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Stevenson, M.P.

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THE WEB AS EXCEPTION

the rise of new media publishing cultures

Michael Stevenson

THE WEB AS EXCEPTION: THE RISE OF NEW MEDIA PUBLISHING CULTURES

ACADEMISCH PROEFSCHRIFT

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aan de Universiteit van Amsterdam
op gezag van de Rector Magnificus
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ten overstaan van een door het college voor promoties
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Promotores: Prof. dr. R.A. Rogers
Prof. dr. J.F.T.M. van Dijck

Overige leden: Prof. dr. R. Boast
Prof. dr. W.H.K. Chun
Prof. dr. F.E. Kessler
Dr. G. Lovink
Prof. dr. P.P.R.W. Pisters

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Introduction: historicizing web exceptionalism

In the mid-2000s, web industry experts and media commentators paired the *imminent displacement* of old media by the World Wide Web with what appeared to be the *belated discovery* of the web's true nature. By making participation in the production, distribution and consumption of media possible on an unprecedented scale, new media formats and platforms like blogging, YouTube, Wikipedia and MySpace were heralded as a democratization of media power.¹ At the same time, these formats and platforms were portrayed as the realization of the web's inherent tendency away from traditional hierarchical forms of organization and towards decentralized modes of collaboration.² This combination of web-powered-rupture and the unveiling of the web's nature was perhaps best symbolized by the term Web 2.0, which was defined in 2004 by Tim O'Reilly as a set of design principles and practices that focused on interactivity and allowed companies to draw on the collective intelligence of their users.³ According to O'Reilly, what separated companies like Google and media platforms like Wikipedia and Flickr from their dot.com era predecessors was knowledge of the medium: their success came from "understanding something deeper about the nature of the new platform."⁴ 2.0 would also become shorthand for the web's disruptive potential: Web 2.0 meant the arrival of media 2.0, journalism 2.0, publishing 2.0, cinema 2.0 and so on.⁵

Web 2.0 was not the first time a discussion of the web as an alternative to mass and mainstream media was paired with an articulation of its specificity or uniqueness. As various scholars have noted over the years, the web emerged in the early 1990s in the midst of much utopian speculation about the cultural, economic and political impacts of new information technologies.⁶ It was conceptualized as cyberspace - as a disembodied world of information that would free individuals from constraints on real-world identity; geography, gender, race and class

¹ Perhaps the best known version of this argument comes from the selection of "You" as Time magazine's person of the year, which celebrated web technologies that enabled user participation in the production, distribution and consumption of media. See Grossman, Lev. 2006. "You — Yes, You — Are TIME's Person of the Year." *Time*, December 25. <http://www.time.com/time/magazine/article/0,9171,1570810,00.html>.

² Kelly, Kevin. 2005. "We Are the Web." *Wired*, August. <http://www.wired.com/wired/archive/13.08/tech.html>.

³ O'Reilly, Tim. 2005. "What Is Web 2.0." *O'Reilly*. <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.

⁴ *ibid.*

⁵ See for example Noyes, Katherine. 2007. "Journalism 2.0: Power to the People." *Tech News World*. May 7. <http://www.technewsworld.com/story/57193.html>; Cole, Mark. 2011. "Cinema 2.0: The Future of Movie Making?" *ClarksWorld*, 54, March. http://clarkesworldmagazine.com/cole_03_11/.

⁶ Turner, Fred. 2006. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. Chicago: University Of Chicago Press; Chun, Wendy Hui Kyong. 2006. *Control And Freedom: Power And Paranoia In The Age Of Fiber Optics*. Cambridge, MA: MIT Press.

would not matter among the bits and hyperlinks of virtual space.⁷ Among the key utopian claims surrounding cyberspace was that it would allow its inhabitants to bypass mass media, creating a more democratic sphere for public debate - this eventual displacement of mass media seemed congruent with the establishment of “virtual communities,” where global participants would remotely gather, engage in discussion and form a Net citizenry.⁸ Other notable cases are those that feature in this dissertation: the claim, first made in 1994, that the web constituted a “new publishing paradigm” and that this necessitated a wholly new approach to media production; the argument, made from the late 1990s on, that long-standing practices in news production would be overtaken by new ones inspired by open-source software production; and, at the turn of the century, the emergence of blogging as a “web-native” publishing format that would provide personal perspective, community and meaningful communication lacking in mainstream media.

This pairing of 1) rhetoric proclaiming the displacement of existing media to 2) the material practices, technologies and forms that appear (or have at one time appeared) to reflect the inherent nature of the web is the subject of this dissertation, and what I call *web exceptionalism*. Although the term evokes the concept of “American exceptionalism,” my reason for using it has to do with the various meanings of exception and exceptional: an exception is “a person or thing that is excluded from a general statement or does not follow a general rule.”⁹ The adjective exceptional, meanwhile, can mean “unusually good” and/or something “not typical.”¹⁰ With web exceptionalism, then, the point is to think through how the web is rhetorically and materially articulated as somehow excluded from the principles that govern mass and mainstream media, as a wholesale alternative to its predecessors and as a medium which is unique due to its inherent capacities.

In this dissertation, I aim to provide a history of web exceptionalism from 1989 to 2002, a period chosen in order to explore its roots as well as specific cases up to and including the year in which descriptions of “Web 2.0” began to circulate.¹¹ The problems this history seeks to address

⁷ Chun, 2006.

⁸ Rheingold, Howard. 1993. *The Virtual Community: Homesteading on the Electronic Frontier*. Boston, MA: Addison Wesley.

⁹ “Exception.” 2013. *Oxford Dictionaries*. Accessed March 6. <http://oxforddictionaries.com/definition/english/exception>.

¹⁰ “Exceptional.” 2013. *Oxford Dictionaries*. Accessed March 6. <http://oxforddictionaries.com/definition/english/exceptional>.

¹¹ The term was popularized with the O’Reilly Media “Web 2.0” web development conference in 2003, but similar uses of the term may be traced to 2002. See Wikipedia contributors. 2013. “Web 2.0.” *Wikipedia, the Free Encyclopedia*. http://en.wikipedia.org/w/index.php?title=Web_2.0&oldid=541007182.

correspond to the pairing of discourse and materiality in web exceptionalism: 1) how to explain the emergence of web-related “rupture-talk,” i.e. rhetoric that depicts the web as a radical departure from previous media, and 2) how to characterize the relationship between such rupture-talk and the development of novel publishing practices, technologies and forms considered to be “web-native.”¹² In other words, how may rupture-talk describing the web’s displacement of mass and mainstream media be situated historically, and how is such rupture-talk related to the articulation of novel media practices, technologies and forms as web-native? The question is thus not whether narratives of the web’s displacement of older media are accurate, but how they are implicated in the creation of novel forms of media production, distribution and consumption. The question is also not whether claims regarding the web’s nature, logic, purpose or native qualities capture some formal essence, but rather how specific media practices, technologies and forms are articulated as such.

To answer this question, this dissertation follows two lines of inquiry. First, in chapters 1 and 2, I describe the historical and conceptual roots of web exceptionalism by revisiting the discourse of cybercultural utopianism. The latter may be understood as set of ideas, beliefs and practices that featured in high-profile discussions of the cultural, political and economic effects of new information technology from the late 1980s to the mid-1990s, and that centered on the concept of cyberspace. Cybercultural utopianism may be seen as both historically prior to web exceptionalism and as a larger discourse within which it makes sense to understand the web as a radical break from mass and mainstream media. Although the idealistic notion of cyberspace as a separate realm that would foster individual freedom and egalitarian community has largely disappeared today, I argue that other key elements of cybercultural utopianism continue to resonate in discussions of the web’s significance. And as I argue in connection with the tech-culture magazine *Mondo 2000*, cybercultural utopianism must also be considered in terms of the specific media practices and forms that characterized its delivery: both *Mondo* and its more famous competitor *Wired* were marked by a ‘rebel cool’ that arguably persists in web exceptionalism.¹³ Second, I present three genealogies of web exceptionalism in case studies, selected for their general significance within the history of web publishing as well as for their explicit reflections on the development of what I call “web-native culture,” or the media practices, technologies and forms that have been considered (by participants and/or commentators) as reflective of the web’s nature, purpose or underlying logic. Each case is an

¹² “Rupture-talk” is from Hecht, Gabrielle. 2002. “Rupture-talk in the Nuclear Age: Conjugating Colonial Power in Africa.” *Social Studies of Science* 32 (5-6): 691–727; I discuss Hecht’s work as well as “web-native” in the next section.

¹³ Although *Mondo 2000* fits within my definition of a new media publishing culture, I do not count my case study of it among instances of web exceptionalism that are the focus of the second part of the dissertation (this is why I have not included a reference to it in table 1). Rather, the point with the *Mondo* case study is to add to an existing history and theory of cyberculture, which I argue to be the primary location of web exceptionalism’s historical and cultural roots.

account of the emergence of a popular and influential web publication or publication format: HotWired, the first ‘web-only’ commercial publication, created by Wired magazine in 1994; Slashdot, a tech-news website that rose to prominence in 1998 and gained notoriety for its community-driven approach to news collection and automated comments moderation system; and blogging, which by 2002 had been taken up by thousands of bloggers and had become an important source of criticism of mainstream media. Each is a genealogy of web exceptionalism, i.e. an account of the emergence of web-related rupture-talk and novel practices, technologies and forms articulated as web-native, mediated by a particular ‘new media publishing culture,’ as shown in the overview in table 1.

Table 1: Web exceptionalisms

New media publishing culture	Rupture-talk	“Web-native” qualities
HotWired (1994-1997)	“New Publishing Paradigm”	Editorial practices and style
Slashdot (1997-1999)	“Open-source news”	Community infrastructure
Early Blogging (1998-2002)	“Web-native” publishing	Cultural form (formal properties and conventions related to production, presentation and structure)

Based on these case studies, the dissertation offers a somewhat paradoxical answer to the question of the relationship between rupture-talk and web-native culture: namely, rupture-talk describing the web’s displacement of mass and mainstream media has helped shape web-native practice, technology and form, but as a site of historical continuity. In each case, explicit or implicit notions of the web’s displacement of older media were an important element in key developments in web publishing, from HotWired’s editorial practices to Slashdot’s community infrastructure and blogging as a cultural form. Although these were all identified in some way as representative of the web’s nature or logic, I show how instead they extend or resonate with existing practices, technologies and forms in publishing and other domains. The significance of these genealogies, in other words, lies in how they reveal - through attention to articulations of the web as an exceptional medium and the producer cultures in which they emerged - cultural and historical legacies that have shaped the web and continue to do so. In the following sections, I provide more detailed discussions of the research object, methodology, corpus and project’s relevance.

Web exceptionalism as object of study

What kind of phenomenon is web exceptionalism, and why is it worth studying? To answer this, it is worth first noting a few related terms, before situating web exceptionalism against them.

Web hype and cyberbole

When I talk about this research informally, I usually joke that I am writing a history of web hype. In some ways, though, this is accurate: because my starting points are instances in which the web is supposedly revolutionizing or superseding older media practices, technologies and forms, there is necessarily an overlap with hyperbolic technology reporting, press releases, ‘About’ pages and FAQs. It is only natural, one might expect, for individuals with an interest in the commercial success of new media to overstate its novelty. The sociologist Steve Woolgar coined the term “cyberbole” to highlight the close relationship between new media and exaggerated notions of their effects on society.¹⁴ The concern, Woolgar argues, is that even without believing such hype one is often forced to take on its categories and underlying assumptions - not least the idea that a society is necessarily different once it becomes “virtual.”¹⁵ The solution, then, is to ‘get beyond the hype,’ reintroducing skepticism.

Hype, however, suggests a willful misrepresentation of a situation, object or event, perhaps due to a concern with the impact of a message rather than its accuracy. Hype sells, in other words, while skepticism does not, and there is an assumption that the person (or group, company, magazine, etc.) who delivers web hype does not necessarily believe in it: hype is cynical. Because of this, I do not think the category of hype does justice to the strength or staying power of narratives of the web’s displacement of mass and mainstream media. The belief in the web’s revolutionary power displayed in, say, accounts of Twitter’s role in mobilizing and representing protests in Iran following the disputed presidential elections in 2009 shows clear evidence of exaggeration, but is clearly also authentic.¹⁶

¹⁴ Woolgar, Steve. 2002. “5 Rules of Virtuality.” In Steve Woolgar, ed. *Virtual Society?: Technology, Cyberbole, Reality*. Oxford, Oxford University Press: 1–22.

¹⁵ *ibid.*

¹⁶ e.g. Sullivan, Andrew. 2009. “The Revolution Will Be Twittered.” *The Atlantic*. June 13. <http://www.theatlantic.com/daily-dish/archive/2009/06/the-revolution-will-be-twittered/200478/>.

Cyber-utopianism

Another possibility is to treat narratives of the web's displacement of old media as part of a broader ideology in which the internet is perceived as a democratizing force. In *The Net Delusion: The Dark Side of Internet Freedom*, Evgeny Morozov criticizes what he calls "cyber-utopianism," or "a naïve belief in the emancipatory nature online communication that rests on a stubborn refusal to acknowledge its downside," and "internet-centrism," or the tendency to place the internet at the center of solutions to social and political problems.¹⁷ In particular, the rhetoric of cyber-utopianism seems to match narratives of the displacement of old media by the new. As Morozov goes on to define it:

[Cyber-utopianism] stems from the starry-eyed digital fervor of the 1990s, when former hippies, by this time ensconced in some of the most prestigious universities in the world, went on an argumentative spree to prove that the Internet could deliver what the 1960s couldn't: boost democratic participation, trigger a renaissance of moribund communities, strengthen associational life, and serve as a bridge from bowling alone to blogging together.¹⁸

Cyber-utopianism, in this sense, assumes the internet will solve problems of distraction and individualism that are commonly attributed to or considered exacerbated by mass media.¹⁹ And in an overlap with what I called the 'discovery' of web-native practices, technologies and forms, Morozov goes on to note that cyber-utopians and internet-centrists often appeal to the "logic" of the internet in making their claims.²⁰

Morozov's aim, however, is not to analyze rupture-talk or the notion of an internet-specific logic, but rather to argue for their dismissal from public discussion of the technology. He does so by continually revealing the distance between cyber-utopian claims and many actual uses of the internet, from the banality of LOLcats to his claim that the internet often makes authoritarian control more likely, not less.²¹ Although I agree with Morozov's main argument - that complex

¹⁷ Morozov, Evgeny. 2011. *The Net Delusion: The Dark Side of Internet Freedom*. New York, PublicAffairs: xiii-xvi.

¹⁸ *ibid*: xiii.

¹⁹ Morozov's critique appears to be particularly aimed at Howard Rheingold's notion of the virtual community, which Rheingold saw as a potential solution to the problems of mass media; see Rheingold, 1993, especially the preface and chapter 10 on "Disinformacacy."

²⁰ Morozov, 2011: 317-318.

²¹ One example in Morozov's account is the metaphor of "the Great Firewall of China," a term that can be traced to a *Wired*'s June 1997 feature article of the same name. As he notes, the term connects internet freedom to political freedom, but ultimately presents a narrow view of the problem - in addition to turning the problem of democratization into a technological issue, this framing also pushes attention away from China's use of the web as a sophisticated medium for propaganda. For Morozov, then, this is an example of cyber-utopianism and net-centrism - or "the Net Delusion" - serving to mystify actual conditions and uses. See Morozov, 2011: 40-45; Barme, Geremie R., and Sang Ye. 1997. "The Great Firewall of China." *Wired*, June. <http://www.wired.com/wired/archive/5.06/china.html>.

social or political problems must not be reduced to technological ones, a trap that cyber-utopianism easily falls into - I would argue that his insistence on demystification limits efforts to understand the cultural and historical specificity of the internet and the web. Without assuming that the claims of cyber-utopianism are accurate, they should be taken seriously for how they interact with the development and use of new media.

Internet exceptionalism

Where Morozov characterizes cyber-utopianism in terms of its distance from the technology it seeks to describe, a more or less opposite observation may be made in regard to Tim Wu's concept of "internet exceptionalism."²² Wu, a law professor, coined the term within the context of his advocacy of "network neutrality," which he defines as the regulatory apparatus needed to prevent internet service providers (ISPs) from restricting the flow of internet traffic.²³ "Internet exceptionalism" encapsulates why Wu believes network neutrality is warranted: drawing on the concept of American exceptionalism, he argues that the internet's history and governing ideology make it an exceptional communications technology.²⁴ The internet, he writes, was designed in accordance with an ideology of "pragmatic libertarianism," visible for instance in the end-to-end principle that guards against "discrimination" in the distribution of data.²⁵ The protocols that regulate the transmission of data on the internet (called the Transmission Control Protocol and Internet Protocol, or TCP/IP), for example, do not give priority to any one sender or type of data; rather, they provide a universal set of guidelines for how data is to be distributed. For Wu, then, exceptionalism is sustained because it is "built-in" through such protocols, although it is also vulnerable to state and corporate attempts to change the technology, as in the network neutrality debates.²⁶ Importantly, though, Wu argues that internet exceptionalism is not only a technological quality, but a source of commercial and cultural innovation. He writes that the "greatest Internet firms can be succinctly defined as those that have best understood what makes the Internet

²² Wu, Tim. 2010. "Is Internet Exceptionalism Dead?" In Berin Szoka and Adam Marcus, eds. *The Next Digital Decade: Essays on the Future of the Internet*. Washington, D.C., TechFreedom: 179–188.

²³ Wu, Tim. 2003. "Network Neutrality, Broadband Discrimination." *Journal of Telecommunications and High Technology Law* 2: 141–179.

²⁴ Wu, 2010. American exceptionalism may be summarized as the belief that American culture is qualitatively different to that of other countries, due to its unique history: "The United States is exceptional in starting from a revolutionary event, in being 'the first new nation,' the first colony, other than Iceland, to become independent. It has defined its *raison d'etre* ideologically." Lipset, Seymour. 1996. *American Exceptionalism: A Double-Edged Sword*. New York, Norton: 19.

²⁵ Wu, 2010: 184.

²⁶ *ibid.*

different,” and suggests that internet exceptionalism guides “some of the means of production and cultural creativity that are associated with the Internet.”²⁷ Wu sees exceptionalism, then, as an encoded set of beliefs which are in turn reflected in practice.

In contrast to Morozov, Wu’s concept highlights the importance of intention in the development of technology, but his sense of the presence of internet exceptionalism beyond underlying protocols is not convincing. Although, as Alexander Galloway has argued, conceptual similarities exist between the goals of TCP/IP and those of World Wide Web standards like the HyperText Transfer Protocol (HTTP) and Hypertext Markup Language (HTML), it requires a larger conceptual leap to suggest, as Wu does, that the “pragmatic libertarianism” underlying protocol is the driving force behind Google’s success or cultural phenomena such as the rise of participatory media cultures.²⁸ At the same time, the consistency with which appeals are made to underlying logic, nature, or purpose of the internet and the web in narratives of their displacement of older media means such claims of ‘exceptionalism’ deserve serious consideration. The question is how to do so while avoiding both the static notion that Wu proposes and Morozov’s wholesale dismissal of a close connection between utopian rhetoric and the internet or web’s specificity.

Web exceptionalism: the dynamics of rupture-talk and web-native culture

Together, concepts like web hype, cyberbole, cyber-utopianism and internet exceptionalism point to a general concern with the interaction (or lack of it) between rhetorical descriptions of radical change effected by the internet and the web, and the material phenomena of internet and web-specific practices, technologies and forms. The concept of web exceptionalism explored in this dissertation may be distinguished from such alternatives by explaining how I understand these discursive and material elements, which I designate with web-related “rupture-talk” and “web-native culture,” as well as the “producer cultures” that mediate between them.

In Woolgar’s view, rhetoric that portrays the web as the displacement of older media would be notable for how it serves to conceal underlying continuity, and taking on a critical perspective requires going ‘beyond the hype.’ However, as Gabrielle Hecht argues, such “rupture-talk” may also be thought of as an historical actor that constructs - rather than conceals - such continuity with the past.²⁹ Rupture-talk, Hecht notes, is routinely associated with new technologies and articulates them as historical breaks, for example with the widespread notion following World War II that the world

²⁷ *ibid*: 179, 186.

²⁸ Galloway, Alexander. 2006. *Protocol: How Control Exists After Decentralization*. Cambridge, MA: MIT Press.

²⁹ Hecht, 2002.

had entered a “nuclear age” (a notion that took on both utopian forms, as in energy “too cheap to meter,” as well as dystopian ones, such as the doomsday scenarios parodied in Stanley Kubrick’s *Dr. Strangelove*).³⁰ Because these narratives are often popular over-simplifications of complex historical developments, it is unsurprising that much of the scholarship and criticism that deals with rupture-talk is concerned with debunking it. But while pointing out such flaws is important, Hecht argues, rupture-talk must also be understood as an historical actor in its own right. At the very least, by obscuring the complexity of a situation, narratives of radical change play some role in shaping the reality they seek to describe - this claim is similar to Morozov’s criticism of cyber-utopianism and net-centrism, which he argues adversely affect the ability of governments to enact sensible internet policy or of activists to accurately assess the impact of technology on the causes they advocate.³¹ Even if rupture-talk misrepresents an event or development, it nonetheless has material effects - Hecht notes, for example, how nuclear age rupture-talk helped format the institutions of international relations in the post World War II period.³² Most significantly, Hecht argues that the assumptions and assertions embedded in rupture talk - its “ontologies” or implicit claims about the new reality - often become inscribed in ways that *produce* the continuity that rupture-talk supposedly obscures. In her case studies on uranium mines in post-colonial Madagascar and Gabon, Hecht shows how nuclear age rupture-talk helped articulate social inequalities in ways that “conjugated” colonial power during de-colonization - that is, how the novel set of socio-technical practices it introduced served to re-articulate existing power relations in a new form.³³ For example, racial differentiation was rhetorically and institutionally denied in an age in which technical skills - not ethnicity - would determine social mobility, but the inscription of these wholesale changes in skills-training, hiring practices and so on tended to occur in ways that perpetuated the status quo, replacing the ethnic hierarchies of colonial times with very similar ethnotechnical ones.³⁴ In Hecht’s work, then, continuity becomes visible when analyzing the inscription of rupture-talk in socio-technical practice. A similar dynamic will be highlighted throughout this dissertation: inscriptions of web-related rupture-talk often re-articulate tendencies of the mass and mainstream media that they supposedly displace.

³⁰ Hecht, 2002: 691; Barbrook, Richard. 2007. *Imaginary Futures: From Thinking Machines to the Global Village*. London: Pluto Press.

³¹ Hecht, 2002. Morozov, 2011. See also Barbrook, 2010.

³² Hecht, 2002: 692.

³³ *ibid*: 693.

³⁴ *ibid*: 698.

The second element of web exceptionalism is “web-native culture,” or the potential sites of inscription that I have called the novel media practices, technologies and forms considered (or once considered) to embody the web’s inherent capacities or purpose, or as native to the web in some other essential way. As I discuss in detail in chapter 5, the concept of “web-native” featured prominently in early blogging, where it was used to distinguish weblogs from formats such as the magazine and newspaper that were ‘imposed’ onto the web. Because of its succinctness, I have used the adjective more generally to describe other media practices, technologies and forms that were or are considered representative of the web’s unique nature. With media practices, I mean customary behaviors with regard to media production, distribution or consumption - this ranges from, say, how journalists at Wired interacted with sources to how Slashdot readers regularly contributed links and news to the site. The media technologies discussed are largely those related to web publishing broadly understood, from HTML to content-management systems such as blogging software. With media form, meanwhile, I mean the set of technical properties and aesthetic conventions that characterize presentation, ordering, lay-out and so on. Of course, the three of these are intimately linked and their separation makes more sense analytically than experientially: blogging, for instance, is a media practice that relies on a specific media technology and implies a specific media form. By calling all of this web-native culture, the aim is not to identify a coherent set of ideas or practices belonging to a single group, but rather to highlight a common, recurring identification of various types and forms of cultural production with the nature of the web.

What mediates between rupture-talk and the articulation of media practices, technologies and forms as web-native is what I would generally call “producer cultures,” and specifically the “new media publishing cultures” I study in this dissertation. With this term, I mean the groups of people who conceptualized, designed, built and maintained the publications I analyze, but also the networks of actors that are mobilized in such production. With “networks of actors,” my aim is to emphasize the heterogeneity of ‘difference-makers’ in discursive and material articulations of the web as an exceptional medium - just to sample from this dissertation, these include raves, Dave Eggers, technological standards, Trade Wars 2000, computational metaphors, Rolling Stone, theater, potluck dinners, Burning Man and MySQL.³⁵

³⁵ In choosing this term, I am consciously drawing on the language of Actor-network theory (ANT). I have chosen not to discuss ANT at length in this introduction, however, because I believe the central insight I take from it - that historical agency is distributed - is non-controversial and may be safely ‘black-boxed’ in the contexts of media theory and media history. The question is *how* that agency is distributed, and that is a recurring problem I address in the case studies - see especially the conclusions to chapters 3 and 4. On ANT, see Latour, Bruno. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

In focusing on the interaction between rupture-talk and web-native culture via producer cultures, web exceptionalism should be distinguished from the emphases and assumptions of Morozov's cyber-utopianism and Wu's internet exceptionalism. Neither treating narratives of rupture as mystification or 'digging down' to find an essential difference from other technologies or media, the focus is on how the web is discursively and materially articulated as exceptional.

Periodization and genealogy

This original research presented in this dissertation covers events from 1989 to 2002, a period that, in terms of source material, runs from the publication of the first issue of the cyberculture magazine *Mondo 2000* to the publication of *We've Got Blog*, a blogging anthology that, along with a number of other events in 2002, signaled the arrival of weblogs as both a popular "web-native" publishing format and an important 'cultural phenomenon.'³⁶ More generally, this period addresses both cybercultural utopianism as it emerged prior to the web's rapid growth (which began in 1993 with the invention of the NCSA Mosaic browser) and instances of web exceptionalism as they occurred in roughly the first decade of the web's history.

In setting these dates, my aim is not to periodize, i.e. divide web history into sections in order to explain the unique characteristics of one or more of them. Rather, it is to engage with and unsettle the existing, dominant periodization implied by Web 2.0 and its adoption beyond web industry in general discussions of the web's history and significance. With the suggestion by O'Reilly and others that 2.0 reflects a deeper understanding of the web's nature, this 'built-in' periodization comes with a hefty set of assumptions about what came before: as Megan Sapnar Ankerson points out, "[t]he very notion 'Web 2.0' propagates an understanding of 'Web 1.0' as the outdated, buggy past."³⁷ With its close association with the dot.com bubble (traced, say, from the Netscape Initial Public Offering [IPO] in 1995 to the NASDAQ's peak in 2000), Web 1.0 comes across as a period of irrational behavior and unrealistic expectations. In terms of web development, it has been portrayed as an era in which the 'logics' of old media were unsuccessfully forced onto the new medium. A key distinction made by O'Reilly, for example, is between the Web 1.0 era of

³⁶ Rodzvilla, John, ed. 2002. *We've Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA: Perseus. In terms of their significance as a source of mainstream media and political criticism, an important event was the attribution of a causal role to blogs in Trent Lott's resignation as U.S. Senate majority leader in December, 2002. See for example, Shirky, Clay. 2008. *Here Comes Everybody: The Power of Organizing Without Organizations*. London: Penguin Press.

³⁷ Ankerson, Megan Sapnar. 2010. "Web Industries, Economies, Aesthetics: Mapping the Look of the Web in the Dot-com Era." In Niels Brügger, ed. *Web History*. New York, Peter Lang: 174.

publishing, in which the web was treated like any other distribution ‘channel,’ and the Web 2.0 logic of offering a “platform” for user participation.³⁸

This dissertation may be seen as an argument against the periodization of Web 2.0, but not simply through the location of Web 2.0 principles in the Web 1.0 era. On the one hand, this dissertation demonstrates something that O’Reilly and others already assume when they talk about Web 2.0 as ‘discovery’ rather than ‘invention’: that its principles - especially that of encouraging user participation over old media publishing - were to a large extent present, if latent, in 1990s web culture. Rather than discuss this continuity as early indications of what was to come, however, the aim is to treat such instances of overlap as opportunities to reconsider the grounds for Web 2.0’s claims of radical change. To what extent, in other words, do seemingly new participatory media practices, technologies and forms depart from their supposedly outdated publishing counterparts? To what extent does web-native culture depart from the old media logics it is supposedly displacing?

The assumption that in order to arrive at a sophisticated critique of Web 2.0 one must go back to its ‘pre-history’ reflects my decision to approach web exceptionalism genealogically. Genealogy may be seen as a form of historical research that places special emphasis on the moment of emergence of a ‘trait’ (a broad term that may imply, for example, a concept, technology or practice). For Michel Foucault, genealogy is different from a search for clear-cut origin points, and explicitly opposes the expectation that a concept or practice ‘arrives’ in some pristine state.³⁹ Rather, he argues, such moments of emergence are important because they reveal “the dissension of other things” - that is, unexpected resonances, the role of chance, intersecting histories, and so on.⁴⁰ Genealogy, in other words, reveals mess where one might expect to find unity. A good example of this (and an important one for this dissertation, both methodologically and conceptually) comes from Peter Galison’s work on the development of cybernetics as a World War II science.⁴¹ As I describe in more detail in chapter 1, Galison shows how Norbert Wiener’s abstract, general theory of cybernetics is in fact closely bound to the material and political contexts of its emergence in wartime research laboratories. He argues that cybernetics’ famous and influential ontology - characterized by the removal of analytical distinctions between the behaviors of biological

³⁸ O’Reilly, 2004.

³⁹ Foucault, Michel. 1977. “Nietzsche, Genealogy, History.” In Donald Bouchard, ed. *Language, Counter-memory, Practice: Selected Essays and Interviews*. Ithaca, Cornell University Press: 139–164.

⁴⁰ *ibid*: 142.

⁴¹ Galison, Peter. 1994. “The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision.” *Critical Inquiry* 21 (1): 228-266.

organisms and machines, and symbolized in popular culture by the cyborg - was very much a product of the initial problem Wiener was faced with, that of improving the accuracy of antiaircraft fire. For Galison, the cultural meanings of concepts and practices are not transient, but rather “indissolubly tied to their genealogy.”⁴² In other words, even if the moment of emergence makes contingency visible, it must also be understood as foundational. Cybernetics, in other words, is a product of World War II-related research, and uses of cybernetic concepts that deviate conceptually from this genealogy must be approached skeptically. As demonstrated in chapter 1, this is an important point when one considers the further emergence of the utopian, cybernetics-inspired concept of cyberspace in the early 1990s. Similarly, throughout this dissertation I argue that it is in the moments in which web-native culture emerges that one best sees how these practices, technologies and forms are shaped by their corresponding producer cultures.

Because I emphasize the resonances in web-native culture with practices, technologies and forms from past media and from other domains (especially science, engineering and work), my approach also needs to be seen in relation to perhaps the most influential understanding of such continuity in new media studies. “Remediation,” coined by Marshall McLuhan and taken up by Jay David Bolter and Richard Grusin in 1999, describes the process by which media incorporate the formal properties and conventions of their predecessors.⁴³ In what may be seen as a response to the hype surrounding virtual reality and the web in the mid-1990s, Bolter and Grusin famously argued that what makes new media ‘new’ are “the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media.”⁴⁴ Their aim, in other words, is to reveal continuity where others see rupture. Against the popular notion of cyberspace as a separate realm, for instance, they argue that it is instead “a series of remediations,” in which previous communication networks, visual forms and spaces of social interaction (from public squares to shopping malls) are extended by digital media.⁴⁵ In Bolter and Grusin’s view, cyberspace is continuous with other media because it is not excluded from the logic of remediation, in which media remediate one another in a competition to provide the most ‘immediate’ (i.e. transparent) or ‘hypermediated’ (fragmented and reflexive) sensory experience.⁴⁶

⁴² *ibid*: 264.

⁴³ Bolter, J. David, and Richard Grusin. 1999. *Remediation: Understanding New Media*. Cambridge, MA: MIT Press.

⁴⁴ *ibid*: 15.

⁴⁵ *ibid*: 183.

⁴⁶ *ibid*: 53.

Virtual reality, for example, gains its sense of immersiveness by remediating point-of-view editing from classical Hollywood cinema.⁴⁷

Although continuities between media is a central focus here, my approach may be distinguished from Bolter and Grusin's in two ways. First, although both approaches are genealogical, remediation theory emphasizes genealogy as the non-linear descent of a trait, where my emphasis is on making such non-linear descent visible through an account of a trait's emergence. For Bolter and Grusin, their work is genealogical because it traces the appearance and reappearance of such traits as transparent immediacy within different media and in different historical moments and contexts.⁴⁸ The genealogies I present in chapters 3 to 5 are more similar to Galison's work on the cybernetic vision, in that they are accounts of the emergence of specific articulations of the web as an exceptional medium, focusing on how they are informed by the cultural and material contexts in which they arise. Relatedly, a second difference between remediation and my approach is how historical agency is accounted for. For Bolter and Grusin, media have agency; that is, they are the source of remediation. The authors justify such attribution of agency to media by theorizing that agency as hybrid: deploying the terminology of Actor-Network Theory (ANT), they argue that media are networks of social, economic and material actors.⁴⁹ So to say that virtual reality remediates film is, for the authors, shorthand for saying that individuals, institutions, commercial aims and technologies involved in virtual reality development tend to ensure that these take over practices and aesthetic conventions from cinema (and its underlying network of social, material and economic actors). Although I am similarly interested in the distributed agencies involved in producing continuity among media, I would argue that Bolter and Grusin rely too much on such shortcuts, and that this undermines their efforts. For example, their argument against a 'transcendent' (or exceptional) formal logic guiding virtual reality relies on the overarching logic of "transparent immediacy," an aesthetic strategy that they maintain is not universal, but supposedly goes as far back as the invention of linear perspective.⁵⁰ Where Bolter and Grusin invoke ANT's language of hybridity as an explanatory framework, I would argue that this language is secondary to the corresponding methodological injunction to 'go slow' in tracing the networks that compose the phenomena in need of explanation.⁵¹ In this dissertation, in contrast to

⁴⁷ *ibid*: 165.

⁴⁸ *ibid*: 21.

⁴⁹ *ibid*: 67.

⁵⁰ *ibid*: 21.

⁵¹ Latour, 2005.

remediation theory, my aim is to uncover the work that goes into the production of continuity. This means detailing, for example, the networks of conceptual models, competing views, practices and personalities that shaped editorial and design decisions at HotWired, and not subsuming such work under the logic of remediation (see chapter 3).

