internet’s domain name system,” ICANN enables

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1 ICANN is incorporated in the state of California, and Marina del Rey, a suburb of Los Angeles, is the organization’s headquarters. Three quarterly meetings have taken place in Marina del Rey.
2 See chapt. 3, n. 4 for sources regarding the current number of online users.
access to the Internet for everyone in the world (who can first obtain a computer, a phone line, and basic literacy) by allocating unique network addresses. 3

ICANN has many challenges. With a board of nineteen members from all over the world, it tries to do the job that for decades was, for all intents and purposes, accomplished by one man, Jon Postel. Eighteen doing the work of one would seem ideal, until recognizing that ICANN's "global consensus" label necessitates cross-cultural and cross-national negotiations with multiple global entities that have, in principle, the same rights to an opinion and a vote in the management of the DNS as does ICANN's home country, the United States. When Postel managed the name space, he did so with ample funds but little oversight from the Pentagon, with the help and shared vision of a U.S.-based technical elite, and vis-à-vis strong personal and professional relationships that he had cultivated for decades with network colleagues around the world. Postel's reign over the network's address system was not democratic. It was meritocratic (the best ideas, most faithful service, and hardest work won the day), technocratic (opinions of the technical community were most seriously considered), and literally self-governing (in a bind, it was Postel who made all final decisions regarding the DNS). ICANN, in contrast, is contracted with the U.S. government to operate the DNS in a democratic fashion. It must allow one vote per board member, it must follow legally-binding bylaws, and it is accountable to the American public as a non-profit "public benefit" corporation of the state of California.

3 Memorandum of Understanding between the U.S. Department of Commerce and the Internet Corporation for Assigned Names and Numbers (MoU), November 21, 1998.
For those involved in Internet address issues, the switch to ICANN has been rocky. One of the more taxing directives given ICANN in its contract with the U.S. government is a very democratic one – to abide by a principle of “representation.” Specifically this means that ICANN must manage the DNS “in a manner that reflects the global and functional diversity of Internet users and their needs.”

This directive sounds much easier in theory than it has been to accomplish in practice. For one thing, the history of the DNS is grounded not in a broad and balanced representation of all of its users, but in the specialized interests of a technically-proficient few. Postel’s inverted family tree, it is useful to recall, only welcomed “foreigners” if they were labeled as such. In addition, the DNS structure that Postel described was founded upon and framed by principles of authority and power intrinsic to the U.S. military and American family alike. To share the oversight of the DNS with people from cultures that might not hold nor respect such principles is a challenge at best.

Another reason why the U.S. government’s charge to manage the DNS representatively has been difficult is that ICANN had no mechanisms or precedents in place by which to model its work. Never before in the history of humankind had there been a call for the global users of a global resource to privately (e.g., not through official governments) and democratically govern their shared resource. ICANN has had to invent the very mechanisms by which it has managed the DNS.

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4 Ibid.
5 Like the Internet protocols, TCP/IP and DNS, ICANN is a paradoxical entity. The U.S. government mandated it to be a private organization. The Department of Commerce directed it to be non-profit. Though a private corporation, it is officially classified as a “public benefit” organization. Incorporated in the state of California, its bylaws state that it is a global corporation, with a global board representing Internet users worldwide. And though said to be globally accountable, ICANN still retains a contract with the U.S. government.
Much of ICANN’s first two years, 1998-2000, was spent trying to achieve DNS management practices representative of the diversity of Internet users worldwide. Most observers of the process contend that ICANN did not succeed. Milton Mueller, a political scientist at Syracuse University and author of *Ruling the Root* (2002), the first full-length book on ICANN, argues that the “perspectives of end users and individuals were minimized [in ICANN] not because of a lack of participation or interest but because decisions about the design of the institution deliberately blocked their entrée into the process.”6 As laid out in its articles of incorporation and bylaws, ICANN’s structure was supposed to provide two avenues for broad representation: the constituencies of a “Domain Name Supporting Organization” (DNSO), made up of domain name stakeholder communities, and a membership structure that would elect nine “at-large” representatives to a nineteen-member board of directors. Mueller states, “both channels were totally or partially closed off to ordinary Internet users in ICANN’s first two years.”7 The DNSO, for example, though conceived as a home for nonprofit and civil society groups as well as business and trademark interests, in practice expanded the power of the latter and all but removed the influence of the former.8 And the membership requirement had been tacked onto ICANN’s bylaws only after a U.S. government request in October 1998 for “greater accountability of the board of directors to the Internet

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7 Ibid., 198.
8 “Five of the seven DNSO constituencies,” Mueller writes, “... represented business interests. Noncommercial interests were given one residual constituency that had to embrace an extremely diverse and ill-defined set of interests. No constituency for individuals was created; the leaders of a group that wanted to represent individual domain name holders were perceived as hostile to the dominant [leadership] and denied recognition.” Ibid.
Despite promising beginnings, ICANN’s management repeatedly delayed or obstructed the election of at-large board members, and once they were chosen in October 2000, the role of membership was minimized as much as possible.¹⁰

This chapter explores the process leading up to ICANN’s October 2000 at-large membership elections for ICANN board directors, an election conducted electronically and open to all Internet users anywhere in the world. The close focus on ICANN’s effort (or lack thereof) to give Internet users worldwide a voice in its decisions highlights in vivid detail a clash between a technology still relatively unbound by the rules and regulations of modern society and an international order defined by the geopolitics of nation-states, the economics of capitalism, and the power of the United States. ICANN’s critical decision to organize the representation of Internet users along geographic lines was, in a sense, a loss for an unbounded technology and a victory for the status quo. ICANN’s decision turned its board of directors into cartographers, who mapped and defined the spaces of the global network through subsequent decisions they made. The world map that they drew reinforced boundaries between nations and fueled national pride. I demonstrate this comprehensively through a concluding case study of the effects of ICANN’s decisions on two countries, China and Japan. The ICANN election experience in both countries featured anxiety over economic status in an emerging “dot.com”

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world, competitive attitudes toward the future of economic and political leadership in Asia, and recognition (as well as resentment) of the pivotal position of the United States as the empowered and empowering agent behind both of these concerns.

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Traversing the globe to follow ICANN is not possible for most people, so in addition to varying meeting locations, ICANN also “webcasts” its meetings over the Internet. These real-time audiovisual feeds of ICANN meetings enable online attendees to participate virtually in the same ways as those who are physically present. Remote participants can see and hear meetings with only a few seconds delay through computers, and simultaneously they can read scribe’s notes of all meeting comments. Just like those in actual attendance, online participants can submit questions to ICANN directors and “chat” with attendees - both virtual and actual - while the meeting proceeds. Throughout 1999 and 2000, the number of participants in ICANN meetings ranged from five hundred to over one thousand. Meeting attendees represented a broad mix of cultures, languages, and nationalities. 11 Meetings took place in English, with simultaneous translation for a few selected languages. One participant’s excitement over the range of ways to participate in an ICANN meeting reflects most initial reactions:

"This is truly an amazing process. I am reading the scribe, participating in a chat, and watching the webcast. I am no newbie, but its really interesting." 12

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11 Meeting attendance data is available on ICANN’s website, http://www.icann.org, and, as explained more fully in n. 15 below, on the website of Harvard University Law School’s Berkman Center for the Internet and Society. ICANN meetings are free and open to the public.

In July 2000 in Yokohama, Japan, ICANN held its last meeting prior to the at-large board elections in October 2000. These elections would culminate a two-year process of trying to build a membership structure for the organization as well as a mechanism that would represent member voices on ICANN’s board. The nineteen-member board of directors at that time included citizens of eleven different countries, five of them from the United States. Yet, while ICANN’s meetings were quite inclusive and its board multinational, its actions were too often biased and exclusive. Individuals with a stake or an interest in the management of the DNS arrived at the Yokohama meeting ready to express frustration.

On July 15, the third day of a five-day meeting, ICANN held its public forum, a standard part of its quarterly gatherings. Similar to the public forums held at previous ICANN meetings, participants had the chance to question or advise the board on any issue related to the general subjects under discussion over the course of the meeting. Concerns raised, discussed, and usually vigorously debated at ICANN’s public forums did have a significant impact on the short-term actions of ICANN’s board and staff, despite the relative absence of any bona fide at-large membership powers in the corporation. In line with the “Memorandum of Understanding”

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13 In the summer of 1999, ICANN’s management sealed the fate of at-large membership power. Their action provides an excellent example of why at-large members could effect change in the short term, but hardly guarantee that it would last.

In late 1998, ICANN formed a “membership advisory committee” to help it create its membership structure. On the committee were several individuals who, in response to the U.S. government’s call for proposals in July 1998, had posed alternative, more open and democratic models of private DNS management. Mueller informs that the committee members “took [their] challenge quite seriously” and hoped to incorporate into ICANN’s structure their own ideas of how a member-based organization should function. By May 1999, the committee had delivered a comprehensive membership plan to the ICANN board. The committee’s plan, Mueller writes, was “a highly democratic model accompanied by a convincing rationale for having at-large membership.” Mueller, Ruling the Root, 199.

ICANN’s response to the proposal was an official resolution predicting that elections would be “complex and expensive” and calling for the cost of implementation to be assumed by ICANN
ICANN had signed with the U.S. Department of Commerce (DOC) in November 1998, ICANN’s management was eager to appear (if not actually be) “accommodating to the broad and diverse interest groups that [made] up the Internet community.”\textsuperscript{14} So, at almost every quarterly meeting that ICANN had in its first few years, public participant objections prompted the board and staff to scale back or amend numerous ideas. The consequence of these pressures, however, amounted to a slow-down rather than an overhaul of ICANN’s market-oriented direction. Public meetings brought change, but private ones often adjusted that change to suit private needs.

The public forum in Yokohama was no exception to this rule, in the end, but it did take a direction few had expected.\textsuperscript{15} Many of the seven hundred people in

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members. (See Resolution on At-Large Membership, ICANN Board Meeting, Berlin, Germany, May 27, 1999, http://www.icann.org/berlin/berlin-resolutions.html.) Even more dismissive of future members (ICANN gained official members only after its membership drive in 2000, discussed below) was ICANN’s reaction to its discovery that under California law, statutory members of nonprofit corporations had certain powers that included the right to inspect accounts and records and take legal action against the corporation. By creating an election for at-large board members, ICANN’s managers realized, ICANN would be creating statutory members. (See ICANN Staff Report, “Statutory Members vs. Nonstatutory Members for the ICANN At-large Membership,” August 11, 1999.) They responded by employing a legal technicality to ensure that at-large members would not be members as defined by nonprofit corporations law. This, in turn, would prevent so-called members from claiming membership rights that were granted by law. ICANN’s management sought to avoid objection to these legal maneuvers by adopting an election plan as a board resolution rather than as an amendment to ICANN’s bylaws or articles of incorporation. By law, then, from this point forward, a member of ICANN had no rights that could directly affect the corporation. Direct election of at-large board seats did afford some at-large power, but as I will demonstrate, this power was weak overall and other organizational factors skewed it in favor of some and against others. Mueller, Ruling the Root, 199-200.
\textsuperscript{14} MoU, 1998.
\textsuperscript{15} I attended the ICANN meetings of July 2000 (Yokohama, Japan) and June 2001 (Stockholm, Sweden) in person. Several other meetings (in particular, Los Angeles, 2000, Melbourne, 2001, and Bucharest, 2002) I attended remotely, via ICANN’s multimedia, interactive meeting webcasts. Every aspect of this chapter is informed by my attendance at these five meetings. Statements that I directly quote or paraphrase from the meetings are individually credited throughout, but general observations are not.

ICANN meetings and online meeting archives are public proceedings and records. Archives are available through ICANN’s own website, http://www.icann.org, and via the website of Harvard University Law School’s Berkman Center for the Internet and Society, http://cyber.law.harvard.edu/home/open_governance/icann. Beginning with ICANN’s first public meeting in Cambridge,
attendance were angry with ICANN’s directors and staff for what they perceived as unfair and inadequate organization of the upcoming electronic elections for seats on ICANN’s board. Debate over the election process dominated the day-long forum. The elections were to be held in October and would give all ICANN members a chance to select board directors. In the weeks preceding the public forum, however, the directors had announced a controversial proposal: to reduce the number of seats open to member selection from nine – as originally promised – to five. They intended to vote this change into the ICANN bylaws at their meeting the next day. Up to that point, corporate and technical councils officially affiliated with ICANN (such as the DNSO) had chosen Board members. A total of nine Board members still served as “interim” directors appointed by founders of the organization two years before. This would be the first time that ICANN’s “at-large” membership body would help determine the composition of its Board. By the July meeting, over 60,000 people from over 170 countries had become ICANN members. So the board election was especially significant because it would involve a much broader base of Internet users, one that theoretically spanned the globe and embraced the geographic and functional diversity of the entire Network community. With this election, ICANN would achieve an element of the “bottom-up governance” and global representation.

Massachusetts, November 1998, for three years, the Berkman Center provided technical support for ICANN’s simultaneously offline and online open meetings. Berkman Center associates combined webcasting, web-based comment submission, and online real-time scribing in an effort to create “virtual” meeting spaces in the conference rooms with the board. Berkman associates archived these activities, as well as numerous other ICANN meeting materials, and have kept them accessible to the public through their website. Some of the types of archived materials on the Berkman website include ICANN meeting attendance records, audio-visual recordings, scribe’s notes, and participants’ chat room discussion. Berkman Center associates themselves have used ICANN materials as a centerpiece of their research on Internet governance issues. This research is also available on the Berkman website.

The Berkman Center’s work with ICANN concluded at the end of 2001, as initially planned. Current technical support for ICANN meetings [as of March 2004] pales in comparison to the Berkman Center’s and meeting archives are not nearly as comprehensive or research-friendly.
mandated by the United States government in its contract with ICANN almost two years before.\textsuperscript{16}

The proposed reduction from nine to five elected “at-large” seats on ICANN’s board flew in the face of this agreement. Many at the public forum were shocked, arguing with the board, “you shouldn’t stop the process before it has even started. We’ve been told there will be nine at-large directors [and] you can’t change that now.”\textsuperscript{17} The idea infuriated civil society and civil liberties organizations, many of which had devoted substantial amounts of time and money assessing the feasibility and significance of democratic global decision making in cyberspace.\textsuperscript{18}

The proposed reduction in directors also angered government officials. The Directorate General of the European Commission’s Information Society, Christopher Wilkinson, reproved the board, saying that it was “increasingly giving the impression


The NGO and Academic ICANN Study (NAIS), an evaluation of the ICANN elections by a group of academic and non-governmental experts on Internet governance, concludes: “The 2000 ICANN election broke new ground, not just for ICANN as an organization, but for the world as a whole. While, for ICANN, the election was an untested first attempt at representing the public interest through the election of Directors, for the world the election was an untested attempt at a fully online, truly global election of unknown size and scope. The experience of the election offered insight into the core strengths and weaknesses of such an election.” Izumi Aizu, Alan Davidson, Christian Ahlert, Scott Harshburger, Alan Levin, Raul Echeberria, and Clement Dzidonu, et al., “ICANN, Legitimacy, and the Public Voice: Making Global Participation and Representation Work,” The NGO and Academic ICANN Study (NAIS) (August 2001), 34, http://www.naisproject.org/report/final/.


