The W3C and its Patent Policy Controversy:
A Case Study of Authority and Legitimacy in Internet Governance

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> How the code regulates, who the code writers are, and who controls the code
> writers—these are the questions that any practice of justice must focus in the age
> of cyberspace. The answers reveal how cyberspace is regulated.
> <div align="right">- Lawrence Lessig[2]</div>

Introduction

This paper argues that the preservation of openness and innovation in Internet

technologies requires more than code; it requires institutions to govern code in a manner that is

consistent with the values of a broad community of stakeholders. My specific claim is that the

World Wide Web Consortium (W3C), which is the body responsible for developing technical

standards for the World Wide Web (Web), adjusted its mechanisms and policies in order to

preserve a balance between centralized authority and decentralized, grassroots public inputs. By

virtue of its efforts to accommodate larger participation throughout its recent patent policy

dispute, the W3C strengthened its claim to be a legitimate, more democratic regulator of the Web.

The democratic potential of the Internet stems from the Internet's architecture.[3] The

political values of Internet architecture and Internet technical standards favor—and are intended

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[2] Lawrence Lessig, *Code and Other Laws of Cyberspace* (New York: Basic Books, 1999), 60.
[3] A flurry of recent books from scholars in the humanities and social sciences portray the Web as a tool that is well-suited to enhance democratic deliberation. See for example Anthony Wilhelm, *Democracy in the Digital Age: Challenges to Political Life in Cyberspace* (New York: Routledge, 2000); Andrew Shapiro, *The Control Revolution: How the Internet is Putting Individuals in Charge and Changing the World We Know* (New York: PublicAffairs, 1999); and, the classic John Perry Barlow, "A Declaration of the Independence of Cyberspace," February 9, 1996, http://www.eff.org/barlow. Other scholars who look more closely at the history and architecture of the Web discuss how anti-authoritarian values informed the design of the Web. See for example James Gillies and Robert Cailliau, *How the Web Was Born* (New York: Oxford University Press, 2000); Tim Berners-Lee, *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by its Inventor* (San Francisco: HarperSanFrancisco, 1999); M. Mitchell Waldrop, *The Dream Machine: J. C. R. Licklider and the Revolution That Made Computing*

to enable—decentralized and non-hierarchical interactions.[4] The technical principle at the core

of this political philosophy of Internet standards is known as "end-to-end."[5] In its simplest form,

the end-to-end design principle facilitates disintermediated communication between users: unlike

the telephone network, the Internet does not rely on a central authority to function. This design

principle allows users to communicate with one another, despite the presence of governments

and political forces that, in a pre-Internet world, could censor communication more easily.[6]

   "Open code," or code that can be examined by any user, enhances the openness fostered

by the Internet's end-to-end architecture. In his seminal 1999 book *Code*, Lawrence Lessig

argued that behavior on the Internet will be more regulable to the extent that proprietary code, or

"closed code," is incorporated into the Internet's architecture. For Lessig, the distinction

between open code and closed code is analogous to the distinction between transparent,

participatory democracies and covert, totalitarian regimes. "Open code," Lessig wrote, "reduces

the reward from burying regulation in the hidden spaces of code. It functions as a kind of

Freedom of Information Act for network regulation. As with ordinary law, open code requires

that lawmaking be public, and thus that lawmaking be transparent."[7]

Personal (New York: Viking, 2001), 464-5; Manuel Castells, *The Internet Galaxy: Reflections on the Internet, Business, and Society* (New York: Oxford University Press, 2001); and Wendy Grossman, *From Anarchy to Power: The Net Comes of Age* (New York: New York University Press, 2001).

[4] See Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (New York: Random House, 2001), 26-48; Janet Abbate, *Inventing the Internet* (Cambridge: The MIT Press, 1999); and National Research Council, *The Internet's Coming of Age* (Washington, DC: National Academy Press, 2000).

[5] For an articulation of end-to-end principles and their implications, see J. H. Saltzer, D. P. Reed, and D. D. Clark, "End-To-End Arguments in System Design," *ACM Transactions on Computer Systems*, Vol. 2 No. 4, November, 1984, 277-288; and Dale Hatfield, "Preface," 8 Commlaw Conspectus 1, 1 (2000). The future of end-to-end principles in Internet architecture is the subject of ongoing debate in technical and policy communities. See for example Marjory S. Blumenthal and David D. Clark, "Rethinking the design of the Internet: The end to end arguments vs. the brave new world," *ACM Transactions on Internet Technology*, Vol 1 No 1, August 2001, 70-109; and Mark Lemley and Lawrence Lessig, "The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era," 48 UCLA Law Review 925.

[6] A classic case of the Internet's ability to route around censorship was the ability of Yugoslavia's B92 radio station to use the Internet even when Milosevic had cut off radio communication. See Shapiro, *Control Revolution*. See also Pekka Himanen, *The Hacker Ethic and the Spirit of the Information Age* (New York: Random House, 2001), 85-98.

[7] Lessig, *Code*, 108.

With the increasing commercialization of Internet technologies and services, many

observers are concerned that the Internet's architecture (or code) will fall into private hands,

perhaps threatening the freedom and openness enjoyed by Internet users throughout the 1970s,

80s, and 90s. Recent scholarship on the uses of networks in countries such as Burma, China, and

Saudi Arabia indicates that the Internet and Web are not inherently or inevitably "open" or

"democratic."[8] Consequently, we should think of the governance of the Internet's architecture as

more than a set of technical issues; Internet governance also involves political and cultural issues

that influence many aspects of our everyday lives. This paper examines some of these political

and cultural issues that surround the governance of the most popular application on the Internet:

the Web. Who are the Web's code writers? To whom are they accountable, and why? If "code

is law," how can we ensure that it is *legitimate* law?

While many existing analyses of the Web and democracy focus primarily on the

technical architecture of the Web, I hope to demonstrate how we can gain a better understanding

of the dynamics of Internet governance by looking more closely at the *political* and *cultural*

architectures of the Web and W3C.[9] This paper does not address the effectiveness of W3C

Recommendations in the Web standards marketplace; nor does it compare in any systematic way

the W3C with ICANN, the IETF, or other Internet governing bodies. Instead, I emphasize the

influence of consensus-based, non-hierarchical values throughout the history of the Web's

invention and governance in the W3C. My use of the concepts of political and cultural

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[8] See for example Shanthi Kalathil and Taylor Boas, *Open Networks, Closed Societies: The Impact of the Internet on Authoritarian Rule* (Washington, DC: Carnegie Endowment for International Peace, 2003); and Jonathan Zittrain and Benjamin Edelstein, "Empirical Analysis of Internet Filtering in China," http://cyber.law.harvard.edu/filtering/china/.

[9] I use the term "political architectures" to refer to the institutions and decision-making structures and mechanisms of the W3C. "Cultural architectures" refers to the ideological, philosophical, and spiritual values that facilitated the successful creation and deployment of the Web. Political and cultural architectures are significant because they "shape" (in the parlance of historians of technology) or "regulate" (in the parlance of lawyers and economists) activity within technological architectures.

architectures is intended to draw attention not only to the structure and procedures of the W3C, but also to the specific contexts surrounding the history of the Web and W3C and to the ideas that motivated W3C Members, staff and the broader community of code developers for the Web. A history of the political and cultural architectures of the W3C, I argue, gives us a richer sense of how to answer an increasingly important question: how can we exercise democratic control over code?