The genealogical approach here may also be seen in relation to media archeology, in particular Siegfried Zielinski's aim of 'integrating' media history.⁵² By examining television and cinema as different social, technical and institutional arrangements within a broader history of audiovision, Zielinski's project is, in some sense, to highlight continuity where others see rupture. In comparison with the genealogical approach employed here, however, there is a basic difference in scope and scale, as Zielinski's aim is to provide a comprehensive view of these media (including technologies, institutions, practices and subjects) while my interest is more in specific media practices, technologies and forms that act as contact points between the web and previous media. In this dissertation, then, the goal is not to provide a broad historical overview, but rather to seek continuity within detailed reconstructions of key moments in the history of the web as a publishing medium.

Corpus and chapter overview

In the broadest sense, this history of web exceptionalism and its roots in cybercultural utopianism is concerned with articulations of new media as exceptional, in both the sense of displacing old media and exhibiting unique, unprecedented characteristics. These range from portrayals of virtual reality and early internet applications in the late 1980s as an answer to the passivity and conformity that supposedly marked television to similar claims made about the web beginning in 1994, as well as from the definition of cyberspace as a 'disembodied realm' to contemporary notions of web-native practice, technology and form. My aim is not to provide an exhaustive account of such articulations, nor would this be at all feasible: even if one were to limit these to accounts (still) available on the web and in traditional publishing (excluding potentially crucial material from other media as well as any such discussion that is not part of the public record), the work involved in collecting and analyzing the data would be staggering. My aim is also not to sample these articulations and show how they progressed, something one might do, say, by studying changes in the representations of the web in one or more publications over a particular period of time. Rather, the question and method I have outlined requires looking at 1) how web exceptionalism may be situated within a

⁵² Zielinski, Siegfried. 1999. *Audiovisions: Cinema and Television as Entr'actes in History*. Amsterdam: University of Amsterdam Press.

longer history of utopianism surrounding new media and 2) the emergence of individual instances of web exceptionalism, focusing specifically on the interaction between web-related rupture-talk and the development of web-native culture. The following is a chapter overview, focusing in particular on how I have sought to address these research aims in terms of selecting case studies and materials, as well as my treatment of the various kinds of sources I use.

This dissertation begins with an examination of the roots of web exceptionalism, and takes a cue from the web's initial and influential conceptualization as 'cyberspace.' Cyberspace, as Wendy Chun has argued, was conceived as a space of freedom - a space of pure information in which dwellers would be freed from the physical, social, cultural and economic constraints on movement, identity, community and enterprise in the real world.⁵³ In chapter 1, I draw on a rich body of existing historical and critical accounts of cyberculture, related histories and a few well-known primary sources (such as John Perry Barlow's 1996 manifesto, "A Declaration of the Independence of Cyberspace"), to show how cybercultural utopianism is grounded in the computational metaphor, or the broad notion that material, social and cultural phenomena are essentially systems of information exchange and feedback.⁵⁴ As Fred Turner, N. Katherine Hayles and others have demonstrated, this idea may be traced to the development of cybernetics beginning in the 1940s, yet emerged in the early 1990s as a key component in utopian narratives of computing's revolutionary potential.⁵⁵ Most notably, the flexible definition of cyberspace as a realm of pure information made it possible to think of it as a separate world, as an electronic frontier that could form an exception to real-world constraints and, paradoxically, offer a return to more 'organic' forms economic, social and cultural life. I end the chapter by noting that while the utopian sense of cyberspace that Barlow and others described has largely disappeared, the computational metaphor arguably still provides the grounds for unrealistic expectations of the web, highlighting in particular its presence in the popular utopian notion of a single "social graph," or "global mapping" of all human social relationships.⁵⁶

In chapter 2, I look to contribute to existing work on cybercultural utopianism in the early 1990s by focusing on its primary mode of delivery - the "cool" tech-culture magazine. As David

⁵³ Chun, 2006.

⁵⁴ Barlow, John Perry. 1996. "A Declaration of the Independence of Cyberspace." *Electronic Frontier Foundation*. <http://homes.eff.org/~barlow/Declaration-Final.html>.

⁵⁵ Turner, 2006; Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press.

⁵⁶ Fitzpatrick, Brad. 2007. "Thoughts on the Social Graph." *Bradfitz.com*. <http://bradfitz.com/social-graph-problem/>; CBS/AP. 2010. "Facebook: One Social Graph to Rule Them All?" *CBS News*. http://www.cbsnews.com/8301-205_162-6418458.html.

Silver has argued, notions of cyberculture and cyberspace were largely popularized by *Mondo 2000* and *Wired*, two independent magazines that purported to cover the computer revolution in a way that conventional news media could not.⁵⁷ With their hyperbolic manifestos, unconventional publishing practices and jarring, computer-graphics heavy design, these magazines appeared to embody the subversive qualities they attributed to new media. In a case study of *Mondo 2000*, I build on the work of Alan Liu to argue that this cool ambience was not simply a gloss, but can be contextualized by *Mondo's* rupture-talk (or what it called the New Edge) and its ambivalent position as a publication somewhere between underground culture and the mainstream.⁵⁸ Too avowedly commercial and successful to be considered 'authentic' underground culture, and too subversive to be considered properly professional or corporate, *Mondo's* creators appeared to enjoy the doubly rebellious stance of rejecting both. In a close reading of *Mondo* from its launch in 1989 to its peak in 1993, as well as contemporaneous interviews and other sources, I show how New Edge assumptions about the effects of new media on cultural production were expressed by this position and corresponding cool style. If *Mondo* was neither fully 'inside' nor 'outside' mass culture, it was because it perceived the new cultural environment as one in which these boundaries had largely disappeared: as *Mondo* itself seemed to prove, the mainstream was being infiltrated by subversive influences at the same time that any underground scene was quickly co-opted by the commercial and institutional logics of mass culture.

This attention to the intersections of rupture-talk and the articulation of specific media practices and forms continues in the second part of the dissertation, in which I present three genealogies of web exceptionalism. The three case studies I selected meet two important criteria with regard to a history of web exceptionalism. First, each forms a site in which web-related rupture-talk and the establishment of web-native culture co-occur - in other words, each was clearly and demonstrably associated (by creators or outside commentators) with the supposed displacement of mass or mainstream media and each also marked the establishment of a media practice, technology or form that was considered to reveal something essential about the web (whether formulated as its nature, purpose, inherent capacity, native quality, etc.). Second, each is generally relevant to the history of web publishing and web culture: whether the spectacular failure of *Wired's* attempt to build a new media publishing empire or the grassroots-to-mainstream successes of *Slashdot* and the weblog publishing format, these are or were highly-visible, influential articulations

⁵⁷ Silver, David. 2000. "Introducing Cyberculture." *Resource Center For Cyberculture Studies*. <http://rccs.usfca.edu/intro.asp>.

⁵⁸ Liu, Alan. 2004. *The Laws of Cool: Knowledge Work and the Culture of Information*. Chicago, University of Chicago Press

of the web as an exceptional medium. In addition to these criteria, these case studies are useful because they demonstrate some of the range of what I have called web-native culture: HotWired's editorial practices, the technology underlying Slashdot's 'open' publishing, and blogging as a new media form.

The first of these genealogies (chapter 3) centers on the conflation of the web with what the creators of HotWired called a "new publishing paradigm." For Rossetto and others involved in creating HotWired, the website would help usher in this new paradigm and ensure that old media 'dinosaurs' would be replaced by a host of new publishers that - like Wired - understood the nature of the new environment.⁵⁹ Focusing on the site's initial design as well as other key events from 1994 to 1997, I show how such rupture-talk was implicated in the site's production and specifically the development of novel editorial practices, albeit in ways that often extended longer traditions in independent magazine publishing. I also show how events at HotWired, in particular the creation of Suck.com by two employees and the site's 1997 makeover as a resource for "web participants," unsettle the Web 2.0 distinction between publishing and participation paradigms by showing how these may overlap. In terms of corpus, this case study reveals some of the considerable difficulties in studying the history of the early web, as there are no snapshots of Hotwired.com from this period in the Internet Archive (the earliest is from December 1997). Ironically, the best available representation of the site's early look and feel is a static 'demo' from 1995, which Wired would run at trade shows when no broadband internet connection was available. Because of this, my account of the site's launch is based largely on a range of other sources - relevant interviews and articles in other media from the time, Gary Wolf's history *Wired: A Romance*, privately archived emails and design mock-ups - and was supplemented by interviews with participants.⁶⁰ For the analysis of Suck.com (which was discontinued in June 2001), I was able to rely on the site's own archives, which continue to be maintained by one of the site's co-creators.

Chapter 4 is a genealogy of what would be called "open-source journalism" at the tech-news website and forum Slashdot.⁶¹ It traces Slashdot's early history from 1997 to 1999, especially the development of its highly-regarded community infrastructure, which with its capacities for user

⁵⁹ Behlendorf, Brian. 1994. "Report on the Geneva Conference." Email, May 30.

⁶⁰ Wolf, Gary. 2003. *Wired: a Romance*. New York: Random House. See the appendix for a complete list of interviews. It should be noted that three key participants, Louis Rossetto, Jonathan Steuer and Carl Steadman, did not respond to requests for an interview. Any information from these interviews or my interview with Rob Malda (Slashdot) that was critical to my arguments were cross-referenced with other published accounts (in the HotWired case, articles and interviews from the time; in Slashdot's case, Slashdot's archives and other articles and interviews)

⁶¹ Glave, James. 1999. "Slashdot: All the News That Fits." *Wired*, August 26. <http://www.wired.com/culture/lifestyle/news/1999/08/21448>.

submissions and distributed comments moderation and recommendation system may be seen as a significant precursor to the participatory architectures of Web 2.0. Where various journalists and academics have interpreted these features as an application of principles from open-source software development, the genealogy presented here tells a different story.⁶² Key innovations such as a submissions box for organizing reader submissions and an automated system for comments moderation developed in an ad-hoc fashion, and should not be seen as any explicit desire to ‘re-invent’ the news. Despite this, I argue that Slashdot’s development should be understood in terms of the web’s displacement of older media: it reflected and was in some sense driven by an implicit belief in the web’s capacity to automate and make visible the processes of media production, distribution and consumption. This sense of visibility, I go on to note, resonates strongly with the effects of information technology on the workplace, as documented by Shoshana Zuboff, as well as with the computational metaphor as discussed in chapter 1.⁶³ For this chapter, I focus on how creator Rob Malda’s aims and decisions regarding the infrastructure related to the “open source news” interpretation that tended to come from other sources. This was relatively easy to do, because Malda meticulously posted even relatively minor technical updates to the site, and discussed major changes such as those regarding the comments moderation system at length. He also later published the site’s source code, Slash. In addition to the archives and contemporaneous articles and interviews in other media, my account is supplemented by an interview I held with Malda in 2011.

The final case study (chapter 5) deals with the emergence of blogging as a “web-native” publishing format. In the period from 1998 to 2002, blogging grew from a stable community of less than 30 weblogs to a mass publishing format used by hundreds of thousands of practitioners, as well as important source of media criticism.⁶⁴ Although it might be expected that such explosive growth would destabilize any meaningful definition of the form beyond flexible terms like ‘publishing tool’ or ‘content management system,’ I turn to influential accounts from the time on blogging’s ‘web-native’ qualities to show how definitions at this time were quite structured. Blogging, I conclude, may be seen as a “cultural form” in the sense developed by Raymond Williams and

⁶² *ibid*; Grossman, Lev. 2000. “The Land of 1,000 Voices.” *Time*, September 18. <http://www.time.com/time/magazine/article/0,9171,998000,00.html>; Bruns, Axel. 2005. *Gatewatching: Collaborative Online News Production*. New York: Peter Lang.

⁶³ Zuboff, Shoshana. 1988. *In The Age Of The Smart Machine: The Future Of Work And Power*. New York: Basic Books.

⁶⁴ Blood, Rebecca. [2000]2002. “Weblogs: A History and Perspective.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 7-16.

defined by Roger Silverstone as a “particular institutionalization of culture.”⁶⁵ Where Williams defined “flow” as the intrinsic (but not inherent) organizational logic of television that “captures” viewers, I build on practitioners’ accounts to argue that blogging constitutes a formal logic of exposure, one that captivates and fascinates blogging’s users and readers. This chapter thus analyzes reflections on blogging during its emergence as a popular web publishing format from 1998 to 2002; because blogging was defined *through* blogging - that is to say, because it was evolved and interpreted by practitioners during this early period - such reflections provide my entry point for the ‘producer culture’ that articulated blogging as web-native. To make an analysis of reflections on blogging in this period feasible, I rely on the anthology *We’ve Got Blog*, a collection of influential weblog manifestos, posts, rants, interviews and articles.⁶⁶

The genealogies that make up the second part of the dissertation thus comprise a diverse set of materials and approaches, from reconstructions of debates at HotWired based on archival sources to technological history as well as more conventional (for media studies) formal analyses. In the conclusion, I nonetheless look to generalize the approach and findings with the concept of ‘legacy systems.’ In computing, ‘legacy’ tends to denote outmoded technology that remains in use, and suggests historical and material constraints on the present. Although these constraints are most often associated with efficiency and costs, a system may also be considered ‘legacy’ because it no longer reflects the practices and processes central to the organization that uses it.⁶⁷ At the same time, legacy systems are malleable - for example, the replacement of legacy systems within organizations is often not the most efficient or desirable solution; one might instead “wrap” an existing system within a new interface, thus upgrading without any wholesale change.⁶⁸ Legacy systems thus refer to an enduring or persistent presence that impacts the present but does not fully determine it; they enable novelty even as they ensure the past operates through it. In this way, the metaphor provides an umbrella category for the various ideas, concepts, practices, techniques, values, technologies, aesthetics, logics and so on that shape and resonate within web-native culture.

⁶⁵ Williams, Raymond. [1974]2003. *Television: Technology and Cultural Form*. London: Routledge; Silverstone, Roger. 2003. “Preface to the Routledge Classic Edition,” in Raymond Williams. *Television: Technology and Cultural Form*. London, Routledge: xiii.

⁶⁶ Rodzvilla, ed., 2002.

⁶⁷ e.g. Sommerville, Ian. 2007. *Software Engineering*. 7th ed. Essex, Pearson Education: 39-40.

⁶⁸ Bisbal, Jesús, Deirdre Lawless, Bing Wu, and Jane Grimson. 1999. “Legacy Information Systems: Issues and Directions.” *IEEE Software* 16 (5): 103–111.

Relevance and limitations

Why study the history of web exceptionalism? One might begin justifying any historical treatment of the web by noting the scope and scale of the web's effects on social and cultural life, as well as the speed at which the web itself seems to change. One might also do the opposite, justifying such history by arguing that, in spite of the web's novelty and rapid pace of change, existing structures and forms of social and cultural life persist. Here, though, I would like to suggest that what this dissertation adds is an approach that emphasizes how the past extends through the web. This is the crux of the thesis I advance - that the novel practices, technologies and forms designated "web-native" are sites of cultural and historical continuity.

By analyzing the roots of web exceptionalism and specific instances from 1989 to 2002, my primary aim is to contribute to a small-but-growing body of work that critically assesses the history of the web as a publishing medium. This includes Ignacio Siles's history of the weblog as technology and as a means to construct identity, and most notably Megan Sappan Ankerson's work on the aesthetics of dot.com era web publishing.⁶⁹ Where Ankerson takes a cue from histories of early cinema to connect the aesthetics of the early web to its conditions of production, my aim has been to provide a micro-view of the establishment of web-native practices, technologies and forms, and the close relationship between these and the producer cultures (marked by rupture-talk) in which they emerged. What remains necessary - and what unfortunately falls out of the scope of this dissertation - is further explication of how earlier media histories and debates surrounding media formalism may be connected to studies of web publishing history.

Although this dissertation provides unique insights into some influential, highly visible publications, a history of web exceptionalism can only ever be a very limited form of web publishing history. Because of the decision to study practices, technologies and forms specifically articulated as different from their 'old media' counterparts, this work does not do much to address, say, the vast and varied topic of how traditional publishers and broadcasters approached the new medium. It also does not engage directly with web publishing economics, although such structural issues arise within the 'micro-contexts' of production that I discuss. Despite these limitations, I believe the contextualization of web exceptionalism offered here improves current understandings of the history of the web as a publishing medium. It does so by contributing a detailed look at the emergence of novel media practices, technologies and forms considered native to the web, showing

⁶⁹ Ankerson, 2012. Siles, Ignacio. 2012a. "Web Technologies of the Self: The Arising of the 'Blogger' Identity." *Journal of Computer-Mediated Communication* 17 (4): 408-421; Siles, Ignacio. 2012b. "The Rise of Blogging: Articulation as a Dynamic of Technological Stabilization." *New Media & Society* 14 (5) (August 1): 781-797;

how these are at once articulations of the web as an exceptional medium and the site of important historical and cultural continuities.

I. THE ROOTS OF WEB EXCEPTIONALISM

1. Cyberculture and the computational metaphor

When the World Wide Web surfaced in the early 1990s, it seemed set to fulfill the utopian promises of cyberculture. As the disembodied, virtual world called cyberspace, the web would set its users free from real-world constraints, forming a “new home of Mind” and the site of unprecedented, transcendent experiences.¹ In cyberculture, self-organized virtual communities would revitalize the public sphere, and cybernauts - released from the material confines of geography, gender, race and class - would construct virtual identities that better reflected their fragmented, distributed lives and lifestyles.²

Cyberculture is normally defined as the culture of cyberspace, but this definition obscures the extent to which notions of cyberculture and cyberspace, as well as those of virtual community and virtual identity, were the products of speculation about the effects of new media in the 1980s and 1990s, and the fact that these terms - especially in their utopian configurations - have largely been abandoned today.³ In this chapter, I build on existing critical and historical accounts of cyberculture to forward a different understanding of it as a particular mode and period of new media rupture-talk, a discourse in which virtual reality, the internet and eventually the web would be perceived as sources of radical change. Cyberculture, in other words, was a discourse through which new media appeared to be “critical,” marking a cultural, political and economic turning point, and implying the transition from one state or general condition to another.⁴ Although it is difficult to point to exact dates marking a beginning or end of cyberculture, it seems likely that cybercultural depictions of the internet and the web as critical reached their zenith in February 1996, when John Perry Barlow issued his famous - and now often derided - “Declaration of the Independence of Cyberspace.”⁵ The manifesto, written in response to U.S. legislation for regulating internet content, portrayed the internet as a medium free of the various physical, social and cultural restraints normally placed on

¹ Barlow, 1996.

² Rheingold, 1993; Turkle, Sherry. 1995. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.

³ For the definition of cyberculture as the culture of cyberspace, see especially Lévy, Pierre. 2001. *Cyberculture*. Minneapolis: University of Minnesota Press; this definition’s persistence is seen for example in Wikipedia’s definition of cyberculture as “the culture that has emerged, or is emerging, from the use of computer networks for communication, entertainment, and business.” See Wikipedia contributors. 2013. “Cyberculture.” *Wikipedia, the Free Encyclopedia*. <http://en.wikipedia.org/w/index.php?title=Cyberculture&oldid=539672923>.

⁴ Chun, Wendy Hui Kyong. 2011a. “Crisis, Crisis, Crisis, or Sovereignty and Networks.” *Theory, Culture & Society* 28 (6) (November 1): 91–112.

⁵ Barlow, 1996.

self-expression, and one that should stay so. Barlow called cyberspace the “new home of Mind,” and predicted that the “Governments of the Industrial World” would soon be expelled.⁶

Cyberculture as the culture of cyberspace also obscures the lineage of both notions in the cybernetic sciences and attempts to understand biological, psychological and social phenomena as systems of communication, information exchange and feedback. Although cyberculture appeared to be (and is often dismissed as) a hyperbolic reaction to new technology, histories of cyberculture show how it was in fact an extension of key ideas that originated in cybernetics. The utopian dislocation from matter implied in Barlow’s cyberspace, for instance, relies on what N. Katherine Hayles called “the condition of virtuality,” or “the cultural perception that information and materiality are conceptually distinct and that information is in some sense more essential, more important, and more fundamental than materiality.”⁷ Because Hayles’s term is primarily directed at the problem of embodiment, I use the more general description of ‘the computational metaphor’ to describe this conceptual separation of information: in cybercultural rhetoric such as Barlow’s, what is being left behind is not just the body, but a whole range of ostensibly ‘artificial’ social structures and forces that might simply be summarized as ‘history.’ I don’t mean to suggest that casual use of computational metaphors (such as when I say I am ‘processing new information’ when I mean I am thinking) ventures into cybercultural utopianism, but want to emphasize how the latter is grounded in the metaphorical notion of a ‘pure’ information space: if the essence of social and cultural life is the flow of information, and if psychology and social relations can be broken down to bits, then it becomes possible to imagine their revolutionary transformations in the virtual realm of cyberspace. Rupture-talk such as Barlow’s, then, is perhaps best understood as a site of continuity: in preaching radical change fashioned by cyberspace, the utopian narratives of cyberculture in fact sustain a key product of cybernetics and thus the state and military institutions that cyberspace was ostensibly opposed to.

The contingency of cyberculture’s emancipatory connotations is already clear when considering its immediate sources, the term cyberspace and the cyberpunk science fiction genre where it originated. Cyberspace was coined by William Gibson in 1982, and made famous as the graphical representation of a global computer network in his 1984 science fiction novel *Neuromancer*.⁸ By invoking cybernetics, or the science of communication and control, the term vaguely suggested a communication space, and Gibson’s descriptions portray it as a spectacular

⁶ *ibid.*

⁷ Hayles, 1999: 18.

⁸ Gibson, William. 1984. *Neuromancer*. New York: Ace.

visualization inspired by arcade video games. Cyberspace further appears as a vast, mystical entity characteristic of the militarized and commercialized world of *Neuromancer*, where corporations, governments, terrorist groups and lone hackers like the novel's hero, Case, all compete to control resources. Soon after the term was popularized, however, cyberspace would be used to describe comparatively mundane communications technologies such as Bulletin Board Systems (BBSs) and, starting around 1993, the World Wide Web.⁹ And instead of a space of military power and corporate secrecy, it suggested an information space without barriers or constraints - physical, political, economic, cultural or otherwise.¹⁰ In addition to Barlow's "new home of Mind," this perception was present in accounts of the empowering potential of virtual community and virtual identity.¹¹ What united these various arguments, I argue below, was the assumption that cyberspace, as a space of pure information, allowed for the removal of 'artifice' - the constraints imposed by the physical and social world on community and identity - and enabled more natural, fluid and complex modes of communication, culture and enterprise. This association was strange, not only because it paradoxically conflated technology with nature - a conflation Kevin Kelly, writing in 1994, described as the hallmark of the fast-arriving "neo-biological civilization" - but because, as Fred Turner has noted, computing was widely considered a symbol of state and corporate bureaucracy as recently as the 1960s.¹²

The question of cyberculture's conditions of possibility, then, may be broken down into two related subquestions. First, how was it possible that cyberspace was conceptualized as an information space necessarily separate from the physical world, one that denied matter at the same time that it enabled more organic forms of social interaction and organization? Second, how was it possible this space was considered a source of freedom and individual empowerment, when information technology had previously been understood as instruments of power and control? In the following sections, I argue that the answers to both questions lie in the history of the computational metaphor, an umbrella term for a broad range of expressions that imagine the sum of human experience - from cognition to the physical world, from genetic codes to social ties - as systems of quantifiable information. As I argue in the next section, the computational metaphor is closely

⁹ Markoff, John. 1993. "A Free and Simple Computer Link." *The New York Times*, December 8. <http://www.nytimes.com/library/tech/reference/120893markoff.html>

¹⁰ Chun, 2006.

¹¹ Rheingold, 1993; Dibbell, Julian. 1998. *My Tiny Life: Crime and Passion in a Virtual World*. New York: Holt.

¹² Kelly, Kevin. 1994. *Out of Control: The Rise of Neo-Biological Civilization*. New York, Addison Wesley Publishing Company; Turner, 2006; Lubar, Steven. 1992. "'Do not fold, spindle or mutilate': a cultural history of the punch card." *The Journal of American Culture*, 15 (4) (Winter): 43-55.

connected to the history of cybernetics, a relationship that is the subject of various concepts such as the cybernetic vision (described by Peter Galison), the closed world and cyborg discourses (Paul N. Edwards) and the condition of virtuality (N. Katherine Hayles).¹³ By conceptualizing behavior as a process of communication between an object and its environment, each of these authors argue, cybernetics made it possible to begin understanding both the human mind and the material world as patterns of information. When information is considered distinct from and more essential than matter, Hayles argues, it becomes possible to perceive in computer technology a fulfillment of Cartesian dualism - for example, cyberspace as both disembodiment and a new home of Mind. To answer the second question, one must additionally examine how the computational metaphor, which was strongly tied to World War II and Cold War contexts, became linked to a rhetoric of individual freedom. Following Fred Turner's *From Counterculture to Cyberculture*, in section 1.2 I review how cybernetic thought was appropriated by important figures in the 1960s counterculture, and became a key element in their attempts to create communal alternatives to mainstream society. In section 1.3, I show how the lineage of the computational metaphor in cybernetics and the counterculture resonated with cybercultural practice and technology as these were articulated by practitioners and commentators in the mid- to late-1990s.

By tracing the computational metaphor's trajectory from its origins in military-related research to its use in cybercultural rupture-talk and understandings of the exceptional qualities of new media, this chapter offers an answer to the question of how the web was seen as a source of rupture as it came to prominence in the 1990s. The chapter concludes with a brief discussion of how elements of cyberculture persist, and in particular how the computational metaphor may be seen to continue to format (unrealistic) expectations of the web's significance and effects.

1.1 Cybernetics and its legacies

When, in 1994, Kevin Kelly argued that information technology was ushering in a new civilization in which the lines between technology and nature were blurring, he outlined a powerful vision of the future that simultaneously recalled a specific past. On the one hand, his book *Out of Control* invited readers to glimpse a future in which exceptional technology like the internet was facilitating a new world of artificial life, e-money, self-organizing systems, virtual communities, genetic engineering and simulated realities. On the other hand, as Kelly observed, such neo-biological forms were rooted conceptually in the questions, theories and models posed by an influential group

¹³ Galison, 1994; Edwards, Paul N. 1996. *The Closed World: Computers and the Politics of Discourse in Cold War America*. Cambridge, MA: MIT Press; Hayles, 1999.

of researchers in the natural and social sciences in the 1950s, retroactively called the cybernetics group. In fact, Kelly wrote, his work could be summarized as “an update on the current state of cybernetics research,” if cybernetics were still practiced (he notes it died out in the 1970s).¹⁴ To begin to understand the conceptual links between cybernetics and cyberculture, here I turn to the history of the former. I focus on what various authors have identified as cybernetics’ main concerns and its legacies (both in the sciences and beyond). This will help contextualize the countercultural embrace of cybernetics discussed in section 1.2.2, and cyberculture’s articulation of the internet and the web as exceptional, discussed in section 1.2.3.

Cybernetics originated with the work of the Harvard mathematician Norbert Wiener, and is the study of goal-oriented systems that self-regulate by processing information in a feedback loop. As N. Katherine Hayles succinctly puts it, the discipline represented the marriage of 19th century theories of mechanical and electro-mechanical control technologies, called servomechanisms (the classic example of which is the thermostat), to an emerging theory of information in the work of Wiener and Claude Shannon.¹⁵ Soon, though, it would be applied far beyond the concerns of engineering, and offer a general theory of what Wiener called “control and communication in the animal and machine.”¹⁶ Its success, as Scott Heims and Paul Edwards have argued in separate accounts, had much to do with the mobilization of the sciences during World War II and the Cold War. And although Wiener would later distance himself from the optimism surrounding the application of cybernetics across disciplines, it had a profound impact on the social and behavioral sciences.¹⁷ Because of this, it laid the groundwork for metaphorical uses of the computer in theories of the human mind, what Edwards calls “cyborg discourse.”¹⁸ In her complementary account, Hayles argues that it instituted a “condition of virtuality,” in which information is assumed to be distinct from and somehow more essential to life than matter - an assumption that in one of its most extreme forms results in the belief that human consciousness may be downloaded to a computer.¹⁹ Such expressions of the computational metaphor, as I’ll argue below, featured prominently in cyberculture during the 1990s. But first, it is worth detailing the history of how such ideas were

¹⁴ Kelly, 1994: 453.

¹⁵ Hayles, 1999: 8.

¹⁶ Wiener, Norbert. 1948a. *Cybernetics: Or the Control and Communication in the Animal and Machine*. Cambridge, MA: MIT Press.

¹⁷ Heims, Steve J. 1991. *The Cybernetics Group*. Cambridge, MA: MIT Press.

¹⁸ Edwards, 1996: 21.

¹⁹ Hayles, 1999.

made possible, as it reveals the importance of the contexts of military research for their success. It therefore also serves as reminder that, as Wendy Chun argues, the kinds of technology-enabled freedom imagined today (including fantasies of downloading human consciousness to a machine) are in many ways the same as the dreams of perfect control that fueled military funding of computer technology in the post-war era.²⁰

The foundation of cybernetics can be traced to Wiener's efforts to improve the accuracy of antiaircraft guns during World War II.²¹ His antiaircraft (AA) predictor, prototyped and tested in laboratories in 1942 but never fully realized, would use statistical analysis of what today might be called 'realtime' data - the zig-zagging, irregular movements of an enemy airplane - to predict the plane's future position. The innovation, however, lay not so much in calculating probable flight movements or using control mechanisms to improve artillery fire: other methods of predicting an airplane's future position were already in use, part of larger sets of electromechanical equipment called "gun directors" that performed ballistics calculations and controlled the guns semi-automatically.²² Rather, as Peter Galison has argued, the AA predictor's lack of success had no impact on Wiener's estimation of his conceptual breakthrough, which was to imagine the enemy aircraft and its pilot as an integrated system of information exchange. Wiener reasoned that irregularity in the flightpath, or "noise," was introduced by the pilot as he tried to maneuver the plane in response to (or under pressure from) visual and other stimuli - noise was in effect a kind of oscillation that came from attempts to correct the airplane's behavior based on new information. From there, Wiener was able to reason further that pilot, aircraft, anti-aircraft gun and gunner constituted a system in which the actions of each constituted information that (through feedback mechanisms) affected the system as a whole.²³

Cybernetics was thus derived from what Galison calls the "ontology of the enemy," or Wiener's decision to treat pilot and airplane as essentially similar - as servomechanisms (or "purposeful machines") whose behavior could be described in terms of feedback and self-regulation.²⁴ For the purposes of studying control, the boundaries between human and machine were blurred to the extent that there was no reason to make an analytical distinction between them:

²⁰ Chun, 2006.

²¹ Wiener, 1948a.

²² Edwards, 1996: 45.

²³ Galison, 1994: 236.

²⁴ *ibid.* Galison uses the term "ontology of the enemy" to highlight the historical specificity of cybernetics as a wartime science. The description of servomechanisms as "purposeful machines" is from Rosenblueth, Arturo, Norbert Wiener and Julian Bigelow. 1943. "Behavior, Purpose and Teleology." *Philosophy of Science*. 10(1), January: 18-24.

what mattered was the range of possible behaviors and their degree of predictability. And despite the specificity of this ontology (a pilot operating an airplane under deadly conditions), it soon became a model for studying human psychology more generally. As Galison writes, from early on Wiener saw a potential to transfer this outlook to behaviorism, the then-dominant paradigm in psychology that focused solely on perceivable changes in the individual and the environment.²⁵ What behaviorism lacked, as Wiener saw it, was a sophisticated theory of “the intrinsic possibilities of types of behavior,” and the servo-mechanical behavior he perceived in the enemy pilot was one of these types.²⁶ An inspiration for such an approach was the engineering concept of a black box, where the range of functions of an apparatus are determined before one considers what its actual components may be.²⁷ Wiener, together with neurophysiologist Arturo Rosenblueth and engineer Julian Bigelow, both regular collaborators, fleshed out this position in the article “Behavior, Purpose and Teleology.”²⁸ The authors proposed a number of classes and types of behavior, arranged as a nested hierarchy: at the top, they distinguish between active and passive behavior (where active means the object displaying a behavior is also the source of energy for it - in the authors’ example, a thrown rock is passive, since its energy is supplied by an external input); active behavior is then categorized as purposeful (“directed to the attainment of a goal”) or purposeless; purposeful behavior is divided into “feed-back” or “non-feed-back” (where the former refers to “teleological” behavior guided by negative feedback toward a goal), and so on.²⁹ Purposeful behavior that is extrapolated from feedback is also what the authors call *predictive behavior* - the category that Wiener understood enemy aircraft to be in. This insight was of course omitted from the paper (published during the war), although one of their examples of self-correcting, predictive behavior - in which a person or machine attempts to track a moving light projected onto the wall - is unmistakably taken from the experiments Wiener and Bigelow designed to simulate firing an anti-aircraft gun at an enemy plane.³⁰ The ontology of the enemy, then, had helped Wiener and his colleagues to formulate a general theory of purposeful behavior, one that did not distinguish between humans and machines.

²⁵ The authors contrasted behaviorism with functionalism, where “the main goal is the intrinsic organization of the entity studied, its structure and its properties” (Rosenblueth et al., 1943: 18).

²⁶ Wiener quoted in Galison, 1994: 242.

²⁷ Galison, 1994: 242.

²⁸ Rosenblueth et al., 1943.

²⁹ Rosenblueth et al., 1943: 21.

³⁰ *ibid*: 20; c.f. Galison, 1994: 236-237.

The computational metaphor was soon proposed as a way to connect a wide range of scientific disciplines. At the famous Macy conferences devoted to multidisciplinary discussions of feedback mechanisms and circular causal systems took place from 1946 to 1953, Wiener's ideas were exposed to researchers from physiology, anthropology and psychology, among other fields.³¹ This variety conformed to the inaugural conference's central aim of "identify[ing] in a behaviorist spirit some of those aspects of what organisms do that can be analyzed in terms of what certain analogous machines do."³² As Heims notes, what transpired in fact departed significantly from behaviorism, in that the participants were interested in goal-directed action (as opposed to mechanistic behavior) and in circular causality (as opposed to stimulus-response).³³ And as Edwards argues, this meant moving from models and metaphors that emphasized comparisons between humans and animals to those that considered the human as an information processing machine; before long the goal would be "to understand the processes of perception, memory, and language in terms of formalizable transformations of information and feedback circuits or control loops."³⁴ The tone was set from the first session of the first conference in 1946, when John von Neumann spoke about the advantages of digital over analog computing and "made semi-quantitative comparisons between vacuum tubes and neurons, the overall size of brains and computers, their speed of operation and other characteristics."³⁵ The human-computer analogy was also central to the second presentation, in which Lorente de Nó discussed the "firing of an impulse from a nerve cell [...] as a digital, binary process."³⁶ The 1946 conference was initially set up so that scientists from the human and social sciences could discuss informally whether the new concepts and models might be useful in their own fields, and participants speculated on possible applications. Some of the psychologists and social scientists present, including the sociologist and pioneer of survey research Paul Lazarsfeld, saw this primarily as an opportunity to bring the rigor they perceived in the work of 'hard' science to their own fields.³⁷ Others however saw more potential for overlap: the anthropologist Gregory Bateson, for instance, compared the role of certain rituals in the

³¹ "Cybernetics" was only attached to the conferences after Wiener coined it in 1948 to "embrace the whole field in a single term." Wiener, Norbert. 1954. *The Human Use of Human Beings*. New York, Doubleday: 15.