\textsuperscript{18} “Reflections on the ICANN Meeting in Yokohama,” The Cyber-Federalist No. 2 (July 17, 2000). The following non-governmental and academic organizations have been actively involved in the research, analysis, and support of ICANN’s work: Harvard University Law School’s Berkman Center for the Internet and Society, The Markle Foundation, The Center for Democracy and Technology, Common Cause, and Computer Professionals for Social Responsibility. See the bibliography for each organization’s ICANN-related publications.
of being extremely cavalier in changes to the bylaws."¹⁹ A German participant on ICANN’s Membership Implementation Task Force informed the board that many in his country were worried “that ICANN might be very powerful [and] not reflect their interests.” As such, he warned, “the more vague the board is [about its reasons for weakening at large representation], the more radical the elected … director from Europe will be.”²⁰ A participant in the meeting’s online chat room agreed and wrote, “The board is diminishing [its] reputation with every rebuff of the at-large election question.”²¹ If ICANN’s board imposes the change, Russian entrepreneur Aleksey Markovich advised the directors, they should first make sure to “reiterate ICANN’s commitment to [a] strong public voice [in the organization] and to [permanent] seats set aside directly for that voice on the ICANN Board.”²²

In responding to these suggestions, accusations and threats, board members and senior staff explained that there were tensions among the projected timing, available funding, and professed ideals of the membership elections. These tensions, they argued, were causing “inherent difficulties in electing half of the board” at one time and in less than three months. ICANN’s legal counsel, Joe Sims, explained that selecting only five directors through ICANN’s first at-large elections would enable

¹⁹ ICANN Public Forum, Yokohama, Japan, July 15, 2000. Indeed, only minutes before Wilkinson’s statement, president and CEO of ICANN, Mike Roberts, had commented publicly, “We have the ability to revise the bylaws as the board chooses for precisely the need to make alterations without too much legislative action.”
²⁰ Lliya Nickelt, Public Forum, Yokohama.
²¹ Gene Marsh, Real Time Chat Log, Public Forum, Yokohama.
²² Aleksey Markovich (entrepreneur, Eastern Siberia), Scribe’s Notes, Public Forum, Yokohama.

Underscoring all of these statements by framing them in the context of one of ICANN’s earliest broken promises (the commercial emphasis of the DNSO belied ICANN’s contracted commitment to “promote … public input … into a private-sector decision making process”; see MoU, n.3 above), Yari Feld commented that the “community was initially told that individuals would have their say … [But an] individual DNSO constituency was not created. [Consequently, we] need general membership so that individuals have their fair say. [It is] okay to have fewer new directors initially to maintain continuity, but [we] need to make sure the process moves forward.” Yari Feld, Scribe’s Notes, Public Forum, Yokohama.
the ICANN community to study the strengths and weaknesses of the election process and make improvements before establishing a permanent system. At that time, ICANN was literally a work-in-progress, still supervised by and under contract with the DOC. The board’s justification for suspending part of the elections until better research and analysis could be accomplished made sense. Preparations for the first election were incomplete and chaotic. As the July meeting got underway, there were no supplementary funds allocated for the elections, candidate nomination and campaign procedures had not been approved, and “widely divergent views” concerning “the purpose of and rationale for the At-Large membership” body persisted. Yet, to honor its contract with the DOC, ICANN’s board had to seat its first at-large directors at its Los Angeles meeting in November. The nine to five proposal was, purportedly, simply a way to ease the strains of little time, insufficient money, and diverse expectations.

When viewed in light of a series of reports and resolutions in the fourteen months prior to the July gathering, the intense opposition to the board’s proposition is surprising. The directors began to design the at-large membership component of ICANN in earnest in May 1999. One of four initial guidelines they established as they created a membership structure determined that “the election process for At-Large Directors should take place in stages, to allow for adjustments in the process

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23 Joe Sims (ICANN Legal Counsel), Public Forum, Yokohama.
25 The original deadline was September 2000. Due to the pressures mentioned here, ICANN had negotiated with the Department of Commerce a two-month extension for selecting the first at large board directors.
26 NAIS contends, “ICANN’s accomplishment in coordinating an election of this scope – on a short timeline and with limited funding – deserves recognition.” NAIS, 34.
based on experience. In an independent assessment of ICANN’s election plans conducted after the corporation’s November 1999 meeting, non-profit public interest groups Common Cause and the Center for Democracy and Technology (CDT) encouraged “institutionalize[d] periodic review[s]” of the at-large election processes and “a clear sunset for the current rules.” Recognizing “the experimental nature of these open, global, on-line elections,” they also advised ICANN to “place the goal of holding effective elections ahead of the goal of completing them [on time].”

Discussion of this report at ICANN’s March 2000 public forum in Cairo, Egypt sparked a debate over the pros and cons of introducing nine new board directors at the same time. Several in attendance expressed “concern” that “half the board is to be elected at once” and urged that “consideration … be given to the possibility of electing a small initial membership.” In response to these opinions, which many board members shared, chair of the board, Esther Dyson, suggested that ICANN could “go ahead with fewer directors … either five now only, or five now and four later.” After the public forum ended on March 9, ICANN staff wrote a resolution that revised the at-large election plans to better reflect the interests of ICANN constituents. The “Cairo Resolution,” as it came to be called, reiterated the importance of “a comprehensive study of the concept, structure, and processes relating to the At-Large membership” and stressed that the study should “begin promptly following the selection” of the first at-large directors. The resolution also

27 ICANN Staff Report, August 11, 1999.
29 Clara Montjoy, Scribe’s Notes, ICANN Public Forum, Cairo, Egypt, March 9, 2000, http://cyber.law.harvard.edu/home/open_governance/icann and Hiro Hotta, Scribe’s Notes, Public Forum, Cairo. Montjoy continued, “[We] should thoughtfully take the time to get this process right.”
30 Esther Dyson (Chair, ICANN Board of Directors), Scribe’s Notes, Public Forum, Cairo.
called for “the initial selection of five (5) ... At Large Directors ... by a direct ballot of qualified ICANN members.” After ample discussion, the Board passed the resolution unanimously. The Cairo Resolution was a triumph for public participation in ICANN. Not only had the board listened to and discussed the advice of its interested public, it had also taken that advice and begun to build the at-large elections around it. In the preface to their advisory report, written and posted to the Web soon after the board’s decision, Common Cause and CDT applauded the Cairo Resolution “as a major improvement in ICANN’s At-Large election model.” They offered no criticism of ICANN’s decision to select only five directors in the upcoming fall elections.

Why, then, did July 2000 participants in Yokohama accuse the board of being “vague” and “cavalier” in handling the at-large elections? Alan Davidson, Staff Counsel for CDT, spoke earnestly during the public comment period in July against the nine to five reduction, yet he had been the director of the Common Cause/CDT at-large election study which had praised ICANN’s Cairo Resolution four months prior. An investigation of scribes’ notes, chat room logs, and official minutes and reports from both meetings – Cairo and Yokohama – offers little explanation. In fact, the two meetings seem identical in terms of the topics addressed, debates had, allegiances made, and personalities observed; only details and highlights change. Somehow, between March and July, ICANN lost ground with its supporters and the

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31 “The Cairo Resolution,” ICANN Board Meeting, Cairo.
32 Though the board’s agreement to ease the pace of installing ICANN’s nine at-large directors was a victory for many, the major triumph of the Cairo Resolution was that the board agreed to hold direct elections of at-large board members rather than, as it had initially proposed, indirect elections through a board-created “at-large council.”
33 “ICANN’s Global Elections,” Common Cause and CDT.
accomplishments in Cairo all but dissolved. Seating five at-large directors as opposed to nine in November 2000 was no longer viewed as careful planning by most meeting participants in Yokohama, but as a duplicitous attempt by board and staff to permanently restrain at-large member power. “Ah here we go … ,” Greg Burton sighed in the virtual chat room as the board switched topics during its final July meeting and got ready to vote on the nine to five proposal.

Reducing the at-large directors from nine to five would lower the quantity, volume, and variety of at-large member voices and decrease opportunities to participate in any meaningful way in ICANN’s decision-making processes. As the German citizen implied, among the effects of a nine to five reduction in user representation on the board would be an increase in the value of individual at-large seats. Even though the board did pledge to hold elections at a later date for the four remaining seats, one of the most important decisions of ICANN’s tenure to that point

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35 Greg Burton, Gene Marsh, and Vittorio Bertola, Real Time Chat Room, ICANN Board Meeting, Yokohama, Japan, July 16, 2000. http://cyber.law.harvard.edu/home/open_governance/icann. This short conversation between Burton, Marsh, and Bertola appears here in exactly the same format as it appeared on the actual chat room website. Notice that the date on each chat entry is July 15, though my citation says July 16. The chat board recorded U.S. Eastern Time because the meeting’s computer server was located at Harvard University’s Berkman Center. In July, Japan is thirteen hours ahead of U.S. Eastern Time, putting it a long workday ahead. Though recorded as a July 15 meeting on the computer, in Yokohama the final day of ICANN’s board meeting happened on July 16. The chat room format and the discrepancy in day and time for attendees of the very same meeting both help to convey the environment within which ICANN works and about which it deliberates: a densely networked trans-global space of high tech privilege.
the selection of new Top Level Domains – was scheduled for a vote at the November meeting of that year. Having a say in the first significant expansion of the Domain Name Space since 1984 meant helping to determine the direction of the world’s gigantic e-commerce economy. While equally important decisions would be made after November, there was no guarantee that ICANN would fulfill its pledge to elect four more directors.³⁶ The nine to five proposal itself was an unanticipated attack on the founding bylaws, and with only 26% of the Board’s vote, the five new at-large directors would have limited ability to deter future challenges to the promised seats.³⁷ The Board’s actions convinced many people that they must act quickly to restore the original intent of the governing policies.

At its meeting the next day (July 16), the board did indeed vote unanimously for a reduction in the available seats for the upcoming at-large elections. The

³⁶ In fact, ICANN did not stick to its word on this issue. At its Accra, Ghana meeting in March 2002, the board determined that there would be no more at-large elections for ICANN directors. See the minutes of the ICANN Board Meeting, Accra, Ghana, March 14, 2002. http://www.icann.org/accra. ³⁷ As determined in Article IV, Section 10f of the ICANN Bylaws, a “majority vote” (or, ten out of nineteen) was needed for the Board to make and act on decisions. Even nine at-large directors fully united could not force a board’s direction. Bylaws for Internet Corporation for Assigned Names and Numbers, October 2, 1998. http://www.icann.org/general/archive-bylaws.

An interesting exchange in the public forum chat room of the Yokohama meeting shows attendees’ awareness of at-large membership weakness. The exchange, archived at http://cyber.law.harvard.edu/home/open_governance/icann, reads as follows:

<MC> 5 still doesn’t affect percentage wise out of 19
<SotirisSotiropoulos> it's better than nothing
<MC> True it is a start
<SotirisSotiropoulos> one person even can make a difference
<MC> one would hope
<SteveLee> guess that's depends on how that 5 will represent the rest.
<SotirisSotiropoulos> it is a gesture we cannot ignore
<MC> Important to get your foot in the door
<SotirisSotiropoulos> very
<GeneMarsh> it's not just a gesture [sic], it's potentially a block
<SotirisSotiropoulos> no
<SotirisSotiropoulos> no way
<baptista> sounds like another dogs breakfast in the @large,
electorate would remain the same – ICANN’s membership body – but its representatives would shrink to five.38 As the number of at-large directors narrowed and the value of being such a director rose, the competition for the five seats intensified. The day after the ICANN meeting and the associated Internet Society conference ended (July 23), the number of registrations for ICANN membership hit a new one-day high of 14,297, a 380% increase over the previous peak day of 2,982 registrations (June 29). Persons from 82 different countries registered on this day, an increase of 80% over the number of countries represented on the earlier record day less than a month before.39

Still a fledgling corporation, ICANN had opened its membership registration website only five months before, February 25, 2000. Any Internet user from anywhere in the world could become an ICANN member. Theoretically, then, any Internet user from anywhere in the world could vote in the ICANN elections. There was, however, a deadline for membership registration. The elections were scheduled for the fall, so to allow for administrative and technical preparations and the nomination and promotion of candidates, the registration deadline had been set for July 31. This was just over two weeks to the day after the board’s decision to reduce

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39 I calculated all of the statistics presented in this paper using six lists of membership registration and election data supplied in the Berkman Center’s ICANN archives, also accessible through ICANN’s website. The data includes: (1) worldwide registration numbers per day, (2) country specific registration numbers per day, (3) grand total registrations for each country, (4) number of membership activations by each region, (5) number of membership activations by day, and (6) number of returned PIN letters for each country.

Regarding ICANN’s effort to collect registration and election data, the NAIS report is critical. NAIS remarks that “critical questions about the election in several key areas could not be answered” and proceeds to list numerous examples of missing information. “Whether the data scarcity can be properly attributed to reticence on ICANN’s part or to technical shortcomings of the election system is unclear.” NAIS continues. But considering the experimental nature of the 2000 election, ICANN’s failure to make advance provision for thorough analysis of the election data is disappointing.” NAIS, 47.
the at-large space. This strict deadline, combined with the passions roused by weakened representation, had much to do with the registration rush. At its most intense, the sprint to get into ICANN lasted for four concentrated days – with a 37%, 70%, and 40% increase in registrations over each previous day. The highest day on record (July 25) saw 24,310 registrations from 112 different countries. [See Table 1]

<table>
<thead>
<tr>
<th>Date</th>
<th>Total Registrations</th>
<th># of countries with at least one person registering</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 23, 2000</td>
<td>14,297</td>
<td>82</td>
</tr>
<tr>
<td>July 24, 2000</td>
<td>19,566</td>
<td>101</td>
</tr>
<tr>
<td>July 25, 2000</td>
<td>24,310</td>
<td>112</td>
</tr>
<tr>
<td>July 26, 2000</td>
<td>20,034</td>
<td>90</td>
</tr>
</tbody>
</table>

To put these numbers in perspective, when the planning began for the elections at the Los Angeles ICANN meeting in November 1999, ICANN staff had expected only between 1,000 and 10,000 voters total and as such had developed a system that would support an average of 100 applications per day, with a maximum of 500 per day.40 In its preparation materials for the March 2000 meeting in Cairo, ICANN’s target threshold for membership registrations was set at 5,000, under which the at-large elections would have to be suspended.41 But by the start of the Cairo meeting, membership numbers had jumped to 7,000 and by June the daily rate of applications was 1,000. Chief Policy Officer of ICANN, Andrew McLaughlin, acknowledged at

40 ICANN Board Meeting, Yokohama, Japan, July 16, 2000.
41 ICANN, “ICANN Meeting in Cairo: At Large Membership and Elections.” http://www.icann.org/cairo2000/atlarge-topic.htm. Also see ICANN President and CEO Mike Roberts’ reference to a “minimum goal of 5000 members” in the minutes from a special meeting of the board on December 9, 1999.
the July meeting that this was "several times more than the design capacity of the machines and software" and that the "current system isn’t holding it well."

Membership applications, he reported, had reached 50,000 and this overload was crashing the machines and making the server unresponsive at times, potentially leaving people out. ICANN President and CEO, Mike Roberts, lamented that "while a few limited changes could be made, the system [is] basically resistant to upgrade." He reminded the board – and everyone present – that ICANN’s electronic registration design was, in fact, “consistent with original goals.” Objections to proceeding with membership registration despite faulty machines were rendered useless when McLaughlin informed that the staff “[had] decided that it’s better to completely serve the people who have already registered rather than to do a bad job for everyone.”

Board Director Vinton Cerf captured the irony of the crisis, calling it a “success disaster.” Neither word was too strong for that moment. By the July 31 deadline, ICANN had received 158,593 registrations from 194 countries, an outcome thirty-two times greater than anticipated. Interest in ICANN far exceeded anything imagined. But the disaster was also real in that, as McLaughlin presumed; large numbers of people trying to get into the system could not. Just how many cannot be measured, but post-election surveys and listserv, chat room, or web-log comments indicate that there were thousands turned away by server failures.