I will proceed in four sections. The first section examines how the technical, political, and cultural values of the Web's creator, Tim Berners-Lee, shaped his creation of the Web. The second section underlines how Berners-Lee designed the W3C to include mechanisms both to maintain centralized control as well as to facilitate grassroots "rough consensus." The third section looks to a specific issue—the debate over the W3C's policy for allowing patented material in W3C standards—in order to evaluate how the W3C responded to critical feedback from Web developers outside the W3C Membership. The fourth section draws on Jürgen Habermas's discussion of "discursive procedures" to argue that the diligence and responsiveness of the W3C's Patent Policy Working Group enhanced the legitimacy of the W3C as a governing body. Underlying each of these four sections is a methodological effort to show how contributions from the humanities and social sciences can complement the tools of law and economics to enrich our understanding of governance in the Information Age.[10]

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[10] To date, lawyers and economists dominate the scholarship surrounding Internet standards. This is not surprising, given the centrality of standardization to the traditional realms of both disciplines – telecommunications regulation, intellectual property, innovation, and antitrust. Additionally, Internet standards entail political, subjective processes, constrained by personal beliefs and cultural convictions. Scholars in the humanities are more accustomed to weighing these subjective issues, which include the dynamics of power relationships and the broader reflexive relationships between technology and culture. Slowly the law and economics-heavy literature is being supplemented by contributions that focus on these other important aspects of standardization. See for example Greg Downey, "Virtual Webs, Physical Technologies, and Hidden Workers: The Spaces of Labor in Information Internetworks," *Technology and Culture* 42 (2): 209-235 (noting the importance of "protocol labor"); Amy Slaton and Janet Abbate, "The Hidden Lives of Standards: Technical Prescriptions an the Transformation of Work in America," in Allen and Hecht, eds., *Technologies of Power*, 95-144 (on standards as skilled labor and knowledge

Founding Values of the World Wide Web

> Inventing the World Wide Web involved my growing realization that there was a power in arranging ideas in an unconstrained, weblike way. And that awareness came to me through precisely that kind of process. The Web arose as the answer to an open challenge, through the swirling together of influences, ideas, and realizations from many sides, until, by the wondrous offices of the human mind, a new concept jelled. It was a process of accretion, not the linear solving of one well-defined problem after another.
>
> - Tim Berners-Lee[11]

This section departs from traditional narratives[12] of Berners-Lee's creation of the Web at CERN.[13] Instead, my account will develop three themes that resonate throughout the creation and history of the Web: Berners-Lee's desire to build a platform to enable random associations across different information systems; the need for this platform to run on open code; and the explicitly non-commercial, scientific work culture in which the Web was conceived and deployed. Together, these themes underscore the relevance of Berners-Lee's cultural and philosophical values to the governance of the Web.

A gifted student who finished a degree in physics at Oxford in 1976, Berners-Lee joined CERN in 1980 as a software consultant.[14] CERN, created in 1949 to facilitate basic (i.e. curiosity-driven) science, provided an ideal environment for Berners-Lee to pursue his own interests in information networks. As a collaborative space where hundreds of physicists from across Europe would come to visit, perform experiments, and then return home, CERN faced a

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work); and Urs von Burg, The Triumph of Ethernet: Technological Communities and the Battle for the LAN Standard (Stanford, CA: Stanford University Press, 2001) (tracing the contingencies that shaped the proliferation of standardized local area network technology).

[11] Berners-Lee, *Weaving the Web*, 3.

[12] One such "traditional narrative" is available from http://www.w3.org/History.html. A richer list of short histories of the Internet and Web is available from http://www.isoc.org/internet/history/.

[13] CERN originally stood for "Conseil Europeen pour la Recherche Nucleaire." The lab has moved past its nuclear roots, but keeps the name CERN as an acronym. CERN itself has a remarkable history – the lab is a living testimony to the power of scientific curiosity, the result of endowing scientists with the resources and space to experiment as they wish. See especially Gillies and Cailliau, *How the Web Was Born*, as well as Armin Hermann, John Krige, and Lanfranco Belloni, *History of CERN* (New York: North-Holland Physics Pubs., 1987).

[14] As the son of mathematicians, who is said to have teased his younger brother with the concept of imaginary numbers at the breakfast table, Berners-Lee is often described as having ideas that ranged between "wacky" and "brilliant." Gillies and Cailliau, *How the Web Was Born*, 150, 151.

fundamental research and communication problem. Visiting physicists, once they finished their tour at CERN, would leave behind documentation and data from their experiments that varied greatly in quality, level of specificity, language, and data formats. CERN's computerized system for cataloging this data, CERNDOC, was a hierarchical system that provided links between documents. Although CERN formally was a hierarchical entity, with research units distributed within that hierarchy, Berners-Lee noticed that the physicists at CERN didn't work in a hierarchical manner: "The actual observed working structure of the organization is simply a multiply connected 'web' whose interconnections evolve with time."[15] Thus, to the software consultant Berners-Lee, it seemed appropriate for CERN to organize experimental data in the same way that the researchers organized themselves.

This mix of pragmatism and idealism informed Berners-Lee's efforts to build a program to replace CERNDOC. "The system had to have one fundamental property," Berners-Lee wrote. "It had to be completely decentralized."[16] A decentralized architecture would allow anyone to contribute data to the system without the permission of anyone else, and, in the spirit of "good Internet-style engineering," would scale well.[17] Additionally, as Berners-Lee noted in his 1989 proposal to build such a system, it should be accessible across different networks and able to interface intelligibly with different computer systems. As Berners-Lee summarized in a 2001 interview, "the aim was unification of all the many information systems, each of which did different useful things, but which did not interoperate."[18]

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[15] Gillies and Cailliau, *How the Web Was Born*, 182.
[16] Berners-Lee, *Weaving the Web*, 16.
[17] Berners-Lee, *Weaving the Web*, 16.
[18] Paul Festa, "Charting the Web's Next Transformation," December 12, 2001. http://news.com.com/2102-1082-276939.html. This basic goal of interoperability was also a key motivation in the "Internetting" concepts developed in the early 1970s that led directly to today's Internet. See Vint Cerf's account of his role in this history at http://www.worldcom.com/global/resources/cerfs_up/internet_history/q_and_a.xml.

Like the Internet, the key for getting the Web to catch on in its early life was to define a set of basic protocols that would allow communication. In a research setting like CERN, where open scientific collaboration is designed into the architecture and culture of the organization, these protocols would function best if they remained open. In 1991, Berners-Lee circulated a note in the CERN computing newsletter that began, "A source of much debate over recent years has been whether to write software in-house or buy it from commercial suppliers." He continued, "Now, a third alternative is becoming significant in what some see as a revolution in software supply. Richard Stallman's almost religious campaign for usable free software led to the creation of the Free Software Foundation and GNU General Public License."[19] Beyond the idealism contained in Stallman's "third alternative," Berners-Lee was particularly attracted by the scientific merits of such a license. "Just as we publish our physics for free," he wrote, "should we not in certain cases 'publish' our software?"[20]

Berners-Lee felt this academic tradition that had worked so well for physics—peer-review and broad publication—would transfer well to a system like his World Wide Web, which also was designed to promote to free exchange of information. After the CERN administration decided it would be easier to release it under the GNU General Public License (as opposed to the paperwork required to process each purchase of the software), it agreed in August 1991 to allow Berners-Lee to post his browser to newsgroups and mailing lists, and to encourage users to download the program and try it for themselves.[21]

By 1992, Berners-Lee was pleasantly surprised by the release of browsers written outside of CERN. Berners-Lee's decision to keep the source code of his browser open encouraged other developers to try to improve his brilliant piece of software. This is, of course, the logic of open

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[19] Berners-Lee, quoted in Gillies and Cailliau, *How the Web Was Born*, 209.
[20] Berners-Lee, quoted in Gillies and Cailliau, *How the Web Was Born*, 209.
[21] Gillies and Cailliau, *How the Web Was Born*, 210.

source development. As James Gillies and Robert Cailliau wrote: "His [Berners-Lee's] ploy to harness the geeks had borne fruit, just as he expected."[22] By allowing the community of open source developers to run wild with his software, Berners-Lee stoked the fires that would lead to an explosion of the Web.[23] Berners-Lee attributes this explosive growth to "a grassroots syndrome."