³² Heims, 1991: 15.

³³ *ibid.*

³⁴ Edwards, 1996: 179-180.

³⁵ Heims, 1991: 20.

³⁶ *ibid.*

³⁷ Heims, 1991: 192.

latmul culture to negative feedback and homeostasis.³⁸ The success of subsequent conferences in this regard was even greater, and cybernetics deeply influenced other social scientists, including Talcott Parsons, who hoped it could bridge the gap between the social and physical sciences.³⁹

The success of the computational metaphor and cybernetics more generally was made possible in part by a sophisticated theory of information, one that abstracted it from both matter (or medium) and meaning (or context), and seemed to afford use across disciplines.⁴⁰ Together with an influential theory of the neural net as a formal logical system developed by two other core cyberneticians, Warren McCulloch and Walter Pitts, information theory provided a foundation for analyzing machines, animals and humans together, and gave models of the human as computer (and of the computer as capable of displaying human intelligence) more scientific weight. Working independently, Wiener and engineer Claude Shannon both arrived at a definition of information as a probability function, as a choice or decision made relative to a set of possible messages - from this perspective, the actual meaning is irrelevant. The reason for this was pragmatic: from the engineer's perspective, what matters is the efficient transmission of a signal, not the complexities of intent, context and interpretation. As a signal, information is abstracted from its material instantiation, or channel, and becomes subject to general theorems about, say, the redundancy needed to insure a signal is transmitted despite the presence of a certain level of noise.⁴¹ Although Wiener would later point out the limits of such a technical definition, in 1946 he was sure that a general theory of communication could unify disciplines. After the first meeting, he wrote that the objects to be analyzed under such a theory ranged from the control mechanism (which was essentially a communication device even though "the machine may not be watched by any human agent") to "the neuromuscular mechanism" as well as the "community or any sort of being" studied by social scientists.⁴² The conferences created room for what Hayles calls "slippage" between mechanisms, models and metaphors, and many of the social scientists at the conferences adopted the notion of free-flowing, quantifiable information in their own work.⁴³

³⁸ Heims, 1991: 24.

³⁹ Heims, 1991: 184.

⁴⁰ Hayles, 1999: 7.

⁴¹ Shannon, Claude. [1948]2001. "A Mathematical Theory of Communication." *Mobile Computing and Communications Review*. 5 (1) (January): 3-55.

⁴² Wiener, Norber. 1948b. "Time, Communication, and the Nervous System." *Annals of the New York Academy of Sciences*, 50 (October).

⁴³ Hayles, 1999: 57.

The legacy of cybernetics, in terms of the power and significance of the computational metaphor, can be grasped with the help of two related concepts - Edwards's "cyborg discourse" and Hayles's "condition of virtuality." As Edwards argues, cyberneticians together with scientists heavily influenced by cybernetics created disciplines in which distinctions between the human mind and the computer were progressively blurred. So even though enthusiasm for cybernetics waned toward the end of the Macy conferences in the 1950s, its conflation of human and machine found new homes in the twin sciences of cognitive psychology and artificial intelligence (AI). In the former, Edwards writes, psychologists fully rejected behaviorism's insistence on studying only observable behavior, and instead offered models of the mind as an information-processing machine, with the computer eventually becoming the central metaphor.⁴⁴ In the latter, scientists looked to exploit the potential of computers as general symbolic processors (rather than just powerful calculators) to create high-level programming languages and eventually mimic human intelligence, as in the imitation game famously proposed by Alan Turing in one of the founding texts of AI, "Computing Machinery and Intelligence."⁴⁵ Edwards also notes that AI differed from cybernetics in a key respect: where cybernetic models of the brain centered around learning through interaction with the environment, early AI looked to create a model of formalized knowledge, and thus "rejected a model of mind as inherently embodied."⁴⁶ Together, cognitivism and AI created a situation in which "[p]sychology, cognitive simulation, and artificial intelligence seemed increasingly to be parts of a single whole, united through the abstraction of symbolic processing," thus envisioning the human as a cyborg subject.⁴⁷ Cyborg discourse, Edwards argues, is now found just as easily in everyday contexts, and is "primarily concerned with the psychological and cultural changes in self-imagining brought on by the computer metaphor."⁴⁸ Closely related to cyborg discourse is what Hayles calls "the condition of virtuality," or "the cultural perception that information and materiality are conceptually distinct and that information is in some sense more essential, more important, and more fundamental than materiality."⁴⁹ For Hayles, this includes the extreme beliefs that the universe is a computer (cellular automata theory) and that one day the human mind will be downloadable like data to computer memory, but it also offers distinct insight

⁴⁴ Edwards, 1996: 236.

⁴⁵ Turing, Alan. 1950. "Computing Machinery and Intelligence." *Mind*, 59: 433-460.

⁴⁶ *ibid.*

⁴⁷ Edwards, 1996: 255.

⁴⁸ *ibid.*: 21.

⁴⁹ Hayles, 1999: 18.

into how the notion of the virtual became so powerful in the 1990s - when information is perceived as more important than materiality, then it is not a stretch to privilege identities, communities and worlds made of bits over their material counterparts. Similar to Edwards's account, she traces the grounds for this widespread assumption to cybernetics and cybernetics-inspired thought. And like the cyborg discourse, the condition of virtuality produces a powerful vision of subjectivity, which Hayles calls the posthuman, in which the line between organic matter and intelligent machine is unclear.⁵⁰

For Edwards and Hayles, the computational metaphor is intimately tied to its military origins and contemporary modes of power. Computing technology developed in "mutual orientation" with military strategy - as the Cold War fueled the funding of research into computing and its applications, information technology also helped shape military strategy, with one striking example being the pursuit of an "electronic battlefield," which suggested a clean, contained form of warfare and the exclusion of casualties (at least for one side).⁵¹ The same kind of relationship existed between military strategy and the sciences that fostered the use of computational metaphors to describe the human subject: cybernetics, artificial intelligence and cognitive psychology were to various degrees born out of military concerns.⁵² Hayles agrees that virtuality is in many respects a legacy of Cold War research, and writes that:

In other circumstances, [information theory] might have become a dead end, a victim of its own excessive formalization and decontextualization. But not in the post-World War II era. The time was ripe for theories that reified information into a free-floating, decontextualized, quantifiable entity that could serve as the master key unlocking secrets of life and death.⁵³

Although the authors describe how the expansion of the computational metaphor was attractive to those committed to the military and political goals of the U.S. during and after World War II, what is not addressed is how, in the 1990s, information technology (and with it the computational metaphor) had become linked to visions of individual freedom and a rejection of bureaucratic and hierarchical forms of organization. For many working in and around the computer and new media industries in the 1990s, networked computing seemed to promise progressive social and political

⁵⁰ *ibid.*

⁵¹ Edwards, 1996: 81-81; Hayles, 1999: 142.

⁵² Edwards, 1996. For example, in his discussion of the development of cognitivism at Harvard's Psycho-Acoustic Laboratory, Edwards emphasizes the "socially constructed character of scientific theory" and its entanglements with the needs of war: "Social networks developed to solve the war's practical problems helped convey new ideas, such as those of cybernetics and information theory, among disciplines. Engineering projects founded in wartime technological strategies channeled experimentation in particular directions, forced psychologists to face the implications of their theories for design, and led them into finely detailed studies of relationships between people and machines" (*ibid.*: 236).

⁵³ Hayles, 1999: 19.

change alongside unlimited economic growth. Drawing on the work of Fred Turner and others, the following section shows that such a utopian vision was not a sudden transformation in the cultural meaning of computing, but rather the outcome of an important twist in the history of cybernetics sketched so far, one that follows the adoption of the ideas and practices of cybernetics researchers by members of the Bay Area counterculture, and corresponding re-conceptualization of the relation between computers, self and society. As Galison writes, the cultural meaning of concepts and practices are never simply dissolved or exchanged for others, and what is of interest “is not the mere identification of associations, but the cultural historical account of their assembly, persistence, and deconstruction.”⁵⁴

1.2 Reversing the cultural meanings of computing, or “Counterculture, 2.0”

By the 1990s, many of the technologies and concepts that developed in cybernetics research and military contexts had become associated with progressive values, often with connotations that recalled the bohemian lifestyle of the 1960s counterculture. As microprocessors enabled computing to expand beyond the workplace and into the home, the pc began to be popularly portrayed as a force against bureaucracy and hierarchy, as clearly seen in the famous *1984* advertisement (by *Blade Runner* director Ridley Scott) that aligned Apple users with a flamboyant rebel disrupting a grey, Orwellian society. Arguably no more than an attempt to separate Apple’s brand from competitors like IBM, the advertisement nonetheless vividly narrates a break from the old cultural meanings of computing with rationalism and soulless state and corporate administration.⁵⁵ By 1993, new technologies like Virtual Reality (VR) and the World Wide Web were explicitly attached to a revival of 1960s countercultural lifestyle: Time magazine’s “Cyberpunk” issue (from February of that year) depicted a virtual reality user with and headline “*Virtual Sex, Smart Drugs and Synthetic Rock ‘n Roll.*” The cultural perception of computing, it appeared, had fully reversed.

In the wake of such depictions of new media as embodiments of countercultural values and lifestyle, a number of commentators and critics began noting the strong material and ideological connections among the hippies of the 1960s and the increasingly influential group of bay-area technology entrepreneurs and thinkers behind initiatives such as the TED conferences, the bulletin-board system the WELL (an acronym for the Whole Earth ‘Lectronic Link) and Wired. Howard Rheingold, introducing the WELL as a prototypical virtual community, pointed out that its “core

⁵⁴ Galison, 1994: 265.

⁵⁵ Lubar, 1992.

population,” including the founders, had come of age in the 1960s.⁵⁶ The persons most responsible for the success and influence of the bulletin board system were recognizable as a “computerized counterculture,” and included “the granola-eating utopians, the solar-power enthusiasts, the space station crowd, immortalists, futurists, gadgeteers, commune graduates, environmentalists [and] social activists” that had led a previous cultural revolution, and were now poised to do so again.⁵⁷ Other important subcultures on the WELL, Rheingold wrote, included entrepreneurial hackers such as Mitch Kapor, and a large group of Grateful Dead followers.⁵⁸ There was a similar mix of countercultural and subcultural figures present in the pages of the Berkeley-based, “avant-garde” technoculture magazine *Mondo 2000*, which began publishing in 1989. Its first issue, for instance, included a feature on countercultural icons Timothy Leary and William S. Burroughs alongside an interview with Free Software activist Richard Stallman. As *Wired* would do in a different tone later on, *Mondo 2000* wove together technological concepts and themes with those from art and popular culture to the point that, for instance, it was common sense to conflate hacking and sampling in rap music as similar methods performed on different objects (see the analysis of *Mondo 2000* in chapter 2).

The combination of countercultural ideas and values with seemingly unrestrained enthusiasm for computing technology also became an object of scholarly study and critique. Vivian Sobchack took aim at *Mondo 2000*, arguing that the fascination with a disembodied virtuality was ultimately a form of escaping the problems of the real world.⁵⁹ Similar criticisms were aimed at *Wired*: Langdon Winner wrote that it was an example of “cyber-libertarianism,” showing a “consistent disregard of social questions [other than] individual privacy and data security,” and even in those exceptional cases a lack of “any sense of responsibility to local, national or global communities.”⁶⁰ Another characterization that stuck was the “Californian Ideology,” from the essay of the same name by Richard Barbrook and Andy Cameron.⁶¹ There, the authors sought to put on display the distance between the rhetoric of “digital utopia” and the economic and social realities it actively disregards. Despite the gloss of the hippies’ cultural style and progressive values, Barbrook and Cameron wrote, the Californian ideology actually ignores the accompanying politics of the

⁵⁶ Rheingold, 1993: 48.

⁵⁷ *ibid.*

⁵⁸ *ibid.*

⁵⁹ Sobchack, Vivian. 1994. “Reading *Mondo 2000*.” In *Flame Wars: The Discourse of Cyberculture*, ed. Mark Dery. Durham, Duke University Press: 11–28.

⁶⁰ Winner, Langdon. 1995. “Peter Pan in Cyberspace: *Wired* Magazine’s Political Vision.” *Educom Review* 30 (3) (June). <http://net.educause.edu/apps/er/review/reviewArticles/30318.html>.

⁶¹ Barbrook, Richard, and Andy Cameron. 1996. “The Californian Ideology.” *Science as Culture* 26 (6): 1.

New Left. It replaces a commitment to social justice with a blind faith in markets driven by self-interest and devoid of government regulation. For Barbrook and Cameron, this contradicts the actual historical conditions underlying the so-called 'digital revolution' - from the U.S. Defense Department contracts that funded the projects that would eventually lead to the public Internet to the likely persistence of a digital divide without state intervention.

As Fred Turner has shown in *From Counterculture to Cyberculture*, however, the presence of 1960s values in 1990s cyberculture should not be understood simply as the pursuit of countercultural ideals by technological means, as Rheingold suggested, nor a co-optation of those ideals for the benefit of what Barbrook and Cameron called the "virtual class".⁶² Instead, Turner chronicles a series of historical ties between the ideas, practices and technologies that originated with Norbert Wiener and other cybernetics researchers in the 1940s and 1950s, and a faction of the counterculture - who Turner calls the New Communalists and distinguishes from the New Left - who embraced technology as a means to achieve personal fulfillment and social cohesion outside of the traditional institutions and perceived constraints of mainstream society. Where the New Left, in the form of groups like the Students for a Democratic Society, used established methods of oppositional politics to advocate civil rights and protest the Vietnam War, the New Communalists turned "inward" and advocated a general rejection of social order and set out "to build self-sufficient retreats in which they might rediscover what they imagined to be pre-industrial forms of intimacy and egalitarian rule."⁶³ Some of the resources they drew on to plan and maintain such neo-tribal communes, though, were clearly products of the military and industry-driven society they hoped to leave behind: significantly, these included the theories of Wiener, Gregory Bateson and others who analyzed physical and social phenomena as systems of communication. If cybernetics and the computational metaphor offered a way of modeling the world in terms of the exchange of information among heterogeneous entities - that is, as "nodes of communication [that] interact by the exchange of orders or commands," and the maintenance of equilibrium or homeostasis through feedback - did it not also provide a means for constructing the world differently?⁶⁴ In addition to borrowing these concepts, the forms of non-hierarchical organization and non-bureaucratic collaboration pursued by the New Communalists echoed the interdisciplinary research practices and

⁶² Turner, 2006; Barbrook and Cameron, 1996.

⁶³ Turner, 2006: 37.

⁶⁴ Galison, 1994: 255; Turner 2006. The idea that the science of cybernetics would be deployed not only to understand the world but also to influence originated with the cyberneticists themselves. Norbert Wiener distinguished between messages sent to explore the universe and those sent to control it - what he called the indicative and imperative "moods" of cybernetics (quoted in Galison, 1994: 256).

attitudes of many of those who led cybernetics and cybernetics-related research.⁶⁵ What appeared to be a strange and sudden marriage of technology and countercultural values in the 1990s was in fact the outcome of an intricate history that stretched back to the ideas and practices of cybernetics researchers in the 1940s and 1950s, and their subsequent adoption and adaptation by the communalist strand of the 1960s counterculture.

For the New Communalists, the computational metaphor became a key resource for articulating communal alternatives to mainstream society. Turner attributes this process largely to the actions of Stewart Brand and others who founded the various “network forums” - most notably, the *Whole Earth Catalog*, published quarterly from 1968 - in which cybernetics theory and small-scale information technology were portrayed as means to achieving autonomy, and were given a cultural legitimacy not found in their ostensibly grey, bureaucratic origins.⁶⁶ Brand’s efforts brought together diverse groups of artists, hippies, scientists and computer professionals and, Turner argues, made it possible for them to see each other’s activities as consistent with their own. From the influential New York art group USCO to Ken Kesey’s Merry Pranksters, Brand was involved in a number of avant-garde projects that, in various ways, aligned artistic practice and the countercultural ideal of harmonious cohabitation to cybernetics, systems-theory and technology (from USCO’s theorization of art as a collaborative, interactive system to the Prankster’s use of LSD). Within these contexts Brand was exposed to the ideas of Wiener, Buckminster Fuller and Marshall McLuhan, and began to envision an approach to communal living that would draw on cybernetics and cybernetics-inspired approaches to ecology so as to understand communities as systems of interlocking parts that influenced one another through communication and feedback - that is, as “whole systems.”⁶⁷

The appropriation of cybernetics thinking and the computational metaphor by Brand and others may be seen as part of a larger Whole Earth project, which combined the technological optimism of high modernism with the “pastoralism,” or longing “to withdraw to a simpler environment ‘closer to nature,’” that became associated with the counterculture and the New Left in the 1960s.⁶⁸ In 1968, Brand began publishing the *Whole Earth Catalog*, intended for those

⁶⁵ In a reference to Edwards’s (1996) analysis of computing as part of the “closed world” discourse in Cold War politics, Turner calls the ad-hoc, interdisciplinary research style that was at the base of advances in cybernetics the “forgotten openness of the closed world” (2006: p. 16).

⁶⁶ Turner, 2006.

⁶⁷ *ibid*: 41-68.

⁶⁸ Marx, Leo. 1988. *The Pilot and the Passenger: Essays on Literature, Technology, and Culture in the United States*. Oxford, Oxford University Press: 291-314.

interested, to lesser and greater degrees, in the lifestyle pursued by the back-to-the-land movement and at communes like Drop City. Subtitled “access to tools,” the catalog was a guide to products as diverse as maps, garden tools, metalworking equipment and tabletop calculators. These tools seemed to offer autonomy, and represented what Jodi Dean has summarized as “a frontier fantasy of do-it-yourself American freedom.”⁶⁹ They were also symbols of the New Communalists’ desire to use technology to revive a pre-industrial connection to the natural world - a vision epitomized by Fuller’s “less is more” design for the geodesic dome. They thus also represented an attempt to appropriate tools and concepts from products of mainstream society and give them new meanings against the grain of their origins, a process of which the catalog seemed to provide an overview. The position of the New Communalists and the Catalog in relation to mainstream society was epitomized by the figure of the Comprehensive Designer, the ideal subject of the ecology movement proposed by Buckminster Fuller:

Constantly poring over the population surveys, resource analyses, and technical reports produced by states and industries, but never letting himself become a full-time employee of any of these, the Comprehensive Designer would finally see what the bureaucrat could not: the whole picture [...] the Comprehensive designer would be intellectually and emotionally whole. Neither engineer nor artist, but always both simultaneously, he would achieve psychological integration even while working with the products of technocracy.⁷⁰

Fuller’s designer and the Whole Earth Catalog’s “users” would survey the products of bureaucratic, technocratic America, observing and internalizing the field in order to achieve an overarching vision. What is significant in Turner’s argument, though, is that the very same “intellectual frameworks and social ideals” the New Communalists promoted were extensions of those developed in cybernetics and related disciplines during and after World War II, where, for example, an interdisciplinary outlook similar to that of the Comprehensive Designer had been championed by the likes of Norbert Wiener and had a significant influence on the post-war social and behavioral sciences, not least through the Macy conferences.⁷¹

After experiments in communal living faltered in the 1970s, however, Brand and others began to retreat from the idea that a non-hierarchical, cybernetic alternative to society could be created from scratch, and instead began to consider the ways that the dominant institutions in society might be altered from within. Although cybernetics and the computational metaphor

⁶⁹ Dean, Jodi. 2010. *Blog Theory: Feedback and Capture in the Circuits of Drive*. Cambridge, Polity: 20.

⁷⁰ Turner, 2006: 56-7.

⁷¹ *ibid*: 57-58. For further discussion of the interdisciplinary style of work that marked the development of cybernetics, see Heims, 1991 and Galison, 1994.

continued to play a central role, this was a turn away from “self-sufficiency” and towards “coevolution” with mainstream society - the idea that, as systems of information and feedback, the institutions of mainstream society might be altered from within.⁷² In 1987, Brand co-founded the Global Business Network, a consultancy group that organized corporate workshops on scenario-planning and complexity theory, and drew on the groups of journalists, researchers, science-fiction authors and technology experts that populated the WELL. The New Communalists’ belief in the ability of technology to correct society’s ills and their strong anti-bureaucratic sentiment had been coupled to a new sense that the corporation could be a site of positive social change.⁷³ In doing so, the Whole Earth network was not so much being co-opted by capital as continuing down the path of the New Communalists by rejecting political struggle as a means of bringing about change, and embracing technology, systems thinking and an anti-bureaucratic, libertarian outlook in its place.

In sum, the Whole Earth network helped transform the meaning of information technology, establishing a context in which it made sense to think of computers as intimate tools that completed or extended the self and enabled forms organic, non-hierarchical community (as opposed to instruments of control). Nowhere was this more apparent than in the positive connotations given to the conflation of the human and information technology. Cyborg or posthuman subjectivity was argued to be a form of freedom, not control. Concluding his McLuhan-esque speculations on the positive transformations individuals and societies would undergo as bits gained mastery over atoms, Nicholas Negroponte wrote that “more than anything, my optimism comes from the empowering nature of being digital. The access, the mobility, and the ability to effect change are what will make the future so different from the present.”⁷⁴

Given this trajectory of the computational metaphor - from the laboratories in which enemy pilots were imagined as servomechanisms, to blurred boundaries between humans and machines, and between the mind and the computer, and from there the embrace of cybernetics by the New Communalists - the seeming contradiction of cyberculture’s conflation of information technology with countercultural values makes more sense. Likewise, it explains how, in the 1990s, systems-thinking more generally became linked to visions of social, political and economic liberty. The belief in a technologically-enabled organic wholeness was not new, as Turner writes, since the history of the Whole Earth network shows that “information networks and social networks,

⁷² Turner, 2006: 118.

⁷³ *ibid*: 176.

⁷⁴ Negroponte, 1995: 231.

biological systems and economic systems [...] had all been ‘one,’ so to speak, for some time.”⁷⁵ As I’ll show in the next section, the principal features of cyberculture and a corresponding articulation of new media as exceptional depended on these equivalences between technological and biological systems.

1.3 Cyberculture and new media exceptionalism

Having reviewed the computational metaphor’s origins in wartime science and its adoption by the New Communalists, here I discuss how it featured in articulations of new media as exceptional in the senses I use in this dissertation - that is, as the displacement of prior media and as exhibiting unique characteristics - during the 1990s. Within cyberculture, I argue, new media were considered exceptional because they were perceived to conflate nature and technology, much like cybernetics had made it possible to blur the distinctions between human and machine. These confluences were largely considered positive, as they were assumed to enable the kinds of individual liberty, collaborative spirit and collective harmony sought by the New Communalists. New media, especially the internet and the web, appeared to overthrow matter at the same time they produced a purer or more organic state. Here I discuss this dynamic in relation to the central concept in cyberculture - cyberspace - while also giving attention to how such rhetoric was inscribed in cybercultural technology and practice.

As mentioned above, cyberspace originated in science fiction, and initially denoted the kind of 3-D environments one inhabits through the motion sensing and visualization technologies of virtual reality. In 1990, the definition expanded when John Perry Barlow used the term to describe online forums like the WELL. Barlow gave it the further association of a frontier - home to the occasional outlaw but ultimately a breeding place for new kinds of freedom.⁷⁶ The concept soon entered popular culture, helped along by its adoption in influential independent publications like the *Whole Earth Review* and *Mondo 2000*, and by the mid-1990s was a buzzword for describing the internet and the web. This choice was curious, however, since cyberspace does a very poor job of explaining what the World Wide Web or the internet is - it’s non-sensical, for instance, to think of it as a space in, of or for cybernetics.⁷⁷ Instead, its success is in describing what is essentially a fantasy: a space that enables the radical transformation through technology assumed in

⁷⁵ Turner, 2006: 216.

⁷⁶ Barlow, John Perry. 1990b. “Crime and Puzzlement.” *Electronic Frontier Foundation*. http://w2.eff.org/Misc/Publications/John_Perry_Barlow/HTML/crime_and_puzzlement_1.html.

⁷⁷ Chun, 2006: 39-40.

cybercultural discourse, as well as the space in which that transformation takes place. Its success, as Chun argues, was due to its connotation of freedom:

Cyberspace, as a virtual nonplace, made the Internet so much more than a network of networks: it became a place in which things happened, in which users' actions separated from their bodies, and in which local standards became impossible to determine. It thus freed users from their bodies and their locations.⁷⁸

The most widely cited description of the freedom supposedly inherent in cyberspace is Barlow's "A Declaration of the Independence of Cyberspace." Barlow's lofty, melodramatic prose argues against censorship, simultaneously recasting Gibson's notion of cyberspace as a solution to 20th Century problems, including arbitrary abuses of power and discrimination according to class or race:

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.

[...]

Cyberspace consists of transactions, relationships, and thought itself, arrayed like a standing wave in the web of our communications. Ours is a world that is both everywhere and nowhere, but it is not where bodies live. We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth. We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity. Your legal concepts of property, expression, identity, movement, and context do not apply to us. They are all based on matter, and there is no matter here.⁷⁹

The belief that new technologies represented the overthrow of matter, and that this entailed new freedoms, was also central to rhetoric surrounding the new economy, the idea (as promoted by Kevin Kelly and others) that new technologies were unsettling the nature of enterprise. In *Out of Control*, Kelly had described how computers were helping to create forms of collective intelligence and decentralized organization - symbolized by the hive mind and the swarm - that followed a "biologic" and would replace rigid hierarchy with the new nature of engineered, organic complexity.⁸⁰ In a follow-up manifesto called *New Rules for the New Economy*, published at the height of the dot.com bubble in 1999, he used another expression of the computational metaphor to paint a picture of processes of production, distribution and consumption being driven not by the constraints of materiality but by the unfettered circulation of abstract, free-floating information: "the principles

⁷⁸ Chun, 2006: 37-38.

⁷⁹ Barlow, 1996.

⁸⁰ Kelly, 1994: 1.

governing the world of the soft - the world of intangibles, of media, of software, and of services - will soon command the world of the hard - the world of reality, of atoms, of objects, of steel and oil, and the hard work done by the sweat of brows.”⁸¹ In this new environment marked by such reversals as increasing returns, abundance rather than scarcity and permanent flux, the new enterprise would have to obey the logic of software, networks and information - and by extension the logic of swarms - in order to succeed.

The ontology that cyberculture implied - the separation between the real and the virtual, and the organic forms that would arise as a result of new technology - was central to how ‘life in cyberspace’ would be understood. In the case of virtual communities, for instance, communication networks were described as a space for cultural forms that were both previously unimaginable and seemed to recall lost notions of belonging. Howard Rheingold wrote that the technologies that enabled virtual communities - provided they were protected from the extremes of state and corporate control - had the potential to “revitalize the public sphere.”⁸² Communication among peers in cyberspace would be an alternative to the corrupted public sphere offered by top-down, corporate mass media. The success of the WELL and the appearance of other virtual communities, for Rheingold, suggested a “hunger for community [...] as more and more informal public spaces disappear from our real lives.”⁸³

As with Barlow’s cyberspace and Kelly’s new economy, Rheingold’s descriptions of virtual community paradoxically equated the denial of matter with new states of nature. Recalling the cybernetic vision that drew equivalences among a variety of technological, biological and social systems, Rheingold theorized the natural order of cyberspace, the Net and virtual communities with the analogy of the petri dish:

Although spatial imagery and a sense of place help convey the experience of dwelling in a virtual community, biological imagery is often more appropriate to describe the way cyberculture changes. In terms of the way the whole system is propagating and evolving, think of cyberspace as a social petri dish, the Net as the agar medium, and virtual communities, in all their diversity, as the colonies of microorganisms that grow in petri dishes. Each of the small colonies of microorganisms--the communities on the Net--is a social experiment that nobody planned but that is happening nevertheless.⁸⁴

⁸¹ Kelly, 1999: 2.

⁸² Rheingold, 1993: 14.

⁸³ *ibid*: 6.

⁸⁴ Rheingold, 1993: 5-6.

Virtual communities, in this way, were emergent, self-organizing phenomena that were evolved rather than centrally planned. The conflation of technology and nature not only supported the vision of a harmonious, non-hierarchical community, it also gave the impression that such an outcome was unavoidable: based on ten years of direct observation, Rheingold wrote, he found that people with access to such decentralized communication networks “inevitably build virtual communities [...] just as microorganisms inevitably create colonies.”⁸⁵ For commentators like Rheingold, virtual community did not only confirm the exceptional status of computer-mediated communication, it showed how the nature of new technology was aligned with a natural human desire for community.

In addition to the grand proclamations of the effects of new media by Barlow and Kelly, and the descriptions of life on the WELL by Rheingold, cyberculture’s exceptionalism was arguably inscribed in cybercultural technology and practice. It was one thing to say cyberspace would remove constraints on community and identity, it was another to build networks and websites specifically geared toward the seeming utopia of disembodied interaction. As Sherry Turkle described in her 1995 book *Life on the Screen*, many popular applications at the time - including BBSs, online role-playing games, chat rooms and homepages - encouraged identity play and, in doing so, facilitated and reflected new understandings of identity as constructed, decentered and multiple. As in the famous New Yorker cartoon captioned “On the internet, nobody knows you’re a dog,” anonymity made it possible to substitute one’s identity for another.⁸⁶ In particular, text-based virtual worlds were a space of experimentation, where users created fantastical characters that often subverted the traditional markers of identity like gender, race, ethnicity and sexuality.⁸⁷ In addition to instances of separate selves, other practices and technologies were linked to identity becoming visible as “multiple but integrated,” most notably one of the key forms of virtual identity on the web, the homepage:

If we take the home page as a real estate metaphor for the self, its decor is postmodern. Its different rooms with different styles are located on computers all over the world. But through one’s efforts, they are brought together to be of a piece.⁸⁸

Notions of virtual identity and community continued to inform the design of early web sites and services, from notorious spaces of identity play (including the anonymous chat rooms of “Bianca’s

⁸⁵ *ibid*: 6.

⁸⁶ Steiner, Peter. 1993. “On the Internet, Nobody Knows You’re a Dog.” *The New Yorker* (July 5): 61.

⁸⁷ In addition to Turkle’s descriptions, see Dibbell, 1998.

⁸⁸ Turkle, 1995: 259.

Smut Shack”) to the massively popular Geocities, or “your home on the web.”⁸⁹ Members of the latter were called Geocitizens and “homesteaders” - recalling the ideals of Rheingold’s book *Virtual Community: Homesteading on the Electronic Frontier* - and were invited to create the kinds of personal home pages described by Turkle. Geocities, as the name itself implies, employed a heavy dose of spatial metaphors to emphasize that physical location was no longer important. Homepages were given a numbered address within the appropriate topical “neighborhood.” Confusingly, these were sometimes named after real places (“SiliconValley” for pages about technology) and sometimes not (“TelevisionCity” for Television). By emphasizing the separation of one’s physical home and one’s home on the web, Geocities and other early web spaces were aligned in subtle and not-so-subtle ways with the sense that the web was cyberspace, a frictionless space without physical and cultural constraints on identity and community. As one of Turkle’s respondents put it, why privilege the real world when the internet turned it into “just one more window.”⁹⁰

Cybercultural rupture talk has often been critiqued for how it obscures continuity - for example, by downplaying the strong offline bonds needed to support ostensibly “virtual” community.⁹¹ Significantly, however, rupture talk was also a source of historical continuity, in that it was grounded in and extended the computational metaphor. Cybercultural freedom implied a number of dislocations - removing the body, geography and history from cyberspace - in order to promise progressive configurations of identity, community and sociality.⁹² This formula was made possible by the computational metaphor, positing that breaking communication down to bits is not a form of reduction but a purification. As Turkle’s work shows, such notions of rupture were not just rhetoric, but their implied ontology (epitomized by the separation between real and virtual life) was inscribed in the technologies and practices of cyberculture. At the same time, though, these notions were less a description of a radically new environment created by computers and the internet than they were products of the complex, intersecting histories of cybernetics, the counterculture and the computational metaphor. As Turner writes of Rheingold’s *Virtual Community*, cyberculture

⁸⁹ See the archived pages for <http://bianca.com> and <http://www.geocities.com>, available via the Internet Archive’s Wayback Machine (<http://www.archive.org>). On Bianca’s Smut Shack, for which many archived pages are unavailable, see also Pritchard, Mark. 2001. “The World’s Biggest Online Sex Party.” *SF Gate*. Accessible via the Wayback Machine: <http://web.archive.org/web/20030217095936/http://www.sfgate.com/cgi-bin/article.cgi?file=/gate/archive/2001/03/22/bianca.DTL>.

⁹⁰ Turkle, 1995: 14.

⁹¹ Turner, 2006: 161.

⁹² Although, as critics Richard Barbrook and Andy Cameron point out, the notion of freedom underlying the universalist rhetoric of cyberculture is a product of the Bay Area in which it developed, revealing a libertarian focus on rights rather than duties. Alan Liu adds that it is primarily a freedom derived from negations: freedom from government, and freedom from big business - by invoking Jeffersonian democracy (as in Barlow’s “Declaration of Independence”), cyberlibertarian freedom is a matter of subtracting “latter-day notions of ‘America’ to reveal supposedly original values.” See Barbrook and Cameron, 1996; Liu, 2004: 244.

reflected both an extension and transformation of the New Communalists' desire to use technology to regain notions of community and connections with the natural world and that technology itself had destroyed.⁹³ With cyberspace and the virtual community, technology was not simply a tool, but an end in itself - the fantasies of cyberspace as a "home of Mind," the virtual community as an alternative, ideal public sphere and virtual identity as the "multiple but integrated" self were part of a larger hope in cyberculture, that information networks would produce "an all-inclusive, collaborative, emotionally and materially sustaining world."⁹⁴ Looking ahead, it is the form of this exceptionalism - as a complex interaction between rupture talk, metaphor, cultural and historical context, and innovations in practice and technology - that will be the focus of much of this dissertation.