42 Andrew McLaughlin, ICANN Board Meeting, Yokohama.
43 NAIS, 45.
44 McLaughlin, ICANN Board Meeting, Yokohama.
45 Vinton Cerf, ICANN Board Meeting, Yokohama.
46 ICANN Election Data, Berkman Center ICANN archives.
47 NAIS, 36, 45-46 and ICANN Public Forum, Yokohama.
Here in Italy only 150 people [are] registered," wrote the leader of Italy’s membership drive. “The problem is that the ICANN site is dead – 90% of registrations fail!” Spoiling the president’s July 2000 story that “the system [is] basically resistant to upgrade” is the 2001 NAIS election report, which argues that, on the contrary, the registration technology could have been scaled and the high level of interest in ICANN should have been predicted. The whole point of the elections was to enable people around the world to have a say in the direction of ICANN and in the coordination of the Domain Name System (DNS). It was thrilling that thirty-two times more people than expected had signed on as members of ICANN, but it was also inexcusable in an election purporting to represent interests across the globe for anyone who wanted to join to be excluded.

Participants at the Yokohama public forum on July 15 minced no words in expressing dissatisfaction. “The system chosen does not work for Africa,” explained Pierre Dandjinou, president of the Internet Society chapter in Benin. Specifically referring to the costs of browsing time necessary to wait on the server response as well as the dearth of networked computers on hand, he continued, “Yes, we were given a mission, but we have no resources.”

50 A Cambodian man reported that there had been only one Cambodian applicant to ICANN membership because the

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48 Bertola, Real Time Chat Room, ICANN Board Meeting, Yokohama. “You always get ‘[database] is overloaded’ :(. ” Bertola continued.
49 NAIS, 45-50. “Server capacity was eventually increased ... and ultimately permitted as many as 24,000 registrations per day. Such an increase in capacity indicates that the system was less resistant to scaling than had been thought; ICANN has not commented on the types of upgrades that were made.” NAIS 45. “The ICANN Board severely underestimated community interest in the 2000 election, but more troubling was its installation of voting/registration systems that could not be easily scaled up to handle unexpected demand.” NAIS 47. The serious technical difficulties and inexplicable inability of the board to anticipate at-large interest are two prominent weak points that made the 2000 At-Large Election only a “qualified success” according to the NAIS report. NAIS 46.
50 Pierre Dandjinou, ICANN Public Forum, Yokohama.
application was available only on the web and not in a faster, simpler, and more commonly accessible email-based form. Similarly, Japanese complained that because “millions of Japanese users” connect to the Internet only through their mobile phone, ICANN’s web-based application was creating a biased process. Concern spilled over into requests for an extension of the registration deadline and questions about fees for future members. Some worried over suspected disparities in the involvement of men and women and wondered if ICANN should take action to encourage more female interest. One German participant raised the possibility that the registration debacle – in the end – would favor U.S. interests. Others cautioned more generally about the vulnerability of the election system to capture by any special interest anywhere in the world. Somewhat flippantly, Esther Dyson, then chair of ICANN’s board, responded to these concerns saying, “There aren’t real-world elections out there without fraud.” She followed this remark with a more reassuring promise that the follow-up study of the election process would be taken seriously.

Board directors and principal staff were at once delighted and bemused by the degree of interest shown in ICANN during the run-up to the membership deadline. “The outreach task force, in effect, was too successful,” one director remarked as he

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51 Spoken comment, ICANN Public Forum, Yokohama.
52 Hotta, ICANN Public Forum, Yokohama. Recall Japan’s “mobile phone culture” discussed in Chapter Two. Japanese and many others throughout Asia access the Internet primarily through their hand-held phones, and hence text messaging (e.g., email) is by far the most convenient medium of information and communication.
53 For these and many additional comments not mentioned in my text, see the Berkman Center ICANN archives of Yokohama’s public forum (including chat logs, scribes’ notes, and meeting minutes) and ICANN’s own summary report of the meeting.
54 Dyson, ICANN Public Forum, Yokohama.
tried to make sense of the climbing numbers. CEO and President Roberts worried that “well-meaning people all over the world are mistakenly calling this a ‘global election’ and not noticing that we’re a small company with a limited mission.” In Roberts’ opinion, the expectations for the elections were “all out of whack,” and he reminded his energized Board: “the difference between our aspirations and the reality at the moment are vast.”

Director Vinton Cerf, to the contrary, perceived great significance in the high registration turnout. “What we are doing in some very global sense,” he explained, “is creating a global election process that has never been done before. This whole process is pretty phenomenal. We don’t need to make this too big a deal, but people may start trying to copy us.”

Also mindful that the surprising developments “foreshadow[ed]” future experiences, Board Member Jun Murai urged his colleagues to document the entire process in detail.

Why the differing reactions among ICANN’s leaders? All of them seemed to agree that something significant was taking place. But while some were adamant that misperception drove the registration frenzy, others sensed a defining moment in the development of transnational governance.

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In its very name the Internet claims to transcend national boundaries, but the reality is that controversies over Internet governance have often been dominated by nationalist sentiments. This ironic fact became especially apparent at the Yokohama meeting in July as ICANN continued to prepare for its first board elections. The

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55 Spoken comment, ICANN Board Meeting, Yokohama.
56 Roberts, ICANN Board Meeting, Yokohama.
57 Cerf, ICANN Board Meeting, Yokohama.
58 Jun Murai, ICANN Board Meeting, Yokohama.
election process brought to the surface conflicts pitting wealthy northern ("Western")
countries against Global South ("Third World") nations. It also elicited criticism of
the United States and its imperial ambitions from citizens of numerous other nations.
In response to these fears, ICANN decided that the five new members of the board
would not be elected entirely at large; instead each would represent one of five
regions. Yet division of the world into five regions provoked still more controversy,
with many citizens from non-Western nations criticizing ICANN’s classifications—
and others turning against each other. Once the election rules had been set, these
conflicts among regions gave way to new conflicts, this time among the nations that
comprised each region. In nearly all of the five new regions, numerous citizens in
each of the most Internet-involved nations scrambled to make sure that the region’s
seat at the ICANN table would be filled by one of their own.

ICANN’s mostly-American founders entertained heady visions of an election
in which every voter would think internationally. Yet as the election approached,
numerous ICANN members in nearly every other nation expressed concern that it
would be dominated by the United States. For instance, an Australian complained
that ICANN’s proposed election procedures were “U.S.-centric.”59 On July 4, 2000,
a Malaysian wrote in to ICANN’s public comment page: “The U.S. government does
not own the internet nor does it have the right to control over the internet through
ICANN. I appeal to everyone who is not a US citizen/resident to boycott ICANN’s
Yokohama meeting!”60 Non-native English speakers’ persistent counsel throughout

59 Erica Roberts, ICANN Public Forum, Yokohama.
60 wiredz, “ICANN Should be Disolved [sic],” Election Committee Recommendations, ICANN
the Yokohama meeting that “not everyone speaks native English” was largely
directly at Americans and was prompted by a common frustration that ICANN’s
governance was “‘Dollarcratic’” and “colonialistic.” Others, especially in Latin
America, were worried not only about the United States but about the “rich
countries” generally. One Latin American asked about ICANN’s policies toward
“outsider countries … where Internet development is low.” Guillermo Carey of Chile
requested “specific policies for an outreach” to these countries and warned that if
differentiation in ICANN’s approach toward first and third world countries was not
made, then, when the “second [Internet] gold rush” comes, “we [poor countries] are
going to be left out again.”

These general concerns assumed a more specific focus when the ICANN
board members announced that they had, for the sake of organization and
administration of the global elections, assigned each of the 243 nations and territories
in the DNS network to one of five distinct regions. At their October 1999 meeting,
board members gave unanimous consent to a proposal to define the five regions as
Africa, Asia/Pacific, Europe, Latin America/Caribbean, and North America. Other
ideas about how to enable the world’s Internet users to elect at-large directors that
truly represented the breadth of their diversity were suggested, but because of limited

61 Luque, ICANN Public Forum, Yokohama.
63 Guillermo Carey, ICANN Public Forum, Yokohama. Kiyoshi Tsuru of the Mexican Association for
the Protection of Industrial Property agreed with the concern about developing countries. “Even
without resources to do a massive campaign, [ICANN] need[s] to work to help entrepreneurs in
developing countries.” Tsuru, ICANN Public Forum, Yokohama.
64 ICANN, Bylaws for Internet Corporation for Assigned Names and Numbers, As Amended and
Restated on 29 October 1999, October 29, 1999, http://www.icann.org/general/archive-
bylaws/bylaws-29oct99.htm#V. Two special meetings of the board discussed the bylaw changes of
October 29, 1999. These include, ICANN, Unanimous Written Consent of Directors in Lieu of a
time and funds, directors chose the clarity, manageability, and efficiency of this five-region model with very little debate. In establishing electoral regions, board members recognized that the risk of privileging (accidentally or otherwise) certain nations, language groups, or vested interests over others was substantial. In light of this problem, the board selected its geographic regions based on standards previously established by the United Nations. “Existing international norms,” Senior Policy Advisor McLaughlin explained when recalling the process at the Yokohama meeting, would provide the “best possible, most neutral list,” not only for determining regions, but also “for [deciding] the regional distribution of countries.”

Until it was time to actually make those distributions and categorize each nation by geographic region, few contested ICANN’s five-region model for membership elections. Public discussion about the assignment of nations to regions, however, was scheduled to begin in June 2000 via ICANN’s online “Public Comment Forum” and continue through July 11, 2000, two days before the Yokohama ICANN meeting would commence. These were exactly the same weeks when the board’s plan to renege on its promise to preserve nine board seats in perpetuity for membership election was leaked to the CDT. Had ICANN members not had to face this seeming deception, a probable reduction by almost half in their representation on the board, and their nations’ regional branding all at the same time,

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65 In addition to the references above (Bylaws, Unanimous Written Consent, and Special Minutes of the Initial Board, all of October 1999), see the archives of the Los Angeles ICANN meeting, held November 1-4, 1999, for complete coverage of the initial discussions about creating geographic electoral regions. ICANN Meeting, Los Angeles, California, November 4, 1999, http://www.icann.org/losangeles99/ and http://cyber.law.harvard.edu/icann/la/archive.


67 McLaughlin, ICANN Board Meeting, Yokohama.

the outcry over ICANN’s questionable approach to at-large membership might have diminished. As it was, though, and as seen in the nine-to-five controversy, many members felt as if they were being robbed of their own voices. ICANN had, metaphorically, taken a pen and outlined on a map of the world five distinct areas that could have representatives on its board. Or rather, ICANN’s “interim” board – the original nine directors largely selected by Jon Postel – had taken the pen and drawn these regions through their unanimous consent in October 1999.69 The responsibility of the subsequent ICANN board – the first “real” board, which took effect in November 1999 and consisted of nine additional board members elected by ICANN’s three supporting organizations – was to assign each nation to one of these five regions.70

Quite literally, ICANN’s directors were cartographers of the Internet. The interim board drafted the first version of ICANN’s world map. Its successor – which included itself – drafted a second version of ICANN’s world map that had nation-states informally penciled in. This version of the map – the second draft – was the version presented to ICANN members for online comment and review in June 2000, and again on July 15 at the Yokohama meeting. At their most basic, ICANN’s maps are in the form of lists rather than graphic renditions of the earth’s topography. The first map, then, was a list of five items: Africa, Asia/Pacific, Europe, Latin America/Caribbean, and North America. The second map was a list of 248 items –

69 See Bylaws, October 1999, Unanimous Written Consent, and Special Minutes of the Initial Board.
70 ICANN Meeting, Los Angeles, California, November 4, 1999, http://www.icann.org/losangeles99/. To be precise, the interim board’s five-region model was incorporated into ICANN’s bylaws by “unanimous consent” on Friday, October 29, 1999. Per its agreement with the U.S. Department of Commerce, this nine-member interim board decommissioned itself on Monday, November 1, 1999 at ICANN’s “First Annual Meeting” in Los Angeles, and at the same time commissioned the new eighteen-member board. It is worth noting that the interim board changed ICANN’s bylaws, and established the five regions, one working day prior to its close.
243 nations and territories categorized under the original five items, world regions. The third map, upon which the at-large membership elections would be based, was finalized on July 16, 2000, the day after the public forum, and consisted of the same number of items and categories as the second map, but with some of the items rearranged. All of these maps can be found – in words, not graphics – in the corporation’s public archives which are available on its website. They look like lists, and the means by which they were produced appear as proposals, bylaws, letters, scribe’s notes, and contracts. But in effect they are maps. They are maps of a world consisting of 243 political entities that use the Internet. Considering that there are only 250 political entities on a geographical world map and that the economic, cultural, and political effects of the Internet extend beyond those who actually use it, it is safe to say that ICANN’s maps are maps of the entire world and that ICANN mapped the world for the purpose of coordinating representation on its board of the globe’s then 500 million Internet users.

The board’s cartographic approach to its online election was, it avowed, an attempt to coordinate as effectively as possible a potentially huge electorate (in theory, all 500 million network users) in a limited amount of time (by November 30) for a global event that had never been tried. Categorization of some sort had to happen in order to achieve a balanced representation of possibly millions through ICANN’s initially nine, but ultimately five, at large board seats. ICANN’s design was familiar to all and thus, on the face of it, clear and comprehensible. Even so, that categorization had to happen is one thing; that it happened the way it did is another.

There are other ways the board could have organized the elections (via levels of network use or availability, for example, or according to population density – ideas which were considered in both on and offline discussions) and, as discussed, no board members actually expected a large voter turnout.
The categories chosen had meaning to the 500 million Internet users who would go in them, and the interim board’s act of selecting those categories had meaning as well, not only for themselves, but eventually for millions of Internet users, too. The ICANN board chose to organize Internet users according to geographic and political regions of the world. This choice immediately tied the Internet to the historical and contemporary experiences of these geopolitical regions. One does not have to look much further than the writings of Edward Said and Benedict Anderson to find arguments for the creation of these geopolitical entities through the collective cultural imagination of Western (European) societies. The names and characteristics they assigned to the different cultures that they found had a powerful European bias, one that was rooted in centuries of colonization and domination of cultures around the world. The maps that Europeans drew to represent the world they imagined and, in many ways, controlled also contained these biases. Because of superior means of disseminating information (e.g., the printing press), the European world map became the de facto standard world map for almost everyone, including those who had no say in the name, characterization, or geographical demarcation assigned to them. These power relationships linger in the geographic and political distinctions familiar today, they are at the heart of the United Nations’ own regional classifications, and they were a part of the heritage that came with the interim board’s five-region model. To hide behind the cloak of “existing international norms,” as many ICANN directors and staff have done in their defense of the election procedures, is not to hide at all.

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73 McLaughlin, ICANN Board Meeting, Yokohama.
Despite all of this, the most thoroughly researched critical analysis of the membership election process in 1999 and 2000, the *NGO and Academic ICANN Study* (NAIS), published in August 2001, argues that ICANN’s five-region model “made sense in its context” and was the best organizational strategy available given time, money, labor, and technical constraints. Though there were significant problems, the study maintains, the “[model’s] adoption cleared the way for a speedy and manageable election.” In other (NAIS) words, “the five-region model was low-resolution but high-efficiency.” It is true that ICANN achieved an election of a type (online) and scope (global) that had never been done, tried, or even much thought of before. Vinton Cerf was correct to say that the “whole process is pretty phenomenal.” But Jun Murai was more precise in noting that “the process of forming ICANN marks a unique moment” specifically because “it has become relevant far beyond the limited technical tasks” for which it was originally intended. Even if ICANN had met its deadlines, stayed within budget, and built a robust technical system for the elections – which in many respects, it did not, the significance of its elections would not lie in their efficiency, Murai suggests, but in the “low-resolution” issues – those matters that were not clear-cut – that had emerged. Difficulties such as the nine-to-five debacle, membership distrust of the organization’s leaders, or, as foreshadowed by the board’s geopolitical taxonomy of Internet users, the paranoia of nation-states, were precisely the blurred issues that

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74 NAIS, 42-43.
75 Cerf, ICANN Board Meeting, Yokohama.
“would [teach us],” Murai said, “about global governance on the Internet and in the age of the Internet.”