> It happened because of a mass of small decisions made across the world…. A very significant factor was that the software was all (what we now call) open source. It spread fast and could be improved fast—and it could be installed within government and large industry without having to go through a procurement process.[24]

Open source, then, figures prominently in the early history of the Web, both as a development strategy and as a development philosophy. By 1993 it was clear that this was the most appropriate strategy for allowing the Web to grow in a manner consistent with Berners-Lee's "universal" ideals. However, given the creation of multiple browsers by 1993 (including NCSA Mosaic), Berners-Lee saw a pressing need to standardize Web protocols, so that the fragmentation between various implementations of browser code would not "fork" out of control.

The case of the "gopher" information system influenced Berners-Lee's thinking as he contemplated the best way to standardize Web protocols. Like the Web, gopher was an online information system that enjoyed a growing user base in the early 1990s. In early 1993, the University of Minnesota (where gopher was created and hosted), decided to charge users (apart from non-profit and academic users) an annual fee to use the service. According to Berners-Lee,

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[22] Gillies and Cailliau, *How the Web Was Born*, 215. Without dwelling on the point, it is worth noting that, compared to a commercial environment where activity must demonstrate a clear link to making profits, an environment dedicated to research is a far better space for such open source "network effects" to develop. The historical evidence is quite clear: the creation of both the Internet and Web occurred in non-commercial scientific research environments, not in a corporate or commercial environment.

[23] Berners-Lee remembers, "The explosion was amazingly steady – for an explosion. The load on the first Web server just grew a factor of 10 every year for three years." Festa, "Charting the Web's Next Transformation."

[24] Berners-Lee, quoted in Festa, "Charting the Web's Next Transformation."

This was an act of treason in the academic community and the Internet community. Even if the university never charged anyone a dime, the fact that the school had announced it was reserving the right to charge people for the use of the gopher protocols meant it had crossed the line. To use the technology was too risky. Industry dropped gopher like a hot potato.[25]

I should pause here to make explicit the following point. Lessig's *Code* is intended to convince us of what Berners-Lee and the community of developers knew in 1993: that proprietary protocols make users more subject to control and regulation, and to use this sort of proprietary technology entailed more risks and costs than to use non-proprietary protocols. More important, the University of Minnesota's mere threat to exercise control over gopher was enough to discourage use of the application, especially in industry. For someone dedicated to creating a universal information space, the case of gopher demonstrated that the Web could not develop effectively with proprietary code.

Berners-Lee recalled, "My motivation was to make sure that the Web became what I'd originally intended it to be—a universal medium for sharing information."[26] As it became increasingly evident that CERN could not provide him with the resources needed to achieve this goal, Berners-Lee explored a different institutional setting: a standards consortium. Such a consortium would allow him to focus on the Web's proliferation from a "neutral viewpoint," as opposed to the competitive life of a corporate position.[27] He continued,

While leading a consortium would limit my public opinions due to confidentiality and the requirement of having to be neutral, I'd be free to really think about what was best for the world, as opposed to what would be best for one commercial interest. I'd also be free to wield a pervasive influence over the Web's future technical directions…. Starting a consortium, therefore, represented the best way for me to see the full span of the Web community as it spread into more and more areas.[28]

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[25] Berners-Lee, *Weaving the Web*, 73.
[26] Berners-Lee, *Weaving the Web*, 84.
[27] Berners-Lee, *Weaving the Web*, 84.
[28] Berners-Lee, *Weaving the Web*, 84-5.

Founding Values of the W3C

> Although I knew I would be forced to introduce some structure, I wanted the consortium to operate in a way that reflected a weblike existence. The Web would not be an isolated tool used by people in their lives, or even a mirror of real life; it would be a part of the very fabric of the web of life we all help weave.
>
> - Tim Berners-Lee[29]

As with the previous section on the creation of the Web, this section will not provide a blow-by-blow technical account of the creation of the World Wide Web Consortium (W3C).[30] Instead, my focus on the political and cultural roots of the W3C is intended to shed light on the ways that Berners-Lee and his collaborators designed the W3C to garner consensus and legitimacy while preserving a "pervasive influence" over the future of the Web.

In the early 1990s, according to Gillies and Cailliau, "the ideal that the Internet should be non-commercial was slowly being eroded, and in 1991 legislation preventing the commercial use of the Internet was dropped."[31] As the Web grew throughout 1992 and 1993, Berners-Lee increasingly became aware of the need to find a more stable institutional home for it. CERN, as an institution designed to support physics—not computer science—research, never had given reassuring signs to Berners-Lee that it was the right home for the Web.[32] The need to move quickly was pressing: "Commercial, educational, and government bodies are all rushing to get on board. [These groups] are calling for a central body to define the Web, ensure its stability and smooth progression through continued technological innovation."[33]

In February 1994, Berners-Lee met Michael Dertouzos, Director of MIT's Laboratory for Computer Science (LCS). Dertouzos and Berners-Lee discussed synergies between Dertouzos's vision of an information marketplace and Berners-Lee's rapidly growing information space on

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[29] Berners-Lee, *Weaving the Web*, 91.
[30] Interested readers should consult http://www.w3.org/Consortium for a full and "official" chronology.
[31] Gillies and Cailliau, *How the Web Was Born*, 264.
[32] Gillies and Cailliau, *How the Web Was Born*, 264.
[33] Berners-Lee, quoted in Gillies and Cailliau, *How the Web Was Born*, 266.

the Web. They came to an agreement that MIT's LCS would be an appropriate home for an

organization, headed by Berners-Lee, to oversee the development of Web protocols.[34] "Starting

a consortium," Berners-Lee recalled, was the best way for him to achieve his goal "to see the full

span of the Web community as it spread into more and more areas."[35]

Political Architecture of the W3C

After a period of demanding negotiations between LCS, CERN, and Berners-Lee,[36] the

W3C began operating out of LCS in October 1994. The political structure of the W3C combines

the technical work of W3C staff with the input and consensus of W3C Members. Ultimate

authority resides with the Director, Berners-Lee. According to the W3C Process Document, the

Director is "responsible for assessing consensus within W3C for architectural choices,

publication of technical reports, and new Activities."[37]

After the Director (Berners-Lee), the Advisory Committee is the group with the most

influence in the W3C. The Advisory Committee consists of one representative from each

Member organization (as of August 19, 2003, the W3C has 382 Members).[38] Membership to the

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[34] The X-Consortium, established within LCS in 1984 to create a neutral forum to standardize the X-Window system, proved that LCS could nurture a successful standards organization. Gillies and Cailliau, *How the Web Was Born*, 266-7.

[35] Berners-Lee, *Weaving the Web*, 85.

[36] Throughout late 1994, negotiations between CERN, LCS, and Berners-Lee over the structure and financing of the proposed W3C stumbled over cultural misunderstandings and power struggles. CERN administration appears to have been offended by the appearances of the Web moving from Europe to America: the Web had become a source of pride in European innovation. It was also a perfect rationale, come budget time, for a well-funded laboratory dedicated to curiosity-driven research and developing the unanticipated results that flow from such an environment. This rather complicated chapter in the story demonstrates the need for governance structures to stay attuned to national cultural sensitivity. For a fuller exposition of why CERN saw the loss of the Web as a loss of pride, but then didn't really mind when the Web was gone (save for receiving credit for facilitating its invention), see Gillies and Cailliau, *How the Web Was Born*, 264-305.