1.4 "Why would the web be any different?" The computational metaphor after cyberculture

In the mid-1990s, the web was considered exceptional to the extent that it realized the transformations proclaimed in utopian narratives of cyberculture. Its exceptional nature, or lack of it, was tied to its ability to deliver on the promise of a more fulfilling, virtual existence in cyberspace, and that of unrestrained enterprise and innovation in the new economy. As shown in this chapter, these ideas should be understood as outcomes of a history in which countercultural and libertarian values became linked with the computational metaphor. As Fred Turner argues, Stewart Brand and the New Communalists rejected conventional forms of politics, and instead applied systems-thinking to communes they hoped would provide alternative models of society. In doing so, they adopted the cybernetic vision in which biology, technology and society were conflated as systems of communication and feedback. They also embraced small-scale technologies and helped change the cultural meaning of computing and the computational metaphor from expressions of bureaucracy and control to intimate tools of individual empowerment, non-hierarchical organization and a reconnection to the land - a neo-tribalism that paradoxically incorporated the concepts, techniques and tools of the institutions it sought to leave behind. Brand and others in the Whole Earth Network would go on to help establish the key forums of cyberculture, as the cybernetic assumption of information's mastery over matter, or what Hayles calls the condition of virtuality, reached new heights with the promise of radical social and economic change through the expansion of cyberspace.

⁹³ Turner, 2006: 160.

⁹⁴ Turner, 2006: 160.

By 1997, though, cyberculture seemed headed for a backlash. At a time when the number of internet users was estimated at 70 million - less than 0.2% of today's number - Edward Rothstein wrote in a New York Times column that the appeal of cyberspace was declining. Citing the high-water mark of "Cyborg-Millennium" - a clothing company whose key selling point was an embroidered URL on all of its apparel - Rothstein argued that while magazines like Wired had turned the web into a status symbol, such enthusiasm would wane. He suggested that the medium's "coolness" was rooted in the "utopian promises of cyberculture," but that these "have been seeming even more strained and artificial of late. Most of us know already not to expect massive revolutions in consciousness with the expansion of cyberspace, just changes in the ways in which we do things."⁹⁵ More and more, he went on, the web is simply being absorbed into the existing media environment. Bringing cyberspace back down to earth was a natural step, since like any other technology, it would become ubiquitous, and both its in-crowd appeal and revolutionary promise would subside. As Rothstein put it, "why would the web be any different?"⁹⁶ The assumption was that, as hype died down, more sober understandings of the web and its significance would prevail. I would argue that Rothstein was right and wrong: the utopian rhetoric of cyberculture and the special status of cyberspace have indeed declined, but unrealistic expectations surrounding the web continue to be formulated, and some of these are, like cyberspace, rooted in the computational metaphor.

Table 2: The decline of "cyberspace" in Wired

Year	Number of Wired magazine articles mentioning "cyberspace."
1993	20
1994	51
1995	49
1996	44
1997	46
1998	23
1999	12
2000	15

⁹⁵ Rothstein, 1997.

⁹⁶ *ibid.*

2001	4
2002	6
2003	5
2004	1
2005	2
2006	4

On the one hand, cybercultural utopianism and cyberspace have arguably been replaced by new understandings of the web’s significance and nature. Notably, Rothstein’s criticism of cyberappeal coincided with the beginning of a noticeable decline in mentions of cyberspace in *Wired*, as can be seen in table 2.⁹⁷ Given the magazine’s reputation as the primary source of cyberutopianism (in Rothstein’s estimation, but also more generally), this decline could reasonably be interpreted as the relative absence of utopianism around cyberspace beginning in the late 1990s. The symbolic death of cyberspace-as-utopia may also be seen, for example, in the use of IP-to-Geo-location technologies in internet censorship, giving lie to the notion of a borderless information space.⁹⁸ More often, though, accounts of how cyberculture got it wrong have been attached to celebrations of the web’s new identity, a move epitomized by the hype surrounding “Web 2.0” in the mid-2000s. Tim O’Reilly used the term to designate a new paradigm in web development, which focused less on providing a finished product, whether an application or publication, and more on providing a service that captured collective intelligence, turning user activity into valuable data.⁹⁹ O’Reilly cited Google’s collection and analysis of hyperlinks and Amazon’s recommendation features as early examples of this practice, and Flickr, del.icio.us, Wikipedia and blogging as newer examples of utilizing the “wisdom of crowds.”¹⁰⁰ Although O’Reilly also noted examples from other domains of web development, including advertising and e-commerce, it was this new group of websites devoted to user interactions with media that captured the imagination. According to Steven Levy and Brad Stone, these social media platforms and social network sites

⁹⁷ This data was gathered by querying the *Wired* magazine archives (<http://www.wired.com/wired/archive/>) in March 2013, using the Google Scraper (see <http://tools.digitalmethods.net/>). *Wired* published six issues in 1993 and monthly from January 1994. Because of how *Wired*’s archives are structured, data for after 2006 was not readily accessible; however, the trend in terms of cyberspace’s decline seems to be clear.

⁹⁸ Rogers, Richard. 2008. “Mapping Web Space with the Issuecrawler”. Unpublished ms. http://govcom.org/publications/full_list/rogers_politics_web_space_2008_pre.pdf.

⁹⁹ O’Reilly, 2005.

¹⁰⁰ *ibid.*

represented a different, more vital web experience than the “cyber-” 1990s:

Less than a decade ago, when we were first getting used to the idea of an Internet, people described the act of going online as venturing into some foreign realm called cyberspace. But that metaphor no longer applies. MySpace, Flickr and all the other newcomers aren't places to go, but things to do, ways to express yourself, means to connect with others and extend your own horizons. Cyberspace was somewhere else. The Web is where we live.¹⁰¹

Perhaps the clearest sign that cyberculture had been abandoned in favor of a participatory web came from *Wired* in 2005. In a special issue about the web and “10 years that changed the world” (beginning with Netscape’s IPO), Kevin Kelly wrote that “[w]e all missed the big story” - implying that the web’s significance had been lost on himself and others in the early 1990s.¹⁰² The web’s real promise, he wrote, was now being realized as blogging, Wikipedia and other innovations in web publishing challenged traditional content-producers. Although he discussed the impact of these developments in similar neo-biological terms to those he used in *Out of Control* (calling the web an emergent “hive mind”), the actual transformations Kelly described were not so much about economics or alternative forms of community as they were a disruption of flows of information and media. And unlike the separate realm of cyberspace, this was about the subsumption of all culture under the new collaborative logic of the web:

With the steady advance of new ways to share, the Web has embedded itself into every class, occupation, and region. Indeed, people's anxiety about the Internet being out of the mainstream seems quaint now. In part because of the ease of creation and dissemination, online culture is *the culture*.¹⁰³

By 2005, then, cyberculture had been replaced by the exceptional states of web 2.0 and participation - the sense, in Kelly’s piece, that online culture was “*the culture*,” and that the web offered unprecedented access to the production and dissemination of culture.

On the other hand, as much as these periodizations reveal important shifts in commercial web development, our everyday experience of the web, and perceptions of the web’s exceptional qualities, it is worth recalling the notion of rupture-talk and its relationship to continuity.¹⁰⁴ As a reductive view of history, rupture-talk may gloss over or obscure continuity, and in this sense there are clearly signs that some elements of cyberculture have survived into the web 2.0 era. The digital

¹⁰¹ Levy, Steven, and Brad Stone. 2006. “The New Wisdom of the Web.” *Newsweek*, April 3. <http://www.newsweek.com/id/45976>.

¹⁰² Kelly, 2005.

¹⁰³ *ibid.*

¹⁰⁴ See the discussion of rupture-talk in the introduction. It is worth noting, anecdotally, that the ‘rebirth’ of web 2.0 was accompanied by a sense of *deja vu*. For example, as captured in the Richter Scales’s 2007 music video “Here Comes Another Bubble.”

activists of Anonymous are often theorized in terms of the novelty of their amorphous organization or their relationship to conventional political engagement, but perhaps both their organization and the actions they choose to take could be more completely understood in terms of how they sustain the notion of the web as something like cyberspace - a sovereign information space that is or should be made free of any restrictions on speech.¹⁰⁵ Meanwhile, cyberspace remains a central concept in security discourses - seen for example in its prominence within the U.S. Department of Homeland Security or in security studies.¹⁰⁶ This use of cyberspace might be seen as evidence of the removal of its utopian connotations, but it also shows how closely this dream of disembodied freedom is linked to one of perfect control.¹⁰⁷ In a sense, it returns cyberspace to its origins in the computational metaphor as deployed in military-related research, a counterpart to the computer-driven “electronic battlefield” discussed by Edwards.

As I argue in more detail in the following chapters, the computational metaphor that underlies cyberculture and the notion of cyberspace has not so much been abandoned as it has taken on new forms within expressions of web exceptionalism. On the one hand, it can be seen in Slashdot’s efforts to create a highly-automated system of news and commentary aggregation and recommendation, described in chapter four; on the other, in the articulation of the formal and generic conventions of blogging in terms of informational and technological ideals (chapter five). For now, it is worth mentioning “the social graph” as a famous and telling example of how the computational metaphor appears in contemporary notions of the web’s significance. Derived from graph theory in mathematics (and as often applied in database design), a unified social graph would be a collection of interlinked data objects that would effectively provide a complete “map” of social relationships. Various standards for building the social graph have been proposed, and proponents argue that it would free consumers to move their information frictionlessly from one service to another while enabling developers to concentrate more energy on improving their products (rather than on convincing users to once again input their information).¹⁰⁸ From the perspective of marketers and others interested in demographics, the social graph offers a simple but powerful

¹⁰⁵ On Anonymous, see for example Coleman, Gabriella. 2011. “Anonymous — From the Lulz to Collective Action.” *The New Significance*. <http://www.thenewsignificance.com/2011/05/09/gabriella-coleman-anonymous-from-the-lulz-to-collective-action/>. For a related take on internet-based media activism, see Lievrouw, Leah. 2011. *Alternative and Activist New Media*. Cambridge: Polity.

¹⁰⁶ See e.g. “Cybersecurity.” 2013. *Homeland Security*. Accessed March 1. <http://www.dhs.gov/topic/cybersecurity>; another example is found in the program for a 2012 conference on cyberspace: “Budapest Conference on Cyberspace.” 2013. Accessed March 1. <http://www.cyberbudapest2012.hu/>.

¹⁰⁷ Chun, 2006.

¹⁰⁸ Fitzpatrick, 2007.

analytical tool - as Chun notes, the appeal of such graphs is grounded in the sense that they can reveal an invisible presence, such as hidden paths of influence or obscured relations of power.¹⁰⁹ Like cyberspace, the idea of a unified social graph relies on the computational metaphor, in that it articulates social and cultural phenomena as (essentially) discrete and quantifiable flows of information - and like cyberspace, it is an idea that is ultimately flawed because of this reduction.¹¹⁰ What is important, here, though, is not the limits of the graph, but how it ties new notions of the web as an exceptional medium to older ones, and how it suggests that such resonances with cyberculture are not just rhetorical: as the examples of Anonymous and the social graph suggest, the legacies of cyberculture and the computational metaphor are not only rhetorical, but, like cyberspace previously, are manifested in practices and technologies.

The genealogies of web exceptionalism I present in this dissertation engage with cyberculture and the computational metaphor in various ways, each of which challenges its definition as the culture of cyberspace or the widely-held notion that it was, at its core, a confused or hyperbolic reaction to new technology - an idea expressed in Rothstein's question, "why would the web be any different?" So far, I have argued against this notion by reviewing the lineage of cybercultural rupture-talk. In chapter 2, I turn to a case study of *Mondo 2000*, a magazine that now appears as dated as Cyborg-Millennium apparel but was once the epitome of cybercultural cool, to explore how cyberculture was tied to a particular media form, i.e. the cool tech-culture magazine that was its primary mode of delivery. By showing how cybercultural rupture-talk was connected conceptually to *Mondo's* ironic style and its self-conscious positioning between subculture and mainstream, I introduce something similar to the key dynamic that defines instances of web exceptionalism studied in the following chapters, namely the interplay between rupture-talk and web-native culture.

¹⁰⁹ Chun, Wendy Hui Kyong. 2011b. *Programmed Visions: Software and Memory*. Cambridge, MA, MIT Press: 69.

¹¹⁰ Ceglowski, Maciej. 2011. "The Social Graph Is Neither." *Pinboard Blog*. http://blog.pinboard.in/2011/11/the_social_graph_is_neither/.

2. Mondo 2000's new media cool, 1989–1993

To understand how it was possible for the web to be articulated as an exceptional medium when it surfaced in the 1990s - that is, as a medium that would displace its mass and mainstream predecessors while producing web-native culture - one must see the historical and conceptual ties between web exceptionalism and cyberculture. Normally defined as the culture of cyberspace, cyberculture is better understood as a utopian discourse surrounding new media and grounded in the computational metaphor, or the broad notion that social, psychological, biological and cultural phenomena are essentially systems of information exchange and feedback. In chapter 1, I discussed how an influential group of New Communalist hippies, journalists, technologists and entrepreneurs that Fred Turner calls the Whole Earth network appropriated these ideas from cybernetics, and helped shape the perception that computers were intimate, personal tools and a source of positive social, cultural, political and economic change. The New communalists' neo-tribalism and the computational metaphor coalesced in the notion of cyberspace, a space of pure information that would enable the return to more organic forms of government, enterprise, community and identity.

In this chapter, however, my aim is to show that a complete understanding of cyberculture must also account for the specific media form that characterized its most prominent expressions. As David Silver has noted, the “primary pulpit” for cybercultural thinkers in the early 1990s “was a new line of technozines -- glossy, visually-impairing magazines with names like Mondo 2000, boING boING, and Wired.”¹ Each of these was an independent tech-culture publication based in California, although ‘independent’ could range from boING boING’s (1988-1995) DIY aesthetic and peak circulation of 17,500 to Wired’s (1993-present) polished look and high-profile funding from the publisher Condé Nast.² Each was, as Silver suggests, a source of cybercultural utopianism, although there was clearly also a difference here: boING boING took delight in showcasing the weird and fantastic (one tagline was “brain candy for happy mutants”), with topics like futurism, science fiction and smart drugs; Mondo combined similar interests with pop-culture and cultural criticism; Wired, meanwhile, profiled the technologists, artists and entrepreneurs who were leading what it saw as a digital revolution in culture, economics and politics. Perhaps where these magazines overlapped most was a self-conscious “cool” that stood in stark contrast to conventional

¹ Silver, 2000.

² Walker, Rob. 2010. “Inside the Wild, Wacky, Profitable World of Boing Boing.” *Fast Company*. November 30. <http://www.fastcompany.com/1702167/inside-wild-wacky-profitable-world-boing-boing>; Wolf, 2003.

technology reporting. Even if they ranged from underground to mainstream in terms of audience and reporting, each magazine was marked by a subcultural attitude, an irreverence that mirrored the inherent subversiveness they ascribed to technology. Pushing boundaries in terms of their contrarianism, irony, self-deprecation and various other editorial and stylistic qualities, the magazines seemed to mark a relatively (if not entirely) cohesive media form.

How should cyberculture's cool be interpreted? One approach may be to understand the cybercultural magazines' play with formal conventions in line with that of other independent publications from the period - e.g. the *Spy*, *Might and Adbusters* - that, in various ways, satirized and critiqued the medium and media culture they operated in.³ While I think there is a case to be made for this, here I focus on the internal relations between cybercultural rupture-talk and this cool mode of delivery. How did cyberculture's radical futures relate to its formal features? To answer this question, I turn to *Mondo 2000* (1989-1998), which arguably marked the emergence of a popular cyberculture. With a peak circulation of 100,000 in 1993, it never reached the level of success *Wired* would have soon after it debuted that year.⁴ Still, with the national press attention it received, its best-selling 1992 compilation *A User's Guide to the New Edge* (hereafter *A User's Guide*), and the high-profile advertisers it began attracting after the first few issues, *Mondo* represented (what was portrayed as) the exposure of a subversive computing underground.⁵ But it also represented the transition from utopian techno-subculture to a more general excitement around newly prominent technologies like virtual reality and the internet. As science fiction writer William Gibson would later recollect, a February, 1993 *Time* magazine feature on *Mondo 2000* and cyberpunk seemed to mark a turning point. "Winding up on the cover of *Time* – what does that do? How alternative is something that makes the cover of *Time*?"⁶

Focusing on the period between *Mondo*'s first issue in 1989 to its peak in 1993, as well as drawing on a range of interviews and other secondary sources, in this chapter I argue that the magazine's cybercultural rupture-talk, its unique position (and self-positioning) as not-quite-

³ See for example Mark Dery's discussion of DIY media as culture jamming. Dery, Mark. 1993. "Culture Jamming: Hacking, Slashing and Sniping in the Empire of Signs." *Shovelware*. http://www.markdery.com/archives/books/culture_jamming/#000005#more.

⁴ Boulware, Jack. 1995. "Mondo 1995: Up and Down With the Next Millennium's First Magazine." *San Francisco Weekly*, October 11. <http://news.sfweekly.com/1995-10-11/news/mondo-1995/1>; *Wired*'s circulation at the end of 1993 was estimated at 100,000, the same number as *Mondo 2000*'s peak circulation that year. *Wired*'s subscription numbers would reach 300,000 by 1996. Wolf, 2003: 79, 205.

⁵ Elmer-Dewitt, Philip. 1993. "Cyberpunk!" *Time Magazine*, February 8. <http://www.time.com/time/magazine/article/0,9171,977654,00.html>.

⁶ Quoted in Lackerbauer, Simone, and R.U. Sirius. 2012. "William Gibson on MONDO 2000 & 90s Cyberculture (MONDO 2000 History Project Entry #16)." *ACCELER8OR*, May 20. <http://www.acceler8or.com/2012/05/william-gibson-on-mondo-2000-90s-cyberculture-mondo-2000-history-project-entry-16/>.

underground and not-quite-mainstream, and its cool style (ranging from irony to unconventional practices it called “irresponsible journalism”) must be seen together, and that assumptions underlying Mondo’s vision of the future were expressed in its formal and stylistic identity. The aim is to revisit Mondo in order to discover the links between its futurism, which scholars such as Tiziana Terranova and Mark Dery have described in terms of technology-enabled transcendence, and David Bell’s observation that, despite its talk of disembodiment and posthuman mutation, one can “read the Mondo 2000 New Edge subculture as primarily one of *aesthetic* modification, of adopting a cyberpunk *style*.”⁷ To do so, I first introduce Mondo’s rupture-talk, or the fast-arriving digitally-powered future it called “the New Edge,” and discuss how this has been critiqued and studied so far, focusing on early criticism from Vivian Sobchack and more recent work by anthropologist Dorien Zandbergen. Where Sobchack and Zandbergen primarily treat New Edge style in terms of its relation to Mondo’s politics and spiritualism, respectively, I build on the work of Alan Liu to argue that Mondo’s ironic, self-deprecating character was grounded in central New Edge assumptions about the changing conditions for (sub)cultural production. Liu’s analysis of “information cool” as an ethos or cultural sensibility native to post-industrial knowledge work provides a theoretical background against which I analyze the relationship between Mondo’s rupture-talk and its self-conscious style, or what I call its ‘new media cool.’ In connecting cybercultural discourse with a specific media form, I add to existing understandings of cyberculture while foreshadowing a similar dynamic in cases of web-related rupture-talk and web-native culture as discussed in the following chapters.

2.1 Techno-transcendence or Bad Attitude? Understanding Mondo’s cyberculture

From its first editorial, Mondo 2000 cultivated a split-personality: the magazine was at once futuristic and nostalgic, utopian and cynical, earnest and cool. Editor-publishers R.U. Sirius (the pseudonym for Ken Goffman) and Queen Mu (Allison Kennedy) set the tone with their first editorial, a somewhat farcical manifesto proclaiming an impending cybercultural utopia:

This magazine is about what to do until the *millenium* comes. We’re talking about Total Possibilities. Radical assaults on the limits of biology, gravity and time. The end of Artificial Scarcity. The dawn of a new humanism. High-jacking technology for personal empowerment, fun and games. Flexing those synapses! Stoking those neuropeptides! Making Bliss States our normal waking consciousness.

⁷ Bell, David. 2001. *An Introduction to Cybercultures*. London, Routledge: 178; Terranova, Tiziana. 2000. “Posthuman Unbounded: Artificial Evolution and High-Tech Subcultures.” In David Bell and Barbara M Kennedy, eds. *The Cybercultures Reader*. London, Routledge: 268-278; Dery, 1996.

*Becoming the Bionic Angel.*⁸

With this strange mix of spirituality and technology, the editorial both embraced and departed from cultural ancestors like New Age and the counterculture. Portraying Mondo as an instructive intermediary (a “Cyber-Chautauqua”), they argued the spirit of the 1960s was set to be revived by the fast-arriving technological revolution and a generation raised on MTV. Although the Woodstock crowds had long dispersed, “their mutated nucleotides have given us a whole new generation of sharpies, mutants and superbrights and in them we must put our faith - and power.”⁹ They went on, “The cybernet is in place. If fusion *is* real, we’ll find out about it fast. The old information elites are crumbling. The kids are at the controls.”¹⁰ Mondo’s rupture-talk would continue to follow this format, foretelling a future in which cyberpunks, hackers and other technologically-empowered cybercultural figures were shaping radical social and cultural change that somehow echoed countercultural and New Age values - a future the editors soon started calling the New Edge.

Where the knowingly over-the-top editorial established an outline for Mondo’s rupture-talk, the content of the New Edge would be fleshed out over the next few issues. There, Sirius and Mu brought together coverage of new technologies like hypertext software and commercial virtual reality technology with articles and interviews featuring cyberpunk science fiction writers, hackers, artists, musicians, fringe scientists, philosophers and smart drug experts, as well as countercultural icons like Timothy Leary and (cult) literary figures like Robert Anton Wilson and William S. Burroughs. The editors would formalize the range of topics with the 1992 compilation *A User’s Guide* (see figure 1).¹¹

Figure 1: New Edge ontology: Topics from A User’s Guide to the New Edge.

Aphrodisiacs	Appropriation	Artificial Life
Brain Implants	Chaos	Computer Graphics
Computer Industry	Crackers	Cyberpunk
Cyberpunk Science Fiction	Cyberspace	Deconstruction

⁸ Mu, Queen, and R.U. Sirius. 1989. “Editorial.” *Mondo 2000*, 1: 11.

⁹ *ibid.*

¹⁰ *ibid.*

¹¹ Sirius described the process of selecting the topics as follows: “We went through past issues of *Mondo 2000* and picked out some gems [...] We listed the themes that emerged, from A to Z - Aphrodisiacs to Zines. Then we asked ourselves if we’d covered all the categories that obsess the denizens of the New Edge - that is to say, our hip friends. Where we found something missing, we wrote a few paragraphs that would *naïl* the concept.” Sirius, 1992: 16.

DNA Music	Drugs	Electronic Freedom
Electronic Music	Evolutionary Mutations	Fashion
Fiber Optics	Fringe Science	Geek Humor
Hackers	Hip-Hop	House Music
Hyperreality	Hypertext	Industrial & Postindustrial Music & Art
Longevity	Marshall McLuhan	Me
The Meat	Media Pranks	Multimedia
Nanotechnology	The Net	Nomadness
Personal Computing	Politics	Psychedelic Drugs
Rants	Robots	Smart Drugs
Street Tech	Synaesthesia	Temporary Autonomous Zone
Transrealism	Virtual Reality	Virtual Sex
Virus	Wetware	Zines

Although eclectic, the list largely consists of technology and media-themed topics. Another organizing principle is that of transcending physical, psychological and socio-cultural limits through technology, broadly understood: from topics like smart drugs and evolutionary mutations to artificial life and transrealism (a concept coined by Rudy Rucker to denote a near-future capacity to perfectly record one's entire life to computer memory), the focus is on transgressions of what Mondo subjects liked to call "consensus reality."¹² As the term New Edge implies, Mondo's vision of the future was one in which the outer limits and fringes of science, technology and culture became central. The "edges" celebrated by Mondo included the liminal technologies of brain implants and virtual reality, the experimentation of drug culture and New Age forms of consciousness-expansion, underground cultures such as house music and 'zines, as well as a number of concepts that theorized such practice. Because they roughly outline the nature of change Mondo envisioned, this mix of technology, transcendence, media and subculture are indicators of what could be called, following Gabrielle Hecht, the ontology of Mondo's rupture-talk.

In addition to the themes of techno-transcendence and subversive technology and media,

¹² See for example Barlow, John Perry. 1990a. "Being in Nothingness." *Mondo 2000*, 2: 34-43.

Mondo 2000 was notable for its decadent, ironic style. Like its first editorial, the magazine's visuals and overall tone oscillated between sincere enthusiasm and playful hyperbole, intellectualism and clownishness. The logo included an image of the earth as seen from outer space, echoing the magazine's "respectable older cousin" the Whole Earth Catalog, but also lettering lifted from an arcade game.¹³ Likewise, its art direction would veer from polished to camp. The contrast can be seen in the difference between, say, a cover depicting "21st Century Girl" Deborah Harry with a sublime Trifid Nebula background (issue 3), and another featuring the buxom astrophysicist-musician Fiorella Terenzi awkwardly holding up a satellite dish (while being positioned in the frame by the photography team's stylist - issue 5). The Terenzi cover also featured the tag line "Guaranteed Read Proof!" - one of many quotes taken from negative reviews of Mondo and ironically repurposed by the editors.¹⁴ Mondo countered the idealism of its countercultural and New Age roots with a cynicism that appeared in a variety of forms: from self-deprecation and a half-jesting commitment to consumerism to more serious, dystopian counterparts to the imagined technological future of a global village (the magazine's favorite theorist, other than Marshall McLuhan, was Jean Baudrillard, whose concept of hyperreality the editors argued "says as much about the New Edge worldview as anything else").¹⁵ Above all, Mondo's style was defined by a subversion of its own positions and commitments, often in a single move: the name R.U. Sirius, for example, pokes fun at the Sirius star system, an important symbol in New Age spiritualism.¹⁶ Likewise, the choice of the name Mondo 2000 was both an actual attempt to improve sales (it had been decided that the name of its predecessor, Reality Hackers, lacked crossover appeal) and an ironic gesture meant to distance the magazine from pure commercialism. Sirius and Mu decided first to parrot the marketing trope of adding "2000" to a product, and afterwards gave it the pre-fix Mondo because "the lettering would look great on the masthead, and [...] it had a delightfully fashionable yet decadent sound."¹⁷ As the cultural critic Mark Dery noted, Mondo's "rebel cool" was a product of "running up the Jolly Roger of political incorrectness, 'social irresponsibility' (Sirius's catchphrase), adolescent fun, and shameless sellout."¹⁸ All of this

¹³ Sirius, 1992: 16.

¹⁴ The quote was taken from a review in the Village Voice. See Boulware, 1995.

¹⁵ Rucker, Rudy, R. U. Sirius, and Queen Mu, ed. 1992. *Mondo 2000: A User's Guide to the New Edge*. New York, Harper Perennial: 144.

¹⁶ Zandbergen, Dorien. 2011. "New Edge: Technology and Spirituality in the San Francisco Bay Area." Leiden, Leiden University: 154.

¹⁷ Boulware, 1995.

¹⁸ *ibid.*

contributed to what Dery saw as the magazine's frustrating overall effect: "By turns illuminating and infuriating, the magazine is an in-crowd status symbol, a career vehicle for would-be Warhols, a beacon of utopian hope, and a source of dystopian anxiety."¹⁹

Where Dery suggests that Mondo's erratic character resists interpretation, this chapter argues that the magazine's split-personality is key to understanding the New Edge and cyberculture more generally. In the following subsection, I review existing accounts of Mondo's "techno-transcendentalism." In particular, I discuss how these incorporate Mondo's "rebel cool" in their analysis, namely as a device that glosses over the magazine's flawed politics or enables the seemingly opposite worlds of spirituality and technology to co-exist. In section 2.1.3, I describe an alternative framework that would seek to historicize Mondo's style, one that builds on Alan Liu's analysis of "cool" in relation to a new, post-industrial mode of knowledge work. These frameworks provide a basis for a close reading of New Edge discourse in section 3.

2.1.1 Techno-transcendentalism and its discontents

As images of bionic angels and technological rapture in Mondo's first editorial suggest, spirituality was an important element of its cybercultural rupture-talk. Anthropologist Dorien Zandbergen defines Mondo's New Edge as "celebrations of new 'edgy' technoscientific concepts, gadgets and future visions with a very 'New Agey' discourse of self-spirituality and spiritual evolution."²⁰ This conflation meant that technology was "imbued with the capacity to offer immediate knowledge and experience of 'reality at large,'" a belief Erik Davis called "techgnosis."²¹ In this way, a product like Cellular Automata software could be advertised as a "mind-expanding aid to your imagination" and it made sense to say that "[m]ultimedia isn't new, it's our natural state of being."²² Throughout Mondo's first few issues, one can find similar references to the connection between new technology and themes of transcendence, 'consciousness-expansion' and access to a fundamental, 'extra-sensory' reality. As Zandbergen notes, this New Edge conflation of New Age spirituality and hi-tech is somewhat surprising, because it upsets the modernist distinction between spirituality and the 'secular' realm of science and technology.²³ At issue is not simply the persistence of the sacred *in spite* of a high-tech environment, but through it: the idea, say, that cyberspace could offer a

¹⁹ Dery, 1996: 33.

²⁰ Zandbergen, 2011: 8.

²¹ *ibid*: 28.

²² Autodesk. 1989. "The Rudy Rucker CA Lab." Advertisement. *Mondo 2000*, 1: 1; Sugarman, Peter. n.d. "Multimedia. Eat it while it's Hot." *Mondo 2000*, 5: 106-107.

²³ Zandbergen, 2011: 9.

definitive deliverance from the social and psychological pressures of everyday, “real” life. This conflation is the crux of what Zandbergen calls New Edge culture.

Manifestations of the New Edge in the late 1980s and early 1990s in the pages of *Mondo*, in the underground rave scene, at the infamous arts and culture festival Burning Man, and elsewhere are less surprising when considering the cultural and historical conditions surrounding the emergence of the New Edge. Zandbergen argues that the New Edge represents how the Bay Area institutions of information technology and New Age spiritualism are made relevant to one another, noting that both the computer industry and the counterculture that New Age grew out of were established in the area in the 1960s and 1970s.²⁴ Citing Fred Turner, she also notes how these histories are crossed. As discussed in chapter 1, Stewart Brand and others traversed the Bay Area’s technological and countercultural milieus, creating “network forums” such as the Whole Earth Catalog where technology entrepreneurs and engineers could see their efforts aligned with the holism and “neo-tribalism” of communalists, and hippies could see in information technology a means for creating a self-sustaining alternative to mainstream society (see my discussion of Turner’s work in chapter 1). Similarly, Zandbergen describes how the subjects of her ethnography - computer and media professionals that identify with New Edge culture - enact spaces that align gnosticism with technology, from feelings of spiritual connection at raves to the construction of utopian “temporary autonomous zones” at Burning Man and in virtual worlds.²⁵

Zandbergen’s account may be seen as both an extension of and corrective to a series of critiques of *Mondo* and “techno-transcendentalism” that appeared in the early- to mid-1990s, most notably those of Mark Dery and Vivian Sobchack. Sobchack, expanding on an essay she originally wrote in 1991, took *Mondo* to task for its “consistent vacationing in the datascape.”²⁶ She recognizes the New Age and countercultural influences in *Mondo*’s vision of techno-transcendence, but argues that its celebrations of virtuality are ultimately a misguided form of escapism:

At best, the encounters in virtual reality and cyberspace promoted by *M2* are video games that one can lose without real loss. At worst, they falsely promise a new Eden for cyborg Adams and Eves - enthusiastic participants in some computerized and simulated (in)version of the Back to the Earth movement.²⁷

The problem with such “techno-transcendentalism,” Dery would later add, is that it actually

²⁴ Zandbergen, 2011: 12-14.

²⁵ *ibid*: 173-187.

²⁶ Sobchack, 1994: 20.

²⁷ *ibid*: 19.

subverts the potential in cyberculture to engage with the politics of technology.²⁸ Where real debates might be had about, say, access to information technology, Mondo addressed this only “in a vacuum and never relates it to economics or race or gender.”²⁹ The underlying problem, for both critics, was that Mondo’s commitment to issues of social justice came in a distant second to its celebratory enthusiasm. Despite its utopian rhetoric of global community in virtual worlds, Sobchack argued, the subculture represented by Mondo had “no real idea of how to achieve it,” instead offering only the rugged individualism of subjects like hackers, rogue entrepreneurs and the “console cowboys” of cyberpunk science fiction.³⁰ The pretense of social consciousness and populism, in other words, covered up a steadfast promotion of a “libertarianism [that] is neither progressive nor democratic.”³¹ Indeed, as Rudy Rucker wrote in his introduction to *A User’s Guide*, New Edge culture is uniquely Californian because it maintains “the naive belief that (a) There is a Better Way, and (b) I Can Do It Myself.”³² For Sobchack, this is an outlook that is willfully “blind to the historical structures that go beyond individual motivation and ‘do-it-yourself’ entrepreneurship in determining ‘winners’ and ‘losers.’”³³

For those studying Mondo as techno-transcendentalism, the style of the New Edge plays an important role in revealing its content and function. Not only does a rebellious attitude match the magazine’s libertarian outlook, its critics argue, but its self-deprecation, contrarianism, shifts in tone and other forms of “fancy footwork” are necessary for glossing over the essential flaws in its futurism and politics.³⁴ Mondo’s style, Sobchack argues, is marked by a cynical optimism that “resolves New Edge high-technophilia with New Age and “whole earth” naturalism, spiritualism, and hedonism. And it implicitly resolves the sixties’ countercultural “guerrilla” political action and social consciousness with a particularly privileged, selfish, consumer-oriented, and technologically dependent libertarianism.”³⁵ Its rebel cool, in other words, is a veneer that allows Mondo to have it both ways. For Zandbergen, however, New Edge style does not reveal ambivalence or necessarily stand opposite its countercultural and New Age values. Rather, irony, self-deprecation and other

²⁸ Dery, 1996: 17.

²⁹ Sobchack, 1994: 24.

³⁰ *ibid*: 23.

³¹ *ibid*: 24.

³² Rucker, Rudy. 1992. “On the Edge of the Pacific.” In *Mondo 2000: A User’s Guide to the New Edge*, ed. Rudy Rucker, R. U. Sirius, and Queen Mu. New York, HarperCollins: 10.

³³ Sobchack, 1994: 24.

³⁴ *ibid*: 15.