Indeed “governance” is what maps do. They guide, categorize, and control experience. Purportedly maps are objective: they lay out for us in more or less detail exactly how things are. According to conventional wisdom, maps represent reality—good ones do so with accuracy, bad ones get us lost. But there is literally more to a map than meets the eye. In particular, there is the mapmaker. Much like code, maps have masters whom we usually do not see. So really there is no reality represented in a map. Instead, what we see in a map is the interested selectivity of its maker. Maps are effective because they are selective—they categorize vast quantities of information and condense them into manageable portions. Maps are a series of presences and absences. Every map shows this, but not that, and every map shows what it shows in this way, but not that way. How this is selected over that depends on the interests of the mapmaker. A mapmaker’s interests are significant, first because they enable selections to be made, which in turn make possible the production of the map, and second because they tell us what work the map actually does. Maps function as guides through particular spaces, but first and foremost, they work to make present the interests of their makers. Stated differently, a map works to turn the interests of its maker into the interests of its users as well. In this way, maps encourage the reproduction of the culture that brings them into being. Given the limitations of graphic or verbal representation and the resulting necessity for interested selectivity, far more exists than any map reveals. Ironically, then, even as a

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77 Ibid.
map informs, it misinforms. As it enables, it disables. As it reveals, it hides. This dual capacity to be both open and closed is an attribute of Internet technology as well. ICANN’s creation of a map to guide the development of the domain name space imposes on that space yet more control. A map serves the interests of its makers, and thereby nurtures the culture(s) from which they come. If this theory holds, ICANN’s geopolitical mapping of Internet users would mold these users in the likeness of national citizens and encourage actions and thought reminiscent of nation-states.

The spectre of nationalism did, in fact, raise its head the moment ICANN began soliciting public comment on its proposal to divide the world into five regions for the purpose of electing five additional board members. The online comment forum that opened in June 2000, entitled “Definition of Geographic Regions,” pointedly asked for membership advice on the “the specific countries [that should be] included in each Geographic Region.” On its website, ICANN provided a list of the “countries, territories, and distinct economies as recognized in international fora,” but primarily drawn from the International Standards Organization’s most comprehensive list, the ISO 3166-1 list of code elements. At that point, no formal division of this list had been made. Two particular questions troubled ICANN’s board and staff at that time, and they highlighted these in their introduction to the comment page. First, “should the Middle East be grouped with Africa, or with Asia/Australia/Pacific?” Second, “should the nations of the Caucasus (i.e., Azerbeijan, Armenia, and Georgia) be grouped with Europe or with

80 Ibid.
Outlines of the crisis that would emerge because of the five-region model began to show in online respondent comments, and the dilemma culminated in the cascade of criticism that fell upon board members at the organization’s July 2000 meeting in Yokohama, Japan.

Quite prominent in the online forum was a concern to keep cultural and economic communities intact and self-determining. Clearly Internet users did not like being pressed tightly into limited resource spaces. They resisted the notion that to have a say in the coordination of this shared global space, one had to mark oneself as African, Asian, European, North American, or Latin American and Caribbean.

The majority of the comments were complaints that particular nations or sub-regions had been mis-classified. A citizen of the Cayman Islands announced, for instance, that “for language and cultural reasons” his islands’ people “would prefer ... to be grouped with the North American nations” instead of Latin American ones, “with whom they share [little besides] ... geography.”

Among the most controversial questions was the one to which the ICANN board had itself drawn attention: how to classify the Middle East. ICANN posed two options – group the Middle East with Asia, or group it with Africa – but suggested that its second option, a Middle East-Africa combination, was preferred. Some reactions to ICANN’s preference were balanced but stern. Other users were appalled at the audacity of suggesting that two extremely dissimilar places be arbitrarily combined. Geography was sometimes used to rationalize opinions. Even more frequently, however, culture, economics, historical experience, and a sense of being

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81 Ibid.
82 Orren Merren, ICANN Public Forum, Yokohama.
different and outside were the reasons given for opposing (no one favored) the construction of an Africa/Middle East region of the world. One user claimed European bias was built into the actual questions themselves. “Address allocations for the Middle East are [currently] handled by [Europe’s main Network Information Center],” the comment began. Yet, “the question posed is whether Middle Eastern countries should be allocated to Africa or Asia. ... Why was [the] possibility [of the Middle East being assigned to the European region] excluded from the question as stated?”

Not one of the users who commented on this issue thought the Middle East should be classified with Africa. The following excerpts are representative of opinions on the subject, and are worth quoting in some length for the depth of distress they convey. The first two comments privilege the perspective of the Middle East, the next three the perspective of Africa.

When considering the middle east it is important to note that many middle eastern countries are in North Africa and some are in the arabian peninsula. If there can be only 5 regions, then those in North Africa should go with Africa and those like Saudi perhaps in Asia. However, note too that Iran is closer to Asia but considered an IndoEuropean country. Perhaps it is not logical to lump Middle Eastern countries together! – diana, July 9, 2000.

Like this one, all of the comments demonstrate the complexities that would be involved in attempting to combine the two regions in a logical fashion. After all, even intra-regionally, “diana” suggests here, enormous diversity along geographical, but also cultural lines exists. In the second excerpt, an Israeli elaborates on these

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83 Klensin, “Definition of Geographic Regions,” ICANN Online Public Comment Forum, June 14, 2000. http://forum.icann.org/geo. ICANN’s practice was to read these pre-meeting web-based discussions, but not respond to them until the meetings commenced. As such, many questions, like this one, went unanswered.
complexities, suggesting again that Europe should have been included with Asia and Africa as a possible Middle Eastern Internet homeland, but also raising the issue of which regional identities to consider when drawing ICANN’s map. Do you draw an Internet world map according to the actual cable, satellite, and radio connections, or do you draw it along more familiar linguistic, cultural, economic, political, or geographic lines? Are these “familiar” categories, such as language, really so familiar anymore now that people are interconnected at a speed and scale never before possible? And who gets to decide, this writer considers, which identity matters for coordinating the DNS? The Israeli’s comment makes us pause and wonder whether it is right for ICANN to make these decisions, when its decisions might harm an entire region.

Sounds tricky, eh? Well, add Europe to the list as well. Where do Turkey and my home country, Israel belong to? For most non-net-related intents and purposes (Economy, Sports, Standard of living, etc.) they are part of Europe, not Africa, [nor] Asia and most certainly not the Pacific region. … Moreover, grouping those countries with Africa will most certainly hurt the chances of a genuine African being elected. I suggest ‘conflicting’ countries should be given the chance to select the region they belong to, from *ALL* possible regions.

– LazarusLong, July 9, 2000.85

Almost every forum entry that mentions Africa indicates a suspicion of the intentions behind the idea to “lump” the region together with another. Implied in the comments is serious doubt that whoever is making ICANN’s map really cares about Africa’s input. Through these comments, the mapmakers are characterized as thinking that Africa cannot do for itself and must be paired with, or subordinate to, another region. There is a touch of desperation in the pleas for Africa to remain a region of its own.

All of the entries that explicitly focus on Africa also point out the absurdity (not just

the complexity) in the idea of joining Africa with the Middle East. More than most, the Africa comments expose a ruse in the making. Whoever is drawing ICANN’s map is privileging some and disregarding others, for very particular reasons. There appears to be a certain balance the mapmakers want to achieve, and Africa as an independent region is getting in the way. “The issue of combining Africa with the middle [East],” one African wrote, should not be entertained. Africa has made tremendous advances in terms of technology and only the Africans understand their position better, and only Africans will be fully committed to serving Africa and only them will champion African needs. So please Africa must be a region on its own without being a subregion of some other area. — jmunsaka, July 5, 2000. 86

The controversy over how to classify Africa and the Middle East continued at the Yokohama public forum on July 15. Clement Dzidonu, a citizen of Ghana and a computer science professor in Accra, told the board: “To us in Africa and the African ICANN community, the bottom line is all about visibility and representation. Yet, [your] concept of Africa as a physical continental entity wishing to do business as one entity” is absurd, glosses over the immense diversity, threatens to “dilute” the region’s voices, and “would only be replicating the current [imbalanced geopolitical] system.” His words spoke volumes about ICANN’s election process. Dzidonu continued, narrowing his comments to the most immediate crisis. “If the Middle East is grouped with Africa, then continental African users will have no representation on the ICANN Board, period.”87

Whereas all of the foregoing comments contained explicit or implied criticism of ICANN, some of the discussion of how to classify the Middle East contained

87 Clement Dzidonu, ICANN Public Forum, Yokohama.
another element as well. It is clear that by classifying Africans and Middle Easterners together, the board had turned many ICANN members in those regions against each other. "It is clear for all that between africa and middle there is a big difference," one African wrote,

I think that african people are understanding now that this region will Never go out from poverty without a wonderful contribution of themselves. In this case, your contribution would be to make them responsible for taking their destiny as [seriously as] possible. The Middle East has his own culture and economic structure which is too different from african's.

So, the issue of combining Africa with the middle will not be profitable for africa because these regions have not the same human resources and are not able to understand their problems in the same way. For conclusion, … I think and I believe that only Africans will be fully committed to serving Africa and only them will champion African needs. Your capitalist contribution, technology and assistance are factors that africans will not get, in short or long term, for their society project. – mohcis, July 5, 2000.88

Another contribution to the June/July 2000 online comment forum was even more combative, and the writer went even further in setting Africa and the Middle East in opposition. The writer’s anger against ICANN seems to have been diverted onto Middle Easterners, and indeed he does to Middle Easterners just what he resents others doing to Africans – he discounts them. "This *does* matter," the user wrote, "Africa has more in common with the Caribbean than the Middle East. Put the Middle East with Antartica if you have to. Lumping together is not acceptable."89 It seems unlikely that ICANN had deliberately courted this sort of controversy between sub-regions when it divided the globe into five broad regions. The effect, however,

was one familiar to all builders of empires; the board had weakened its critics by
turning them against each other.

At the July 2000 meeting in Yokohama, the ICANN board considered the
numerous objections to its division of the world into five regions—and then gave
final approval to its original plan. This decision set the stage for the election of the
five new board members. As the election approached, it would be less accurate to
say that conflicts pitting users against ICANN and citizens of one sub-region against
another died down than to say that they gave way to a whole new set of battles, this
time pitting nations against nations. In nearly all of the five regions, people in
individual countries competed against other countries over which nation’s nominee
would represent the region on the ICANN board. The specific form this competition
took was that nationalists tried to outdo their rivals in other countries in registering
their fellow citizens as ICANN members—and thus as voters.

In Europe, the registration scramble inflamed ancient quarrels. The Italian in
charge of Italy’s ICANN membership drive wrote in to the forum’s virtual chat room
and complained about the Germans. “In Germany [the] media did a lot of mess,”
Vittorio Bertola wrote. “They’re [already] 5000 [members] and over. / And this is
another problem,” Bertola continued, “I’m not sure that all European countries will
nicely accept to have a director elected by voters that are 80% German.” Germans
themselves seemed to be worried about the United States. Lliya Nickelt, who served
on ICANN’s Membership Implementation Task Force, reported that “German people

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50 Bertola, Real Time Chat Log, ICANN Public Forum, Yokohama.
fear that ICANN will become this powerful organization dominated by the U.S. and [its] commercial interests.”

Yet the region where nationalism exerted its strongest influence was Asia, with Japan leading the way. A representative of Korea’s Network Information Center acknowledged that “after Japan’s big jump” it was clear that the outreach policies in Korea “weren’t up to speed.” “What will happen with so much Japanese membership?” wondered Jikyung Kim, an affiliate of the Korean ICANN Forum. “I am concerned [about ICANN’s policy] that candidates can only get votes from members [who reside in] their same [geographic] region.” Because of this policy, she and others from Korea worried that the Japanese would dominate the election in the Asia-Pacific region.

Ironically, the Japanese nationalists’ attempt to ensure that a Japanese citizen represented Asia on the ICANN board was criticized by some of their own countrymen—and defended by some observers outside Japan. Japanese network activist, Izumi Aizu (Director, Asia Network Research), was the first to comment on this issue. He asked the ICANN Staff for a breakdown of regional and national participation in the registration process. The week before the Yokohama meeting, Japan had surpassed the United States to become the country with the most membership registrations. Aizu expressed dismay over what appeared to him “nationalistic competition” and pointed to Japan’s “15,000 registrants” as a possible source of server failures that may be “shutting down the voice of ... people from

91 Lilya Nickelt, ICANN Public Forum, Yokohama.
92 Spoken comment, ICANN Public Forum, Yokohama.
93 Jikyung Kim, ICANN Public Forum, Yokohama.
other countries in the Asia-Pacific region."\textsuperscript{94} Even as Japanese nationalism, those same national feelings were actually defended by at least one foreign resident of Japan. An American employee of the Tokyo-based Glocom, a global communications research association, suggested that little more than good organization was driving Japan's lead and therefore "other countries should consider the Japanese model for registration."\textsuperscript{95}

Even before the first election of ICANN board members had concluded, Japan's battle to dominate the election of the Asian representative led numerous users to propose election reforms. Writers revealed their unease over the potential for national pride to sully the at-large elections. "Registration shouldn't be on a country basis," an Indian businessman proposed. Rather it should be on a "regional basis ... so people in small states can get into the process."\textsuperscript{96} Several Europeans disagreed, cautioning that there "are two different Europes" that may want different things out of ICANN. Making all of Europe one voting region, they claimed, could pit nation against nation—presumably to an even greater degree than in the election then in process.\textsuperscript{97}

The widespread apprehension about the position of nation-states vis-à-vis ICANN and its name space authority caught board members by surprise. Beyond reiterating the ideals and boundaries of the organization, which, they seemed to assume, should make the problem go away, directors had little constructive to say in response to the growing national concerns. Their reactions fell into two general

\textsuperscript{94} Izumi Aizu, ICANN Public Forum, Yokohama.  
\textsuperscript{95} Robert Connelly, ICANN Public Forum, Yokohama.  
\textsuperscript{96} Spoken comment, ICANN Public Forum, Yokohama.  
\textsuperscript{97} Ibid.
categories, and while not helpful to meeting participants, these responses are valuable to network historians. Most sincere and optimistic were the comments of Board Director Amadeu Abril i Abril. His remarks exemplify those of a group of directors who showed respect and understanding for the worries conveyed, but who persisted in discussing them as if the Internet were independent of the historically rooted economic and geopolitical relations between countries which encouraged cross-national inequity in the first place. Abril i Abril reassured those present that "board members do not represent individual countries or regions, but the global Internet community. Thinking of the election this way," Abril i Abril advised, "prevents the nationalistic competition."98 Two days after the public forum at a small gathering of Japanese locals and several board members, Pindar Wong, Hans Kreeijenbrink, and Jun Murai said essentially the same thing. Individual directors "vote on the mission of ICANN",99 Kreeijenbrink explained, and, Wong said, "are not obliged to serve any one region, country, [or] area."100 Therefore, Murai urged, "we have to be truly global and not focus on nationality."101 Pleasantly hopeful, these arguments are not only naïve, but internally inconsistent. To say that one "votes on the mission of ICANN" when the composition of that mission is the very subject of distrust is to say that one’s vote cannot be trusted. To claim allegiance to and a vote for the "global Internet community" even as that community is divided and differently empowered is to promise allegiance only to what one imagines the world’s network community to be. Benedict Anderson teaches us that what we

98 Amadeu Abril i Abril, Scribe’s Notes, ICANN Public Forum, Yokohama.
99 Hans Kreeijenbrink, Dialogue with the ICANN Board, Yokohama, Japan, July 17, 2000.
100 Pindar Wong, Dialogue with the ICANN Board, Yokohama.
101 Jun Murai, Dialogue with the ICANN Board, Yokohama.
Imagine is based on what we know. So nineteen directors' loyalties to one global community will be nineteen different loyalties. If the notion of one “global Internet community” is flawed, then Abril i Abril’s advice to “think” of the election as such is also flawed, which means that in the end he has no actual solution that can “[prevent] the nationalistic competition.” Murai did acknowledge that thinking in a global fashion was a “challenge” that would “take time.” “ICANN is young,” he said, “and we will have problems.” Nonetheless, he insisted - despite the illogic of his opinion at that time, “global, global, global - the flow should always be global ... because we have Internet users all over the world.”