[37] "World Wide Web Consortium Process Document – 19 July 2001," http://www.w3.org/Consortium/Process-20010719/process.html.

[38] Corporations dominate membership; several universities, broadcasting networks, and other organizations (such as the Hong Kong Jockey Club) make up a vast majority of Members. For a full list of W3C Members, see http://www.w3.org/Consortium/Member/List. In May 2003, the W3C had 410 Members.

W3C is open only to organizations, not individuals, and must be purchased: $50,000 annually for corporate members, $5,000 annually for non-profit, academic, and government members. Thus, unlike the Internet Engineering Task Force (IETF), which coordinates Internet standards, the W3C is not open to anyone interested: you must pay to play in the W3C. The Advisory Committee must meet in person at least twice a year; but Members can include their representatives in the small groups set up by the W3C to explore specific issues: Working Groups, Interest Groups, and Coordination Groups.[39]

The W3C does not create formal standards, since there is no way to enforce the use of standards.[40] It prefers instead the informality of "Recommendations," which indicates that the W3C's authority—as well as Berners-Lee's authority—are not absolute dictates from above. The W3C imposes no obligation—even on W3C Members—to implement W3C Recommendations. Given Berners-Lee's leading role in the development of the Web, and the W3C's ongoing efforts to accommodate the participation of interested stakeholders, W3C Recommendations carry what one observer referred to as "a moral authority that is the closest thing the Internet has to law."[41] W3C Recommendations, such as HTML 4, XHTML, CSS, XML, PICS, and P3P, originate within the W3C as Working Drafts.[42] Working Drafts are components of W3C Activities, which can be initiated only by the Director, who passes

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[39] Given the advanced technical nature of the work, the reader should not be surprised to learn that this is a vastly simplified overview of the W3C structure and process.

[40] The theory is that voluntary compliance is more efficient than forced compliance; hence, the standards-making process should strive to include all interested parties from the start. In recognition of this tendency, the Office of Management and Budget specified in a 1995 circular that federal agencies should use voluntary consensus standards in regulatory and procurement activities unless they are "inconsistent with applicable law or otherwise impractical." "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," Office of Management and Budget (OMB) Circular A-119, February 10, 1998, http://www.whitehouse.gov/omb/circulars/a119/a119.html.

[41] Simson L. Garfinkel, "The Web's Unelected Government," *Technology Review*, November/December 1998, 42. Garfinkel continued, "And this moral authority has given rise to the W3C's technical work—which is almost universally praised—as well as its policymaking activities, which have generated considerable controversy." Garfinkel, "The Web's Unelected Government," 42.

[42] See http://www.w3.org/Consortium.

proposals for Activities to the Advisory Committee. As the Advisory Committee reviews and

comments on the proposal, the Director gauges whether there is consensus among the Members

to pursue the Activity.[43]

Through a carefully documented development and review process, Working Drafts must

proceed through "increasing levels of maturity and consensus": Last Call Working Draft,

Candidate Recommendation, Proposed Recommendation, and, finally, W3C Recommendation.

"In theory," commented Berners-Lee, "the outcome was my decision (much as the monarch, in

theory, rules in Britain!), but in fact we would put the member review comments through an

internal process of review with the domain and activity leads and the working group chair."[44]

The "domain and activity leads" are positions held by W3C staff, not Member representatives.

In other words, while the member comments are factored into W3C decisions, the real power lies

with the Director (Berners-Lee) and his handpicked staff.

The W3C Process, then, is a complex, almost organic structure, formalized in a living

written constitution, the "World Wide Web Consortium Process Document." This is the

structure that Berners-Lee built to carry his dreams forward. Berners-Lee embedded a

significant amount of control into the Director's position, including the initiation of Activities

and approval of reports and Recommendations. This structure begs the question: if so much

power lies with the Director, how does the W3C avoid being perceived as a dictatorship?

Cultural Architecture of the W3C

The key question about political power in the W3C was always going to be, what is

Berners-Lee's role in it? Put another way, how could Berners-Lee transfer stewardship of the

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[43] "World Wide Web Consortium Process Document – 19 July 2001," http://www.w3.org/Consortium/Process-20010719/process.html.
[44] Berners-Lee, *Weaving the Web*, 110.

Web—both the visionary and technical aspects—to a broader community of users who might try

to impose a more commercial vision over the open and decentralized "nature" of the Web?

Berners-Lee seemed committed to pushing the web forward according to the talents and

consensus of the developer community. But he also seemed equally committed to his vision of a

global information space, open to all—including the needs of commercial developers. Berners-

Lee's vision and role continues to shape the W3C's culture and, ultimately, its code.

The term "consensus" appears over and over again throughout the history of the

Internet.[45] As a technical matter, the Internet depends on the consensual use of standards such as

TCP/IP. Consensus is a predominant cultural value of Internet governance, most notably in the

IETF. The IETF's motto and operating philosophy, "We reject: kings, presidents, and voting;

We believe in rough consensus and running code" is widely cited as a model for deliberative

governance.[46] This is the model that Berners-Lee strove to emulate in the W3C, as is evident in

his discussion of W3C terminology:

> We wrestled over terms—whether the consortium should actually set a "standard"
> or stop just short of that by issuing a formal "recommendation." We chose the
> latter to indicate that getting "rough consensus and running code"—the Internet
> maxim for agreeing on a workable program and getting it out there to be
> tried—was the level at which we would work.[47]

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[45] The W3C Process Document defines consensus as "no participants object (but some may abstain). "Unanimity" is where "all participants agree," and "Dissent" is where at least one participant objects. http://www.w3.org/Consortium/Process-20010719/process.html.

[46] See Andrew Russell, "From 'Council of Elders' to 'Palace Revolt': Political Values of Internet Standards, 1969-1992," *Actes du Sixième colloque sur l'Histoire de l'Informatique et des Réseaux* (Grenoble: INRIA, 2003), 250-277, for an argument that "rough consensus and running code" is an articulation of the cultural and political values of Internet founders, which are rooted in the cultural and political history of Cold War America. A revised version of this chapter is available from http://arussell.org/papers/current/russell-ietf3.pdf. Lessig declared the IETF motto as "a manifesto that will define our generation." Lessig, *Code*, 4. See also Michael Froomkin, "Habermas@discourse.net: Toward a Critical Theory of Cyberspace, 116 Harvard Law Review 749 (2003).

[47] Berners-Lee, *Weaving the Web*, 98. For more examples of the consensus-based approach utilized in bodies that govern parts of the Internet, see "Global Grid Forum Overview: Structure and Process," http://www.gridforum.org/L_About/Struc_Proc.htm; and "ARIN Mission Statement," http://www.arin.net/about_us/index.html.

Within this environment of consensus building, Berners-Lee preferred to think of himself as "facilitator of the Web's evolution."[48] He was anxious to avoid becoming a "centralized point of control" that would "rapidly become a bottleneck that restricted the Web's growth."[49] "Its 'being out of control' was very important," he remarked.[50]

Berners-Lee understood that "running the consortium would always be a balancing act, between taking the time to stay as open as possible and advancing at the speed demanded by the onrush of technology."[51] He admired the openness of the IETF process, but felt that, given the fast pace of the commercial world that was increasingly adopting the Web, the Web would benefit from a quicker and more efficient process.[52] The implementation of this idea accounts for some of the structural differences between the IETF and the W3C. In the IETF, anyone can propose a standard and develop the code through a consensus-based Working Group process. In the W3C, only a small group—the W3C staff—writes code; only when the code is completed does it become the subject of review by the Advisory Committee.