³⁵ *ibid*: 18.

stylistic elements make these commitments possible in New Edge culture: in one instance, she describes how “Ken,” a computer programmer, explains that the use of irony in the New Age settings he inhabits is what makes him feel comfortable in them.³⁶ In this way, New Edge style is what “enables the simultaneous existence of seeming oppositional epistemological strategies,” i.e. the gnostic sense of divine unity and a postmodern sensibility.³⁷ More generally, she argues that Sobchack’s argument is based on the faulty assumption that counterculture and New Age have historically stood opposite technophilia. For Zandbergen, New Edge discourse was prefigured by countercultural activity (including the neo-tribalism of the Whole Earth Catalog as described by Fred Turner), and earlier forms of gnosticism were characterized by a similar relationship to science and technology, where the latter was both a means to spirituality (consciousness expansion and visualizing interconnectedness) and a source of spiritual or psychological disruption.³⁸

In addition to different historical foundations, one can see in Zandbergen’s and Sobchack’s accounts two distinct and generalizable historiographical approaches to rupture-talk. On the one hand, rupture-talk is often criticized, or de-bunked, by revealing underlying interests and historical continuities. Richard Barbrook, for example, argues that a technology’s “imaginary future” may function as technological fetish, masking the material conditions of its production and its actual uses.³⁹ At the 1964 World’s Fair, for instance, nuclear energy and computer technology were advertised to the public as the twin futures of energy “too cheap to meter” and leisurely lifestyles enabled by automation and artificial intelligence.⁴⁰ Similarly, in 1996, Barbrook and Andy Cameron criticized the cybercultural utopias offered by *Wired* and others as these narratives ultimately served a wealthy “virtual class,” an argument that is closely aligned with Sobchack’s criticism of *Mondo*. On the other hand, as Gabrielle Hecht has argued, one may also approach rupture-talk as an agent of both historical change and continuity. The linguistic metaphor she uses for this paradoxical effect is “conjugate,” meaning to retain a root while changing tense or subject - that is, an action that both preserves and alters the meaning of a sentence.⁴¹ This metaphor may easily be applied to

³⁶ Zandbergen describes attending an ordainment service at the Gnostic Church with Ken, which ends with the priest saying “there is this superstition, it is very superstitious, that on the first day of a priests’ ordination, she has extraordinary power. It is just superstitious magic, but it doesn’t hurt to believe in it.” Zandbergen writes that this generates “loud laughter in the crowd. The service ends with a dancing session” (Zandbergen, 2011: 88-89).

³⁷ *ibid*: 159.

³⁸ *ibid*: 65-81

³⁹ Barbrook, 2007.

⁴⁰ *ibid*: 32-51.

⁴¹ Hecht, 2002.

Zandbergen's own anthropological approach, where she understands New Edge as a culture that maintains a relationship with the sacred at the same time that it alters that relationship according to a logic of technology and postmodernity.

Overall, Sobchack's and Zandbergen's accounts of Mondo as techno-transcendentalism have treated the magazine's "rebel cool" as a formal device serving a specific function in relation to its content - covering up its flawed politics or conjugating New Age spirituality. In the following, I reverse this analysis and approach New Edge style less in terms of its function and more as a starting point for an alternative (but not necessarily incompatible) understanding of Mondo 2000 its New Edge discourse.

2.1.2 The ethos of cool and Mondo as "insider outside"

Where Sobchack and Zandbergen treat Mondo's cool in terms of its function, another approach would be to historicize cybercultural cool more generally. Rather than think of the cool in cyberculture as a property of new technologies or those who created them, a gloss projected onto the web or some floating distinction one gains by association (e.g. by reading cool magazines like Mondo or Wired, or surfing the recommended "cool sites of the day" from the ubiquitous lists and aggregators of the early web), Alan Liu argues that this cool is an attitude, style and feeling closely related to the changing conditions of (post-)industrial work, and the ethos of today's knowledge worker.⁴² Here, I summarize Liu's argument and describe Mondo as a counterpart to the cool knowledge worker in terms of a subject that is neither entirely 'inside' nor fully 'outside' - that is, as a subcultural actor that does operate fully within mainstream, professional society nor as an underground figure explicitly opposed to the mainstream. This understanding of Mondo as an "insider outside" provides the basis for a close reading of the relationship between this positioning, the magazine's rupture-talk and its cool style.

At the basis of Liu's argument is a genealogy of political economy that roughly moves from automated industrial work to post-industrial, networked enterprise. He focuses on how these changes have collapsed the divide between work and private life, transforming not only the specific relations between worker, labor, product and corporation but also the conditions for expressions of the antagonisms that arise from those specific relations.⁴³ His question is thus not only about changing modes of production but also the changing modes of "emotional release" that accompany them. In the 1950s and 1960s, emotion at work was either simply outlawed (giving rise to the

⁴² Liu, 2004.

⁴³ *ibid*: 86-87.

affectless “Fordized face”) or, among the professional class of managers and technical workers, discouraged and ultimately constrained through self-control, resulting in a friendly but impersonal disposition.⁴⁴ The form of release that accompanied this was “the basic engine of cultural cool: the consumption by middle-class workers of forms of entertainment, journalism, and dress influenced by that part of culture excluded by definition from normal work - *subculture*.”⁴⁵ By consuming the “outsider” scenes depicted in, say, noir, Westerns and other Hollywood genre films, the “insiders” of white-collar work “displaced the very experience of alienation onto outsiders who could do the heavy lifting of being alienated for them.”⁴⁶ In the current paradigm, however, the form of emotional release has been adapted to the context of a networked mode of production, which has at its organizational core a dialectic of decentralization (where autonomy is granted at the same time work becomes integrated with that of the other departments, firms, customers, etc. in one’s “network”) and uniformity (the establishment of standards and protocols necessary to make such coordination possible).⁴⁷ Liu calls this mix of autonomy and constraint “user-friendliness,” after the Graphical User Interface, the latter a material and metaphorical representation how workers are simultaneously confronted with increasing standardization at the same time they are granted new freedoms of self-expression (customizing their on- and off-screen desktops). In the user-friendly corporation, the opposition between a corporate inside and a (sub)cultural outside has been disrupted: materially, say, by the multiple windows that allow knowledge workers to chat and surf the web at the same time they input figures into a spreadsheet, but also in the sense that corporate culture increasingly attempts to fully enfold leisure. Liu’s description of the user-friendly “workstyle” seems appropriate for the “coolest” workplaces today (like the Googleplex or Facebook’s One Hacker Way), which spatially and logistically facilitate flexible, project- and team-based work as well as the many forms of leisure and recreation (in Google’s case, these range from roller-hockey gear to relaxation “pods”) that are central to corporate culture in new media industry.⁴⁸ This new situation - which oscillates between new kinds of openness and flexibility on

⁴⁴ *ibid*: 93-94.

⁴⁵ *ibid*: 100.

⁴⁶ *ibid*.

⁴⁷ Liu, 2004: Liu calls this “global automation.” There are similarities to be drawn here with Alexander Galloway’s analysis of internet protocols as both radically inclusive and universalizing, a dialectic he argues characterizes the operation of power in post-disciplinary control societies. See Galloway, 2006.

⁴⁸ See for example Time magazine’s descriptions of Google’s “slightly goofy, self-indulgent culture.” Ignatius, Adi. 2006. “In Search Of The Real Google.” *Time*, February 20. <http://www.time.com/time/magazine/article/0,9171,1158961,00.html>; see also the appropriately titled accompanying photo essay, “Life in the Google-plex,” available at http://www.time.com/time/photogallery/0,29307,1947844_2013323,00.html.

the one hand and stricter controls on the other, and where the divide between “inside” (work, the corporation) and “outside” (private life, subculture) is unsettled - becomes the grounds for a new kind of emotional release that is equally a mix of expression and restraint. It emerges from the paradox that knowledge workers face when negotiating between a need to imagine their lives as more deeply meaningful than their professions, and the fact that this kind of socializing “work” is increasingly seen as central to the mission of the companies that employ them.⁴⁹ Put more simply, cool emerges as the constrained attempt to create separation between work and spirit, a move Liu summarizes in the voice of the knowledge worker: “I work here, but I’m cool.”⁵⁰

This mix of freedom and constraint appears in the style, feeling and politics of cool, and is found both in highly visible products of cyberculture (such as Mondo and Wired) and in the relatively unassuming expressions and activities of knowledge work. Cool style, which Liu diagnoses from (among other sources) best practices in web design and information visualization, oscillates between the modernist goal of clarity and the subversion of that goal (or “antidesign”). It often strives to achieve an ideal of communicative efficiency (in the metaphor borrowed from information theory, a high signal-to-noise ratio), but just as often it subverts that ideal by “resisting” information, a strategy Liu notes in the loud colors and layout of early Wired. As both design and “antidesign,” cool style applies to aesthetically-pleasing code (which uses no more lines than required) and clean web-pages as well as the information breakdowns of net.art and a seemingly endless supply of ironic memes that repurpose and subvert the genres of information work (from flow charts to the databases underlying web generators). As feeling, meanwhile, Liu argues that cool should be seen as an update on the emotionless “Fordized face.” Now personality and expressiveness are valued as correlates to the autonomy and creativity required for knowledge work, a leeway implied when Google describes its culture as being “not serious about anything but search.”⁵¹ However, Liu writes, this is “designer emotion,” and similar to cool style as a restrained expressiveness.⁵² Cool feeling is reflected in the rhetoric of many “cool website of the day” projects of the early web (roughly 1994-1999), where cool websites were those that appeared to be effortlessly so, colorful and fun but not loud or obnoxious (attributes that were definitely

⁴⁹ Liu suggests that as ethos, cool is not cultural identity, but “a way or manner of living in information. Too fundamental and inchoate itself to be called an identity, it is nevertheless the formative material of imagined identities promising knowledge workers some hope of alternative lives of knowledge” (Liu, 2004: 184).

⁵⁰ *ibid.*

⁵¹ Google removed this sentence from its “corporate philosophy” web page in September 2009, but it can be found via the Internet Archive’s Wayback Machine. See Google Inc. “Corporate Information - Our Philosophy.” *Google.com*. <http://web.archive.org/web/20090801191943/http://www.google.com/corporate/tenthings.html>.

⁵² Liu, 2004: 238.

“uncool”).⁵³

Where the “rebel cool” in cyberculture is perhaps most often attributed to the outsider, individualist and anti-authoritarian tendencies of its politics, this too may be rethought in accordance with the restraint that characterizes cool style and feeling. In this way, what critics such as Sobchack and Dery call the flawed politics of cyberculture and techno-transcendentalism would instead be understood, according to Liu, as the “nonpolitics” or “antipolitics” of cool.⁵⁴ This broader category encompasses the grand gestures of cyberlibertarianism, but also the diffused, casual engagement with information politics in everyday knowledge work that does not so much resemble political activity as “bad attitude.”⁵⁵ It includes a range of subterranean acts of micro-resistance that are common place in information work - illegal file-sharing, surfing on the job and forwarded office jokes, and so on - “that official cyberlibertarian politics [...] rarely admits but that the unofficial hinterland of the movement glories in.”⁵⁶ The critical observation Liu makes is that in knowledge work, where an information politics would seem most necessary, expressions of this antagonism are reduced to cool politics.

So what was the source and quality of Mondo’s rebel cool, seen from this perspective? Perhaps it stemmed from Mondo’s relevance to the new topography in which cool culture circulated. At the height of its popularity, Mondo’s audience (according to Sirius) included a substantial proportion of professionals working in media and technology.⁵⁷ As Sobchack wrote, the magazine’s “romantic, swashbuckling, irresponsible individualism [...] fills the dream of ‘mondoids’ who, by day, sit at computer consoles working for (and becoming) corporate America.”⁵⁸ To those readers, Mondo presented a subculture that was both related to their work, in its focus on technology, but also made this work appear strange and fantastic, giving its audience something to aspire to. Answering the criticism that his vision of emancipation through technology involved purchasing expensive toys, Sirius argued that Mondo should not be treated to a higher standard than other forms of entertainment: “On one level, for whatever liberation Mondo offers, the price is \$5.95. It’s like going to a high-tech film that shows these people playing with neat toys.

⁵³ *ibid*: 234-238.

⁵⁴ *ibid*: 253. “Nonpolitics” and “antipolitics” should be distinguished from being apolitical, or showing no interest in politics. Instead, Liu uses these terms to denote a kind of stunted politics that presents a pose of politics (through its small acts of subversion).

⁵⁵ *ibid*: 253.

⁵⁶ *ibid*: 275.

⁵⁷ Sobchack, 1994: 23.

⁵⁸ *ibid*: 18.

Nobody says that it's necessary for them to acquire these things in order to get something from the film."⁵⁹ Sirius's argument is ostensibly about the forms of transcendence offered by technology and the cyberpunk subculture, but the format he implies is the same as what Liu called the "basic engine of cultural cool," where the worker residing inside mainstream society might have identified with the ambience of a subversive or unbound "outside" simply by owning a record or identifying with the character in a movie. The key difference, of course, is that the "outsides" Mondo offered (whether the technologies of technotranscendence they covered or the magazine itself) were intimately connected to the technologies and skills of knowledge work performed by its audience. This form of cool consumption is thus different to, say, that of most readers of Rolling Stone in the 1970s (where the separation between the inside of work life and the aspirational outside is discrete rather than continuous).

In addition to its suitability to the new dynamics of cool consumption, however, Mondo arguably also represented a corresponding change in the production of cool. As stated above, the focus of Liu's analysis is the "outsider inside," the knowledge worker whose cool makes him more, not less, attuned to the needs of post-industrial work, meanwhile short-circuiting expressions of contemporary alienation by defaulting to restrained modes such as designer emotion and bad attitude. The question now is whether and how to characterize a subcultural counterpart to the cool knowledge worker, or the "insider outside." On the one hand, a bird's eye view of Mondo and its history suggests some answers. Both chronologically and conceptually, Mondo 2000 sat somewhere between 'zine culture, theorized by Stephen Duncombe as an underground "voice" resistant to capitalism and mass media, and the much higher-profile Wired magazine.⁶⁰ Mondo descended from two 'zines Sirius and Mu published in the mid- to late-1980s, High Frontiers (1984-1987) and Reality Hackers (1988-1989). High Frontiers initially had a print run of 1500, and its content was largely "unedited interviews with acid veterans like Albert Hofmann, Timothy Leary, and Terence McKenna, the margins filled in with weird jokes and short items."⁶¹ With each new issue and iteration, though, they included more discussions of technology, fringe science and art to go alongside topics like New Age and psychedelics; the subhead for Reality Hackers was "Information Technologies & Entertainment for Those on the Brink." In 1989, after deciding the new name was holding back sales, Sirius and Mu relaunched again as Mondo 2000, and by 1992 they were gaining

⁵⁹ Quoted in Blair, Dike. 1993. "Leading Into the Light While Playing in the Dark: An Interview with Mondo 2000's Editor-in-Chief, R.U. Sirius." *Purple Prose*. <http://www.adaweb.com/~purple/mondo.html>.

⁶⁰ Duncombe, Stephen. 1997. *Notes from Underground: Zines and the Politics of Alternative Culture*. London: Verso.

⁶¹ Boulware, 1995.

subscribers, high-profile advertisers and national attention. If Mondo's popular appeal suggested a dissolution between 'zine culture and mainstream publication, its production similarly occurred in what contributor Gareth Branwyn called "an Interzone."⁶² The magazine operated out of Queen Mu's home in the Berkeley hills, where regular parties would bring together staff, writers, interview subjects and journalists from other publications, and often served as the impetus for new content. As another contributor put it: "The scene built the magazine, and the magazine built the scene."⁶³ Mondo was thus both the subculture's central node and the mediator that would translate it to a broader audience, as suggested by the title of its mainstream-friendly compilation, *A User's Guide to the New Edge*. Much as cool arises in knowledge work through the incorporation of a feeling, style and politics that are "edgy" but also restrained, Mondo's cool was that of a subcultural actor that had interiorized a restrained version of its professional, mainstream other. "I'm resisting," Mondo's style seemed to say, "but I'm cool."

2.2 Rupture-talk to rebel cool: the paradoxes of New Edge discourse

So far, I have argued that where previous accounts have approached Mondo's style as formal device, its "rebel cool" should itself be contextualized. Mondo's cool is one specific to the subject position it enacted, that of a subcultural figure adopting (restrained versions of) attitudes and behaviors from mainstream culture, performing a balancing act between underground and popular media. It may have served to cover up the magazine's contradictory politics or to update gnosticism for a hi-tech, postmodern cultural environment, but to understand its source one must account for how "cool" has been shaped by the wider context of information culture and knowledge work. This contemporary version of cool - information cool - emerges as restrained emotion, expression and attitude in the workplace at the same time that, for many knowledge workers, professional life has (under the euphemisms of flexibility and corporate culture) incorporated spaces of recreation and leisure. If the knowledge worker's cool is a response to these changing conditions - if it is a kind of proto-psychology of the post-industrial landscape - then is it possible to also understand Mondo as a response to a new environment? What is Mondo's "insider outside" position a solution to? In this section, I argue that beyond its techno-transcendentalism and libertarian politics, Mondo's rupture-talk - the New Edge - may be understood as a description of the shifting grounds for underground scenes, subcultural practice and organized resistance. The New Edge techno-cultural landscape, similar to the corporate settings described by Liu, is one of blurred boundaries between subcultural

⁶² Branwyn, quoted in Boulware, 1995.

⁶³ Zarkov, quoted in Boulware, 1995.

“outsides” and mainstream “insides,” as well as a mix of expanded affordances (from desktop publishing to the flattening of media hierarchies) and constraints (from commercialization to information overload) on the ability to establish or maintain an underground or subcultural identity. In the following sections I discuss the key concepts in Mondo’s notion of a subversive, computer-driven revolution in culture - cyberpunk, information politics and virtual reality - focusing on how these elements simultaneously reveal important paradoxes within the New Edge: cyberpunk’s underground cultural resistance is tempered by the fast pace of co-optation; a left-libertarian information politics is undermined by institutional forces; and the emancipatory potential of virtual reality is countered by the sense that it is simply an addition to a saturated, postmodern media culture. Mondo’s rupture-talk, in other words, may be read as a series of paradoxes that produce a contemporary underground or subcultural actor’s position: in section 2.2.4, I discuss how a New Edge ethos (informed by these paradoxes) is expressed in Mondo’s “new media cool,” focusing on its media pranks and what it called “irresponsible journalism.”

2.2.1 Cyberpunk and co-optation

When publishers Queen Mu and R.U. Sirius made the decision in 1989 to re-launch Reality Hackers under a new, consumer-friendlier name, part of their reasoning was that they had a scoop.⁶⁴ Cyberpunk had received national and international attention from science fiction magazines as well as from literary critics, but at that point had not been profiled in popular media. The genre did not lack popularity, however, and Mondo’s depiction was of a cultural “movement.” The feature included interviews with authors Sterling, John Shirley, Vernor Vinge and Rudy Rucker, as well as the transcript of a casual conversation (previewed as a “drunken business meeting”) between Timothy Leary and William Gibson. Mondo also expanded the focus to include other media (the TV show *Max Headroom*), and included columns on the roots of cyberpunk and personal computing. Although the conversations were loose-ended, and the editing intentionally confusing, the discussions hover around a small handful of topics, including the genre’s themes of techno-transcendence and hi-tech resistance but equally on the commodification and co-optation of the cyberpunk subculture.

Cyberpunk’s generic characteristics had been defined by iconic works such as William Gibson’s *Neuromancer* and the short stories collected in *Mirrorshades*, the anthology edited by cyberpunk author Bruce Sterling and published in 1986. In his introduction to *Mirrorshades*, Sterling argues that the label cyberpunk “captures something crucial to the work of these writers,

⁶⁴ Boulware, 1995.

something crucial to the [1980s] as a whole: a new kind of integration. The overlapping of worlds that were formerly separate: the realm of high tech, and the modern pop underground."⁶⁵ Techno-transcendental themes of body modification, cyberspace and fundamental changes to "the nature of the self" played out on a grander scale the kinds of psychological and cultural upheaval technology was causing in the present.⁶⁶ The genre displayed an interest in the new levels of intimacy of technology - Sterling contrasts the previous technological icons of steam engines and skyscrapers with the "visceral" devices of the 1980s such as the personal computer and the walkman - but also how technology enabled underground scenes and activity:

The cyberpunks, being hybrids themselves, are fascinated by interzones: the areas where, in the words of William Gibson, "the street finds its own uses for things." Roiling, irrepressible street graffiti from that classic industrial artifact, the spray can. The subversive potential of the home printer and the photocopier. Scratch music, whose ghetto innovators turn the phonograph itself into an instrument, producing an archetypal Eighties music where funk meets the Burroughs cut-up method. "It's all in the mix" - this is true of much Eighties art and is as applicable to cyberpunk as it is to punk mix-and-match retro fashion and multitrack digital recording.⁶⁷

What Gibson and Sterling describe - repurposing the objects of (post-)industrial work for alternative use - is a near-exact reproduction of the classic definition of subcultural style: the appropriation of cultural artifacts and practices in ways that "go 'against nature,' interrupting the process of 'normalization.'"⁶⁸ Subcultural style, Dick Hebdige argued, is the inversion and subversion of objects and their cultural meanings, and the motor of its oppositional identity.⁶⁹

Cyberpunk takes this formula of semiotic resistance to extremes: in Gibson's *Neuromancer*, the best example is the Panther Moderns, a media-terrorism group whose major contribution to the plot is a simulated attack that provides cover for the exploits of the main characters. The Panther Moderns were a more dangerous descendent of previous "sub-cults," Gibson's narration points out, but essentially the same: "It was the style that mattered [...] The Moderns were mercenaries, practical jokers, nihilistic technofetishists."⁷⁰ As Gibson tells Leary in the *Mondo* interview, the group was supposed to be "[c]ool to the point of inexplicability [...] They're sorta like Marshal McLuhan's revenge. Media monsters. It's as though the worst street gang you ever ran into were, at

⁶⁵ Sterling, Bruce. 1986. *Mirrorshades: The Cyberpunk Anthology*. New York, Ace Books: xi.

⁶⁶ *ibid*: xiii.

⁶⁷ *ibid*: xiii-xiv.

⁶⁸ Hebdige, Dick. [1979]2002. *Subculture: The Meaning of Style*. London, Routledge: 17.

⁶⁹ *ibid*.

⁷⁰ Gibson, 1984: 59.

the same time, intense conceptual artists.”⁷¹ According to Sterling, the same mix of technology, media and subcultural attitude was the essence of fascination with cyberpunk’s ambience: “Cyberpunk comes from the realm where the computer hacker and the rocker overlap, a cultural Petri dish where writhing gene lines splice. Some find the results bizarre, even monstrous; for others this integration is a powerful source of hope.”⁷² Beyond the imagined futures of techno-transcendental integrations, Sterling argued that cyberpunk represented a new form of hi-tech-enabled resistance: “an integration of technology and the Eighties counterculture. An un-holy alliance of the technical world and the world of organized dissent - the underground world of pop culture, visionary fluidity, and street-level anarchy.”⁷³

But if cyberpunk was aligned with the political semiotics of subcultural identity, this alignment was also self-conscious and pessimistic. In the *Mondo* interviews, the various authors - in particular Sterling and John Shirley - repeatedly discuss (and bemoan) cyberpunk’s development from a loosely-bound subculture and genre into a mass cultural product. On the one hand, this was a matter of personal anxieties about being pigeon-holed after achieving success. The conversation between Gibson and Leary, for instance, begins with a section called “Trapped,” where Gibson discusses avoiding being perceived as (merely) a cyberpunk author: “I’ve got to do a different kind of book now, because I’m already getting some reviews saying, ‘Well, this is good, but it’s more of the same stuff.’ I’m desperate to avoid that.”⁷⁴ On the other, it was an awareness and fatalism regarding the co-optation of cyberpunk and underground culture more generally. Describing the work of “third and fourth-generation cyberpunks,” Sterling argued that the rapid success of the movement had taken the edge out of cyberpunk: “People are just cannibalizing our imagery. Selling it. Did you see Nancy Reagan breakdancing? It’s the same: co-optation. No use putting any more of our energies into ‘Cyberpunk, Trademark.’”⁷⁵

The pessimism was not total, however, and Sterling and Shirley saw opportunity in assuming a third position, that of the outsider operating within mainstream culture. Asked whether cyberpunk’s “original vision” was alive in spite of co-optation, Sterling answered yes:

⁷¹ Gibson, William and Timothy Leary. 1989. “High Tech High Life: William Gibson and Timothy Leary in Conversation.” *Mondo* 2000, 1: 61.

⁷² Sterling, 1986: xiii.

⁷³ *ibid*: xiii.

⁷⁴ Gibson and Leary, 1989: 59.

⁷⁵ Milhon, Jude. 1989b. “Coming in Under the Radar: Bruce Sterling interviewed by Jude Milhon.” *Mondo* 2000, 1: 98.

[W]e're coming in under the radar in a much more efficient way now [...] we're hitting people who are literary - intellectuals, academics. Not just the sci-fi people. Our books are reviewed in *The New York Times Book Review*. Gibson's in Hollywood. We manage very well under our own names, unlabeled, although this isn't to say that our collective vision is no longer there [...] We just shut down the neon sign. Our only business is to unexpectedly fuck people up.

A similar dynamic is described by John Shirley, who also notes that this position is precarious:

Mass culture. Ideally, we're trying to tap into its brain, live off the body, and redirect it a bit too. Call it "revolutionary parasitism." [...] Of course, it's dangerous. People may sneer and say, you think you're redirecting it but it's eating you, buddy. Maybe - we'll see.⁷⁶

The actor position the authors describe here is clearly different from existing notions of underground culture and organized dissent, which Sterling saw in cyberpunk's roots. In the place of the classical understanding of subculture is a counterpart to Liu's cool knowledge worker, a cool subject found inside mass culture. Because the interviews are focused on this topic, for example by including "coming in under the radar" and "revolutionary parasitism" in the titles of Sterling's and Shirley's interviews, it is hard to imagine Mondo's editors did not understand this as akin to its own self-conscious mix of edginess and commercial appeal. This becomes more apparent when considering the profile of Marshall McLuhan as "Cyberpunk Godfather."⁷⁷ Reviewing a volume of the media theorist's letters, Terrence McKenna argues that the "central paradox" of McLuhan's life was his ability to appeal to the counterculture as well as to the insiders of business and government.⁷⁸ On the one hand, McLuhan would lecture prime ministers and CEOs, on the other he "seemed to be giving permission for youth culture, rock & roll, and post-print libidinal tactility to finally, mercifully dismantle linear stuffed-shirt Western civilization."⁷⁹ (In a related piece of lore, McKenna writes that McLuhan coached Timothy Leary "in marketing psychology and smilesanship."⁸⁰) In McLuhan and cyberpunk, then, Mondo not only had a theorist and subculture that focused its content, but analogs for its "insider outside" identity.

⁷⁶ Milhon, Jude. 1989a. "Call it... Revolutionary Parasitism: an interview with John Shirley." *Mondo* 2000, 1: 91. The titles for the Shirley and Sterling interviews suggest that Mondo's editors shared their interest in this focus on subversive voice within mass culture.

⁷⁷ McKenna, Terrence. 1989. "Psychopharmacognosticon: Marshall McLuhan the cognitive agent as Cyberpunk Godfather." *Mondo* 2000, 1: 48-49.

⁷⁸ *ibid*: 49.

⁷⁹ *ibid*: 48.

⁸⁰ *ibid*: 49.

2.2.2 Information politics and institutional power

The collapse of the divide between subversive underground and mass cultural mainstream continued to resonate in Mondo's depictions of new media as tools of political and cultural resistance. Features on hackers and virtual reality articulated new media as drivers of political and cultural freedom, but also argued that such promise was overblown or compromised by exacerbating problems of media manipulation and disinformation.

In the tradition of McLuhan, for Mondo the effects of new media were a matter of inherent capacities and external inevitabilities. Writing after German reunification, two of the most outspokenly libertarian contributors (Gracie and Zarkov, pseudonyms for an anonymous Bay Area couple who also worked in finance) described the information revolution as the apex of technology-driven political progress:

The Information Age continues the hard fought battle for freedom. Our weapons are mass market electronics. Freedom of communication makes freedom of the imagination practical for all. Freedom of the imagination has been opposed by every traditional culture and authoritarian creed.⁸¹

This narrative of cybercultural utopianism, which assumes that the free flow of information will topple authoritarian and undemocratic regimes, is a good example of Mondo's treatment of politics in a vacuum (as Sobchack put it). The idea that abstract information flows, presumably meaning Western news and entertainment, are themselves immune to social and economic forces as well as re-interpretation in new cultural contexts is of course naive. The same might be said of the magazine's coverage of Operation Sundevil, a series of raids of hackers' homes after AT&T's network crashed in January 1990.⁸² Sirius and George Gleason presented this as an archetypal story of freedom-loving rebels against clueless authorities, including this typical scene:

"What's this?" a Secret Service agent asked upon seeing the dread weapon of the youthful terrorist. "It's a phone machine," Acid Phreak replied. "What does it do?" the superstitious savage queried. "It answers phones," Acid Phreak confessed.⁸³

Such stories repeat the cyberlibertarian theme - most visible in the cybercultural manifestos discussed in chapter 1 - of the need for government and corporations to catch up with the tuned-in digital elite.

At the same time, though, Mondo also tended to deflate this mythology, specifically by challenging the premise of an opposition between a rebellious subculture and mainstream society.

⁸¹ Gracie and Zarkov. n.d. "Bruno Burns! Rushdie Recants!" *Mondo 2000*, 4: 158.

⁸² Sirius, R.U., and George Gleason. 1991. "Do G-Men Dream of Electric Sheep?" *Mondo 2000*, 3: 40-43.

⁸³ *ibid*: 42.

This included pointing out that one of the most notorious hacker groups - The Legion of Doom - was “really just a loose alliance of a very few young computer hackers,” and highlighting the relative innocence of activity that led to the crackdown of Operation Sundevil (such as sharing proprietary information that had already been made public).⁸⁴ And although Sirius and Gleason portrayed the hackers alongside artists and musicians as repressed for acts of “self-expression,” they also made it a point to show that the hackers were often the same computer industry types the government was supposedly protecting. Hackers depicted in the news as the enemies of computer companies “were actually CEOs in that industry. Many more were, at the very least, major stockholders and well-paid executives in mainline companies.”⁸⁵ The concept of a subversive-mainstream in computing was personified by Mitch Kapor, a hero of “digital capitalism” whose Lotus Development company sold the leading spreadsheet software for personal computers in the 1980s.⁸⁶ Having left Lotus in 1986, Kapor took up digital rights advocacy by founding the Electronic Frontier Foundation together with John Perry Barlow. Their friendship was built on a shared interest in the “dislocations of consciousness” being caused by digital media as well as “a common set of experiences in the 60’s involving what I - when I speak to straight business audiences - charitably refer to as recreational chemicals.”⁸⁷ When a group of young hackers - who Kapor calls “digital skateboarders” - were to be prosecuted for what Barlow and Kapor felt was relatively innocent behavior, the pair decided to provide legal help and set up the EFF.

In an interview with Kapor and Barlow, Mondo’s questions quickly veer toward the paradoxes of an ex-hippie at the head of a large corporation, and a “software millionaire” helping out digital skateboarders. To the latter, Kapor simply answers that “I’m the same digital skateboarder that they are, only I’m a little bit older and have more life experience.”⁸⁸ Similarly, Sirius and Gleason argued that the young hackers targeted in Operation Sundevil could be seen as the future employees and entrepreneurs of digital capitalism. They were “bush league, training for the Security Industry.”⁸⁹ Likewise, hacker and regular Mondo contributor Michael Synergy wrote, “people who are debating over the terms hacker and cracker oughtta just get a life. The only difference is that one

⁸⁴ *ibid.*

⁸⁵ *ibid.*: 41.

⁸⁶ David Gans and R.U. Sirius. 1991. “Civilizing the Electronic Frontier: An interview with Mitch Kapor and John Barlow of the Electronic Frontier Foundation.” *Mondo 2000*, 3: 45-49.

⁸⁷ Mitch Kapor, quoted in Gans and Sirius, 1991: 46.

⁸⁸ *ibid.*: 48.

⁸⁹ Sirius and Gleason, 1991: 40.

is employed. Or owns the company.”⁹⁰ However, the marriage between subcultural outside and mainstream inside is not always so happy. In a section titled “An Acid Take on Digital Capitalism,” interviewers David Gans and R.U. Sirius pressed Kapor on how he resolved his countercultural values with his position as “one of the new heroes of digital capitalism.” The resulting exchange turns the revolutionary promise of “outsiders” directing industry from the inside on its head, and is worth quoting in full (note that Barlow often answers for Kapor):

Mitch Kapor: I didn’t set out to be Bill Gates [...] The little company turned into this enormous thing with thousands of employees making hundreds of millions of dollars a year. And it felt awful to me. So I left. I just walked away one day.

Mondo: Did it occur to you, when you walked away, that you were turning that large capitalist organism loose to do its will and...

John Perry Barlow: It was already a lot bigger than he was.

Mondo: But if your values were offended by it, wasn’t there some way to turn it around?

Barlow: You’re still stuck in the notion that people run these things and that they don’t run themselves. Companies become their market, not their maker. Lotus is a beautiful case in point. To say that Mitch could have somehow directed Lotus in some benign way is like assuming a coral polyp can run a reef. Large businesses are collective organisms.

Mondo: How are they driven?

Mitch Kapor: They’re not! That’s something that John and I both keyed in on. We have this assumption that because something exists and acts, it has some central controller, some little homunculus inside it that makes the thing go. But physics is dead as a model for organizations. Biology is in the ascendent. And if you study biology, things are very decentralized, very distributed. You get emergent behaviors coming out of the workings of a whole bunch of little pieces. Each piece is pretty dumb. Organizations are like that. Still and all, I agonized over my responsibilities toward Lotus before I left.

Barlow: Individuals who work in institutions are no longer individuals [...] It’s like slime mold.⁹¹

And a little further on:

Barlow: By the way, there’s also this lingering assumption that there’s some disjuncture between being a digital pioneer and being an acid head [...] this is actually quite a common phenomenon.

⁹⁰ Synergy, Michael. 1991. “Synergy Speaks: Goodbye Banks, Goodbye Telephones, Goodbye Welfare Checks.” *Mondo 2000*, 3: 53.

⁹¹ Quoted in Gans and Sirius, 1991: 47.

Mondo: In that case, is there a reaction of old corporate America against new corporate America?

Barlow: Well, the reaction is to meet it, to infect it with itself, and to create - through the use of itself as a market - a perfect replica of what was pre-existing.⁹²

Although this exchange can be critiqued for how the metaphor of biological complexity (which Kevin Kelly called “out of control”) glosses over complex issues of agency, power and political economy, what is of interest here is how it establishes a kind dystopian fatalism in the New Edge outlook. The hackers, cyberpunks and superbrights may be “at the controls,” as Mondo’s utopian manifesto had proclaimed, but they are also merely cogs within institutions that direct individuals as they sustain themselves at all costs. Moreover, any subversive influence the new digital generation of corporations have is corrupted as older institutions force them to become “a perfect replica of what was pre-existing.” The process is very similar to what Shirley described as cyberpunk’s “revolutionary parasitism,” except of course it turns what he called a “dangerous” possibility - that mass culture would feed off of subversive “outsiders inside” rather than vice versa - into an inevitability.