In contrast to Abril i Abril and others, some on the board responded to anxieties about the representation of nation-states with an air of dismissive arrogance. The comments of Vinton Cerf and Esther Dyson, especially, treated the matter as trivial to the meeting’s agenda and told participants that their ideas about ICANN’s work were misguided. Cerf claimed that he was “sympathetic to [the] issues,” but that despite the “tension between ... loyalty to [the constituency that elected him] versus loyalty as a global ICANN member,” he always voted “as an independent in a global framework.” Beyond stating his autonomy (and thus his innocence in the matter), Cerf showed little interest in resolving the imbalances that so many in his audience perceived as endemic to the election procedures being formed. He masked his indifference with humor, which, inadvertently, revealed to a

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102 Anderson, Imagined Communities.
103 Murai, Dialogue with the ICANN Board, Yokohama.
104 Cerf, Scribe’s Notes, ICANN Public Forum, Yokohama.
105 Vinton Cerf was initially selected for the ICANN Board in 1999 by ICANN’s Protocol Supporting Organization.
106 Cerf, ICANN Public Forum, Yokohama.
greater degree his disregard for the subject and those who raised it. In explaining to a woman from New Zealand that “soup to nuts” means “when you spill your soup on your lap,” Cerf inappropriately referred the woman to male genitalia, mocked her concern for at-large issues, and highlighted her ignorance of idiomatic American-English.107 Equally egregious, Cerf insulted the intelligence of hundreds who had spoken at the forum when he declared near its close that the day’s discussion had been “incredibly earth-centric.” This disparaging comment proclaimed the concerns of Internet users insignificant, but the vision of Vinton Cerf – known among the crowd for advancing the Internet in outer space – is worth noting.108 Esther Dyson, for her part, reminded participants that it was “not ICANN’s job” to look out for individual countries.109 She despaired that “every issue” was being “regionalized” and carelessly described one of those issues as “a small but nagging problem.”110 Dyson contradicted herself when she promised the Indian entrepreneur “small companies and small states are very much considered.”111 Cerf was also inconsistent, first counseling meeting participants to “be careful not to overload the responsibility of ICANN,” then joking that ICANN might be a country itself.112 Those attending

107 Cerf, ICANN Public Forum, Yokohama. After Cerf’s gaffe and the woman’s retort, “I don’t appreciate sexist comments,” Cerf said nothing, and ICANN’s lawyer, Joe Sims, stepped in to address her original concern. Sims also clarified for the New Zealander that the true meaning of “soup to nuts” was “a to z.”
108 Cerf, ICANN Public Forum, Yokohama. Cerf founded and is the leading developer and proponent of the Interplanetary Internet Project, discussed in chap. 3, n. 3. Cerf’s “earth-centric” comment was an indirect advertisement for the first major public presentation on the project, to be held three days later at the Internet Society’s annual conference (INET 2000) in the same Yokohama venue as ICANN.
109 Dyson, ICANN Public Forum, Yokohama.
110 Ibid. The “nagging” issue to which Dyson referred had to do with how many candidates per region could stand for election and whether candidates had to be citizens or only residents of their respective regions.
111 Ibid.
112 Cerf, ICANN Public Forum, Yokohama. In the context of discussing ICANN’s contracts with individual countries’ ccTLD administrators, Paul Twomey, then chair of ICANN’s Governmental
the meeting, both physically and virtually, noticed these inconsistencies and commented among themselves. An attendee named “Bob” remarked in the virtual chat room, “Esther looks bored, tired of all the peasants.” He elaborated, “She's been looking down her nose at all the non-Caucasians.”

On the one hand, some board replies to the pervasive unease over national hierarchies were defensive and unengaged. On the other hand, a few responses were hopeful and earnest, though inherently flawed. Meeting participants in Yokohama heard both kinds of comments in a random, mixed up fashion, which makes it is no wonder that one attendee pronounced loudly and unequivocally, “ICANN policy is confusing.” With hindsight, however, and digital archives of the entire meeting, two types of board statements clearly emerge on the subject of national representation on ICANN’s board. Examined together, they provide a snapshot of the Internet in transition from a technology of promise to one of convention. The promise specific to the July 2000 discussions was that all Internet users – especially in their capacity as citizens of distinct nation-states – might be fairly represented in the decisions and actions of ICANN’s board of directors. Convention in July 2000 foretold that dominant nation-states and corporate powers would jockey to the head of ICANN and weaken the representation of other interests. Those directors who held out hope spoke as network pioneers, as if stepping right from the age of the Internet’s invention. These individuals appeared oblivious to the reproduction of the

Advisory Committee, called himself Australia’s “ambassador to the Internet.” Cerf remarked that the analogy implied that ICANN (or the Internet) was a country itself and that Twomey should call him “his excellency.” The concept of ICANN, or the Internet, as a country, he said, was “absolutely fascinating.” For several long seconds, Cerf mused and laughed about the idea with other board members.

113 Bob, Real Time Chat Log, ICANN Public Forum, Yokohama.
114 Spoken comment, ICANN Public Forum, Yokohama.
dominant culture before them. If in fact they were not, their anachronistic language reveals their preference to avoid confronting the dominant opinions directly or to quietly underpin them and ride along. Those directors openly dismissive of calls for change in effect defended the world’s economic and political arrangements as they were. Fully cognizant of and in accord with the international hierarchies that ICANN would reinforce if it did not amend the reduced and unequal at-large representation, these individuals hastened the demise of the possibility that there could be fair access across the globe to the management of the domain name space. It is noteworthy, if not surprising, that this group of directors was largely American.

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The intensity and passion that accompanied this narrow window of opportunity was most vividly displayed in the Asia/Pacific race. Although it was mainly Koreans and Japanese who spoke out at the public forum, citizens of other nations in the region were also disturbed. At a local outreach meeting of four ICANN Board members on July 17, the day after the official meetings had ended, a Chinese woman stood up and in a slightly panicked voice complained about the pace of Japanese registrations and the flawed registration website. She demanded of the Board members present, “What are you going to do about this?” The woman’s assertive stance produced such shock that initially no one responded. This was the first ICANN meeting to witness rumblings of nationalistic behavior in the Asia/Pacific region. Ironically, the meeting was taking place in Yokohama, Japan, so more than the usual number of Asians – especially Japanese – physically attended. The Chinese woman addressed her comments to the ICANN board, but their effect in
a room crowded with Japanese was to malign the Japanese on their home turf, in person, and at a small, informal gathering. The tensions of a constricted virtual space had spilled over into real life.

The divide between the virtual and the real has never been clear, and this is no more evident than in the registration stage of ICANN's 2000 elections. In May, ICANN posted on its website the first set of data on the registration process. Part of this data included a country-by-country breakdown of registration numbers to date. Had the numbers been updated once a month or not again until the end of registration, they would not have carried much meaning. As it happened, though, the numbers were updated on a daily basis, so it was hard not to notice an individual nation's performance vis-à-vis the rest of the world. What the Japanese saw in the data released in May was that they were lagging behind. Their numbers were significantly lower than those of the United States and parts of Europe, and they were just behind Korea. [See Table 2]

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115 Spoken comment, Dialogue with the ICANN Board, Yokohama.
116 The information in this paragraph is based on my first-hand experience. In addition to seeing the first registration data on ICANN's website and tracking it over the next few days and weeks, at the Yokohama ICANN meeting in July 2000 and again at a conference with Keio University professors in September 2000, I had several casual conversations with Japanese friends and colleagues who admitted their own or others' surprise or "shock" at Japan's low initial numbers. They explained that among the Japanese who saw the early numbers, many felt that as the most technologically advanced nation in Asia and as the world's number two economy, Japan should be leading the registrations in Asia and at least on par with major nations around the world.
117 The NGO and Academic ICANN Study (NAIS) -- at one hundred and fifty two pages, the most detailed and comprehensive examination of the At Large Elections -- states that at the time the first registration data was released, Japan had slightly more registrants than Korea. See "ICANN, Legitimacy, and the Public Voice: Making Global Participation and Representation Work," The NGO and Academic ICANN Study (NAIS), August 2001, 61. My research, however, indicates that Japan had fewer registrants than Korea when the data was first made public and that this had a significant impact on the way that Japanese visitors to ICANN's website perceived the information.

NAIS reports that the Japan ICANN Forum (JIF, discussed below) was launched on May 18, in part as a response to Japanese perceptions that Japan was not doing well in the registration process. Before this date, however, contrary to the NAIS claim, Korea had maintained the highest registration numbers in the Asia/Pacific region. The following list shows the registration numbers for Japan and Korea on the days just before and after May 18. Although countries were listed alphabetically on
Table 2
Registration Totals
Selected Countries
May 15, 2000

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>6,828</td>
</tr>
<tr>
<td>Germany</td>
<td>4,033</td>
</tr>
<tr>
<td>Korea</td>
<td>313</td>
</tr>
<tr>
<td>Japan</td>
<td>294</td>
</tr>
</tbody>
</table>

But this situation did not last long. The Japanese responded quickly, and in less than forty days, Japan had gained the worldwide lead. Table 3 below traces Japan’s rise, marking the precise days on which it surpassed the front runners in the Asia/Pacific (Korea), European (Germany), and North American (United States) regions.

Table 3
Registration Totals
Change Over Time for Regional Leaders in Asia/Pacific, Europe, and North America

<table>
<thead>
<tr>
<th>Country</th>
<th>MAY 15</th>
<th>MAY 18</th>
<th>JUNE 18</th>
<th>JUNE 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>6,828</td>
<td>6,897</td>
<td>8,610</td>
<td>9,094</td>
</tr>
<tr>
<td>Germany</td>
<td>4,033</td>
<td>4,090</td>
<td>5,300</td>
<td>5,435</td>
</tr>
<tr>
<td>Korea</td>
<td>313</td>
<td>330</td>
<td>693</td>
<td>812</td>
</tr>
<tr>
<td>Japan</td>
<td>294</td>
<td>331</td>
<td>5,309</td>
<td>9,102</td>
</tr>
</tbody>
</table>

Japan surpassed Korea on May 18 and with 331 total registered members to Korea’s 330 became the regional leader. Exactly one month later, Japan moved ahead of

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ICANN’s web page and Japan and Korea were not paired side by side, the numbers presented here are the same that viewers saw when first perusing ICANN’s online registration data in May 2000. For a few days in a row, the two countries were neck and neck in what became for Japan an Asia/Pacific race to register the most members in order to have the greatest influence on the composition of ICANN’s board.

<table>
<thead>
<tr>
<th>Day of Registration</th>
<th># registered, JP / # registered, KR</th>
<th>Total to date, JP / Total to date, KR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 136 (May 15)</td>
<td>6 / 8</td>
<td>294 / 313</td>
</tr>
<tr>
<td>Day 137 (May 16)</td>
<td>5 / 11</td>
<td>299 / 324</td>
</tr>
<tr>
<td>Day 138 (May 17)</td>
<td>19 / 0</td>
<td>318 / 324</td>
</tr>
<tr>
<td>Day 139 (May 18)</td>
<td>13 / 6</td>
<td>331 / 330</td>
</tr>
<tr>
<td>Day 140 (May 19)</td>
<td>8 / 1</td>
<td>338 / 331</td>
</tr>
</tbody>
</table>
Europe's most active country, Germany, with a nine person lead of 5,309 to 5,300. Culminating a rapid rise to number one, on June 22 the Japanese registered over 1,000 members in one day – a number no country had reached – and overtook the United States to become the highest registering nation in the world. Now what the Japanese saw when they looked at ICANN's data was a stunning national achievement. [See Figure 2, below.] If concern about trailing had spurred so much activity, the thrill of succeeding would stimulate even more. Japan never lost its lead, and in fact registered so many ICANN members that it alarmed other countries and stoked a smoldering rivalry in the Asia/Pacific region.

Figure 2
Registration Totals
May 15 and June 22, 2000
United States, Germany, Korea, and Japan

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South Africa and Brazil had the highest registrations for the African and Latin American regions. On May 15, South Africa had 42 registrations and Brazil, 74. Unlike the leading nations in the other three electoral regions, South Africa's and Brazil's levels of participation had no discernible impact on Japan.

118

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Japan gained ascendancy through a combination of smart organizational work, top-down corporate and government practices, highly respected (and globally connected) local leadership, a culture of cooperation, and a dose of national pride. Nobuo Sakiyama, an employee of Toshiba Corporation and a leader in Computer Professionals for Social Responsibility (CPSR), Japan, circulated an email in November 2000 reporting on what he called a “top-down mobilization” that drove the member registration and eventually the Japanese candidate for the regional at large seat to victory. Sakiyama named the Japan ICANN Forum (JIF) as the major player in this endeavor.\textsuperscript{119} Activist Toshimaru Ogura, of the Tokyo-based Net-Workers Against Surveillance Task Force, also accused the Japan ICANN Forum for inciting national rivalries, labeling the group as “a kind of front organization” for a “government-oriented campaign” to seat a Japanese national on the ICANN board.\textsuperscript{120}

JIF was officially launched on May 18, only a few days after the first registration totals had appeared on the ICANN web page and Japanese had seen their country’s middling registration status. The group’s reason for being was straightforward: “to publicize the importance of ICANN.”\textsuperscript{121} Its members went about doing this in familiar ways. They created a web site that explained in Japanese what the at-large election was, how to register, and how to vote. They distributed pamphlets on the significance of ICANN for Japan and Japanese Internet users. They


\textsuperscript{120} Toshimaru Ogura, “ICANN At Large Membership Election Campaign in Japan,” presentation for the CSIF (Civil Society Internet Forum) meeting, Los Angeles, CA, November 12-13, 2000.

\textsuperscript{121} “Japan ICANN Forum Report,” JPNIC Newsletter 17 (August 2000).
researched other countries' ICANN outreach activities and, in a move analogous to efforts in Germany and the United States, adopted the use of major national newspapers for articles and advertisements. In addition to all of this, in the summer and fall of 2000, JIF members held several public meetings that, they recounted, "consisted mainly of presentations by individuals ... working on the front lines" of the "campaign" to increase Japanese awareness of and involvement in ICANN.