As to his own role: it would evolve over time, clearly. But for the time being, Berners-Lee contented himself with the tensions inherent in constitution-building:

> This freewheeling design might create tension between my being a manager and leaving the consortium as a very flat space of peer respect and joint decision-making. It might create tension among consortium members, who would have to take leads on issues but always hew to a democratic process. It struck me that these tensions would make the consortium a proving ground for the relative merits of weblike and treelike societal structures. I was eager to start the experiment.[53]

Despite this language of consensus, my discussion of the W3C's political architecture indicates that Berners-Lee would not just sit back and let the process run wild. Michael

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[48] Berners-Lee, *Weaving the Web*, 89.
[49] Berners-Lee, *Weaving the Web*, 99.
[50] Berners-Lee, *Weaving the Web*, 99.
[51] Berners-Lee, *Weaving the Web*, 98.
[52] Berners-Lee, *Weaving the Web*, 92.
[53] Berners-Lee, *Weaving the Web*, 92.

Dertouzos summarized Berners-Lee's role as a "facilitator of the Web's evolution" by pointing out the need to resist commercial pressures. "His consistent aim," Dertouzos wrote, "was to ensure that the Web would move forward, flourish, and remain whole, despite the yanks and pulls of all the companies that seemed bent on controlling it."[54]

As commercial opportunities on the Web grew, so too did commercial pressures within the W3C. Presumably, W3C Members pay $50,000 annually as an investment, in the hopes that they will be able to control and profit from a piece of the Web economy.[55] However, the creation of revenue streams through patented software is a practice that Berners-Lee opposes. "Software patents are new," he wrote in 1999.

> The Internet ethos in the seventies and eighties was one of sharing for the common good, and it would have been unthinkable for a player to ask for fees just for implementing a standard protocol such as HTTP. Now things are changing.[56]

Berners-Lee understood that open, non-proprietary protocols fueled the growth of the Web. He saw no reason to alter this founding value of the Web, and warned in his 1999 autobiography that he would defend the values that would keep the Web open to the widest possible group of users: "If someone tries to monopolize the Web—by, for example, pushing a proprietary variation of network protocols—they're in for a fight."[57]

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[54] Michael Dertouzos, forward to Berners-Lee, *Weaving the Web*, x.
[55] For a fuller discussion of these dynamics in standards setting organizations, see Joseph Farrell, "Standardization and Intellectual Property," 30 Jurimetrics J. 35 (1989).
[56] Berners-Lee, *Weaving the Web*, 197.
[57] Berners-Lee, *Weaving the Web*, 108.

Patent Policy Working Group: October 1999 – May 2003

> Corporate IT strategists should think very carefully about committing to the use of features which will bind them into the control of any one company. The web has exploded because it is open. It has developed so rapidly because the creative forces of thousands of companies are building on the same platform. Binding oneself to one company means one is limiting one's future to the innovations that one company can provide.
>
> -Tim Berners-Lee[58]

Before 1999, tradition and Berners-Lee's personal feelings had prevented the use of proprietary code in W3C Recommendations. The pressures of the dot-com economy, represented in the heavily corporate Membership of the W3C, mobilized to challenge this tradition between 1999 and 2003. The W3C chartered the Patent Policy Working Group (PPWG) in 1999 to study this tension, and to formulate a clear policy to govern the use of patents in W3C Recommendations. The history of PPWG provides an excellent case study for testing the ability for the W3C to garner consensus around an issue that pitted the "open code" values of grassroots Web developers against the commercial interests that concerned Dertouzos and Berners-Lee in the early 1990s. As with the previous sections, my focus in this section will not be so much on the details of the patent policy dispute as on the ways that the W3C dealt with the crisis in its mechanisms and culture.

Recall the summer of 2001. The dot-com bubble had burst, and the New Economy appeared to be crashing faster than the speed of its stunning growth. As high-tech corporations searched for legitimate business models, savvy corporate managers understood that the strategic use of intellectual property—specifically patents on software—could provide much-needed revenue sources.[59] Accordingly, W3C Members began to exert more pressure on the W3C to

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[58] Tim Berners-Lee, "W3C and standards, 1996," http://www.w3.org/People/Berners-Lee/FAQ.html#standards.
[59] See generally Philip J. Weiser, "The Internet, Innovation, and Intellectual Property Protection," 103 Columbia Law Review 534 (2003); and Mark A. Lemley, "Intellectual Property Rights and Standard-Setting Organizations," *California Law Review* Vol 90 No 6, December 2002, 1889-1980.

change its patent policy. On August 16, 2001, the PPWG issued a Working Draft that proposed

a new W3C patent policy. The Working Draft emphasized that the policy, which had been under

development since the creation of the PPWG in October 1999, would benefit from public

comment, given the "significant importance" to the broader public of patent rights in Web

standards. Once the Last Call period ended on September 30, 2001, the PPWG would compile a

list of substantive issues and respond to each.[60] This last point—that issues must be formally

addressed and that formal objections must be archived and reported—stems from a procedural

innovation introduced in the revised W3C Process Document, released in February 2001. Prior

to this change in the official W3C Process for defining group consensus, no formal mechanism

existed for a non-member minority or dissenting party to plead his case.[61]

The August 2001 Working Draft declared that, in light of the increasing commercial

importance of Web technology and the growing influence of software and business patents, the

W3C should revise its patent policy to address these realities.[62] The most significant change

proposed by the August 2001 Draft was the possibility for W3C Recommendations to include

Member patents, provided that the patents were licensed on a Reasonable and Non-

Discriminatory (RAND) basis. Until this point, W3C Recommendations were licensed on a

Royalty-Free (RF) basis, which was consistent with the open source culture of the Web as well

as Berners-Lee's well-known skepticism toward software patents.

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[60] "W3C Patent Policy Framework: W3C Working Draft 16 August 2001," http://www.w3.org/TR/2001/WD-patent-policy-20010816.
[61] The provisions for addressing and reporting objections first appeared in the W3C Process document in the February 8, 2001 version of the document. See "4.1.2 Group Consensus and Votes," http://www.w3.org/Consortium/Process-20010208/groups.html#WGVotes. The previous iteration of rules for Working Group consensus and votes contains no such mechanism. See Section 3.3.2, "Working Group consensus and votes," http://www.w3.org/Consortium/Process/Process-19991111/activities.html#WGVotes, which leaves the extent of the reporting and archiving of minority views to the discretion of the Working Group Chair.
[62] "W3C Patent Policy Framework: W3C Working Draft 16 August 2001," http://www.w3.org/TR/2001/WD-patent-policy-20010816. The remainder of this section draws from this document.

The document outlined three specific proposed changes to W3C patent policy. The first change would require Working Groups to articulate, in their charters, whether the Recommendation would be licensed under RAND or RF terms. The second change would require all W3C Members to disclose relevant patent claims within their contributions to W3C contributions. Finally, the proposal called for all W3C Members to commit to licensing patent claims in W3C Recommendations on RAND terms: Members who wished to license on RF terms would have to give special "opt-out" notice. In sum, RAND licensing terms would become the W3C defaults, with very specific disclosure obligations.

To encourage public comment on the proposal, the W3C created a public archive and mailing list (www-patentpolicy-comment) in mid-August 2001. The "public" from which comments were sought seemed to have been mostly unaware of the issue and the forum until late September: the list archives record only one comment in the two weeks following the August 16 draft.[63] By the end of September, however, the archives contained 755 more comments.[64] On October 1, CNet writers Margaret Kane and Mike Ricciuti reported that the RAND policy had "ignited a firestorm of controversy among developers" who worried that the new policy would restrict innovation on the Web to the patent holders, and complained that the policy resulted from "undue influence by commercial companies over the standards process."[65] Bruce Perens, author of the Open Source Definition, declared that a RAND framework would "effectively ban open-

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[63] See http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Aug/. Of the seven messages posted in August 2001, one is the announcement of the new forum, one is a criticism of the RAND framework from an open source advocate, and the remaining five are spam.