2.2.3 Virtual reality and media culture

The third concept in Mondo’s subversive computer culture is Virtual Reality. With VR, the kinds of paradoxes that inform the subject positions of cyberpunks and hackers - subversive culture and mainstream co-optation, individual freedom and institutional control - become central to Mondo’s cybercultural utopianism, or its articulation of VR (a term the magazine used interchangeably with “cyberspace”) as a source of unprecedented effects.

Mondo portrayed VR as a revolutionary new medium, despite the fact that it was not always clear what exactly the technology might be used for. As exciting as a 3-D virtual world may seem, the musician and software entrepreneur Todd Rundgren argued, virtual reality was an example of “too much fascination with computers, and not enough about what the hell are we going to do with them? Are we going to keep filling the world with junk? Will we just reamplify the noise?”⁹³ An article profiling AutoDesk’s early VR initiative Cyberia, meanwhile, could only offer the relatively mundane promise that “customers will visit Cyberian hubs much as people today attend health clubs, museums, art galleries, theaters, or pick-up bars.”⁹⁴ The last option, of course, does suggest

⁹² *ibid.*

⁹³ Morgan, Jas, Morgan Russell, and Steve Ananda. 1989. “Beyond Hacker Machismo: An Interview with Todd Rundgren.” *Mondo 2000*, 1: 103.

⁹⁴ Walser, Randal. 1989 “Is it Live... Or is it AutoDesk?” *Mondo 2000*, 1: 17.

the decidedly more exciting possibility of virtual sex, which was a standard reference point for describing how the virtual world might displace the real one. In another VR article, Howard Rheingold made the case that virtual sex would bring about “a whole new semiotics of mating.”⁹⁵ “Teledildonics,” to use the term he introduces, “is inevitable given the rate of progress in the enabling technologies,” as are “[q]uestions of morality, privacy, personal identity, and even the very definition of Eros.”⁹⁶ He continues:

If everybody can look as beautiful, sound as sexy, and feel as nubile and virile as everyone else, what then will have erotic meaning?

If you can experience sexual frissons or deep physical communion with another person with no possibility of pregnancy or VD, what then of conventional morality?

If you can map your hands to your puppet’s legs, and let your fingers do the walking through cyberspace, there is no reason to believe you won’t be able to map your genital effectors to your manual sensors and have direct genital contact by shaking hands.⁹⁷

Rheingold’s speculative design highlights the argument made more broadly in *Mondo*, that VR’s subversive potential lay deeper than the technology’s immersiveness and fidelity. VR was not exceptional because it represented an improvement on existing communications or entertainment media, but rather because it unsettled basic assumptions about social and cultural life. Upon entering VR, it was the fictional character of the real world that would become apparent.

Mondo’s understanding of VR in terms of new, subversive realities in cyberspace was built on an existing belief that “consensus reality” was already on thin ice. This tied in with comparisons of VR with the mind-altering effects of LSD. As John Perry Barlow writes in the feature article of *Mondo*’s second issue:

The closest analog to Virtual Reality in my experience is psychedelic [...] it is as challenging to describe to the uninitiated and it does force some of the same questions, most of them having to do with the fixity of reality itself

[...]

I have a feeling VR will further expose the conceit that ‘reality’ is a fact. It will provide another reminder of the seamless continuity between the world outside and the world within delivering another major hit to the old fraud of objectivity [...] And that’s just fine with me, since so much of what’s wrong in America is based on the pathological need for certainty and the idiotic delusion that such a condition

⁹⁵ Rheingold, Howard. 1990. “Teledildonics: Reach Out and Touch Someone.” *Mondo 2000*, 2: 54.

⁹⁶ *ibid.*

⁹⁷ *ibid.*

can even exist.⁹⁸

Here, the significance of VR clearly derives from a set of cultural reference points (psychedelics, holism, consciousness-expansion, etc.) similar to those that were brought together in what Fred Turner calls the New Communalist faction of the counterculture (see chapter 1). Timothy Leary, in the interview with William Gibson, similarly connects cyberspace to the subversive potential of consciousness-expansion, suggesting that simply by reading cyberpunk one might enter the kind of “notional space” described by Gibson:

TL: Would you describe cyberspace as the matrix of all the hallucinations?

WG: Yeah, it's a *consensual* hallucination that these people have created. It's like, with this equipment, you can agree to share the same hallucinations. In effect, they're creating a world. It's not really a place, it's not really space. It's notional space.

TL: See, we live in that space. We that are hooked up to *Neuromancer* are living in that consensual hallucination.

WG: Yeah. In a sense.⁹⁹

Gibson's measured response (“in a sense”) was not the only example of skepticism about the more fantastic descriptions of VR and its effects. Although the magazine was known best for its celebrations of VR, there are examples in which key New Edge figures disavowed this techno-transcendence. R.U. Sirius, for example, was fond of saying “I'd rather watch Ren and Stimpy on caffeine than experience virtual reality on smart drugs.”¹⁰⁰ Bruce Sterling, meanwhile, dismissed technological mysticism: “The element of transcendence [in cyberpunk] is just a feature of the genre, like feedback in rock music. It's a move [...] People who take that stuff too seriously end up turning into trolls.”¹⁰¹

However, even those who winced at transcendentalism and were apprehensive about overstating the significance of VR, held onto the constructivist premise that underlies its subversive potential. Sterling again:

I'm not a mystic myself. This notion that there's some plug into God and you'll always be there... it doesn't work. Eventually you have to get up in the morning, look at the red of your eyeballs and think, ‘Where's a cup of coffee?’ Consensus reality is the cup-of-coffee level. But consensus reality is a fragile

⁹⁸ Barlow, 1990a: 41.

⁹⁹ Gibson and Leary, 1989: 61.

¹⁰⁰ Quoted in Lebkowsky, Jon. 1996. “The R.U. Sirius Interview: It's Better to Be Inspired Than Wired.” *CTheory.net*. <http://www.ctheory.net/articles.aspx?id=19..>

¹⁰¹ Quoted in Milhon, 1989b: 100.

thing, predicated on a lot of assumptions that aren't questioned. That's what I'd like to get at.¹⁰²

Like Sterling, Sirius argues one does not need to resort to transcendentalism to show how the principles underlying VR already affect everyday life:

The increased interaction of human-beings through information-transfer technologies is the dominant reality of our times. Mediated by commerce, it is known as hype or 'Business Art', and effects all of us. Rarely are we defined by who we are in person-to-person contact. We are defined by the information and images we send out, how we package ourselves, how we 'position' ourselves. Within virtual reality, your concept of yourself *is* you.¹⁰³

The constructivism underlying the most far-fetched visions of VR, then, remains in place.

These dismissals of techno-transcendence, however, also point to a more fundamental skepticism regarding whether the mind-bending worlds of VR truly represent a departure from the simulations and distractions of mass media. In negative form, the same constructivist outlook says, "The enemy [...] is Mediated Information," as Barlow argues in an article about the roles played by computer simulation and mass media during the Gulf War.¹⁰⁴ It is no coincidence that Barlow, the most outspoken VR visionary, is also an advocate of Jean Baudrillard's pessimistic postmodern theory. His strange mix of McLuhan-esque techno-transcendentalism with Baudrillard's dystopian outlook results in his curious claim that the simulated realities of VR would offer a return to authentic "experience." On the one hand, this is the key move in cybercultural utopianism discussed in chapter one, which sees in information technology a paradoxical return to more natural, organic modes of being and community. But it also points to a deeply cynical worldview. What passes for reality now, Barlow writes, is really the "DataCloud," or a "global supply of words, numbers, statistics, projections, analyses, and gossip."¹⁰⁵ None of these representations can be considered real, a quality he locates only in "experience," and the problem is one that computers aggravate "with thermonuclear vigor."¹⁰⁶ "We pass our measuring grids over pulsating reality, shovel the results into our machines, thrash them with micro-circuits, and pretend that what floats up to the screen is 'real'" when, actually, it's "horseshit."¹⁰⁷ Here, again, is the argument made by Sirius that virtuality - in the sense of information and images being privileged over experience - is an existing

¹⁰² Bruce Sterling, quoted in Milhon, 1989b: 100.

¹⁰³ Sirius, R.U. 1989. "On the Importance of Being Andy." *Mondo 2000*, 1: 85.

¹⁰⁴ Barlow, John Perry. n.d. "Virtual Nintendo." *Mondo 2000*, 5: 46.

¹⁰⁵ Barlow, 1990a: 43.

¹⁰⁶ *ibid.*

¹⁰⁷ *ibid.*

cultural condition rather than one that will arrive with VR. And here again is a contradiction at the heart of the New Edge that trumpets a growing subversive computer culture at the same time that it expresses pessimism about its revolutionary potential.

As Barlow's description of the "DataCloud" suggests, the major source of virtuality in Mondo's descriptions is invariably corporate, mass media. Mass media is imagined as a simulacrum, a circulation of news and entertainment that refers only back to more information. Mass media produce a 'reality' that never lives up to experience, but nonetheless replaces it. Nowhere is this as clearly spelled out as in an interview with the experimental, sound collage band Negativland, in the magazine's second issue on Cyberspace (though, unhappily, not in that issue's feature on VR). The interview centers on the band's album *Helter Stupid*, which mixes newscasts and other found material to recount the band's 'Christianity is Stupid' controversy. With a fake press release in 1988, the band had suggested that their song had inspired 16-year-old David Brom to murder his family with an ax (a closely followed news story at the time).¹⁰⁸ Called a hoax that got out of hand, "Negativland chose to exploit the media's appetite for particularly sensational stories by becoming a subject they couldn't resist – the latest version of a ridiculous media cliché which proposes that rock song lyrics instigate murder."¹⁰⁹

The subsequent events quite remarkably enacted the critique of mass media as virtuality, even if this was in large part a product of Negativland's actions and the assumptions behind them. The press release was treated seriously - the band sees this as part of a widespread failure of fact-checking within contemporary journalism, neglecting how strange it might seem for a band to wrongfully implicate itself in such a story - and the scandal quickly evolved. This consisted of a series of escalations (in terms of media attention and, in the band's words, "sensationalism"), some a result of the band's unwillingness to talk to journalists, others further consequences of inadequate fact-checking. When they did speak to the press, the band would coyly comment on the scandal (i.e. as observers) without implicating themselves any further. In the liner notes to *Helter Stupid* (reproduced in Mondo) the band refers to the attention the scandal received as media "cannibalization." "It's now abundantly clear that the major source for news is other news."¹¹⁰ Their critique of mass media closely reproduces Barlow's description of the DataCloud:

We all swim in an ocean of mass media that fills our minds with people and events with which we have

¹⁰⁸ The band claimed to have used the fake press release as an excuse for canceling a tour they could not afford.

¹⁰⁹ Negativland, quoted in Ronan, Stephen. 1990. "Is there Any Escape from Stupid? An Interview with Don Joyce and Mark Hosler of Negativland." *Mondo 2000*, 2: 90-100.

¹¹⁰ *ibid.*

no actual contact at all. We commonly absorb these media presences as part of our own ‘reality,’ even though any media experience consists only of one-way, edited representations of reality. Negativland uses this electronic environment of factual fictions as both source and subject for much of our work, keeping in mind that to experience a picture of a thing is not to experience the thing.¹¹¹

As the interview shifts from salacious link between media and violence (infamous episodes of backward masking are ridiculed, while band member Mark Hosler admits, “I’ve been threatened at gun point by kids whose body language tells me they’ve picked it up from TV shows”) to the band’s methods and influences, one gets a sense that the interviewers (R.U. Sirius and Steven Ronan) and the band members understand *Helter Stupid* as a ‘next step’ in the lineage of appropriation-as-art.¹¹² The album is one of the first where, musically, the band itself ‘disappears,’ instead remixing news media and other material to depict the controversy. As Ronan explains, “You don’t do a parody of the news guy, you *use* the news guy.”¹¹³ The album, meanwhile, is itself subsumed by the larger ‘product,’ a network spanning the first news of the murder, the fake press release and subsequent reports.¹¹⁴ That is, the album is not a commentary on the scandal, but one part of a larger narrative that extends endlessly outward from the original press release, and thus propagates the fiction rather than putting it to rest.

The number of people who’ve heard about our connection with this story greatly outnumbers the number of people that will hear the record. The number of people that hear the record are going to outnumber the people who actually buy the record. The number of people who read the liner notes and really get what we’re saying and think about it will be outnumbered by those who don’t. So – in fact – what’s going to happen is we’re going to end up perpetuating this hoax and this myth about ourselves to a large number of people.

I mean 20 years from now, I’m going to run into someone who’s going to say, ‘Oh yeah, you killed that kid in Minnesota’.¹¹⁵

While the scale of the episode seems to suggest a new frontier for subcultural practice and alternative expression, just as with cyberpunk newfound freedom is immediately closed by co-optation and mass culture. The band’s orchestrated infiltration of mass culture and subsequent disappearance (in the sense that its “music” only consists of existing media) cannot but be

¹¹¹ *ibid.*

¹¹² *ibid.*: 97.

¹¹³ *ibid.*: 100.

¹¹⁴ This network excludes the actual murder. In the chronology presented in the album’s liner notes, David Brom is introduced as the subject of news reports (Ronan, 1990: 90).

¹¹⁵ Mark Hosler, quoted in Ronan, 1990: 100.

understood alongside what the band sees as a stylistic dead-end.¹¹⁶ With regard to remixing becoming standard practice in music, Mark Hosler says:

It's no longer clear to me if we're really out on the edge any more with the work we're doing. It feels to me now like we're inside the fence, you know? [...] It's really hard to see any totally new direction. It's all appropriation.¹¹⁷

The contemporary cultural environment described here is one in which edge and mainstream conflate, and any outside or alternative position has disappeared (try as we might, “we’re inside the fence, you know?”). Collapsing the metaphorical spaces of mainstream inside and alternative outside, what is being described here is the cultural plane flattened by technology, information and commercialism that Mondo calls the New Edge. Along with the paradoxes analyzed above - cyberpunk’s resistance vs. the force of co-optation, and a libertarian information politics vs. increased corporate and institutional control - this contrast between new media’s promise and its implication in a saturated media culture

2.2.4 New media cool as New Edge ethos

As the discussions of cyberpunk, information politics and VR show, Mondo’s utopianism and techno-transcendentalism were accompanied by, if not secondary to, a more ambivalent rhetoric about the feasibility of underground culture and alternative politics within the context of increasing co-optation, institutional control and media saturation. At times hopeful (such as John Shirley’s notion of “revolutionary parasitism”) but often cynical (as in Negativland’s sense that there were no more new, edgy artistic directions), the central theme in these narratives is that of new (or at least accelerated) adverse conditions for subcultural practice and production. With this in mind, it is possible to rethink the source and significance of Mondo’s “rebel cool.” Rather than a means to gloss over contradictions in its politics, as Sobchack suggested, or to mediate between New Edge culture and New Age spirituality, as Zandbergen argues, Mondo’s style might be seen in light of the paradoxes in the New Edge outlook and as an enactment of the “insider outside” position that was native to the new environment. In Liu’s argument, information cool both distances the worker from the techniques and technologies that constitute knowledge work (through bad attitude) and binds them more strongly together (if for no other reason than that bad attitude sublimates resentment that arises in response to the work environment), producing the cool knowledge worker or “outsider inside.” Similarly, new media cool serves to distance Mondo and its New Edge counterparts (such

¹¹⁶ *ibid*: 99.

¹¹⁷ *ibid*: 99.

as cyberpunk) from the New Edge constraints it perceives - co-optation, institutional control and mass culture - at the same time that it reinforces their attachment to them.

In Mondo, rebel cool and the New Edge ethos were perhaps best expressed by its practice of “irresponsible journalism,” one of Sirius’s catch-phrases. It consisted of what Gareth Branwyn called the “interzone” of Mondo’s production: “There was that sense that we had thrown out all of the rules. So when I would go to interview a rock band or a multimedia producer, you could do just whatever you damn well please. When we [...] It celebrated that you were being irresponsible.”¹¹⁸ Irresponsible journalism was cool journalism, it seemed, because it ignored the rules. It also helped give the impression that - in the recollection of international distributor Luc Steels - Mondo “never really was run as a business. It was a hobby; a social engineering venture by people with not so much interest or ability in the competitive world of publishing.”¹¹⁹ But as R.U. Sirius points out, Steels’s impressions were “just that - impressions. Some aspects were slightly more conventional than he perceived.”¹²⁰ What is missing from Branwyn’s assessment, meanwhile, is a recognition that many irresponsible acts were in fact closely aligned with the excesses of mainstream media. For one thing, much of what was labeled irresponsible and irreverent would deconstruct and critique mass media at the same time that it served to attract publicity - for example the quotable, almost infectious writing style that Sobchack called “prose bites.”¹²¹ Other supposedly irresponsible acts would re-articulate existing tendencies in commercial media, such as blurring the divide between advertising and content: Mondo had no problem, for example, interviewing regular advertisers Durk and Sandy Shaw (who sold ‘Designer Foods’ and were smart drugs experts) or even letting them write columns.

Most of all, however, Mondo’s irresponsible journalism served to dramatize the New Edge ethos that said “I’m resisting, but I’m cool.” One notable case was Mondo Vanilli, Sirius’s band that was both one of Mondo’s “media pranks” and an actual attempt to sell records. The band was promoted on multiple occasions in the magazine, including an interview with themselves under the pseudonym George C. MIDI. As the reference to Milli Vanilli suggests, this was to be “authentic inauthenticity [...] Whatever we can suck out of the media maelstrom into our corporate logos

¹¹⁸ Quoted in Boulware, 1995.

¹¹⁹ Steels, Luc. 2012. “New Edge & Mondo: A Personal Perspective – Part 2 (Mondo 2000 History Project Entry #8).” *ACCELER8OR*. <http://www.acceler8or.com/2012/03/new-edge-mondo-a-personal-perspective-part-2-mondo-2000-history-project-entry-8/>.

¹²⁰ *ibid.*

¹²¹ Sobchack, 1994: 12.

becomes [Mondo Vanilli].”¹²² Sirius describes it further by invoking Baudrillard:

[B]y being reactive, we get away with a bunch of stuff. One thing we get away with is flirting with the mainstream. We may actually do a genuine Milli Vanilli-style sappy love song as part of [the next album] for instance.

So Mondo Vanilli is taking the implications of a lot of stuff that's been happening in music and performance over the last few years, sort of synthesizing it down to an accessible and funny semiotic representation and then hopefully selling it all like pancakes. It's both a critique and a celebration of life in the simulacrum.... like cyberpunk, of course.¹²³

Mondo's most infamous media prank also showed how New Edge style enacts the collapsing divide between resistant subculture and conventional mainstream. In 1993, Mondo had members of Negativland interview U2 guitarist The Edge at a time when U2's label was suing Negativland for violating U2's trademark (the band's latest E.P. was called U2, giving the appearance that it was by the rock group rather than Negativland, and one track sampled "I Still Haven't Found What I'm Looking For"). Negativland had lost the case and was forced to pull the record and pay \$90,000. Since members Mark Hosler and Don Joyce were already Mondo contributors, R.U. Sirius sensed opportunity when a publicist for U2's guitarist, the Edge, suggested an interview in the magazine to promote the upcoming Zoo TV tour, which famously ditched the band's stripped-down stage presence for multimedia spectacle. The resulting interview was a Trojan horse, with interviewers Hosler and Joyce leading the Edge through a discussion of the necessity of appropriation in art before revealing themselves as Negativland.¹²⁴

The prank was rich with New Edge symbolism, beginning with the irony of the supposed avant-garde band and magazine communicating with a millionaire rock musician named The Edge. The guitarist begins by saying he identifies with Mondo's style, and the discussion seems to put Negativland and U2 on common ground:

Edge: We're more relaxed with the idea of being a big band, turning it into a part of our creative process [...] now we're using our position in a way that amuses us. It was *so* different when we started. It was '76 – the whole punk ethic of 'Start again, wipe the slate clean'

Mark Hosler: And now *you're* the next big thing kids want to tear down.

¹²² R.U. Sirius, quoted in MIDI, G. Gordon. 1992. "Mondo Vanilli." *Mondo 2000*, 7: 77.

¹²³ Branwyn, Gareth. n.d. "I Am The Walrus (Interview with Mondo Vanilli's R.U. Sirius)." *Street Tech*. <http://www.streettech.com/bcp/BCPgraf/CyberCulture/walrus.html>.

¹²⁴ Hosler, Mark, Don Joyce and R.U. Sirius. 1993. "U2 Can Sue a Simple Simon." *Mondo 2000*, 8: 54-59.

Edge: That's part of the whole regenerative process of rock 'n' roll, and I think it's important. And now that we *are* big, we want to do something interesting, imaginative, and... irreverent. So we're not taking our position seriously in that sense. We're actually being kind of subversive... just manipulating it.¹²⁵

After *Negativland*'s members reveal themselves and The Edge expresses remorse for how the record label acted, Hosler defends the *Negativland* E.P. by arguing that U2 was part of the media saturated "environment" (the same environment that U2's Zoo TV tour commented on).

On one level U2 is just a bunch of guys making music, but on another level, U2 is part of the media environment. I hear your songs playing in the shopping mall, whether I want to or not [...] So for us to ask permission to do something in response to our environment [...] we feel that... *no*, we don't have to ask. This is just the world we're in.¹²⁶

As inescapable as U2's sound and image was the institutional logic and media hype that accompanied it, a fact made clear both by the outsized lawsuit and level of attention the case received:

We thought [*Negativland*'s limited success] was so obvious that they would've just dropped [the lawsuit]. But *they* thought we were so tiny and infinitesimal that no one would even care.

We would just sort of drop off the face of the earth once it was over.¹²⁷

Fittingly, the interview ends with an irreverence that suits all involved, as Hosler matter-of-factly requests a loan from an amused The Edge, putting one more hole in the wall between an avant-garde band caught up in legal battles and a mainstream band that doesn't take its position seriously, that is "actually being kind of subversive... just manipulating it."¹²⁸

2.3 Conclusion: new media cool and web exceptionalism

*Mondo 2000 was the coolest thing in the world for six months.*¹²⁹

On its face, the future imagined by *Mondo 2000* over 20 years ago bears little resemblance to new media culture today. Mixing counterculture and New Age influences with a focus on technology

¹²⁵ Quoted in Hosler et al, 1993: 56.

¹²⁶ *ibid*: 58.

¹²⁷ *ibid*: 59.

¹²⁸ *ibid*: 56.

¹²⁹ Attributed to Neil Gaiman. See Sirius, R.U. 2012. "Mutant Glory: The MONDO Moment (MONDO 2000 History Project Entry #33)." *ACCELER8OR*. <http://www.acceler8or.com/2012/10/mutant-glory-the-mondo-moment-mondo-2000-history-project-entry-33/>.

and technological (sub)culture, *Mondo 2000* had helped define cyberculture in the early- to mid-1990s in terms of techno-transcendence. Rapture-like visions of the Singularity may have been in jest, but the magazine was serious in its assessment of the significance of VR and its celebrations of the disembodied existence it made possible. In doing so, *Mondo* helped shape a key framework within which new media - and eventually the web as cyberspace - were understood and debated. The virtual, however, is arguably no longer central to understandings of the web, while *Mondo's* future “now seems very last-century.”¹³⁰

As I have argued in this chapter, however, neither celebrations of techno-transcendence nor later dismissals of the virtual fully capture the character and significance of cyberculture. Underlying *Mondo's* rupture-talk, as Vivian Sobchack pointed out, was its treatment of politics in a vacuum, since its vision of a world improved by “access” to information technology ignored the significance of, for example, class, race and gender in determining who stood to gain. But where Sobchack argues that *Mondo's* cyberlibertarianism was at odds with (and even co-opted) a countercultural emphasis on social consciousness and New Age spiritualism, Dorien Zandbergen has shown that this seemingly surprising mix in fact represented historical and cultural continuity. *Mondo*, as well as the raves and festivals that Zandbergen includes in her definition of New Edge culture, enacted the material and conceptual connections that have been made over the years between two key Bay Area institutions - the computing industry and New Age. Both Sobchack and Zandbergen highlight the significance of *Mondo's* style for understanding the New Edge. For Sobchack, it served to neutralize the contradictions in *Mondo's* outlook. The distancing mechanism of irony acted as a kind of false-consciousness, allowing *Mondo* to express a commitment to social issues while simultaneously supporting libertarian policy - that is, to allow a nostalgic attachment to the past to exist alongside technophilia “in a peculiarly oxymoronic cosmology of the future.”¹³¹ For Zandbergen, *Mondo's* use of irony and multiplicity is an example of how these devices enable (rather than constrain or oppose) an attachment to New Age spiritualism within the technological, postmodern worldview of New Edge culture.

Although the account presented here is sympathetic to Sobchack's argument that New Edge style is related to New Edge ambivalence, and to Zandbergen's emphasis on its productive role in New Edge culture, I have argued that a more complete analysis of *Mondo's* rupture-talk would include more attention to its the media form that accompanied it. Where Liu historicizes information cool by tying its emergence to the conditions of post-industrial knowledge work, here I

¹³⁰ William Gibson, quoted in Lackerbauer and Sirius, 2012.

¹³¹ Sobchack, 1994: 18.

have argued that Mondo's "new media cool" must be seen in relation to what it perceived *and enacted* as the altered conditions for underground or alternative culture. The New Edge was less a vision of a utopian future than it was an account of the paradoxes of a new media driven cultural environment. In the New Edge, the opportunities for acts of subversion through technology and media multiplied at the same time that those tools expanded the forces of co-optation, institutional control and media saturation. These assumptions guided Mondo's formal composition (an important part of which was "irresponsible journalism") and in turn produced the magazine's "insider outside" identity.

Mondo's independent, irreverent personality seemed destined for more mainstream success in 1993, after *A User's Guide* and the Time cover story. However, the magazine's fortunes soon changed. When Wired began publishing across the Bay in San Francisco, the Mondo group simply laughed and compared it to The Monkees.¹³² Together with growing personal and editorial differences between Sirius and Queen Mu, however, the arrival of Louis Rossetto's magazine spelled the beginning of the end for Mondo. Sirius stepped down from his position as editor-in-chief later that year. The magazine, which had finally begun to appear on schedule, once again published erratically, finishing its run unceremoniously with issue 17 in 1998. Its demise at the height of the dot.com bubble reinforces the notion that Mondo and the techno-transcendental future it imagined have little in common with what came after.

Seen from the perspective of new media cool, however, Mondo's legacy might be re-assessed. This would include the similarities with Wired, which would later be called "the coolest magazine on the planet" and the first "to make the computer world seem hip."¹³³ On various occasions, Sirius has argued that Wired represented the corporate, right-wing co-optation of the New Edge.¹³⁴ While it is true that Mondo would probably never have put Newt Gingrich on its cover (as Wired did in 1995), and Rossetto would have identified sooner with the term New Economy than Sirius's New Edge, the contention ignores the remarkable continuity between the two magazines. As Jack Boulware notes, Wired drew heavily from the networks of writers and sources that had provided the bulk of Mondo's content. Likewise, both magazines had benefited from the work of the Whole

¹³² Boulware, 1995.

¹³³ Carr, David. 2003. "'Wired': The Coolest Magazine on the Planet." *The New York Times*, July 27, sec. Books / Sunday Book Review. <http://www.nytimes.com/2003/07/27/books/review/27CARRLT.html?ex=1216872000&en=46d66a6828a69cb8&ei=5070>.

¹³⁴ Lebkowski, 1995; Sirius, R.U. 1995. "Mondo 2000 Vs. Wired." *Scrappi.com* (accessed via the Internet Archive). <http://web.archive.org/web/19990224141146/http://www.scrappi.com/deceit/nrlydeep/mndvswir.html>.

Earth Review.¹³⁵ Relatedly, Wired's appropriation of Mondo's style (sometimes quite literally - the design of Wired's spines were clearly inspired by Mondo) was not disingenuous, as co-optation would suggest. As I argue in the next chapter, the cool that defined Wired's style and editorial decision-making, much like Mondo's, originated with and produced its identity as an outsider within the publishing mainstream, a position that was closely aligned with its vision of a digital revolution in the media industry.

In chapter 1, I argued that the computational metaphor was central not only to the exceptionalism of cyberculture but also to that of later web exceptionalisms. The same can be said of the basic outline of new media cool. In each case studied in the following chapters - Wired's vision of a new publishing paradigm, the promise of open news symbolized by Slashdot, and web-native culture as imagined by early bloggers - a cool sensibility mediates between the belief that the web opens up the potential for alternatives to mass media and mainstream culture, and the sense that such alternatives are necessarily undermined by economic, institutional and cultural constraints. Like Mondo, web exceptionalism finds its voice through this contradiction: it is out on the edge, but it's cool.

¹³⁵ Turner, 2006; see also chapter 3.

II. WEB EXCEPTIONALISMS

3. HotWired and the New Publishing Paradigm, 1994–1997

So far, I have discussed cyberculture as an influential discourse on the significance and effects of new media, one which made it possible to think of the web as an exceptional medium - as a medium that would displace mass and mainstream predecessors while displaying unique characteristics reflecting its underlying nature. Understood as cyberspace, the web was a pure information space that freed its users from real-world constraints and a virtual realm that would paradoxically allow for more organic forms of community, identity and enterprise. Cyberculture should also be seen in light of the characteristic media form of its most prominent expressions, the cool tech-culture magazine: in chapter 2, I argued that *Mondo 2000*'s techno-transcendental rupture-talk was simultaneously an ambivalent discourse on the changing conditions for underground and subcultural production. This ambivalence informed *Mondo*'s own position as "insider outside," a subcultural actor aware of its implication in what it saw as the inevitabilities of commercial logics, institutional forces and media saturation, and provided a foundation (or ethos) for the magazine's ironic, irreverent style - what I called *Mondo*'s 'new media cool.' Having explored the roots of web exceptionalism, now I turn to three case studies, each of which may be seen to extend elements of cyberculture, as well as the dynamic in which rupture-talk is inscribed in specific media practices, technologies and forms. The first of these revisits *Wired*'s creation of *HotWired*, a separate publication that would extend the *Wired* brand onto the web, and, according to its creators, mark the arrival of a "new publishing paradigm."¹

3.1 Introduction: "Mediasaurus"

In 1993, the release of the Mosaic browser and the subsequent growth of the World Wide Web directed the attention of national media to the new technology, and served as impetus for high-profile discussions of its future. In a *New York Times* article that for many gave first notice of computer networking's "killer app," John Markoff described Mosaic as a free and open alternative to paid online services, and a massive opportunity for advertisers and publishers in the emerging multi-media industry.² The article quotes Tim O'Reilly, who called it "the future of on-line publishing" and Electronic Frontier Frontier co-founder Mitch Kapor, who likened it to "C-Span for

¹ Behlendorf, 1994.

² Markoff, 1993.

everyone.”³ Two years later, after Netscape had created the first commercial browser and the ‘walled garden’ services America Online, CompuServe and Prodigy began to grant users access to the web (lest they cancel their subscriptions), this promise had been fulfilled. The web was declared mainstream and was recognized as a mass medium like print and television, one that would “take a place alongside [its predecessors] as a social, cultural and economic force in its own right.”⁴

For some, however, such bold assertions about the web did not go far enough: rather than extend the reaches of the existing publishing industry into the online world, the web would instead bring about the collapse of traditional media. In their place, a new wave of publishers would match the speed and diversity inherent to the new technology, rather than serve uniform content to the lowest common denominator. This argument was forwarded most visibly by *Wired* magazine, where publisher Louis Rossetto and executive editor Kevin Kelly cultivated an image of a deep knowledge of new digital technologies and their effects. In a feature article entitled “Mediasaurus” in the magazine’s fourth issue, Michael Crichton lamented the “crossfire syndrome” in journalism and stated that “what we now understand as the mass media will be gone in the next ten years.”⁵ Though *Wired* would become known for its ability to contradict itself from one issue to the next - an effect of its irreverent style and studied contrarianism - one constant was this sense of impending radical change in the sphere of media culture. In the magazine’s first editorial, Rossetto had set out as its mission to document the digital revolution “while mainstream media is still groping for the snooze button.”⁶ And as momentum grew around the web and Mosaic, with commercial applications and publications in development, the magazine held firm in this belief and loudly stated it would now go a step further. *Wired* promised to institute “a new publishing paradigm for a new medium,” and plans for HotWired - a *Wired*-branded web publication, or “a start-up within a start-up” - began to take shape in early 1994.⁷ Mosaic’s sudden success had mirrored that of the magazine, and in January *Wired* received a large infusion of cash from a deal with the publishing

³ *ibid.*

⁴ Lohr, Steve. 1995. “Out, Damned Geek! The Typical Web User Is No Longer Packing a Pocket Protector.” *The New York Times*, July 3. <http://www.nytimes.com/1995/07/03/business/technology-net-damned-geek-typical-web-user-no-longer-packing-pocket-protector.html>; Markoff, John. 1995. “If Medium Is the Message, the Message Is the Web.” *New York Times*, November 20. <http://www.nytimes.com/1995/11/20/business/earlier-media-achieved-critical-mass-world-wide-web-if-medium-message-message.html>.

⁵ Crichton, Michael. 1993. “Mediasaurus.” *Wired*, 1.4 September. <http://www.wired.com/wired/archive/1.04/mediasaurus.html>.

⁶ Rossetto, Louis. 1993b. “Why *Wired*?” *Wired*, 1.1 March.

⁷ Behlendorf, 1994; Andrew Anker, interview, 2010.

company Condé Nast. Rossetto assembled an editorial team including Howard Rheingold, who had recently written *The Virtual Community*, and HotWired went live in October.

HotWired, which began as a single website but grew to incorporate a number of sites and separate publications, would play a central role in the history of Wired's spectacular but unsuccessful bid to build a multi-media publishing empire, a sequence of events that form the basis of Gary Wolf's book *Wired: A Romance*.⁸ Wolf, who wrote for the magazine early on and was later HotWired's executive editor, positions Rossetto as an outsider who beat the odds to fulfill a grand vision - an independent publishing success story rivaling that of Rolling Stone - only to fall victim to a cruel mix of chance and overzealous decision-making. As an ever-expanding HotWired drained their resources, Rossetto and Metcalfe tried but failed to take the company public and, under pressure from all sides, were forced to sell in 1998. And in this respect, Wolf's book can be read as a rumination on the dot.com boom from the inside out: mixing heavy doses of youthful energy and idealism with shrewd business deals, HotWired typified the 1990s "cart before the horse" start-up.

At the same time, Wolf's narrative is closely tied to another one, on the early development and adoption of the World Wide Web as a publishing and publicity medium - as opposed to, say, the hypertext alternative to information management originally envisioned by Tim Berners-Lee.⁹ HotWired, despite the financial troubles and various poor business decisions documented by Wolf and other observers, takes up a unique and significant place in web history: as one of the first publications created exclusively for the web, as the first site to feature ad banners and as the birthplace of a range of other conventions in web publishing and design.¹⁰ Beyond such milestones, I will argue, it served as a "network forum" that brought together diverse actors central to the web's discursive and technical development, while also bridging traditional and web publishing paradigms.¹¹ That is, HotWired provided a space for key debates about the web as a medium, how it related to other media and media industries, and how it would or should function.