On the face of it, there was nothing unusual or deceptive about JIF's activities. To the contrary, many saw them as admirable indications of Internet activist efforts in Japan to encourage globally-minded thinking and action among the Japanese people. Leaders in the Internet community had begun to encourage interest in ICANN long before JIF's establishment. In fact, as early as 1997, when the United States Department of Commerce floated the idea of an internationally managed non-governmental organization to oversee the DNS, several in Japan published comments expressing enthusiasm for the opportunity and underscoring the desire for Japanese citizens to be involved. One response common to all of the Japanese statements (not to mention those made by hundreds of other citizens around the world) was to imply, or even say, that it was high time for the United States to release its hold over

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124 The earliest public comments on ICANN and the desire for Japanese (as well as Asian) participation in it came from Izumi Aizu, the energetic founder of the Institute for Hyper Network Society (based in Japan) and Asia Network Research (based in Malaysia), the Secretary General of the Asia & Pacific Internet Association, and a research associate with the Center for Global Communications at the International University of Japan. Aizu's contributions are discussed at length in Chapter 2 and 3. Other early public comments about ICANN and Japanese involvement came from representatives of the Internet Association of Japan, Internet Initiative Japan, and the Japan Network Information Center (discussed below).
the global Net.\textsuperscript{125} Japan’s network savvy felt they had earned a voice in the way the network was run and they were patently excited to finally get the chance. Like the Internet’s founding generation in the United States, most of Japan’s Internet gurus believed strongly in the value of an open, bottom-up, and self-directed approach to network management and were firm in the conviction that “we need no governmental coordination.”\textsuperscript{126} In place of governments, whether the United States’ or their own, they wanted the people who used and developed the Internet to also design its management systems. Along with this emphasis on rule by the governed, they maintained that “it [was] ... global collaborative works ... that nurtured the explosive growth of the Internet” and therefore “netizens” around the world working together was the key to the continued prosperity of the Net.\textsuperscript{127} In the eyes of most Network leaders, participation in ICANN — the non-governmental, global corporation that would manage an increasingly vital, shared global resource — was a

\textsuperscript{125} Typical of early comments in Japan about the possibility of a globally managed Internet is the following response by Izumi Aizu (Principal, Asia Network Research) to the U.S. government Green Paper ("A Proposal to Improve Technical Management of Internet Names and Addresses") of January 1998: “Perhaps one of the most frequently asked questions from outside US may be: ‘Why is the New International Organization proposed to be under US jurisdiction?’ ... I assume that [one] factor affecting this decision of making it an US entity is the political pressure from the US Congress. While significant amount of US taxpayer’s money was spent for the development and maintenance of the Internet's technical protocols and its operation, we must not forget that other resources from other parts of the world have also been contributed to the same cause.” Aizu gives two solid examples of contributions to the Internet’s development from outside of the United States, and then reasons: “Therefore, it is too early to conclude that global Internet is solely or mostly developed and managed by US taxpayers money. In this sense, Internet grew not because US government single-handedly provided the financial resources and supporting frameworks, it is these global collaborative works including that of US government support that nurtured the explosive growth of Internet.” Izumi Aizu, “Comments on the Green Paper,” nd.

\textsuperscript{126} Toru Takahashi, Chair, Internet Association of Japan and Tokyo Internet Corporation and Chair of the Executive Committee of the Asia Pacific Network Information Center. “Comments on the Green Paper — For Development of the Internet Governance,” March 22, 1998. Echoing the comments of Izumi Aizu (n. 125, above), Takahashi also notes in his March 1998 response to the US Green Paper: “Users have paid for operating the Internet. ... [And] you can easily assume the population of the Internet users after 3 years will be far beyond the population of the US. Is there any reason why the Internet has to be regulated by US law?”

kind of civic responsibility and a way that Japanese people could engage with the world conscientiously.

Internet leaders and associations in other countries also encouraged citizen involvement. Korea, Germany, South Africa, Brazil, and the United States, for example, all had fairly well orchestrated programs to recruit ICANN members. 128 A few programs, like those in Germany, Japan, and ultimately China, were extremely successful and fell under criticism for overshadowing others in their regions. But ICANN’s board and staff had suggested that regional, national, and local level groups be involved in the membership drive. “It is not obvious,” notes an ICANN staff report of August 1999, “that … individuals will quickly sign up to be ICANN members without a significant outreach effort.” Pondering various strategies “to facilitate the rapid recruitment of a large and diverse membership base,” the staff proposed that ICANN make “partnership arrangements with a number of existing Internet-related membership organizations.” 129 This idea never became official policy, but it does make the formation of JIF even more understandable. ICANN expected local organizations to be involved. Indeed in theory (if not always in practice), ICANN existed so that groups like JIF – grassroots, member-based collections of people interested in domain name issues – could channel their ideas to productive ends, contributing to the global discussion and collaborative management of the network’s name space. What ICANN did not expect, however, was that

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128 See NAIS, “ICANN, Democracy, and the Public Voice: Making Global Participation and Representation Work,” August 2001, for information on the pre-registration and pre-election activities for countries in each of the five geographic regions.

129 Staff Report: ICANN At Large Membership, 11 August 1999. (ICANN website). The staff’s report also reminds its readers that “the [ICANN Membership Advisory Committee] recommended an organized and staffed outreach effort.” It then states unequivocally, “the staff concurs and recommends that the necessary human and financial resources be identified and approved at the [next ICANN] meeting.”
relatively minor groups like JIF would come to stand for whole nations in the minds of many involved, thus infusing the membership drives – as well as the elections themselves – with the words and actions of nationalism.

The administrative head of JIF, and the source of its creation, was the Japan Network Information Center (JPNIC), a non-profit, membership-based public service organization that managed Japan’s top-level domain, JP. JPNIC was just the sort of well-established organization that ICANN staff had envisioned in their 1999 memo as potentially helpful in the membership drive. Since the early 1990s, JPNIC had worked diligently to extend the Internet to every individual throughout Japan. Home to many issue-specific Internet organizations like JIF, JPNIC was one of the most comprehensive – and certainly the most well-known – conduits of information and ideas about the global Internet for Japanese Internet users.

JPNIC supported ICANN wholeheartedly. In July 1999, JPNIC gave a US $25,000 donation to ICANN, stating in its public announcement of the gift that it “appreciate[d]” ICANN’s decision to “uphold its policy of private initiative and reject a U.S. government offer of financial assistance” during a recent time of financial hardship. ICANN’s non-governmental, private, and international approach to Internet management opened the door for stakeholders and decision makers beyond the United States technical elite. Internet leaders in Japan, for one, valued this opportunity. JPNIC’s donation to ICANN reflected this and its own organizational commitment to the “smooth administration of the Internet.” JPNIC explained in its public announcement of the donation that “if ICANN ceased to exist,

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130 The Japan Network Information Center (JPNIC) website is http://www.nic.ad.jp.
administration of [crucial network] resources would become unstable, having a serious influence on the Internet as a whole."\textsuperscript{131}

In December 1999, JPNIC initiated an ICANN information mailing list in Japanese “to allow larger numbers of Japanese people to learn more about the work . . . by ICANN” and “to create a scheme which [would] help [them] learn how to make [Japanese] voice[s] heard to ICANN.”\textsuperscript{132} As a direct result of the discussion held through this mailing list, one month later in January 2000, four leading members of JPNIC established the Internet Governance Study Group.\textsuperscript{133} Originally established to promote the popular understanding of ICANN as a whole, the group met roughly once a month, attracted thirty to forty regular participants, and remained active until July 2000. As stated in a January 17, 2000 press announcement (“JPNIC Planning International Liaison Working Group”), in addition to “provid[ing] information on global developments concerning the allocation of Internet resources through ICANN” and “increase[ing] participants’ understanding of the effects that [these] developments have and will have on Japan,” the study group’s objective was to “stimulate readers to think about how they may go about participating in ICANN activities.”\textsuperscript{134}

* * *

It is no wonder that the Japan Network Information Center took a leading role in encouraging Japanese interest in ICANN. The founder of JPNIC is Jun Murai, also

\textsuperscript{131} “JPNIC’s ICANN Donation,” \textit{JPNIC Newsletter} (July 1999).
\textsuperscript{132} JPNIC Planning International Liaison Working Group, December 15, 1999.
\textsuperscript{133} Takashi Arano, Toshihiro Tsubo, Hirofumi Hotta, and Yumi Ohashi were the four leaders of the study group initiative, which was officially carried out through JPNIC’s International Affairs Division.
a member of the ICANN Board of Directors since its formation in October 1998. Murai, a network engineering professor at Japan's prestigious Keio University, founded JPNIC in 1997 as a way to help develop the Internet in Japan, run the JP domain, and perform Internet-related "research, education, and enlightenment activities" for the society at large. In 2000, Murai served as the president of JPNIC, and as such, he was the foremost executive of the Japan's top-level domain (.jp). As an ICANN Board member, he had the most informed insight of anyone in Japan on the significance of ICANN's work for Japan and the Japanese people.

The first meeting of JPNIC's Internet Governance Study Group on February 14, 2000 included seventy-eight attendees who were "not only engineers, but also people from business, legal, and other fields." JPNIC's report on this meeting in its April newsletter said that the group had "growing concern on trends of international Internet Governance" and therefore "through this study group and the JPNIC Web site, [would] continue to provide the latest information of international trends in Japanese." These "growing concerns" were never explicitly stated. But in the same newsletter, JPNIC President, Jun Murai, wrote a preface entitled "Japan Is Behind in Internet Development." In this essay, Murai evokes a sense of crisis around the development of the Internet in Japan and calls forth the national and personal pride of his readers to resolve the crisis by acting responsibly, both as individuals and as an historically unique national group.

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135 When commenting on my proposed dissertation title in the summer of 2000, Jun Murai told me that he "owned" .jp.
136 JPNIC Newsletter 16 (April 2000).
137 Ibid.
138 Jun Murai, "Japan is Behind ....", JPNIC Newsletter 16.
"Expressions such as 'Japan is 10 years behind when it comes to the Internet' are often heard," Murai begins. "I thought that we had become inured to such comments to some extent, but still, statements like these are made far too often."

This problem, he then explains, is actually in the hands of average people. "One indicator of Internet development is not the extent to which leading-edge technologies are used, but to what extent societies and individuals are making use of it." Next, Murai makes a subtle comparison between Japan and another country, presumably the United States. "There is a theory and an expectation that the Internet can provide better communication, overcoming gaps and boundaries of age, sex, income, education and geography. However, data from a certain country shows that the Internet's swift impact on the economy is actually widening those gaps." He then turns back to the Japanese experience, suggesting that so far such discriminatory gaps have not occurred, but also warning that they could occur if Japanese people are not vigilant. "For good or bad, the growth of the Internet in Japan has been from the bottom up, in a very Internet-like way. For this reason, the initiative for development is still generated on a grass roots level ... where, it may be safe to say, most of the benefits are reaped. This does not necessarily mean that we are 'advanced'," Murai continues, connecting the grass-roots achievements of everyday people with the technical stature of the nation as a whole, "but I believe that the Internet community is actually taking seriously its role and responsibility regarding the challenge that makes digital information to contribute to all people and fields."\(^{139}\)

Murai lists some of the leading successes of the Internet in Japan and then suggests that because of the particular nature of Japanese society, the Japanese might

\(^{139}\) Ibid.
have something to contribute through the Internet’s growth that is of unique value to the world. “As our country had always had a mostly homogeneous culture and social structure, maybe we will be able to lead in the creation and realization of various Internet models that will truly contribute to everyone. ... At least, I believe so.”

Murai ends his opening remarks for the April 2000 newsletter by issuing a reprimand and a challenge to his readers, conforming in a way to the conventional dichotomy between Japan’s sense of self as unique and special and its identity as an inferior vis-à-vis, in particular, Western nations. “I am not sure if we are 10 years behind, but there are many obstacles existing in our society and too much stubbornness, especially in the administration and current system. And I truly feel that, compared to many other countries, this is behind.”

Through these comments, too, Murai continued a battle that he had been waging for over twenty years with segments of the Japanese government and bureaucracy to make communication and information systems open, flexible, and globally interconnected. Murai lashes out in this morale boosting essay at the formal structures of government and business – as well as at the people behind them – that have, in his eyes, retarded the advancement of Japan’s economic capabilities, social promise, and global responsibilities. Though it calls on national pride to do it, in a sense Murai’s essay urges Japan’s grassroots players forward -- in league with the leading technologists who really care about applying Internet technologies toward improvement of lives at home and abroad -- to connect with global interests, movements, and structures beyond the national boundaries of Japan. Using rhetorical tools that his local audience will respond to, Murai acts as a citizen of the world in

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140 Ibid.
this essay more than as a loyal of Japan. The study group members’ “growing
concerns” over international Internet governance, we can begin to pick up in this
essay, may have had as much to do with political and ideological differences in their
own country as they did with the actual subject at hand.

A third and final word on ICANN-related matters in the April edition of
JPNIC’s newsletter informed readers in some detail of the activities at the most
recent ICANN meeting in March, held in Cairo, Egypt. It concluded,

Based on the outcome of the Cairo meeting, JPNIC brought back at
least 3 pieces of homework. Firstly, JPNIC should pay close attention to ... [TLD] trends and ... management policies, and actively express opinions. Secondly, JPNIC should improve its information services and advertisement of ICANN activities in order to recruit At Large members in Japan. Finally, JPNIC should make positive contributions as the local organizer for the ICANN Yokohama meeting scheduled in July. 141

All three of these “pieces of homework” endorsed proactive behavior on the part of
individual Japanese to take part in global Internet governance generally, and more
particularly through the election that year.

JPNIC’s early efforts clearly played a part in the success of Japan’s
registrations. But, as the American employee of Glocom, Japan, suggested at the
Public Forum, there was nothing unusual about JPNIC’s actions. Instead, he and
others implied, such energetic and organized work to get Japan’s Internet community
interested in and involved with the global Internet community should be admired. 142

* * *

The April newsletter and the three Internet Governance Study Groups that
had been held by that point made no noticeable impact on registration numbers. In

141 JPNIC Newsletter 16.
142 Connelly, ICANN Public Forum, Yokohama.
fact, Japan averaged only three registrations per day between February and the end of April. May was also slow, until numbers began to double in mid-May after ICANN’s release of registration data and the launch of the Japan ICANN Forum (JIF). It was the work of JIF and its website, it seems, that had the greater impact on the apparent rush to register in June and July. According to Toshimaru Ogura, who most immediately and thoroughly documented the election “campaign” in Japan, the JIF website insisted on the importance of a Board member “for Japanese national interest” and existed solely to “get a seat [on] the Board for Japanese interest not for Asian interest.”

It was the way that this website was used, however, and the momentum of activity surrounding its use that has become more questionable and controversial.

For one thing, the eight host organizations of JIF included heavyweights of Japan’s business community. Official representation from the government’s Ministry of Posts and Telecommunications (MPT) also got involved. These groups then took upon themselves to encourage ICANN participation through their own organizations. Ogura calls the JIF “a kind of front organization for the government-oriented campaign in order to evade the critique of intervention by Japanese government.” On May 19, one day after JIF began its work, the Society for the Promotion of Advanced Telecommunications, a branch of the Prime Minister’s office, decided to give its support to winning a spot for a Japanese on the ICANN

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144 The host organizations included: Japan Federation of Economic Organizations(“Keidanren”), Japan Association of Corporate Executives (“Keizai Doyukai”), Telecom Service Association (Telesa), Telecommunications Carriers Association (TCA), Japan Information Service Industry Association (JISA- Japan Network Information Center (JPNIC), Communications Industry Association of Japan (CIAJ), Japan Internet Providers Association (JAIIPA), and Internet Association of Japan (IAJ).
145 Ogura, “Japan’s ICANN Election Campaign.”
Board. On May 31, Junichirou Miyazaki, head of Toshiba corporation, insisted in the national press on the necessity of electing a Japanese Board member. "At the time of the election, the NAIS report explains, "there was a strong fear (and confusion) in Japan that the only Board seat then held by a Japanese director – Professor Jun Murai had served on the Board since ICANN’s creation – could be lost if Professor Murai resigned his seat in 2000. This was perhaps the single biggest reason why the Japanese Internet community, along with the Japanese government and industry, teamed up so vigorously to promote voter participation: the perceived need to ensure a continued Japanese presence on the Board."

On June 6, the National Research Institute of Information in the Ministry of Education sent an email to the Academic Information Network in Japan encouraging the promotion of a Japanese victory in the ICANN election. And finally, on June 20, a government White Paper on "Telecommunication in 2000" also discussed the importance of having Japanese representation on the ICANN Board. Most of these calls for participation in electing a Japanese to the ICANN Board alluded to or directly pointed to the JIF website.