[64] Given the massive quantity of comments sent to www-patentpolicy-comment, much more extensive research would be necessary to analyze the full range of comments. Luckily it was the job of the PPWG to analyze and respond to comments; thus, I rely on their summaries and interpretations. See the stunningly extensive analysis, "Public Issues for Patent Policy Framework of 20010816," http://www.w3.org/2001/11/PPF-Public-Issues.html.

[65] Margaret Kane and Mike Ricciuti, "W3C patent plan draws protests," October 1, 2001, http://news.com.com/2102-1023-273752.html.

source implementations of these standards."[66] Such a commerce-friendly decision, Perens

suggested, would call into question the W3C's role as a legitimate overseer of Web standards:

open source communities would be forced to standardize their own—royalty-free—standards to

maintain the free and open cultural and technical architectures of the Web.

Comments submitted to the www-patentpolicy-comment list suggest that open source

advocates perceived the W3C patent policy as another battle in the broader war between open

source and proprietary software.[67] A vast majority of the comments display emotions ranging

from measured displeasure to outright disgust with the W3C's RAND proposal.[68] The corporate

affiliations of the authors of the August 16 proposal stoked fears that the W3C was losing touch

with the open source developing community, or, at the very worst, abandoning it.[69]

On October 2, PPWG Chair Daniel Weitzner and W3C Head of Communications Janet

Daly co-authored a response to public comments that called for more time to consider the issues,

and extended the comment period through October 11. In an article also published on October 2

in *The Register*, Weitzner voiced concern over the prospect that the RAND framework could

fracture the Web into at least two irreconcilable camps, with the open source community creating

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[66] This would, in essence, kill the "free" Web. Bruce Perens, quoted in Kane and Ricciuti, "W3C patent plan draws protests."

[67] The most visible front of this broader war is between Linux and Microsoft Windows in the market for operating systems. A debate about the ways that humans work, and how money may or may not serve as a motivation, is a vitally important part of this broader struggle between open source and proprietary methods. See Eric Raymond, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary* (Sebastopol, CA: O'Reilly & Associates, 2000) (on how the open source development model resembles a flexible, decentralized approach); and Himanen, *The Hacker Ethic and the Spirit of the Information Age* (on how passion and the "Hacker Work Ethic" is challenging the broader influence of the Protestant Work Ethic).

[68] See http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Sep/. A random sampling of subject lines on the emailed comments: "No no no. Remember what W3C stands for"; "No"; "Against a patent encumbered internet"; and, posted less than three weeks after the September 11 attacks on the World Trade Center, "stop them from crashing the RAND fee plane on the free software towers."

[69] Authors of the August 16 Working Draft included representatives from noted open source arch-enemy Microsoft, as well as from Hewlett-Packard, Philips, Apple, and two representatives from the W3C staff.

open source alternatives to W3C-blessed RAND protocols.[70] As debates raged in the trade press

and in online forums about the relative merits of RAND and RF licenses, Internet consultant

William F. Zachmann noted that there didn't appear to be huge amounts of money at stake. "It's

more of an ideological issue than a financial issue," Zachmann said. "The people who are

against it are against it because they're opposed in principle."[71]

Given the character of the comments on www-patentpolicy-comment, Zachmann's

interpretation is extremely insightful: for those who opposed the RAND framework, this was a

cultural issue, a matter of principle, a conflict over values. Would the W3C weigh the comments

of the open source developers as much as the comments of its corporate Members? Would it

adjust its institutional mechanisms, or would W3C staff (including Berners-Lee himself) exercise

additional influence on the process?

One answer came in the shape of the W3C's invitation of outside experts to join the

PPWG. On October 12, 2001, Weitzner announced modifications to the PPWG process "to

improve communication between the open source and independent developer community and

W3C."[72] These modifications included: the inclusion of "invited experts" Eben Moglen (General

Counsel, Free Software Foundation) and Bruce Perens (Co-Founder of the Open Source

Initiative) in the PPWG as equal members; a Public Homepage for the PPWG to make

documents publicly accessible; public summaries of working group meetings; Weitzner's

personal participation in online and real space public forums; and substantive responses to each

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[70] Andrew Orlowski, "Web standards schism 'terrible' – W3C patent policy boss," October 2, 2001,
http://www.theregister.co.uk/content/6/21991.html.
[71] William F. Zachmann, quoted in Margaret Kane, "Will W3C mean dollar signs?," http://news.com.com/2102-1023-273962.html.
[72] Daniel J. Weitzner, "Next steps in W3C Patent Policy process," October 12, 2001,
http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Oct/1559.html.

issue raised on www-patentpolicy-comment.[73] The overall effect of these procedural measures was to show that the W3C valued the participation of the broader public, and that it would introduce a greater degree of transparency in the W3C process in order to garner consensus among this broader public.[74]

Berners-Lee also weighed in personally, if only to endorse the consensus-building process. In a response to strong calls for him to articulate his position on the controversy, Berners-Lee stepped into the fray with a post to www-patentpolicy-comment on October 24, 2001. Berners-Lee's post noted that his views on patents in general were well-known; he even provided a link to an excerpt from his book, *Weaving the Web*, where he referred to patents as a "great stumbling block for Web development."[75] In his post, he explained that his "silence arises from the fact that I value the consensus-building process at W3C. I am not (contrary to what some of the pundits might suggest! ;-) a dictator by role or nature and so prefer to wait and let the community resolve an issue."[76]

Given the evolving nature of Berners-Lee's role as "facilitator" (not "dictator"), it is difficult to know how much influence he exerted in the subsequent internal W3C discussions.[77]

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[73] Daniel J. Weitzner, "Next steps in W3C Patent Policy process," October 12, 2001, http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Oct/1559.html.

[74] After joining the W3C in 1999, Weitzner noted that the "W3C has done a progressively better job of engaging outside constituencies and experts," and that he "plans to do everything I possibly can to engage people who are interested in these technology-and-society issues." His actions as head of the PPWG indicate his success with this mission. Daniel J. Weitzner, quoted in Garfinkel, "The Web's Unelected Government," 43.

[75] See http://www.w3.org/2001/10/Patents-wtw-excerpt.html.

[76] Tim Berners-Lee, "Why I have not spoken personally about the patent policy issue," October 24, 2001, http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Oct/1642.html.

[77] The www-patentpolicy-comment archive and mailing list are open to the public. Internal W3C deliberations are not. Another key portion of the W3C during this dispute also is closed to the public, and hence also beyond comprehensive analysis at this point: the W3C's Technical Architecture Group (TAG). Created in July 2001, the TAG mission is "1. to document and build consensus around principles of Web architecture and to interpret and clarify these principles when necessary; 2. to resolve issues involving general Web architectural brought to the TAG; [and] 3. to help coordinate cross-technology architecture developments inside and outside W3C." The broad mandate of the TAG suggests its possible relevance to the patent policy dispute. The TAG consists of Berners-Lee, three people appointed by Berners-Lee, and five representatives elected by the Advisory Committee. See "Technical Architecture Group" at http://www.w3.org/Consortium/Process-20010719/organization.html#TAG.