For as much as Wired touted a deep and absolute knowledge of new media in its editorials and press releases, among those who worked for the magazine or followed it closely it was clear

⁸ Wolf, 2003.

⁹ Proposing the then untitled project, Berners-Lee said the purpose of the Web was to create an information structure that reflected the actual day-to-day running of the European Organization for Nuclear Research (CERN), which was collaborative and "organic," and thus in opposition to the rigid bureaucratic structure imposed on it. Berners-Lee, Tim. 1989. "Information Management: A Proposal". CERN. <http://www.w3.org/History/1989/proposal.html>.

¹⁰ Veen, Jeffrey. 1997. *HotWired Style: Principles for Building Smart Web Sites*. San Francisco: Wired; Wolf, 2003; Sharkey, Matt. 2005. "The Big Fish." *Keepgoing.org*. http://www.keepgoing.org/issue20_giant/.

¹¹ Turner, 2006.

that inside Wired and HotWired this knowledge was fragmented and disputed. Debates about the nature and future of new technology were not just welcomed but necessary at the magazine, where Rossetto and Kelly encouraged strong points of view from the writers. However at HotWired, these debates quickly became entangled with issues of advertising and business models, editorial vision and control, and a number of key production and design decisions. Rheingold and HotWired producer Jonathan Steuer famously fell out with Rossetto, and both left soon after the site launched. At stake were two issues that resonate with contemporary debates surrounding Web 2.0. First, there was the question of how the site should be commercialized, and whether requiring users to register would violate norms of privacy and openness. Second, a number of arguments revolved around how much prominence would be given to user contributions, with Rheingold and Steuer favoring a model that was equal parts publication and public forum, and Rossetto resisting any features that downplayed Wired's editorial voice. As Jennifer Cool argues, the vision of user-led community that Rheingold and Steuer offered has in some ways been realized with the introduction of "social media," from blogging to social network sites.¹²

What was perhaps even more prescient, however, were the terms on and with which the HotWired debate took place: in terms of its content, the case bears a strong resemblance to current discussions of the value of user-generated content and the role of traditional gatekeepers in media and journalism.¹³ More subtly, one also sees similarities in the form the debate took, where the question was only partly how to import Wired onto the web, and just as often posed in terms of what the medium required, wanted or deserved. Appealing to the identity of the web was the central rhetorical convention, in other words, just as it is now with the term "Web 2.0." Ideas about the shape and significance of an impending new media landscape not only informed the design and content of HotWired early on, but continued to resonate in the construction of a number of the "sister sites" that were developed later. Most significantly, these foundational debates were extended by Suck.com, a site created anonymously by two HotWired employees who combined cynical humor and cultural criticism in daily essays about the growing industry of web production. Like HotWired, Suck offered a vision of what the web was for - a vision formulated largely in terms of an oppositional relationship to older media forms and existing media industry - at the same time that it helped create formal and stylistic conventions that would, in turn, be interpreted as web-native.

¹² Cool, Jennifer. 2008. "Communities of Innovation: Cyborganic and the Birth of Networked Social Media". Los Angeles, CA: University of Southern California. <http://www.cool.org/portfolio/PDF/jcooldissertationFINAL.pdf>.

¹³ Shirky, 2008; Keen, Andrew. 2007. *The Cult of the Amateur: How Today's Internet Is Killing Our Culture*. New York: Doubleday.

This chapter draws on historical accounts, primary source material and contemporaneous secondary sources, interviews with former Wired and HotWired employees as well as privately and publicly archived communications among participants to explore how the web was imagined by those working at the magazine and its online spin-off, the cultural and historical contexts of these conceptual models of the web and their manifestation in the design, editing and production of HotWired and various affiliated sites such as Netizen, Webmonkey and Suck from 1994 to 1997. The period ends with HotWired's 'reboot' after which it would focus exclusively on "web culture" and just before Rossetto lost control of the company.¹⁴ The guiding question, then, is 'What is the web for?' and the approach is to analyze how various answers to it became centrally involved in HotWired's creation and evolution.

In tracing this brief genealogy of the web's purpose and its inscriptions in editorial practices at HotWired - that is, its rupture-talk and web-native culture - I look to unpack (along with Jennifer Cool) the histories of current uses of the web, arguing that "social media" and notions of participatory culture, as well as the debates that surround these, can to some extent be traced back to Wired's attempt to establish a "new publishing paradigm for a new medium."¹⁵ However, I also argue that it is a mistake to accept the assumption embedded in Web 2.0 discourses that participation and publishing are diametrically opposed, an assumption that plays into how one reads the HotWired debates 20 years later. Finally, I conclude by discussing how one might theorize the agency of web exceptionalism in terms of Actor-network theory.

3.2 HotWired's producer culture: The Whole Earth, Wired and Cyborganic

In the short period between the public release of the NCSA Mosaic browser in November 1993 and Wired's announcement of a separate web publication in May 1994, it became clear that the World Wide Web's growth posed a significant challenge to existing commercial computer networking services such as AOL and Prodigy, and also that large media organizations such as Time-Warner would soon begin experimenting with publishing on the web. However, these facts alone do not explain the decision at Wired to create a separate web initiative (as opposed to an online version of the magazine), nor the site's fantastic description as "a cyberstation, a suite of vertical content streams about the Digital Revolution and the Second Renaissance with an integrated community

¹⁴ Frauenfelder, Mark. 1997. "HotWired 4.0 Targets 'Web Participants'." *Wired*, July 1. <http://www.wired.com/culture/lifestyle/news/1997/07/4862>.

¹⁵ Behlendorf, 1994; Cool, 2008.

space.”¹⁶ After all, Netscape’s Initial Public Offering, generally seen as the watershed moment in the public realization of the web’s importance, was still more than a year away. Nor is it possible to trace the decision to the singular actions or insights of any particular actor, though of course Rossetto would ultimately pull the trigger. Instead, to understand the decision and its significance one has to look at key contextual factors that made the idea that the web would transform media production and consumption seem to be an obvious fact: first, the magazine’s position in a network of actors concerned with the economics, politics and culture of technology, especially writers and thinkers associated with the Whole Earth publications and the electronic conferencing system the WELL; second, the relationship forged between the digital utopianism of the Whole Earth network and Wired’s media culture, which was epitomized by Rossetto’s passionate critiques of mass media and the traditional publishing industry; and third, the establishment of Wired’s online division, which was part of a larger Bay Area network of young software developers and designers who saw in the web an opportunity to combine Whole Earth-style community with commercial enterprise.

3.2.1 Extending the Whole Earth network

Although Wired was conceived as “a reverse time capsule” that would perplex its readers, the strange future it depicted was in fact one that resonated strongly with the cultural contexts and historical trajectories that contributed to the magazine’s emergence.¹⁷ Like its predecessor *Mondo 2000*, Wired’s message was clearly one that can be described as rupture-talk: in the first editorial, Rossetto wrote that the “digital revolution is whipping through our lives like a Bengali typhoon.” Wired published story after story about how digital technology was set to transform long-standing institutions from education and government to journalism and the music industry. These articles oscillated between utopian and dystopian futures, but the common argument was that - if unleashed from industrial-age thinking and government regulation - information technology would be a subversive and powerful source of individual freedom, economic prosperity and progressive social and cultural change. With this, Wired made digital technology cool, an image that stood in stark contrast to previous notions of the computer as a grey instrument of state and corporate power. But as argued in chapter 1, this cybercultural utopianism did not appear suddenly or as a consequence of advances in technology. Rather, it represented the extension of a history in which the cultural meanings of information technology and the computational metaphor were transformed by

¹⁶ HotWired FAQ, reprinted in Thomas, Owen. 2008. “Wired Relaunching HotWired as a Social Network?” *Gawker*. <http://gawker.com/5017019/wired-relaunching-hotwired-as-a-social-network>.

¹⁷ Wolf, 2003: 67.

members of the counterculture. Stewart Brand and others who Fred Turner calls “New Communalists” incorporated hi-technology and systems thinking into their efforts to create self-sufficient, non-hierarchical communes that would form an alternative to what they saw as mainstream society’s cold institutional logic and suppression of individuality. In the *Whole Earth Catalog*, Brand’s publication that stood at the center of the New Communalist movement, technology was perceived not as an alienating force, but as a tool for a return to more natural forms of co-existence. With the *Catalog* and later “network forums,” Brand helped create and reveal common ground among the values and sensibilities of hippies and engineers, hackers and entrepreneurs.

As Turner argues, in one sense *Wired* must be seen as an extension of the *Whole Earth* network. Kevin Kelly, who edited the *Whole Earth Review* before joining *Wired*, brought with him contacts in the Bay Area and writers such as Bruce Sterling, William Gibson and Howard Rheingold.¹⁸ Early investors in the magazine were found in the Global Business Network, the consultancy group founded by (among others) Peter Schwartz and Stewart Brand. And one of *Wired*’s first moves, before putting together a prototype, was to create a presence on the WELL. Beginning in May 1992, Kelly and *Wired*’s first employee, Will Kreth, began using the forum (or ‘conference,’ in the WELL’s terminology) to solicit ideas for the magazine and post job announcements and press releases. The WELL, understood in Howard Rheingold’s terminology as a virtual incarnation of the public sphere, in *Wired*’s case was more accurately a hybrid space of publicity, internal and “intra-” communication, customer feedback and criticism. *Wired*’s brand was not simply extended into the conference, and yet its use of the WELL was promotional to the extent that it sought to create a strong bond between *Wired* and the WELL’s users, who were to be given a sense of ownership of the magazine.¹⁹ This strategy appeared to be successful when, after the first issue was published, reactions trickled and then poured in, and WELL users congratulated the editors and offered constructive criticism (much of which related to the readability of the design and the magazine’s technical production). The conference was also not designed for internal communication, however it served as a platform for connecting editors with the many part-time contributors who wrote for *Wired*. When one writer took to the WELL to ask if others were having trouble getting paid on time, Kevin Kelly responded with an apology and noted that had the complaint gone through the normal channels it would have taken much longer to reach his attention.

¹⁸ Turner, 2006: 212.

¹⁹ In the first post to the *Wired* conference on the WELL, Will Kreth wrote that the “topic is a unique opportunity for you to help design a radically different kind of computer magazine.” Kreth, Will. 1992. “Wired on the Well (inna Muchomedia Style).” *The WELL*. May 15.

With tongue only partially in cheek, Kelly called the practice of complaining publicly on the WELL rather than directly to Wired an example of “community journalism.”²⁰ For him, instances like these were proof that technology such as the WELL was creating new forms of social interaction and cultural expression even if (following Turner) a more plausible explanation was that the WELL was reproducing existing modes of work and networks of collaboration that had characterized the Whole Earth world and that of Cold War researchers before it. In another post, Kelly listed the WELL itself as one of Wired’s influences: “I’d like the mag to learn from this medium, if it can.”²¹

3.2.2 “Get Wired”: publicity culture and media criticism

If Wired’s conference on the WELL symbolizes its connection to a longer history of cybernetics-inspired counterculture, however, its contents also suggest how the magazine departed from this genealogy. Alongside a number of enthusiastic responses, the reaction on the WELL to Wired’s premiere issue included the first signs of backlash. Within days, the WELL recorded examples of the basic form of criticism that would be leveled at Wired for years to come: that the magazine’s loud design and overall sense of urgency, or hype, far exceeded the actual novelty or importance of the events it covered. “Who cares if it communicates, as long as it’s Hip.”²² Such comments weren’t incidental but rather directly related to Wired’s self-conscious, avant-garde aesthetic, which was apparent not only in the magazine’s design but also its editorial, where it actively sought to make bold claims about the societal and cultural effects of technology. It was this same style and high production values that Kevin Kelly believed were missing from the Whole Earth publications, and that convinced him to become Wired’s executive editor.²³ However this was not simply a matter of scaling up or embellishing the Whole Earth discipline, and can instead be understood in light of the specific articulation of technological culture in Wired, especially its conflation with a discourse of media criticism.

On the one hand, Wired’s early editorial direction can be seen as part of a more general glamorization of computing technology and the subcultures around it in media portrayals in the 1980s and early 1990s. At around the same time that Mondo 2000’s R.U. Sirius began mixing technology with popular culture in *High Frontiers* (in 1984) and *Reality Hackers* (1988), Louis

²⁰ Kelly, Kevin. 1993b. “Wired on the Well (inna Muchomedia Style).” *The WELL*. September 8.

²¹ Kelly, Kevin. 1993a. “Wired on the Well (inna Muchomedia Style).” *The WELL*. February 20.

²² Crockford, Douglas. 1993. “Wired on the Well (inna Muchomedia Style).” *The WELL*. January 25.

²³ Wolf, 2003.

Rossetto launched Language Technology (1987, later renamed Electric Word), an Amsterdam-based publication that stood out with its bright computer graphic covers. Looking back, Rossetto describes Language Technology as a prototype for Wired where he and Jane Metcalfe learned the basics of publishing.²⁴ Even early on, though, it anticipated Wired's editorial focus: one feature article was entitled "La vie en rose -- Cruising for love online in France," and others would include profiles of hackers and writers that Rossetto considered part of the digital elite.²⁵ Casting technology "gurus" as celebrities become one of Wired's defining elements. In its first year, Wired's covers featured Bruce Sterling, a group of anonymous hackers, Alvin Toffler and Peter Gabriel. The presence of Gabriel (and to some extent Sterling, the science fiction author) reflects the related move of framing cultural icons as part of a technological movement. Rossetto often said he wanted Wired to emulate Rolling Stone, and saw an analogy between the rock stars of the 1960s and the technology gurus of the 1990s.²⁶ The comparison was shorthand for Wired's identity vis-a-vis existing computer magazines, and therefore featured prominently in its early press material: "If Rolling Stone covered music the way computer magazines cover the information society, it would be full of stories about amps and wah-wah pedals [...] Wired's main focus is not boxes, but the people, companies and ideas creating the Digital Revolution."²⁷ The comparison, however, neglects a key element of the cool new media culture promoted by Wired. Readers of a magazine like Rolling Stone could identify with a subcultural milieu that inverted or opposed the norms, procedures and technologies of mainstream society. Knowledge workers reading Wired, on the other hand, were presented with "intra-culture," where the technologies that constituted their everyday work environment were themselves imbued with rebel cool.²⁸ They could identify with the "outsiders inside" of new media industry, who were poised to dramatically alter the social, cultural and economic structures of corporate, mainstream America from within.²⁹

Efforts to define digital technologies as cultural phenomena worked in tandem with another of Wired's key editorial practices, which was to push boundaries in terms of journalistic norms and

²⁴ Rossetto, Louis. n.d. "Language Technology Begat Electric Word Begat Wired." *Electric Word / Language Technology -- Online*. <http://rynne.org/electricword/>.

²⁵ *ibid.*

²⁶ Rossetto, Louis. 1993a. "The Story of Wired," presented at the Doors of Perception, Amsterdam. <http://museum.doorsofperception.com/doors1/transcripts/rosset/rosset.html>.

²⁷ Rossetto, quoted in Wired's first press release from 1992, reproduced in Baio, Andy. 2008. "WIRED and The WELL." *WAXY*. http://waxy.org/2008/02/wired_and_the_w/.

²⁸ Liu, 2004; see chapter 2 for a discussion of Liu's analysis of "information cool."

²⁹ *ibid.*

writing style - to operate outside the norms of what it saw as a dying mass media industry. The magazine had a boldly stated (if not always consistent) political outlook, especially in regards to issues of electronic freedom and privacy. Above all, Rossetto hammered on the need to present readers with a “point of view” and take strong stances on the subject material - in one infamous case, Gary Wolf portrayed hypertext inventor Ted Nelson as a befuddled academic who could no longer see the forest for the trees, and described Nelson’s Xanadu project as the preeminent example of undelivered software, or ‘vaporware.’³⁰ (Soon after, *Wired* also took pleasure in publishing excerpts of Nelson’s lengthy response.) As a “writer’s magazine,” *Wired* sooner erred on the side of indulgence than caution - feature articles ran at a relatively modest 8,000 words in *Wired*’s first year, and would increase to 20,000 and more by 1995.³¹ The prominence given to authors was more literal at times, with many of the magazine’s glossy covers portraying the feature writers themselves.

While it may have represented a new direction for technology reporting, *Wired*’s approach consciously borrowed from the past. Specifically, Rossetto would reference New Journalism, the 1970s movement associated in part with *Rolling Stone* and spearheaded by writers like Tom Wolfe and Hunter S. Thompson. New Journalism used literary techniques to highlight a journalist’s role in a story, and in some cases brought the journalists a level of fame normally associated with best-selling fiction writers and others in the arts and in the entertainment industry.³² And as in Wolfe’s definition of New Journalism, *Wired*’s experimental style was clearly embedded in a normative critique of traditional news media, and posited that accuracy and integrity were not necessarily tied to journalistic norms of objectivity and equal representation of opposing viewpoints. It was in this sense that Rossetto demanded that writers present their views forcefully, and would later call *HotWired*’s approach “way new journalism.”³³ If New Journalism was innovative for its conflation of literature and reporting, however, *Wired* seemed to draw on a different cultural mode, in particular the cuts and shocks of MTV-style television. On the one hand, this was apparent in the look of the magazine. Especially in its early years, under the direction of designers John Plunkett and Barbara Kuhr, *Wired* attempted to create a visual-textual gestalt that played with typographic and other publishing conventions, and received polarized reactions. As Alan Liu argues, this aesthetic drew on earlier publications (especially David Carson’s *Ray-Gun*), and amounted to a

³⁰ Wolf, Gary. 1995. “The Curse of Xanadu.” *Wired*, June. <http://www.wired.com/wired/archive/3.06/xanadu.html>.

³¹ Gary Wolf, interview 2010.

³² Wolfe, Tom. 1972. “The Birth of ‘The New Journalism’.” *New York Magazine*, February 14.

³³ *HotWired* FAQ, reproduced in Thomas, 2008.

formal strategy of “anti-design,” in which communication is both effected and resisted in the same move, putting the acts of information storage and transmission themselves on display.³⁴ The incorporation of the language of electronic media into Wired’s reporting was perhaps more subtle but only marginally so: Wolf notes that when he commissioned election coverage in 1996, Rossetto told the editor to cover it “as you would a car crash. Treat it as a spectacle.”³⁵

Spectacular reporting and Wired’s interpretation of New Journalism, alongside the conflation of technology with arts and media culture that corresponds to a Rolling-Stone-for-computers, ultimately point to the centrality of a media discourse in Wired when compared to the Whole Earth publications. From the perspective of Stewart Brand and the Whole Earth network, independent publishing and other media were ‘tools,’ and thus fit into a larger universe of heterogeneous objects that would empower the individual “to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested.”³⁶ For example, the first Whole Earth Catalog organized the tools it promoted into the categories Understanding Whole Systems, Shelter and Land Use, Industry and Craft, Communications, Community, Nomadics and Learning.³⁷ Wired, though its range was greater, often returned to the theme of a digital revolution in the production and consumption of media. Early features included Michael Crichton’s “Mediasaurus” and a special on the death of mass media advertising. “Barely a month went by without some chart or essay or full-length feature in Wired that purported to show how mainstream companies, and especially mainstream media companies, were dinosaurs headed for extinction.”³⁸ Another major influence in this regard was Wired’s columnist and first major investor, Nicholas Negroponte, who speculated at length about the coming decline of mass media in his monthly contributions, and the book he based on them, *Being Digital*.³⁹ While both the later Whole Earth publications and Wired were interested in how digital technologies would radically change any number of industries and institutions, it is striking how much emphasis Wired put on the revolution in media technology and media style, and by extension on the power of the existing media industry and its conventions. So when, for example, Louis Rossetto argued that “the mainstream media is not allowing us to understand what’s really happening today because it’s

³⁴ Liu, 2004: 221-222.

³⁵ Wolf, 2003: 158.

³⁶ Brand, Stewart, ed. 1968. *Whole Earth Catalog*. San Francisco, Point Foundation: inside cover.

³⁷ *ibid.*

³⁸ Wolf, 2003: 97.

³⁹ Negroponte, Nicholas. 1995. *Being Digital*. Ann Arbor: University of Michigan.

obsessed with telling you, ‘Well, on the one hand’ and ‘on the other hand,’” he was not “simply aim[ing] to distinguish the magazine from its competitors,” but also giving voice to a belief that it was the media that played a determining role in society and that technology was in part a means to do media differently - a belief that would become more visible as he looked to expand Wired onto the web and elsewhere.⁴⁰ Speaking to a crowd of new media artists and professionals in 1993, Rossetto compared the rise of new digital technologies to the advent of film and television and spoke about Wired’s plans: “There aren’t many times when you get to be a part of the birth of new media [...] I think one of the things that Wired and we are all about, is the opportunity that this presents to us as actors and designers of this future.”⁴¹

Meanwhile, Wired’s overwhelming success in its first year, in terms of sold-out newsstands and industry accolades, had the unintended effect of highlighting a relative dearth of opportunity in the multi-media industry at the time.⁴² Before it became home to so many web start-ups, the South of Market Area (SOMA) in San Francisco where Wired was based was known as the Multi-Media Gulch, and numerous companies there were focused on publishing interactive CD-ROMs. Avenues for publishing online were limited at best. In addition to its presence on the WELL, Wired had a featured page on America Online, a Gopher site and some other computer networking projects. In late 1993, a few employees comprised a makeshift online division, which also functioned as a help desk. Jonathan Steuer, a Stanford PhD candidate studying virtual reality and an active member of San Francisco’s rave scene, brought insight into fledging technologies like the World Wide Web to Wired when he joined in the summer - his first task was to configure the company’s Internet connection and mail server.⁴³ Will Kreth moderated the Wired conference on the WELL, while June Cohen managed the magazine’s America Online content.

None of these initiatives had much promise for commercial publishing, and with plenty of work to do as a result of the magazine’s quick success, Rossetto was content to remain focused on print for the time being. However, he also organized a series of regular, informal meetings to discuss both the status of Wired’s existing digital media projects as well as possible new ones. The “brain trust,” which became an incubator for many of the ideas that would later be incorporated into HotWired, included Rossetto, Metcalfe, Kelly and Steuer, along with a number of guests such as John Perry Barlow and Howard Rheingold, who would share their visions of coming changes in the

⁴⁰ Quoted in Turner, 2006: 216.

⁴¹ Rossetto, 1993a.

⁴² Wolf, 2003: 79, 205.

⁴³ Cool, 2008: 161.

media and cultural landscape, and what role Wired could play in it.⁴⁴ One regular attendee was Andrew Anker, an investment banker who had helped Wired raise funds for its launch and whose mix of financial and technical knowledge (he had previously worked at a multi-media start-up) impressed Rossetto and Metcalfe. In February 1994, Anker would officially join the company and begin working with Steuer on a business plan for a Wired-branded publishing venture on the World Wide Web.

3.2.3 The hybrid communities of Cyborganic

The personal and professional ties that were instrumental in creating HotWired were being stitched together just as the web came into view as a platform for commercial publication. In part, these contacts were made in and around the offices of Wired, including Rossetto's brain trust and Kelly's connections with the Whole Earth group. But equally importantly, Wired drew on a growing population of Bay Area programmers and designers working in the multi-media industry, many of whom were introduced to the web at an early stage. The new media workers that came to HotWired distinguished themselves through their alignment of social activity and cultural expression with their professions, as well as a corresponding adoption of new, 'virtual' technologies to bridge these divergent contexts. A lively arts and culture scene in San Francisco provided them not only with the opportunity to form personal relationships that could be leveraged in professional life, but in some cases a model of collaboration and creation for the processes and products of new media work - in short, the various raves, festivals like Burning Man and other regular cultural events formed what Fred Turner calls a "cultural infrastructure" for new media production.⁴⁵

The mix of casual and formal associations, social and professional activities, and cultural and work-related milieus was visible from the very first moves to put together a team for HotWired's production. In October 1993, at a Terrence McKenna Halloween show, Jonathan Steuer met Brian Behlendorf, then an undergrad at Berkeley. They discussed Behlendorf's work on the SF-Raves mailing list, which had been set up to document, facilitate, promote and discuss local performances, and served as impetus for Behlendorf to learn the basics of running the list, whether writing scripts for the mail client or scanning posters and images to be sent out. Steuer pointed out that these skills were in demand at Wired, and arranged for Behlendorf to begin working there on a project basis soon after.⁴⁶ Behlendorf's first task was to debug and rewrite scripts for Wired's email-

⁴⁴ Andrew Anker, interview, 2010.

⁴⁵ Turner, Fred. 2009. "Burning Man at Google: a Cultural Infrastructure for New Media Production." *New Media & Society* 11 (1-2): 73-94.

⁴⁶ Behlendorf interview, 2010.

bot, which was set up to automatically send text files of previous issues on request. The same principles of facilitation-at-a-distance and automation that characterized SF-Raves and his work at Wired also informed Behlendorf's work on the Apache web server a year later. After writing code to make HotWired's registration system work with NCSA's server software, Behlendorf noticed that other patches were being written elsewhere and set up a mailing list to coordinate the efforts. The project would become more elaborate with time, and together with Linux still stands as one of the two greatest success stories for a decentralized, open source method of software production.⁴⁷

The practice of transferring methods and products of new media work between contexts was formalized in Cyborganic, a hybrid community initiative and web production company founded by Jonathan Steuer that had close ties to HotWired. That Fall, Steuer was setting up his own web server at home, and making some of the informal contacts (including Behlendorf) that would eventually become involved in the project (which held regular 'community events' from 1993 and was incorporated in 1995). Cyborganic, as Jenny Cool notes in her ethnography, can be traced back to a business plan written in 1990 by Steuer and long-time friend Jonathan Nelson, proposing a combination of technology emporium, recording studio and performance space.⁴⁸ Cyborganic would similarly combine recreation with business, and technology with community. Its aim, Cool writes, was "to create an Internet business based on hosting local communities on the model of the WELL."⁴⁹ The business plan was reflexive: the community and the online media used to facilitate it would be folded into the collaborative work and end products that would generate revenue. As Cool writes, "Steuer's plan was to demonstrate the value of combining face-to-face and online sociality by starting the type of community he envisioned among his own friends, in his own neighborhood."⁵⁰ Steuer and two roommates turned their house in San Francisco's mission district into a hub for social events with a growing number of young artisans who, like them, made a living in the emerging multi-media and web publishing industries. The group would communicate regularly both on and offline, for instance through the Cyborganic mailing list and regularly scheduled 'Thursday night' pot-luck dinners.

Cyborganic was thus intra-cultural in the sense that it consciously mixed social lives with professional ones, but also - and for the business proposal, more importantly - 'virtual' lives with

⁴⁷ Behlendorf interview, 2010. On the structure of open source-style peer production, see Benkler, Yochai. 2002. "Coase's Penguin, or, Linux and the Nature of the Firm." *Yale Law Journal* 112 (3): 367-445; See also the discussion of open source software development in chapter 4.

⁴⁸ Cool, 2008: 158

⁴⁹ *ibid*: 152.

⁵⁰ *ibid*: 152.

real ones. Counter to dominant ideas at the time about the potential of new technologies, Cyborganic saw these less as virtual substitutes for existing community and instead a powerful means to bridge aspects of life separated by convention, and thereby establish robust community. New media would enable a productive, collaborative style of work between diverse participants at the same time that it provided a progressive correction to institutions of work in which personal expression and cultural difference were suppressed.⁵¹ In this way, Cyborganic succeeded other forums like the WELL, Mondo 2000, Burning Man and Wired before it, in becoming a San Francisco-based forum for ideas related to technology and social change. The contribution made by Steuer and other Cyborganics was the development of concepts and code that integrated these larger goals with the emerging technology of the web, and tied this vision to one of entrepreneurship in the new medium.⁵²

In much the same way that Wired profited from and boosted an existing network of technology writers and other professionals associated with Whole Earth, the Cyborganic community entered into a mutually beneficial relationship with HotWired during its early development. Connections at HotWired were made with Justin Hall, Ann Hess, Howard Rheingold and others who would join Cyborganic in 1994 or later, helping with new projects and raising the group's profile. And also like the Whole Earth before it, Cyborganic would lend those associated with it a cultural legitimacy that peaked with feature articles in Wired and Rolling Stone.⁵³ Meanwhile, Jonathan Nelson, together with his brother Matthew and Brian Behlendorf, founded Organic Online, the first marketing and advertising-focused web production company. From the summer of 1994, Nelson's company would be headquartered in the same building as Wired on third street, and together with the existing personal relationships this proximity enabled a mutually beneficial partnership: within a few months, Organic Online was contracted by HotWired to create the web's first ad banners. At Wired, Steuer's vision of mixing interpersonal, community and commercial networks through technology were realized on a daily basis: as the online division grew, it became increasingly common among its employees to devote time and technical resources to any number of

⁵¹ Of course, the Cyborganics' perception of the grey work environment of corporate America was only that, a perception. The transition to a flexible mode of work in which personal expression, difference, vertical and lateral communication has a long history, for example as Luc Boltanski and Eve Chiapello have described in connection with the rise of a network logic in capitalism in France. See also the discussion Alan Liu's periodization of knowledge work. Boltanski, Luc, and Eve Chiapello. 2005. "The New Spirit of Capitalism." *International Journal of Politics, Culture, and Society* 18 (3): 161–188; Liu, 2004.

⁵² Cool, 2008.

⁵³ Cool, 2008.

personal and collaborative experiments and projects.⁵⁴ Perhaps the most explicit manifestation of these could be viewed on Behlendorf's machine at the Wired office, which in addition to being Wired's FTP server hosted the SF-raves mailing-list and another list for devotees of Burning Man, and which bore the name TAZ. Where previously Mondo 2000 had used Hakim Bey's concept of the Temporary Autonomous Zone (TAZ) to draw analogies between such diverse technological and cultural phenomena as virtual reality, raves, Burning Man and other gatherings (such as performances by the tech-art collective Survival Research Labs), the point for the Cyborganics was that new technologies would enable the communities that formed around them to become more robust, entering a feedback loop in which grounded interaction led to more mediated collaboration and vice-versa, while the creative energies dispersed among participants could be tapped for economic gain as well. The sense of optimism they brought to HotWired and other early web projects was captured in a manifesto written by Jenny Cool in March 1994, which she later summarized as "Technology is our tool, not our master."⁵⁵

3.3 Worldwide jam session or arbiter of cool? Designing Wired for the web

Work on the project that would become HotWired - called @Wired at first - began in the spring of 1994 with the business plan by Anker and Steuer, and continued with the hiring of Rheingold as executive editor and the appointments of art director Barbara Kuhr and managing editor Chip Bayers in May. This process would involve aligning different notions of the web's affordances, the types of content and interaction that would best fit the new medium and, most importantly, an end product that tied this all to both a business model and Wired's brand. Ultimately, this meant seeking a balance between the focus on community that was both a legacy of the Whole Earth network and a feature of Cyborganics's maturing conceptualization of the web, and the publishing and publicity culture that shaped Rossetto's ambitions and decision-making.

Curiously, the strong connection between the Whole Earth network and Wired carried over to HotWired when Rossetto, looking for someone to fill the inspirational, visionary role Kevin Kelly played at the magazine, brought in Rheingold - at Kelly's own suggestion.⁵⁶ Rheingold had edited the Whole Earth Millennium Catalog and succeeded Kelly as editor-in-chief of the Whole Earth Review. He had also recently authored *The Virtual Community*, in which he wrote about the

⁵⁴ Behlendorf interview, 2010; Hall interview, 2010.

⁵⁵ Cool, 2008: 165.

⁵⁶ Anker interview; Wolf, 2003.

WELL and other early Internet communities. Rheingold's basic premise in his writings, which clearly resurfaced in his ideas for HotWired, was that a new medium was being shaped at a grassroots level by a group of community-minded early adopters, and that such virtual spaces had the potential to recreate the public sphere that was lost when the combination of telegraph and newspapers ushered in an age of mass media.⁵⁷ Echoing some of the language of Kelly and Brand, Rheingold used biological metaphors to paint a picture of "petri-dish" experimental communities emerging on the Internet around common interests, establishing cultures of engaged citizenship.⁵⁸ As Fred Turner points out, Rheingold's arguments for a virtual public sphere can be interpreted in terms of how they reproduced the Whole Earth belief that small-scale tools were the answer to the larger ills of technocratic society.

Rheingold's vision of a collaborative virtual community not only echoed the goals of commune builders from the late 1960s, but also represented a transformation in the countercultural critique of technocracy. Like early 1960s critics of the cold war military-industrial complex, Rheingold critiqued the loss of cooperative spirit and implied that technology itself had brought about that loss. And, not unlike the reversionary technophiles of the Whole Earth Catalog, Rheingold trusted in tools to restore cooperative spirit and to put cooperation once again at the center of social life.⁵⁹

Jonathan Steuer and others at Cyborganic similarly forwarded the idea that technology could be used to enable and encourage collaboration, but where Rheingold focused in particular on how the virtual could become a substitute for a lost public sphere, Steuer would emphasize small, hybrid communities that blended virtual and real-world interaction. For this, he already had models in the local rave scene and the initial gatherings of Cyborganic. In terms of web publishing, this meant for Steuer that content in the traditional sense was secondary to the capacity of the larger infrastructure for interactivity: ideally, the emphasis would be on collaborative media, that is, content produced with rather than for users, and mediated collaboration, with various channels for exchanges among users and between users and editors.

What could be called the Cyborganic approach to the web was not simply imported into the offices of Wired, but evolved during the months of activity and debate leading up to HotWired's launch, as well through new contacts made there. In June, Justin Hall joined HotWired as an intern, working as an editorial assistant. Hall was fast becoming one of the web's first celebrities with his site, Justin's Links from the Underground, often credited as the first blog. On it, he posted photographs and details about his personal life alongside various links, including a number on how

⁵⁷ Rheingold, 1993.

⁵⁸ *ibid.*: xx.