Following these national level moves, the campaign was taken up by regional level government offices, Internet Service Providers (ISPs), and general companies. Websites of regional branches of the Ministry of Posts and Telecommunications developed registration campaigns that encouraged participation, in Ogura’s terms, "for only Japanese interests." These sites explained nothing, Ogura said, about the election’s value for Internet users in the Asian region as a whole, much less the world. Several of the most popular Japanese ISPs, such as Yahoo! Japan, Niftyserve,
and Geocities also developed campaigns for the ICANN election. Niftyserve required moderators of bulletin board discussion groups to promote registration for ICANN At Large Membership. Yahoo! Japan placed a banner link at the top of its website encouraging people to join ICANN and linking them to the JIF web page. The language of Yahoo! Japan’s banner ad also proved effective at appealing to nationalistic sentiment, claiming “if you do not participate, there will be no Japanese representative on the ICANN board and our national interest could be endangered (paraphrased).”

Yahoo! Japan’s banner was extremely successful, perhaps overly so, within a few weeks -- even before the registration deadline -- the banner had to be removed. Most egregiously of all the campaign efforts, several Japanese companies directed their employees to register as ICANN At Large Members. An inside document of Hitachi Corporation, for example, revealed that Hitachi had assigned 1,500 registration slots to its employees. Management required that employees submit a registration report after registering, including their e-mail address used and their member number.

By early July 2000, Japan was massively dominating member registration. [See again, Table 3 and Figure 2 on pages 186 and 187] On June 26, for example, registrations from Japan were 89% of the world total. All the while, a display of the running tally of country-by-country registrations remained on the ICANN website. Japan’s visible achievement encouraged renewed registration efforts in other Asian

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149 Ogura, “Japan’s ICANN Election Campaign” and NAIS, 61.
150 Ogura also lists the following organizations as doing things similar to Hitachi: “Also several organizations relate to the Internet in Japan such as Japan Information System Users Association [nihon jouhou sisutemu kyoukai], Advanced Electric Telecommunication Association [Denki Tushin Koudoka Kyoukai], Japan Telecom Service Association[Nihon Terekomu Sabisu Kyoukai], Japan Federation of Economic Organization [Nihon Keizaidantai Rengoukai], Tele-communication Machinery Association [Tushin Kikai Kougoukai], Japan Internet Providers Association [Nihon Internet Provider kyoukai] and so on promoted ICANN election for national interest.”

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countries, particularly in the People’s Republic of China. Registration data indicates a startling rise in Chinese membership applications beginning in mid-July and booming through the last ten days of registration. [See Table 4]

Table 4
Japan/China Registration Comparisons

<table>
<thead>
<tr>
<th></th>
<th>05.15</th>
<th>06.01</th>
<th>06.15</th>
<th>07.01</th>
<th>07.15</th>
<th>07.21</th>
<th>07.25</th>
<th>07.31</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>36</td>
<td>49</td>
<td>54</td>
<td>81</td>
<td>1,636</td>
<td>2,581</td>
<td>24,759</td>
<td>33,670</td>
</tr>
<tr>
<td>JP</td>
<td>294</td>
<td>544</td>
<td>4,304</td>
<td>18,056</td>
<td>26,950</td>
<td>27,380</td>
<td>35,254</td>
<td>38,931</td>
</tr>
</tbody>
</table>

In the end, Japan registered 25% of membership applications and China, 21%. The top four “busiest” nations – Japan, China, Germany, and the United States – submitted 71% of the total registrations from 194 countries. The top ten registering nations submitted 88% of the total and the top twenty, 95.7%. [See Table 5 below, and Figures 3 and 4 on pages 202 and 203]

Table 5
Top Twenty Registering Countries for ICANN Membership

| 1. Japan | 38,931 | 25%   |
| 2. China | 33,670 | 21%   |
| 3. Germany | 20,475 | 13%   |
| 4. U.S.A. | 19,501 | 12%   |
| 5. Taiwan | 9,193  | 6%    |
| 6. Korea  | 6,439  | 4%    |
| 7. Brazil | 5,197  | 3%    |
| 8. France | 3,040  | 2%    |
| 9. UK     | 2,150  | 1%    |
| 10. Russia| 2,111  | 1%    |
| 11. Canada| 2,094  | 1%    |
| 12. India | 2,025  | 1%    |
| 13. Switzerland | 1,879 | 1% |
| 14. Austria| 1,754  | 1% |
| 15. Italy | 1,670  | 1%    |
| 16. Australia| 1,161 | 1%    |
| 17. Thailand | 819   | 1%    |
| 18. Netherlands | 417   | 0.3%  |
| 19. Argentina | 295   | 0.2%  |
| 20. Spain  | 287    | 0.2%  |

151 On this day, 9,760 Chinese residents registered. This was the highest number of registrations for any country on a single day.
Figure 3

Top Five Registering Nations
ICANN At-Large Elections

- Japan: 27%
- China: 23%
- Germany: 14%
- USA: 13%
- Taiwan: 7%
- Other: 16%
Figure 4
Top Twenty Highest Registering Nations
ICANN At-Large Elections
Total individual applications for ICANN membership came to 158,593. Eighty percent of the total number of countries with a “country code” Top Level Domain (ccTLD) (194 of 243) participated in the registration drive. Considering that ICANN had initially expected a maximum of 10,000 registrations, by almost all measures the first stage of ICANN’s global, electronic elections was an outstanding success.

Yet in practice the election was a disaster. The competition that erupted between China and Japan overloaded ICANN’s registration servers. Upon seeing Japan’s daily increasing numbers, China’s Network Information Center (CNNIC) apparently organized an ICANN at-large campaign, using their own web site and other popular portal sites. One such site offered a “lucky draw” where newly registered ICANN members could enter a contest to win a free personal computer. China’s government ministries also made deals with major businesses to encourage their employees to register with ICANN. Between July 1 and July 31, China’s numbers increased over 400-fold. Though not much is known about the ICANN election campaign in China, the extraordinary participation of Chinese Internet users over such a short period indicates an efficient, top-down mobilization effort.  

Figures 5 and 6 on the next two pages vividly demonstrate the quick turn-around in China’s ICANN interest. Figure 5 shows Chinese and Japanese registration patterns per day over the entire registration period, February 25 through July 31. Figure 6 is a more close-up look at daily registration patterns in the two countries, beginning with Japan’s first noticeable push in early June and ending on July 31.

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152 Ogura, “Japan’s ICANN Election Campaign” and Sakiyama, “Mobilization in the ICANN at-large election Asia/Pacific region.”
Figure 5  Registrations per Day, China and Japan  
February 25 – July 31, 2000  
ICANN At-Large Elections
Figure 6

Registrations per Day, China and Japan
June 4 – July 31, 2000
ICANN At-Large Elections
These massive registration attempts stressed ICANN servers to the breaking point. Many people worldwide were unable to register, not only making the election unfair, ultimately, but also leading to unfortunate rumors that ICANN had deliberately throttled the servers' capacity and was refusing connections from Internet addresses in the Asia and Pacific region. Under the rules created by ICANN’s Election Committee, member-nominated candidates had to be “endorsed” by either (a) twenty or (b) 2% (whichever was higher) of their region’s members. Because the thresholds were calculated by region, the large number of registrants from Japan, in particular, effectively prevented candidates from smaller countries getting on to the ballot through petition. Professor Kou-Wei Wu from Taiwan thus could not run since the 765 endorsements he received were three votes short of the needed 768.\(^\text{153}\)

Figure 7 on page 208 compares daily registrations among China, Japan, and the United States. Most noticeable is the consistency of the United States, from beginning to end. This highlights the presence of strategic planning behind the election process in China and Japan. It also may suggest a greater awareness of ICANN and Internet governance issues among U.S. citizens generally when compared with China and Japan. Indeed, well-planned campaigns may have been needed in those countries to generate the threshold level of participation required to field candidates. Most important, however, the differences highlight the diverse forms of governance practices and social organization in the three countries and

\(^{153}\) NAIS, 59-63.
Number of Registrations

Registrations per Day, China, Japan, and United States
February 25 - July 31, 2000
ICANN At-Large Elections

Figure 7
the effect such differences can have on any endeavor of such a global reach and collaborative character. The Chinese and Japanese election campaigns offer a site for exploring the significance of the Internet – including its administrative structures – as a globally-shared and globally-run medium of communication within and between a wide array of very different cultures.

* * *

The second stage of the election process entailed the activation of membership status using a PIN number that ICANN sent to each member’s geographic address. “Through activation, ICANN attempted to authenticate voters by mailing (by surface mail) each registered member a password and PIN number, which the voter would then use to “activate” his/her membership on the ICANN web site, members.icann.org.”\(^{154}\) The following two charts [Table 6 and 7] show regional group membership totals on July 31, the deadline for registration, and on September 8, the deadline for activating membership. Activation verified identity and ensured only one vote per person, so only activated members could vote in the October elections.

Table 6
Regional Group Membership Totals
July 31, 2000

<table>
<thead>
<tr>
<th>Region</th>
<th>Total</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asia and Pacific</td>
<td>93,782</td>
<td>59.1</td>
</tr>
<tr>
<td>2. Europe</td>
<td>35,942</td>
<td>22.7</td>
</tr>
<tr>
<td>3. North America</td>
<td>21,596</td>
<td>13.6</td>
</tr>
<tr>
<td>4. Latin America and Caribbean</td>
<td>6,486</td>
<td>4.1</td>
</tr>
<tr>
<td>5. Africa</td>
<td>787</td>
<td>.5</td>
</tr>
</tbody>
</table>

\(^{154}\) NAIS, 36.
Table 7
Regional Group Activated Membership Totals
September 8, 2000

<table>
<thead>
<tr>
<th>Regional Group</th>
<th>Activated Membership</th>
<th>% drop from 07/31/00</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asia and Pacific</td>
<td>38,246</td>
<td>41</td>
</tr>
<tr>
<td>2. Europe</td>
<td>23,442</td>
<td>65.7</td>
</tr>
<tr>
<td>3. North America</td>
<td>10,632</td>
<td>48</td>
</tr>
<tr>
<td>4. Latin America and Caribbean</td>
<td>3,548</td>
<td>50.3</td>
</tr>
<tr>
<td>5. Africa</td>
<td>315</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 7 indicates the percentage drop for each region in total membership numbers after the activation deadline. Proportionate to the number of initial registrations for each region, reductions in the Asia/Pacific were the highest.\footnote{155} NAIS election researchers discovered that "many voters [in the Asia/Pacific region] found the postal return system unintuitive and unreliable. Some were unaware of the need to activate [their] membership at all, or of the existence of an activation deadline. These and other circumstances contributed to a low rate of membership activation."\footnote{156}

Postal return difficulties and other problems, NAIS reports, eliminated 33,043 records from the ICANN database.

The activation rate of Chinese registrants, for example, was particularly low. This could indicate a lack of sustained interest on the part of some individuals who perhaps did not register of their own accord, but were pressured by their work or social group. It may also indicate that many individuals in the Asia/Pacific region did not have easy access to the World Wide Web and were not allotted the time to activate their memberships at work, where they had originally registered. In a follow-up survey conducted by the ICANN At Large Membership Committee, only

\footnote{155} There are no records on activation rates per individual countries.\footnote{156} NAIS, 36.
the Asia/Pacific region indicated "at work" as the top place where they learned about ICANN and the ICANN election. The reductions also indicate sloppy or fraudulent applications, especially in China. If applications were done quickly and had errors or false address information, the PIN numbers sent out to those addresses were returned. [See Table 8] Some 10,000 letters providing PIN number information were returned to ICANN by the U.S. Postal Service as undeliverable and China had the highest rate of PIN number returns of any other country. Reports indicate that many of the returned letters were sent to addresses in countries where the western/Roman alphabet is not used. This would include China, which also has an unreliable postal system.\footnote{NAIS, 62.}

<table>
<thead>
<tr>
<th>Returned PIN Numbers, Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
</tr>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>Taiwan</td>
</tr>
<tr>
<td>Korea</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Russia</td>
</tr>
<tr>
<td>United States</td>
</tr>
</tbody>
</table>

Late in September 2000, the Japan ICANN Forum officially announced that it would support Masanobu Katoh for board election and requested its member organizations to appeal to at-large members to vote for Katoh. Internet activists Sakiyama and Ogura, among others, contend that JIF chose Katoh because of his ties to big industry and his good reputation with Japan’s Ministry of Posts and Telecommunications, the central government agency involved in the nation’s Internet regulations. JIF believed, Ogura explains, that if Japan had a leading figure...
of industry and government in a commercially and politically significant international and U.S. Internet organization, Japan would get to lead rather than follow in future Internet regulations worldwide. Many Japanese companies thereupon asked or ordered employees to vote for Katoh.

After ICANN's official voting site opened on October 1, JIF set up an illustration page that in effect trained its visitors exactly how to vote. [See Appendix A for a copy of JIF's illustration page.] The title of the page is "Let's Contribute to the Activities of ICANN!" The page specifically instructed users to vote for Katoh over any other Asia/Pacific candidates, despite the fact that the board member elected was supposed to represent the region, not individual nations. Until the voting period was over on October 10, this illustration page was linked from the top page of the JIF website.

Masanobu Katoh indeed won the election, with 79% of the total votes in the Asia/Pacific region. [See Table 9] Appendix B shows the official voting results in all five regions as archived on the ICANN website.

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johannes Chiang</td>
<td>935</td>
</tr>
<tr>
<td>Lulin Gao</td>
<td>1,750 (10% of total)</td>
</tr>
<tr>
<td>Masanobu Katoh</td>
<td>13,931 (79% of total)</td>
</tr>
<tr>
<td>Hongjie Li</td>
<td>749</td>
</tr>
<tr>
<td>Sureswaran Ramadas</td>
<td>398</td>
</tr>
</tbody>
</table>

ICANN's online global election in October 2000 is a milestone in the Internet's development as a trans-national medium of governance and organization. The election itself was a bold endeavor to make decisions on a scale never tried
before. Only the Internet could enable decision-making across hundreds of diverse cultures in only ten days. There are aspects of the 2000 elections that deserve celebration and greater examination of the reasons for their success.

But ICANN’s election was a disappointment at best, and a failure at worst, for many who held out hope that ICANN would become a beacon of the Internet’s democratic potential. Upon its formation, ICANN was a symbol of non-governmental, non-corporate, privately orchestrated democratic global governance. By the close of the 2000 elections, however, ICANN had become just another example of U.S. world dominance and corporate greed.
EPILOGUE

On March 25, 2004, a two-day Global Forum on Internet Governance commenced at the United Nations headquarters in New York. Organized under the auspices of the United Nations Information and Communication Technologies (ICT) Task Force, an initiative launched by Secretary-General Kofi Annan in 2001, the Global Forum aimed to bring together “leading actors and all relevant stakeholders, including Member States, civil society and the private sector, interested in Internet governance issues.”1 Over two hundred delegates from around the world indeed appeared at the meeting and collectively took a preliminary step toward UN involvement in the management of global network concerns.2 Secretary-General Annan set the tone of the gathering in his opening speech, criticizing the current system through which Internet standards are established and domain names handled, a process dominated, many feel, by the United States, Canada, Europe, and Japan. Most significantly, Annan emphasized the disparities across nations, economies, and cultures in Internet accessibility and use. “At present,” Annan said, “[the Internet’s] reach is highly uneven, and the vast majority of people have yet to benefit from it, or even to be touched by it at all.” The world’s Internet leaders, he continued, “need to

develop inclusive and participatory models of governance. The medium must be
made accessible and responsive to the needs of all the world’s people.”