On November 21, 2001, the W3C Advisory Committee sent an action item to the PPWG. It

acknowledged hearing a "continuum of views about what the goal of our patent policy should

be… from an exclusively RF policy to one that prefers RF but allows RAND."[78] Based on this

input, the Advisory Committee instructed the PPWG to "develop as a first priority… an RF

patent policy." Although the note emphasized, "this does NOT mean that the W3C has made a

final decision in favor of a RF-only policy," the reality of the situation was that the action item

shifted the terms of debate from RAND-friendly to RF-friendly ground.

On February 26, 2002, the PPWG issued a Working Draft for a Royalty-Free patent

policy.[79] Weitzner touted this policy as a legally binding commitment for anyone participating in

W3C Recommendations to make any patents they have involved available on a royalty-free

basis.[80] In less than 6 months, then, the W3C had assessed consensus—among its members as

well as the broader public—and reversed course. In a September 2002 interview, Weitzner

dismissed the RAND proposal as a question that the group had moved beyond. The consensus of

the community determined that a royalty-free process would facilitate widespread development

of Web applications, and simultaneously would minimize the significant transaction costs

associated with licensing negotiations and intellectual property lawyers.[81] In essence, according

to Bruce Perens, the W3C had averted building "a tollbooth on the Internet."[82]

The final version of the W3C Patent Policy, released on May 20, 2003, intends to "assure

that Recommendations produced under this policy can be implemented on a Royalty-Free (RF)

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[78] Daniel J. Weitzner, "FW: Action Item from Advisory Committee Discussion on Patent Policy," November 21, 2001, http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Nov/0147.

[79] "Patent Policy Working Group: Royalty-Free Patent Policy," February 26, 2002, http://www.w3.org/TR/2002/WD-patent-policy-20020226/.

[80] Margart Kane, "W3C retreats from royalty policy," February 26, 2002, http://news.com.com/2102-1023-845023.html.

[81] Paul Festa, "At the center of the storm," September 24, 2002, http://news.com.com/2008-1082-959180.html.

[82] Bruce Perens, "Perspective: The patent threat to the Web," October 7, 2002, http://news.com.com/2010-1071-961018.html.

basis."[83] The W3C stopped short of an exclusive RF policy by including an exception clause that would allow for patented technologies to be included in Recommendations if no RF alternative exists. Berners-Lee, in his commentary that accompanied the May 20 release of the Patent Policy, was careful to point out that non-RF technologies would be included only after "considerable deliberation," with the "substantial consensus of both those participating in developing the technology and the W3C Membership."[84] Hardly a victory for RAND advocates, Berners-Lee noted that the "exception process is only designed to be used in the rarest cases," and should be seen as a tool for the W3C to maintain flexibility in its technical solutions if a lack of RF solutions would halt the development of W3C technologies.

W3C, Legitimacy, and Democracy

The patent policy dispute illuminates the main question of this paper, namely, the methods by which we can exercise democratic control over code. The W3C used the PPWG dispute between August 2001 and May 2003 to develop inclusive processes and to forge a consensus that included the views of individuals outside of the W3C Membership. The openness and quality of this process added further legitimacy to the "moral authority" of W3C Recommendations that serve as the *de facto* standards of the Web. If we consider "democracy" in its broadest sense (i.e., "rule by the ruled"), then the W3C's efforts to allow more stakeholders to participate in its governing processes are steps toward a more democratic form of governance.

In his January 2003 Harvard Law Review article, "Habermas@discourse.net: Toward a Critical Theory of Cyberspace," Michael Froomkin invoked the "discourse ethics" of

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[83] "W3C Patent Policy," May 20, 2003, http://www.w3.org/Consortium/Patent-Policy-20030520.html.
[84] Tim Berners-Lee, "Director's Decision, W3C Patent Policy," May 20, 2003, http://www.w3.org/2003/05/12-director-patent-decision-public.html. See also "7. Exception Handling" in "W3C Patent Policy," May 20, 2003, http://www.w3.org/Consortium/Patent-Policy-20030520.html.

philosopher Jürgen Habermas to analyze the legitimacy of Internet Standards processes.[85] A full

analysis of Habermas's discourse ethics is beyond the scope of this paper: however, Froomkin's

take on Habermas is worth considering in order to evaluate the W3C's actions as a case study in

legitimate lawmaking. For Habermas, legitimacy can be found (or not) in the conditions of

"discursive procedures" that permit the substantive input and consideration of the

comprehensible, relevant inputs of citizens.[86] "In other words," Froomkin summarized,

"procedurally sound discourses allow us to claim that their outputs are legitimate, and hence to

enforce the rules even against resisting nonparticipants."[87]

This brief summary of Habermasian discourse ethics sheds some light on the W3C patent

policy controversy. In order to create legitimate laws, the W3C must follow sound procedures

that allow room for a full airing of relevant points of view. As critics note, the W3C's fee-based

Membership does not allow for these conditions to exist: Membership is cost-prohibitive, and

open only to institutions, not to individuals. The W3C moved closer to sufficiently open

discursive procedures through the creation of www-patentpolicy-comment, and, more

importantly, the PPWG's commitment to reading and responding to all substantial issues raised

on the list.[88] These PPWG institutional innovations enhanced the formal mechanisms that

existed in Section 4.1.2, "Group consensus and votes," of the W3C Process document. In what

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[85] "In what has been called 'a monumental achievement… that provides a systematic account of major issues in contemporary jurisprudence, constitutional theory, political and social philosophy, and the theory of democracy,' Jürgen Habermas has proposed a discourse ethics as the basis for testing the legitimacy of legal institutions." Froomkin, "Habermas@discourse.net," 751.

[86] Froomkin, "Habermas@discourse.net," 757-776.

[87] Froomkin, "Habermas@discourse.net," 773-4.

[88] These measures compare very favorably to two similar recent developments in national politics: the FCC's lack of consideration for hundreds of thousands of public comments, sent via email, that protested the further concentration of broadcast media; and the cumbersome system adopted by the White House to send an email to the President. See William Safire, "Regulate the F.C.C.," *The New York Times*, June 16, 2003, http://www.nytimes.com/2003/06/16/opinion/16SAFI.html; and John Markoff, "White House E-Mail System Becomes Less User-Friendly," *The New York Times*, July 18, 2003, http://www.nytimes.com/2003/07/18/technology/18MAIL.html.

seems to be an increasingly rare case in modern politics, a governing body gave serious consideration to petitions from groups outside the corridors of power. In the face of what they perceived as an unwise and unjust law, the community of grassroots open source developers clamored for a forum to make their opinions known. The W3C created that forum, considered conflicting opinions, and altered their policies accordingly.

The real question, however, lies in this causal chain. Did months of anguished, open deliberation shape the final PPWG royalty-free policy? Or, more cynically, was this anguished deliberation simply a cover for the "facilitator" (and potential dictator) Berners-Lee to dismiss the commercial ambitions of W3C Members and impose his own disapproval software patents as the "consensus" decision of the Web development community? In a September 2002 interview, after the fury had subsided, Weitzner rejected this line of thinking, noting that "If Tim [Berners-Lee] were going to impose his own view as the policy, he would have done that two and a half years ago and saved us all the trouble. He's watched this group work, looked at our product, and I think he'll respect the process we're going through."[89]

Weitzner's summary confirms Berners-Lee's stated preference "to wait and let the community resolve an issue."[90] After a period of intense debate and deliberation within the W3C as well as on the mailing lists and in the trade press and broader public, the W3C endorsed a Patent Policy that is consistent with the demonstrated preference of a large majority of (non-Member) open source Web developers.