Many participants at the UN meeting considered such attention and support
for the management, security, and continuing robust quality of the Internet from the
highest governing official in the world as an indisputably positive development.
Representatives from developing nations praised Annan and echoed his remarks
about the Internet’s global disparities throughout the meeting. Khalid Saeed, the
secretary of Pakistan’s Ministry of Information Technology, insisted that
“[Pakistanis] do not have a say in how the Internet is handled, and that is wrong. All
countries must play an active role in controlling the operation of the Internet, not just
the wealthiest countries.” Saeed and others advised that the UN or an associated
global governing entity, such as the International Telecommunications Union (ITU),
should take over at least a part of the responsibilities of ICANN, the current Internet
management organization. Lyndall Shope-Mafole, chairperson of South Africa’s
National Commission on Information Society and Development, explained why
complaints about ICANN were brought to the UN in the first place. “It is true that
many issues [of Internet governance] are technical, but technology is not outside of
politics. The issue [is] not that something was broken and should be fixed. The issue
[is] rather legitimacy of the process, and this is why developing countries [brought]
the issue of Internet governance to the United Nations, which we feel represents us.”  
Maria Luiza Viotti, a delegate from Brazil, elaborated further that the Internet “is increasingly seen as an international public utility” and therefore its “governance should not be the prerogative of one group of countries or stakeholders” but instead “should be managed very broadly.”

Others outside of the developing world also delighted in the UN’s involvement in Internet management discussions. Anticipating that “the result [of a UN review of governance issues] could dramatically reshape the way the Internet is run and put an end to some of the informal … processes that exist today,” this group focused less specifically on those excluded from network governing and more intently on the institution they felt had kept people out – ICANN. Former ICANN director, Karl Auerbach, at odds with the organization since its beginning, said of the UN global forum, “The meeting clearly has, like an earthquake, liquefied the internet governance landscape. There is an opportunity now to affect change before the situation once again solidifies.” The situation is set to solidify in November 2005, at the second United Nations World Summit on the Information Society in Tunis, Tunisia. The first summit, held in Geneva, Switzerland in December 2003, launched UN and ITU sponsored discussion on a wide range of Internet issues, produced a “declaration of principles” outlining a “vision” of the worldwide

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6 “UN Global Forum,” Circle ID.
7 Ibid.
9 “UN Global Forum,” Circle ID.
information society, and established a plan of action for achieving that vision. The March 2004 UN Global Forum on Internet Governance was one of the early steps in this action plan.

The support expressed for the United Nations' interest in and action around issues of Internet governance is paradoxical given the passionately stated concerns of 1990s Internet engineers, entrepreneurs, and other enthusiasts that the Internet's management be kept away from formal and existing governing structures and in the people's hands. John Perry Barlow's celebrated proclamation, "governments of the Industrial world ... you are not welcome among us," seems now a call of the distant past, a quaint anachronism at best. To be sure, though, not everyone at the global forum agreed that UN involvement in coordinating the Internet was a good thing. There were two visible lines of disagreement. Common to both was a wariness of the bureaucracy and regulatory propensity inherent to state governments and a fear of harming the open architecture of the Internet. The most vocal objections to UN

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11 The World Summit on the Information Society (WSIS) "Declaration of Principles" is fair-minded and very ambitious. Linked through the summit website, http://www.itu.int/wsis/, the first paragraph reads:

"We, the representatives of the peoples of the world, assembled in Geneva ... for the first phase of the World Summit on the Information Society declare our common desire and commitment to build a people-centered, inclusive and development-oriented Information Society, where everyone can create, access, utilize, and share information and knowledge, enabling individuals, communities, and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights."


12 John Perry Barlow, "A Declaration of the Independence of Cyberspace" (see chap. 3, n. 74).
involvement came from those who felt that “ICANN works” and “there [is] no need to govern or regulate what works.” Senior vice president of technology strategy at MCI, co-designer of the Internet’s most fundamental architectural code, and current chair of ICANN’s board of directors, Vinton Cerf, remarked, “There is an old expression that was once used to describe the behavior of a governmental regulatory body: If all you have is a hammer, everything looks like a nail.” In a manner typical of his comments and personality as an ICANN board member and chairperson throughout the discussions related to ICANN’s 2000 at-large elections, Cerf avoided stating concretely either his objections to UN or multi-state government involvement or his advocacy of the continuation of the status quo. Using complexity as a pretext, a touch of humor to distract, and an erudite ability to turn a given subject into something new, Cerf warned, “If we are not careful, we may fall into [a] trap by trying to develop overly simple definitions for what is really a very complex question.” He surmised that

... this focus on Internet governance is really just a symptom of something else; [a symptom] that people [are] increasingly aware that they [are] relying on the Internet more and more everyday ... [and yet] they [do] not know if it [is] reliable and neither [do] they understand the forces that [maintain] it. So part of the answer might not be crafting some new Internet governance mechanism, but rather helping people understand what the mechanisms and forces [are] today which shaped the Web’s direction. Every one of the nearly 1 billion Internet users today could certainly not be consulted about Internet governance, and probably wouldn’t want to be anyway. ...It would be risky to focus on managing the Internet so carefully and so restrictively that it [is] no longer a place where innovation [is] supported, or [is] no longer the

13 Comments of Mark Furrer, Director of the Swiss Federal Office of Communications, as reported in “UN Global Forum,” Circle ID. Echoing Furrer, colleague Marcus Kummer of Switzerland’s federal department of foreign affairs said, “We shouldn’t worry about fixing what already works. We should move forward, not backward.” See Delio, “Spam.”
14 Delio, “Spam.”
15 Ibid.
open environment it [has] been in the past, [inviting] an enormous amount of investment and creativity. If we do that, we run the risk that by attempting to govern, we actually kill the value of the system.¹⁶

At the end of the two-day meeting, Cerf and others vested in the status quo triumphed, at least temporarily. The official news release of the Global Forum concluded that the "current system of Internet governance seemed to be working well." The only major outstanding task was to determine "how to better coordinate the work of specialized bodies and ensure the involvement of all stakeholders."¹⁷ Milton Mueller, author of the most detailed analysis to date of ICANN's formation and work (Ruling the Root, 2002) and one of the participants at the UN Global Forum, commented that it was "not clear where this conclusion came from, because there was no systematic assessment of the performance of ICANN, its related organizations, or any other treaties and activities affecting the Internet." The UN Global Forum, he said, "was basically a testing of the political winds, not a scientific assessment. And the politics," he added, "were highly complex and difficult to assess."¹⁸

The politics to which Mueller referred are partially visible in the elision of the most coherent and united voices at the meeting from the official press statements upon the forum's close. Representatives of poorer nations, and Kofi Annan himself, did not simply say that all stakeholders had a right to participate in the Internet's governance. They said, more precisely, that people of developing nations had been

¹⁶ “UN Global Forum,” Circle ID.
¹⁸ “UN Global Forum,” Circle ID.
overlooked as legitimate partners in Internet management and that this inequity must be ameliorated. A coalition of developing nations had, in fact, forced the inclusion of “Internet governance” as a discussion item in the two-part UN World Summit on the Information Society. This source of power behind the UN’s initial interest in Internet governance was present and vocal at the global forum but minimally recognized in the press releases that marked the forum’s conclusion. In the public eye, then, any “problem” with Internet governance lay not in the exclusion of certain segments of global society but in the familiar administrative challenges of a new organization. Cerf and others, initially forced on the defensive by an offensive third world move, managed to reverse the momentum and put poor countries back in their places vis-à-vis their rich neighbors. In one respect, the politics of rich versus poor have changed since the year 2000 – poorer, and geopolitically weaker, countries have upped the ante and brought the question of Internet governance to a decision-making body with more widespread global respect than ICANN. They successfully forced Internet leaders of wealthier and stronger nations to stand before a body of world leaders more globally representative than ICANN and justify their claims to authority over Internet governance issues. This is real progress, considering that the voice of developing nations in Internet management matters has been limited to individual three-minute appeals before ICANN board members at ICANN’s quarterly open public forums. But in another respect, nothing has changed, and the lines between rich and poor have been etched more deeply. The UN Global Forum gave rich countries another opportunity to practice their methods of silencing the poor.

19 See the comments of Lyndall Shope-Mafolie and Milton Mueller in “UN Global Forum,” Circle ID.
The power and politics at the UN’s Global Forum can also be discerned through the absence of two distinct groups of people, both opposed to UN involvement in Internet governance, yet neither in favor of ICANN’s continued reign, and both interested in governance issues, yet neither discussed as interested parties by those present at the UN’s meeting. Both global north and global south delegates referred to “developing countries” as a stable category throughout the UN meeting. But in fact, only Brazil, Pakistan, and South Africa were present and visible. China, a nation that has embraced e-commerce and worked steadily over the past few years to negotiate domestically issues of privacy, freedom of expression, and accessibility, was conspicuous in its absence. In addition, no Arab states attended the meeting. Yet, Brazilians and Americans, both, spoke of “poor nations” as a collection of groups all needing the same thing. Lumping millions into one category masks differences of opinion, need, and desire and enables those speaking of or with the category to work more easily around it. Broad categories are a red flag that complexity abounds. The continued, unexamined use of generalized classifications suggests that some entities gain by sustaining imprecise labels and hints at the negotiations going on between and among various points of power within a broad group. Certain “global north” countries and certain “global south” countries have something to gain by disregarding the fact that their use of the term “developing countries” refers to only a few of the world’s nations considered to be “poor.”

A second group of interested people absent from the UN’s forum consisted of Internet communities working on grassroots campaigns to ensure free and open code and civil rights online. Many of these individuals gathered themselves under the rubric Internet Commons Congress (ICC) and met in Washington, D. C. at the same time as the UN forum to discuss many of the same issues. Richard Stallman, leader of the free software movement and a major inspiration for the ICC, railed against the current state of democracy in the United States during the ICC meeting, saying that public opinion takes a back seat to lobbying in all but a few major issues. "We are in an era when democracy exists in form but not in substance," he said. "The sickness of democracy [in the United States] takes away the legitimacy of government and its actions."21 For this group of Internet activists, it is the world’s leading democracy, economy, and geopolitical power, the United States, and its global partners who support the same capitalist system, that is the Internet’s primary threat, ICANN’s problem, and the reason a UN-governed Internet would be no better. “The [constraints are] wide and pervasive,” Stallman stressed. “The time has come to assemble and declare our rights. We call upon advocates and organizers, authors and coworkers, readers and singers, politicians and students, grandmothers and children of all ages ... to join us.”22 While not all ICC members were as emphatic, the vast majority agreed that state and corporate control over the Internet had to be resisted. Australian Internet pioneer, Ian Peter, said of his choice whether to attend the Internet Commons Congress or the UN forum in New York, "What goes on in this

22 Ibid.
room is far more important to the future of the Internet than what’s going on in New York.”

Whether the Internet Commons Congress can effect change in the Internet’s governing structures as they are now remains to be seen. Since the early 1990s when the overcrowding of the Domain Name System first became an issue and the imposition of more order on the system became necessary, groups advocating free code, free access, and civil liberties online have proliferated. The ICC may effect change in that it is a coalition of many independent groups, rather than single activist groups working alone. It is also promising that the United Nations has paid attention to the calls of some developing countries and has taken concrete action in the form of the UN Summit on Information Technologies. However, even this possibility is undermined by the unwillingness to disclose fully after the UN Global Forum the criticisms of ICANN and the current Internet governing structures, policies, and players. The UN’s involvement is forward progress, but whether it is enough is far from being clear. Perhaps those not appearing at any global gathering, such as Internet leaders in China, Qatar, or the Palestinian territories – largely unnoticed by the information rich societies – will force recognition of the inequities of which ICANN is accused by surprising the world with new approaches to the use, value, and understanding of Internet technologies. It would appear, though, that in the meantime the United States will retain, through ICANN – still under contract with the U.S. Department of Commerce – its ultimate hold over how the Internet is run worldwide.

23 Ibid.
APPENDIX A

Japan ICANN Forum's
ICANN Election Illustration Page

インドの活動に日本も貢献しましょう！

一度ご登録の投票は変更をすることができません。くれぐれも
お裏を切らないようお願い申し上げます。

ステップ1
投票の始まり
「Start here」をクリック

このリンクで投票を開始してください

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ステップ２
\:ログイン

1. 以下の情報を入力
\- メンバーシップナンバー
\- パスワード
\- PIN

[注]
\- パスワードとPINは大文字/小文字を区別します。ICANNから送信されたとおりに入力してください。
\- PINは先頭4文字「PIN-」を含む、10文字を入力してください。
\- パスワードとPINはアスタリスク(*****)で示されます。

2. 「Login」をクリック

To the At Large Membership:
The Internet Corporation for Assigned Names and Numbers (ICANN) is pleased to offer you the ability to participate in selecting At Large Board of Directors.

We believe that Internet voting will give you the opportunity to enjoy greater and more convenient participation in the ICANN process.

In order to cast your vote, please log in using the following:

Member Number: 012345
Password: ABCDEF
PIN: 123456

バスワードとPINは大文字/小文字を区別します。ICANNから通知されたとおりに入力してください。

If you have any questions or problems logging in please email us at icanthelp@election.com or call 1.877.866.3636 for assistance.

election.com

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ステップ３：投票

1. 5人の候補に対して、支持したい順位（1〜5）を入力

注
・支持したい候補が1人の場合は、他の候補の順位は白
・複数の候補に同じ順位を付けることはできません。

「Submit」をクリック
ステップ4

1. 投票内容の確認

投票内容を確認して「Vote」をクリック（修正する場合は「Return」をクリック）
ステップ 5
: 投票完了

1. 「Logout」をクリック

投票ページはこちらです。

お問い合わせ

ジャパンICANNフォーラムへのご質問がございましたら、ジャパンICANNフォーラム事務局までお問い合わせ下さい

E-mail
icann-sec@nic.ad.jp

http://icann.nic.ad.jp/main/vote/vote.html 7/3/02
APPENDIX B

Official Voting Results
2000 ICANN Election

ICANN Board of Directors
Results of the 2000 At Large Membership Vote
Click on the region to view the results

Africa
Asia / Australia / Pacific
Europe
Latin America / Caribbean
North America
**VOTE FOR REGION 4 DIRECTOR - Africa**

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Total Valid Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin Browne</td>
<td>30</td>
</tr>
<tr>
<td>Alan Levin</td>
<td>33</td>
</tr>
<tr>
<td>Nil Quaynor</td>
<td><strong>67, WINNER</strong></td>
</tr>
<tr>
<td>Exhausted ballots</td>
<td>0</td>
</tr>
</tbody>
</table>

Region Winner: Nil Quaynor
### VOTE FOR REGION 1 DIRECTOR - Asia / Australia / Pacific

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johannes Chiang</td>
<td>935</td>
</tr>
<tr>
<td>Lulin Gao</td>
<td>1750</td>
</tr>
<tr>
<td>Masanobu Katoh</td>
<td>13913</td>
</tr>
<tr>
<td><em><strong>WINNER</strong></em></td>
<td></td>
</tr>
<tr>
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<td>Sureswaran Ramadas</td>
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Region Winner: Masanobu Katoh

[Click here to return](#)
VOTE FOR REGION 2 DIRECTOR - Europe

NUMBER TO BE SELECTED: | TOTAL VALID VOTES: | INITIAL QUOTA:
---|---|---

Region Winner: Andy Mueller-Maguhn

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<td>Jeanette Hofmann</td>
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<td>Olivier Muron</td>
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<td>Oliver Popov</td>
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<td>Winfried Schueler</td>
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<td>Claudio Silva Menezes</td>
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<th>5th Stage Exclusion of: Tiller</th>
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VITA

Gretchen Ferris Schœel

Gretchen Ferris Schœel was born in Birmingham, Alabama on April 3, 1966. She graduated from Davidson College with a bachelor's degree in history in 1988. In 1992, Schœel received a master's degree in American Studies from The College of William and Mary. She continued in William and Mary's American Studies doctoral program and defended her dissertation in June 2004.

From 1996 to 2000, Schœel taught at Keio University in Japan and began the research for this dissertation. Between 1990 and 2000, Schœel created a variety of cultural exchange programs between Japan and the United States. One, the Keio University-College of William and Mary Cross-Cultural Collaboration, recently entered its fifteenth consecutive year and has engaged hundreds of Americans and Japanese in collaborative learning projects.