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[89] Paul Festa, "At the center of the patent storm," September 24, 2002, http://news.com.com/2102-1082-959180.html. In a 1999 interview, Berners-Lee wrote, "A lot of people, including me, believe in the 'no kings' maxim at heart… The wise king creates a parliament and civil service as soon as he can, and gets out of the loop." Tim Berners-Lee, quoted in Garfinkel, "The Web's Unelected Government," 46.
[90] Tim Berners-Lee, "Why I have not spoken personally about the patent policy issue," October 24, 2001, http://lists.w3.org/Archives/Public/www-patentpolicy-comment/2001Oct/1642.html.

From the standpoint of legitimacy, however, it is not enough that the W3C simply assume

a position that they know will please a certain constituency. Froomkin noted that, for Habermas,

a "just" end to a political process does not justify the means. In fact, for Habermas, the opposite

is true: a legitimate process (means) justifies the final deliberative outcome (ends).[91] Berners-

Lee, in his willingness to let the W3C run as a "balancing act," an experiment in weblike

governance, seemed to agree intuitively with Habermas on the importance of sound, open

procedures. Further research into the closed internal processes of the W3C might reveal the

extent to which the RF policy represented a true consensus among W3C Members and outside

developers, or instead, as I speculated above, a heavy-handed imposition of Berners-Lee's ideals

as the stated "consensus" of the group. In the end, the W3C patent policy decision turned out to

be consistent with its founder's idealistic views of patents and software. It is no accident that

Berners-Lee's views aligned with the objections of the open source Web developing community:

after all, Berners-Lee was the original open source Web developer.

Conclusion

Examples from the history of Internet governance suggest that the key to creating a

successful, consensus-based network is to balance principled and motivated leadership with

processes for including the contributions of the grassroots participants. The Internet Engineering

Task Force presents one model, on the extreme of open participation, that Berners-Lee rejected

as too slow to suit the fast evolution of the Web. A different model, the Internet Corporation for

Assigned Names and Numbers (ICANN), remains the subject of relentless criticism from

observers on all sides for its inability (and apparent unwillingness) to fulfill its technical role and

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[91] Froomkin quoted Habermas on this point: "the 'maxim that the end justifies the means is utterly incompatible' with discourse ethics." Froomkin, "Habermas@discourse.net," 762.

still remain accountable to the broader community of interested parties.[92] The W3C model

occupies a middle ground between the IETF and ICANN: it counters the slow speed of

grassroots code development by developing code within the W3C; by including industry

Members, its Recommendations are more likely to be implemented quickly and effectively; it

also considers seriously and responds to input from Members and the broader public before it

issues the code as a Recommendation.

This case suggests a more general lesson: effective and legitimate governance must

balance top-down authority with bottom-up processes. This balance requires charismatic and

principled leaders, sound procedures, and broad and meaningful participation. Such a balance is

the stuff of constitution-building, as the American funding fathers discovered when they tried to

compensate for decades of oppressive (top-down) British rule in American colonies with the

Articles of Confederation, which proved to be too decentralized to be effective.[93]

As observers of the regulatory process, we, like Habermas, look to institutional

procedures to mitigate or help navigate the tensions that arise when people with opposing values

need to arrive at a consensus. The W3C stands as a model for other industry-driven Internet

standards consortia insofar as it demonstrates the need for formal mechanisms to facilitate

participation from a broader public that might not be at the table in any given standards

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[92] For a history, overview, and criticism of ICANN, see Jonathan Weinberg, "ICANN and the Problem of
Legitimacy," 50 Duke Law Journal 187 (2000); and A. Michael Froomkin, "Wrong Turn in Cyberspace: Using
ICANN to Route Around the APA and the Constitution," 50 Duke Law Journal 17 (2000); and Milton Mueller,
Ruling the Root: Internet Governance and the Taming of Cyberspace (Cambridge, MA: The MIT Press, 2002).
[93] This interpretation of the Articles of Confederation follows the conventional wisdom of early American
historiography. It is worth noting that this interpretation is disputed by those who demand greater individual liberty,
and a less intrusive federal government. See Bernard Bailyn, *The Ideological Origins of the American* Revolution
(Cambridge, MA: The Belknap Press of Harvard University Press, 1967) for an introduction to (and conventional
wisdom on) this subject. See also Drew R. McCoy, *The Elusive Republic: Political Economy in Jeffersonian
America* (Chapel Hill: University of North Carolina Press, 1980).

meeting.[94] Beyond these institutional mechanisms, the W3C model also draws our attention to less quantifiable (and hence less replicable) factors in the governance of Internet standards. As I have argued throughout this paper, the key to understanding the successful resolution of the W3C patent policy process lies in the power relationships and personal values—the political and cultural architectures—embodied within the W3C process.

The history of the information industries suggests that cultural values play decisive roles in the creation of information architectures. The cavalier approach of "Cable Cowboy" John Malone is cited commonly as the source of the cable industry's bold business development. In a similar way, in the early 1970s, MCI founder Bill McGowan cleverly began competing with AT&T's long distance monopoly, precipitating the downfall of the monopoly model in American telecommunications regulation. The list goes on: Charlie Ergen's bold leadership in the satellite industry, David Sarnoff's creation of advertising-driven commercial television, and Theodore Vail's shaping of AT&T's system of "Universal Service" are three more notable examples. As these innovators shaped the character of their respective networks, should it come as any surprise that Berners-Lee's personality continues to shape the character of the Web?[95]

The importance of a central authority figure such as Berners-Lee—even in a weblike structure like the W3C that oversees an explicitly decentralized, consensus-based

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[94] Procedurally sound discourses in Internet governance provide another solution to the problems raised by public interest advocates at the Center for Democracy and Technology. See Alan Davidson, John Morris, and Robert Courtney, "Strangers in a Strange Land: Public Interest Advocacy and Internet Standards," paper presented at TPRC 2002, http://intel.si.umich.edu/tprc/papers/2002/97/Strangers_CDT_to_TPRC.pdf.

[95] Does the dominance of one personality imply that the organization would fall apart if the personality were to leave? More crudely, what happens to the W3C if Berners-Lee gets hit by a bus? This rather horrible scenario further underlines the need for Berners-Lee to continue with his experiment, and to establish rules that ensure the inclusion (and consensus) of diverse communities while at the same time preserving architectural authority. This issue underscores the importance of Berners-Lee's handpicked staff, such as PPWG Chair, Daniel Weitzner. Weitzner, who served as a public interest lobbyist and advocate with the Center for Democracy and Technology before joining the W3C, absorbed a tremendous amount of pressure from both corporate Members and open source developers during the PPWG process. To what extent did his personal values about open source, open participation, and software patents affect his decisions as PPWG Chair? Why did a public interest advocate such as Weitzner get appointed PPWG Chair in the first place? Needless to say, Weitzner's role in the process deserves further scrutiny.

platform—points to important themes that permeate the history of the W3C. How can

concentrated, principled leadership transfer power to a broader, more diverse community of

stakeholders? How can this transfer preserve founding values that might not fare well in a more

heterogeneous environment, yet also create a deliberative space to consider perspectives that

challenge the founding values?

These seem to be essential questions in the creation of governing bodies and

constitutions—indeed, these questions loom as large over the history of Internet governance as

they do over the first decades of the history of the United States of America. The Founders

learned that it was a difficult, protracted task to map the concepts of republican government onto

a newly independent nation undergoing rapid expansion. In a similar way, the W3C example

shows us that Internet standards organizations cannot rely on pre-existing formulas for creating

legitimate laws. Habermasian discourse ethics and experience gained from similar organizations

such as the IETF and ICANN provide models to emulate (and avoid). In the end, however,

organizations like the W3C will demonstrate their legitimacy only insofar as they are able to

deliberate and incorporate, through experimentation with formal and informal mechanisms, the

perspectives of all interested stakeholders and the broader public.