⁵⁹ Turner, 2006: 160.

to publish on the web as well as an extensive and popular list of links to pornography (though the pages linked to were fairly tame by subsequent web standards).⁶⁰ Hall's personal pages were his calling card, and the reason he was invited to work at HotWired - Hall had sent resumes to Wired twice before, but it was his chosen form of personal expression that demonstrated his ability to work with HTML.⁶¹ As with Cyborganic community, here the distinction between personal and professional was deliberately blurred. Meanwhile, what distinguished Hall from early online diarists like Carolyn Burke was the extent to which he tied the act of personal publishing to an ethic of openness he considered inherent to the medium itself. And with this, Hall's proto-blogging was easily aligned with the emerging Cyborganic notion of mediated community. In order for online life to become a productive force in real-world communities, one would have to be willing to make elements of one's personal life public. Rheingold, inspired by both his experiences with the WELL and by the experiments with web publication by the likes of Steuer and Hall, settled on a description of HotWired's design goal, in which the focus became the facilitation of such experimental media life: "HotWired uses the net as a medium for a worldwide jam session."⁶²

Comparatively, Andrew Anker took to the web with the seemingly mundane goal of selling advertising, but his conclusion was perhaps just as dramatic: "Control."⁶³ The ability to see exactly which pages a user downloaded, to see unique trails and repeat visits, to use IP addresses to determine where users were located geographically, all of the data would open up a world of possibility for targeted content and advertising. Whereas with print one might draw on estimates of pass-around readership or conduct surveys, here were signs of what could result in a completely transparent audience. This also provided a stark contrast with services like America Online, which would issue monthly traffic reports that were rarely insightful.⁶⁴ The decision to base the business on advertising had been made more or less immediately - the secure connection protocols eventually used for credit card transactions would not even be written for at least another year, much less used widely. Also, this model meant HotWired could plug into Wired's existing network of advertisers: Wired already had "quite a good list of advertisers - IBM, AT&T, Silicon Graphics, Sprint - all of the people who, if you were going to go build something with advertising on the Net,

⁶⁰ Rosenberg, Scott. 2009. *Say Everything: How Blogging Began, What It's Becoming, and Why It Matters*. New York: Crown Publishing Group; Hall interview, 2010.

⁶¹ Hall interview, 2010.

⁶² Quoted in Wolf, 2003: 108.

⁶³ Anker interview, 2010.

⁶⁴ *ibid.*

would be the people you'd talk to.”⁶⁵ However, Anker and Rossetto were also inspired by the marketing ideas of popular business writers Don Peppers and Martha Rogers, whose 1992 book *The One-to-One Future* argued that the rise of interactive media would bring about new, personalized forms of advertising. And in this light, they favored not only a revenue model based on advertising but “building a membership-and-password system for HotWired that would give sponsors exact information about viewers and eventually allow targeted advertisements to hit specific users. Targeted advertising on the web would be the ultimate example of disintermediation.”⁶⁶

The one-to-one future of advertising - in which the basic genres and forms of advertising would change as drastically as its logistics - thus fit neatly within Rossetto’s larger vision of how the web would transform not only the shape of the media industry - with thousands of smaller producers taking the place of the traditional giants - but also the character of the content it produced. Wired’s own success was proof in Rossetto’s mind that desktop publishing technologies were making it possible for any independent to compete with the conglomerates. And with the web’s capacity to minimize the costs of distribution, Rossetto believed that the media industry as it existed would disappear. As Gary Wolf later recalled, “[Rossetto] thought the entire landscape of content was going to be remade around new brands doing new things in a new medium. It was a race.”⁶⁷ Whoever arrived first at the scene, whoever had the best content and graphics and features, would be positioned for early dominance in the new medium. But it was not just a matter of brute force and filling the new medium with content as quickly as possible, but required a sense of the qualitative changes media had to undergo to achieve success, a distinction Rossetto addressed after HotWired launched:

[T]he mass media talks to everybody. It tries to be abstract and discover a voice and attitude that everybody can connect to. I think Hotwired focuses on a voice and attitude that certain people will connect to. We don't need to have an audience of 100 million people. We're happy with an audience of maybe a million. But a million is a lot different than 100 million.⁶⁸

A particular voice, point of view or attitude - this new mode of authoring and editing would represent the qualitative shift in media production mirroring the quantitative changes wrought by new technology. Put differently, the medium was the message, and the web was shaping media production in its image, down to the level of content. In HotWired’s case this meant a distinctive,

⁶⁵ *ibid.*

⁶⁶ Wolf, 2003: 107.

⁶⁷ Wolf interview, 2010.

⁶⁸ Quoted in Keegan, Paul. 1995. “The Digerati!” *The New York Times Magazine*, May 21.

‘free-thinking’ style that avoided the careful phrasings and false equivalencies of mainstream journalism, and replaced them with bold statements and outspoken points of view. However, it’s important to note how closely this web-native practice resembled a familiar past: many of the stylistic characteristics Rossetto called for had been pioneered by the New Journalism, and, more so than responding to the demands of a new medium, he was continuing a tradition instituted by other magazines such as *Esquire* and *Rolling Stone* that encouraged experimentation and literary non-fiction.

Rossetto’s belief that major media companies would collapse while a new generation of producers took over on the web should also be seen in context. The image of a virgin media landscape waiting to be filled by *Wired* and other new, web-savvy brands fit the frontier metaphor for the Internet that was introduced by Mitch Kapor and John Perry Barlow of the Electronic Frontier Foundation (EFF), and additionally employed in the anti-regulation arguments of the Progress and Freedom Foundation (PFF). As various commentators have argued, the metaphors of cyberspace and the frontier were instrumental in tying the Internet and the web to a discourse of freedom, in particular libertarian ideas of individual and entrepreneurial freedom.⁶⁹ For Kapor and Barlow, the frontier served to further their argument that the new technologies could not be regulated in existing legal frameworks, that conventional notions of property and expression would have to be understood differently and, by extension, that this space should be protected from extensive regulatory control by old-world institutions.⁷⁰ Esther Dyson and others at the PFF similarly argued (following Alvin Toffler’s wave theory of history) that the move to cyberspace meant leaving behind an industrial paradigm, and entering an informational one. Regulatory policies and property laws engineered for industry were no longer suitable when the new raw material of production, information, was free and abundant.⁷¹ Likewise, laws aimed at ensuring that media providers represent a diversity of political and cultural viewpoints were unnecessary when material barriers to entry in publishing and broadcasting diminished, allowing the market to produce such diversity on its own.⁷² As discussed in chapter 1, such notions were utopian configurations grounded in the computational metaphor. *HotWired* was at once a vehicle to promote these ideas and, it seemed to Rossetto at the time, a demonstration of their inevitability. It

⁶⁹ Borsook, Paulina. 2000. *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech*. London: Little, Brown and Company; Chun, 2006.

⁷⁰ Kapor, Mitch, and John Perry Barlow. 1990. “Across the Electronic Frontier.” *Electronic Frontier Foundation*. http://w2.eff.org/Misc/Publications/John_Perry_Barlow/?f=across_the_ef.article.txt.

⁷¹ Dyson et al, 1994.

⁷² *ibid.*

would engage the magazine's young, educated and wealthy (and mostly male) audience, offering them a point of view that resonated with their roles in bringing about a new age of individual empowerment and economic growth spurred by powerful new technologies. It seemed inevitable that, for its audience and for the many companies that would follow their lead, HotWired would be the arbiter of style in the new medium.

In the very premise of HotWired, then, one sees a convergence of a number of important strands in cybercultural thought, and the first attempt to apply them to the web. On the one hand, it would enable forms of collaborative work and community, ideas that can be traced back to Turner's New Communalists, while creating a public sphere-like forum for the free exchange of ideas; on the other, it would embody the radical changes in the media industry imagined by cyberlibertarians such as Barlow, Dyson and Rossetto, and deliver an editorial voice appropriate to the new medium. At first, there appeared to be consensus. In a May, 1994 interview in the *New York Times*, Rossetto previewed the project (still called @Wired), where it was introduced as separate from Wired but also closer to the vision on which the magazine was built: it was "what Wired was meant to be" from the beginning.⁷³ At a time when the estimated number of websites was still under three thousand, Rossetto was vague about the plans, but the project was summarized as "part publishing venture, part online service and part cyber-salon."⁷⁴ The general outline was that Wired's audience would become its community - this fit both Rossetto's idea that new media would offer producers smaller but more engaged audiences, and Steuer and Rheingold's belief that the web could provide a public sphere and build community. Importantly, this harmony was bolstered and made possible by a shared sense that the new medium had a purpose at its core that had to be grasped in order for one to be successful with it - and that at Wired magazine they were ahead of the curve. "The big sumo-wrestler corporations that are stumbling around trying to dictate the information superhighway have entirely missed the point [...] It's not about content, it's about connectivity."⁷⁵ Steuer, in an e-mail to Rheingold in May, referenced earlier reservations but was now cautiously optimistic:

I think we have arrived at an arrangement where we will be allowed to put together whatever it is that @WIRED needs / wants to be, and Louis will supervise from the editorial side [...] I think

⁷³ Markoff, John. 1994. "The View From Cyberspace: The Revolution Will Be Digitized." *The New York Times*. May 5. <http://www.nytimes.com/1994/05/29/weekinreview/conversations-louis-rossetto-view-cyberspace-revolution-will-be-digitized.html?scp=1&sq=rossetto&st=nyt&pagewanted=all>.

⁷⁴ *ibid.*

⁷⁵ Rossetto, quoted in Markoff, 1994.

things will actually work out reasonably well, and I'm now much more excited and less anxious about this project moving ahead.⁷⁶

Over the next two months, however, this truce would fall apart, and a range of key design decisions would become battlegrounds in which underlying assumptions about the web, its uses and the role of early adopters like Wired became central. By August, there were arguments and flames on the internal mailing list, and it seemed that “every day someone would be in tears.”⁷⁷ The highly charged atmosphere was an outcome of egos as much as editorial principles, and the discussions devolved to the point that Anker would regularly mock Rheingold, while Rossetto and Steuer would clash even over routine decisions. Still, given that Wired’s reputation and readership was still growing, and that other companies interested in publishing on the web were watching closely, it would be a mistake to dismiss the various arguments over HotWired’s design as non-consequential.



As Jennifer Cool argues, following Shoshana Zuboff, some of these arguments may be interpreted in terms of two opposing work paradigms, where friction arose between the young Cyborganics’ “tacit” knowledge of the new medium and Rossetto and Anker’s dedication to an

⁷⁶ Steuer, 1994.

⁷⁷ Wolf interview, 2010.

outmoded publishing culture.⁷⁸ One example had to do with competing design sensibilities: users could navigate HotWired from its welcome page via a large bit-map image created by Max Kisman (see figure 1), and before they could get past the splash page they would have to wait for the image to load, something that could take seemingly forever on a 14.4k modem. The younger staff was upset and wanted at the very least text links at the top, so that users could click through quickly, but Rossetto resisted, not least because the image looked so good on paper. However, in late 1994, more people (and more potential advertisers) would see HotWired in a newspaper or magazine than in a Mosaic browser - if nothing else, Rossetto argued, HotWired would inspire those with slow internet connections to upgrade.⁷⁹

The most controversial decisions, however, dealt with the prominence of interactive content (i.e. composed by users) relative to editorial content on the one hand, and the registration system, which Anker and Rossetto believed would enable the delivery of custom advertising to readers, on the other. Arguments about the first issue highlighted an incompatibility of HotWired as ‘worldwide jam session’ and as ‘arbiter of style.’ In an email discussion with Rheingold, Rossetto and Kelly, Steuer made the case that a public sphere model matched Wired’s editorial vision of taking a stand on important political issues related to technology (“as demonstrated by our response to the whole privacy debate,” he wrote).⁸⁰ Rheingold added to this with a bolder statement about the decision’s implications for the future of the web and its ability to offer an alternative to mainstream media:

I think we have a window of opportunity, during which it might be possible to demonstrate to the world the power and usefulness of the cooperative many-to-many culture exemplified by the Internet. By making sure we give people a voice and a forum to raise issues, and making sure we pay our contributors well, we have an opportunity to keep the medium as open as it is. It is entirely possible that the commercialization of the medium will also result in its shlockization, as happened with television. But I think [...] we have a chance to show the world an alternative to the video-on-demand world of Disneymedia.⁸¹

For Rossetto, who was partial to arguments that opposed digital to traditional media, an alternative meant using the technical potential for interactivity to tailor content to the audience, but these proposals suggested giving up editorial control. Here, he attacked what he saw as the naiveté of the public sphere model: “We don’t have to tell people we are going to be ‘democratic,’ (whatever that means), we just have to run a straight-ahead, ethical, freedom-loving, high quality service that

⁷⁸ Cool, 2008: 193; Zuboff, 1988.

⁷⁹ Wolf, 2003.

⁸⁰ Rheingold, Howard. 1994. “Re: HotWIRED Call to Arms.” Email, June 28.

⁸¹ *ibid.*

exceeds whatever we promise, and is so amazing and useful to our audience that they become addicted to it.”⁸² Most significantly in design terms, Rheingold’s initial sketches that gave prominence to non-editorial content were pushed aside, and the issue came down to whether the site would have ‘threads’ connected to each article or comments would be placed in a separate forum, thus providing a sharper distinction between editorial voice and user contributions. Rossetto began comparing the idea of virtual community to CB-radio - fun for a moment but not the media experience that most people would settle for.⁸³

Opposition to the registration model, meanwhile, was twofold. First, Steuer and others argued, registration was an invasion of privacy, and went against the principles Wired endorsed when it featured the views of hackers and members of the EFF in its magazine. Ian McFarland, one of the original HotWired staff of 14, entered into a long email exchange with Rossetto on the internal mailing list, and accused him of hypocrisy, of supporting privacy only when it helped sell magazines. For McFarland and others, the ability to be anonymous on the web was essential to the new medium and the culture emerging within it. Second, McFarland argued that registration went against the open and collaborative spirit of the web as a hypertext medium. Who would link to a page behind an authentication wall? In both cases, it was a question of ethos, that of the medium and those who knew it best: “You have surrounded yourself with creative, enthusiastic people with a real grasp of net culture” he wrote to Louis, “Why did you do that, if not to ask their opinion?”⁸⁴ Rossetto simply dismissed the first criticism, replying that “All the members of the WELL are identified. Are they dupes? Fools? Exploited?”⁸⁵ He supported hackers as free-speech defenders and an anti-government force, but he was also resolutely pro-business, and registration was a commercial exchange on the open market.⁸⁶ To the second criticism, he countered that while links might send traffic, a basic desire for inclusion was a more potent factor. By creating an exclusive community, the registration system would function similarly to the celebrityization of the digital elite in the pages of the magazine, which produced an image that readers could aspire to, and the object-fetish of the magazine itself, which Wired actively pursued through its publicity surrounding

⁸² Rossetto, Louis. 1994. “Re: HotWIRED Call to Arms.” Email, June 29.

⁸³ Keegan, 1995.

⁸⁴ Quoted in Wolf, 2003: 124.

⁸⁵ Quoted in Wolf, 2003: 123.

⁸⁶ Wolf, 2003.

“charter subscribers” like Steven Spielberg and Cher.⁸⁷ Like McFarland, Rossetto couched his argument in terms of his grasp of the grand transformations underway, however the source of this knowledge (and the proof of its validity) did not come from early Internet adopters, but from the success of the magazine itself: “When we started Wired, we got a ton of shit about the design. It was a ‘hassle,’ it was ‘user unfriendly,’ it was ‘pretentious’ etc. We persisted, because we knew what we were doing.”⁸⁸

And with that, both debates ended. Deadlines had been missed and the launch was delayed, giving Rossetto and Anker impetus to take more control and push Rheingold and Steuer out. In October, the site finally went live but the mood was anything but festive. Steuer had already been demoted in September, and both he and Rheingold resigned in the weeks following the launch. Most of the original HotWired staff would follow in the next few months.

3.4 From digital culture to web culture: revisiting the participation paradigm

Over the next three years, HotWired’s development mostly followed the ambitious vision Rossetto had outlined, and took major steps to establishing the Wired brand on the web. The “start-up within a start-up” grew from fourteen to over 180 employees in that time, and seemed to add sections and new websites at an even faster pace. As Wolf documents with bemusement, sister-sites like the political news journal *The Netizen* cost a small fortune to produce and brought in little extra advertising revenue.⁸⁹ In part, additions like this one were a product of Rossetto’s continued belief in the frontier metaphor. This was a new medium, and if Wired acted quickly and competently enough, continued to report from the front lines of the digital revolution and to speak in a voice that suited the new audience, it had every bit as much a right to lead the web in political coverage (or any other topic it chose) as any other magazine or newspaper. The addition of politics fit in his vision of the web as a series of content areas that Wired needed to claim as soon as possible, to “plant flags.”⁹⁰ Other moves were more clearly reactions to outside events, such as the addition of a Wired-branded search engine, HotBot. Yahoo’s directory and search engines such as Infoseek were out-performing web publishers in terms of traffic, and were selling advertising at a much lower rate

⁸⁷ Lohr, Steve. 1993. “Here’s Where Woodstock Meets Silicon Valley.” *New York Times*. February 27. <http://www.nytimes.com/1993/02/27/business/here-s-where-woodstock-meets-silicon-valley.html>.

⁸⁸ Quoted in Wolf, 2003: 123.

⁸⁹ Wolf, 2003.

⁹⁰ Anker interview, 2010.

than HotWired. (In the first six months, HotWired could justify higher prices for banner ads because of the magazine's reputation, but this ability soon waned).⁹¹ The commitment to planting flags brought about the need for other investments that would drive up traffic immediately, to the point that Wired had to choose whether to cut costs dramatically or try to go public, which given Rossetto's and Anker's ambitions was not seen as a choice at all.⁹²

From an editorial perspective, however, the more remarkable change at HotWired in this period was a shift in its stated focus from "digital culture" to "web culture." In early 1997, after a second failed attempt to bring the company public, and just as Rossetto was losing grip on the company, HotWired underwent the most dramatic makeover of its brief but eventful existence. Previewing HotWired 4.0, which was optimized for the new generation of Internet Explorer and Netscape browsers, June Cohen stated HotWired's new goal was to become "the first major site to showcase the life and culture of the Web."⁹³ In its first iterations, HotWired was divided into several content areas - sports, arts & literature, business and so on, though with names like Adrenaline, Renaissance 2.0 and Coin - with a common focus on how these traditional topics were being transformed by digital culture. At the time, any articles about the web itself would be found in another section called Signal, which was described as "the pulse of the digital revolution," and in addition to the popular Net Surf column included gadget reviews and industry gossip. With HotWired 4.0, this dynamic was reversed. Now there were five sections devoted to aspects of the web - Webmonkey, with how-to guides for amateur web developers; Synapse, with columns and interviews about the web; Dream Jobs, with job listings and articles about working in web production; Net Surf, with website reviews; and the Beta Lounge, with Web audio and video - and just one section on digital art and culture, called RGB Gallery. In short, HotWired 4.0 announced that there was something called web culture, and that this was now the central focus of Wired's online publication.

Did HotWired 4.0, with its emphasis on tools for building the web and creating a community around a shared culture, perhaps signal that the 'worldwide jam session' of collaboration and amateur creation had prevailed over Rossetto's vision of planting flags and being an arbiter of cool? There are certainly reasons to think so: in interviews with various people who helped launch HotWired, there was a consensus that Rheingold and Steuer were proven right over time, and that

⁹¹ *ibid.*

⁹² Anker interview, 2010; Wolf, 2003.

⁹³ Quoted in Coile, Zachary. 1997. "Rewired: Hotwired Unveils Splashy New Web Site." *SF Gate*, July 1. <http://www.sfgate.com/cgi-bin/article.cgi?file=/examiner/archive/1997/07/01/BUSINESS1240.dtl>.

their ideas more closely resemble the web as it is now commonly perceived.⁹⁴ The argument is also made by Jennifer Cool in her assessment of the legacy of the Cyborganic vision as opposed to that of Wired:

Producers of traditional media (books, magazines, cinema) who came online during the dot-com boom were fond of the slogan “Content is king!” However, as the most recent developments on the Web bear out, the insight that user-generated content is king seems to have been more prescient.⁹⁵

Cool implies that the difference between Steuer’s and Rossetto’s visions was analogous to a later distinction, made most notably in Web 2.0 manifestos, between a *publishing* paradigm that dominated the early web and one of *participation* that we now know. In an article in Wired’s August 2005 issue celebrating “10 years that changed the World” (beginning with the Netscape IPO), Kevin Kelly wrote that “we all missed the big story,” arguing that the hype surrounding the ability to publish hypertext overshadowed the real significance of the web. “At its heart was a new kind of participation that has since developed into an emerging culture based on sharing.”⁹⁶ Though he did not mention it explicitly, Kelly’s implication of himself in ‘getting it wrong’ suggests that the original HotWired debate was at the very least at the back of his mind.

However, the question of who was the better futurist does little to shed light on how understandings of the web changed, and the very idea of the web having a purpose or direction that can be grasped by some and not others is shaky at best. Rather than a space for settling old scores, what is especially significant about the case of HotWired is that it shows that contemporary debates about amateurism in online media can be traced back (at least) to the earliest attempts at web publishing, and it is thus by default wrong to reduce the discussion to one of the “effects” of Web 2.0 technologies. More generally, the historical approach makes visible and challenges some basic assumptions about how the medium develops and about contemporary understandings of the web, most notably the widespread concept of participatory culture.⁹⁷ While Cool is correct to argue that participation technologies have a social and cultural history, and thus were not inevitable outcomes of the medium itself, there are a number of reasons to put a question mark behind the publishing-

⁹⁴ Even Andrew Anker, now an executive vice president at the blog software company Six Apart, agrees that Rheingold and Steuer were prescient: “it’s clear that Howard and Jonathan were 100% right and 15 years too early” (interview, 2010)

⁹⁵ Cool, 2008: 199.

⁹⁶ Kelly, 2005.

⁹⁷ The term participatory culture is mostly associated with the work of Henry Jenkins. Here, I use the concept in the broadest sense he gives it: although he is particularly interested in audience participation, he notes that participatory culture can include grassroots media as well as the private-public interactions of social media. In HotWired’s case, the idea was a culture built on the web but also *of* the web, in the sense of shared values, interests, references and so on. This notion of “web-native” culture is the focus of chapter 4, on blogging. C.f. Jenkins, Henry. 2006. *Convergence Culture: Where Old and New Media Collide*. New York: NYU Press.

participation opposition. First, as new media publishers would be quick to point out, there has never before been so many readily available publishing technologies. Second, proponents of participatory culture tend to falsely assume a generic, amateur user who has the desire and ability to create content, and generally ignore the political economy of social media, in which “user-generated” hardly means an empowered audience.⁹⁸ A related critique might aim at the gap between rhetoric claiming a new amateur media landscape, and the actual effects on consumption: in a study of the kinds of content watched most on YouTube, the platform that is perhaps most recognizably associated with participatory culture and user-generated content, the most popular content by far was not amateur but rather traditional, professionally produced media.⁹⁹ And finally, there is a more subtle point about how participation has been formatted by formal and stylistic conventions established in professional publishing contexts - to illustrate this, here I briefly discuss how HotWired arrived at its own iteration of participatory culture.

3.4.1 Suck.com and the web as exception

Rather than describing the effects of digital technologies on business, literature, arts, science or any other topic, HotWired 4.0 posited a self-contained culture - a set of practices, ideas, aesthetics and a style - specific to the web. It not only described this culture but would grant access to it. HotWired was now for “Web participants,” and would include a members section where they could create their own pages, and have the chance to be featured on the front page as an editorially chosen “Geek of the Week.” June Cohen, who had been with HotWired since the beginning and was best known as the writer of the popular column Net Surf, put it this way: “Everything about HotWired 4.0 is designed to transform its visitors from outsiders to insiders.”¹⁰⁰ Although the focus on tools and member pages suggested strong similarities with what Jonathan Steuer and Cyborganic were looking to achieve, the rhetoric of collaboration and participation here was aligned with one of the key aspects of Rossetto’s publishing vision for Wired and HotWired, which was to have users identify with and aspire to an avant-garde style, while profiting from the sense that the product was a gateway to emulating these.

One major reason for the restructuring that took place with HotWired 4.0 was financial: the company was finally paring down, and the new version reduced production costs. But the decision

⁹⁸ Van Dijck, José. 2009. “Users Like You? Theorizing Agency in User-generated Content.” *Media, Culture & Society* 31 (1): 41–58.

⁹⁹ Kruitbosch, Gijs, and Frank Nack. 2008. “Broadcast Yourself on YouTube: Really?” In *Proceedings of the 3rd ACM International Workshop on Human-centered Computing*, 7–10.

¹⁰⁰ Quoted in Frauenfelder, 1997.

to focus on web culture has a more subtle history that revolves around two of HotWired's surprise successes. One was Webmonkey, which launched in 1996 when June Cohen had the idea of pooling knowledge about web development at HotWired. What began as a few weekly columns and how-to guides for beginners by HotWired staff such as Jeff Veen, quickly became one of the most popular sites in the HotWired family. What set Webmonkey apart was that it was written for (amateur) web producers, in an editorial voice and direction that connected web development and design with the larger social, cultural and economic issues that were Wired's normal focus - and it was this combination that would be pursued more comprehensively in HotWired 4.0. However, the recognition of the key audience of professional and amateur web specialists, along with the more fundamental notion of a culture around shared experiences in building and surfing the web, came from an earlier HotWired product, Suck.com.

Suck was launched anonymously by two HotWired producers, Carl Steadman and Joey Anuff, in August 1995. Inspired by a tradition of humor and media satire that runs from Mad Magazine to the independent 'zine culture of the 1990s, its daily satirical columns parodied a growing crop of sites like Netscape's 'What's Cool,' that would write glowing reviews of cool new websites each day.¹⁰¹ The story of how Suck was created would become the stuff of legend among web professionals at the time. Steadman and Anuff were not involved with editorial decisions at HotWired, and were frustrated with what they saw as the site's misguided commercial and creative direction. In particular, Steadman echoed Ian McFarland's earlier critique of the registration system - that it kept users out and set a dangerous precedent for web publishing.¹⁰² When Anuff suggested creating a Mad Magazine for the web, Steadman agreed on the condition that they do it themselves rather than go through the editors. The tradition of using company machines for independent side-projects had already been established by Behlendorf and others. Steadman and Anuff were ambitious, setting a goal of surpassing HotWired's growing stable of sites in traffic and, more than anything, demonstrating their superior knowledge of the web.¹⁰³ They decided to publish anonymously, with goofy pseudonyms like Duke of URL and Webster, knowing that this would add to the initial interest. Suck quickly met its traffic goals, and HotWired bought the site within two months; soon after that Steadman and Anuff were coordinating a regular staff and a number of contributing writers.

¹⁰¹ Wolf, 2003; Sharkey, 2005.

¹⁰² Sharkey, 2005.

¹⁰³ Wolf, 2003.

Suck was the first publication to explicitly cover and critique web culture - that is, to identify some of the emerging tropes in the web production industry along with generic conventions of amateur and professional web publishing (though there was perhaps some precedent here with HotWired's own Net Surf and Flux columns). A column would usually center around a website, person, company or product, and dissect the subject with deadpan humor. One early column, titled "Indexing for Dollars," made fun of dot.com exit strategies and Yahoo!, identifying the creation of a directory as one of three ways to make money on the web - each of which involved selling to a 'real' company like Microsoft.¹⁰⁴ As Wolf writes, "[t]he site's recurring motif was that by the time you heard of the latest outrageous scam, it was already too late to participate."¹⁰⁵ Other typical columns covered developments in interactive television - "It's no longer a matter of whether or not the revolution will be televised, though there's some question as to its ability to make it past a V-chip. What remains most salient is that the television will not be revolutionized" - and a guide to fixing Wired magazine by tearing out all of the advertisements, with Negroponte's column being optional.¹⁰⁶

Often cited as an inspiration by early bloggers, some of the formal features that Suck devised - links as literary devices, design consistency and constraint for readability - would become key conventions in blogging but also in web publication more generally. The most significant of these, perhaps, was the decision to publish relatively short essays each day. As Wired writer Steve Silberman would later recount, "As soon as Louis [Rossetto] saw Suck, he knew that what had to happen was that HotWired would have to update daily."¹⁰⁷ In contrast to traditional publishing schedules in journalism and the entertainment industry, as well as HotWired's scheme of publishing different columns on different days, "once Suck launched, it was obvious that what you really wanted to create was an obsession."¹⁰⁸ Steadman and Anuff later suggested the faster pace and dated entries to Justin Hall, and Suck inspired others who would later be recognized as the first bloggers.¹⁰⁹ Blogging's "perceived freshness fetish" of updating in a regular fashion - a convention so sedimented that it is codified in the optimization of blogging software to immediately include

¹⁰⁴ Steadman, Carl, and Ed Anuff. 1995. "Indexing for Dollars." *Suck*. <http://www.suck.com/daily/95/11/14/>.

¹⁰⁵ Wolf, 2003: 155.

¹⁰⁶ Steadman, Carl. 1996. "Big Money, Little Clue." *Suck*, July 22. <http://www.suck.com/daily/96/07/22/>; Anuff, Joey. 1995. "How to Read Wired Magazine." *Suck*. <http://www.suck.com/daily/1995/10/06/>.

¹⁰⁷ Quoted in Sharkey, 2005.

¹⁰⁸ *ibid.*

¹⁰⁹ Hall, Justin. 1996. "First Pass." *Links from the Underground*. <http://links.net/daze/96/01/10/>; Dash, Anil. 2007. "Michael Sippey: Anything But Obvious." *Six Apart Blog*. http://www.sixapart.com/blog/2007/04/michael_sippey.html.

updates in search engine indexes - has its origins not in the amateur creation of personal pages and online journals, but was rather established and popularized by media professionals.¹¹⁰

Part of Suck's appeal was that it put a spotlight on those working in the technology sector, especially in web production. As Matt Sharkey would recollect in a piece celebrating Suck's tenth anniversary:

While the trade magazines flattered executives with softball portraits and blind utopianism, Suck spoke to the grunts on the front lines, those like Steadman and Anuff, who saw the mistakes being made at the top but lacked the power to do anything about it. It was snarky and sarcastic about topics that were too square to be snarky and sarcastic about anywhere else. For the ground-level tech drone stuck at a computer, it provided the perfect daily respite. It was quickly located, easily digestible, and if you could suppress your laughter, it looked just like working.¹¹¹

It was meant for an audience that shared Steadman and Anuff's disgust for Netscape's infamous blink HTML tag, who only used the word 'cyberspace' ironically and who saw up close that there was no center in the dot.com bubble. Suck was "intra-cultural" production, literally "outsiders inside" making fun of HotWired while also attempting to out-produce it.¹¹² It was also intra-cultural product: a means for web producers and other knowledge workers to let off steam and laugh at clueless managers before returning to work. Readers were soon writing down their own frustrations and sending them to Steadman and Anuff; eventually Suck published one of these, in which a programmer vented his anger into a long rant about executives who "don't browse" but "read about the Web, fer chissakes, in the New York Times."¹¹³ As Sharkey notes, the column "may as well have been the Suck credo."¹¹⁴ The larger insight was about the attraction an audience had to see itself reflected in the content: starting in 1996, Suck began a weekly feature in which they published (and lovingly ridiculed) comments and questions e-mailed by readers. Of course, with its focus on web culture, Suck was already involving its audience. Each time the site highlighted another new genre, trope or debate on the web, Suck increased its chances of getting linked back by major sites, if only because such public mockery was a form of flattery.¹¹⁵ Meanwhile, it was not only clever insights into a shared web culture or the accompanying humor that was innovative - in terms of affording a

¹¹⁰ Helmond, Anne. 2007. "The Percieved Freshness Fetish". http://www.annehelmond.nl/wordpress/wp-content/uploads/2007/06/annehelmond_pff.pdf.

¹¹¹ Sharkey, 2005.

¹¹² Liu, 2004. See also chapter 2.

¹¹³ Knauss, Greg. 1995. "TV By the Blind." *Suck*, October 30. <http://www.suck.com/daily/95/10/30/>.

¹¹⁴ Sharkey, 2005.

¹¹⁵ One example of this was Suck's parody of Slashdot, the subject of chapter 4.

new understanding of what kind of medium the web was or could be, it was how the ‘Sucksters’ juxtaposed these impressions with a series of references to existing media forms that was significant. Web criticism, in other words, was media criticism, and web culture - whether a new site, a trade magazine or well-known developer - was in the same discursive space as MTV, Dave Eggers and Kurt Cobain, as Suck moved seamlessly between the two and often made sense of the web through these kinds of pop-culture references. Through Suck, then, one sees a continuation of the conflation of technological and media cultures that had previously characterized *Mondo 2000* and *Wired*.

The backdrop to Suck’s cynicism and its success was the increasing presence of traditional media on the web. Though Suck launched before many media companies had websites, columns regularly presented the situation as a foregone conclusion, and spoke of the web’s promising future “as a broadcast medium.”¹¹⁶ But at the same time, Suck’s descriptions of the web placed it in opposition to what were perceived as colonizing forces: the web became a space in which familiar forms of media and entertainment resurfaced (along with the related institutions of marketing and public relations, both of which were also routinely Suck subjects), but also a space in which these were resisted, however temporarily. On Suck, nothing was funnier than blithe commentary about ‘old media’ stumbling around the web; and if the latter increasingly resembled the cliché of media-saturation, there remained a subversive undertone and a sense that the web also offered respite. An example is a column by Steadman - writing under the pseudonym Guy Deboredom - in response to the emergence of web fiction sites such as *The Spot*, which was likened to “Beverly Hills 90210 on the Web,” where fictional characters would publish daily journal entries and photographs. Steadman notes that one could also find the “real thing” on the web, and proceeds to list with precision and wooden delivery the recent events, however mundane, in the lives of three relatively prominent online diarists. And in the conclusion, he ties the themes of fiction, celebrity and mediation together:

Don't find these personal screeds fascinating? Although we find that difficult to believe, there are other methods of living your life vicariously through others in order to feel a part of some larger "community," the most likely candidate being, of course, the celebrity spectacle which we so coyly call "the news." CNN, anyone?¹¹⁷

¹¹⁶ Steadman, Carl. 1995b. “NoShit, Sherlock.” *Suck*, October 2. <http://www.suck.com/daily/95/10/02/>.

¹¹⁷ Steadman, Carl. 1995. “Diarreheic Web Sites.” *Suck*, October 9. <http://www.suck.com/daily/1995/10/09/>.

At the same time he equates online diarists with the mediated spectacle of cable news, he invites the web-savvy audience (which more than likely included the diarists themselves) to laugh along, since the joke's main targets are the clumsy web-fiction sites.

According to the creators and others involved with Suck, the site was successful because it told the truth about the web at a time when the level of hype surrounding it seemed to reach new heights each day. "We're not being cynical, we're being honest."¹¹⁸ Gary Wolf, who as HotWired's executive editor was one of the first to hear about Suck and would later contribute columns, recalled Suck as:

just a beautiful theatrical moment - like the origins of theater - where you're really kind of acting out the kind of situation people are in, in a way. Do you know what I mean? It was very close to reality, or at least to the narrow reality of people building the web - what was motivating them and what they were doing.¹¹⁹

Suck's appeal may have been its honest depiction of the web and its culture, but the combination Wolf uses in his description - theater and reality - is especially fitting because the site's voice was so clearly built on the conventions of an existing publishing culture, and the truth of the web that Suck offered was often a function of its relationship to existing media and popular culture. Where earlier Rossetto had drawn inspiration from the New Journalism in crafting a writing and editing style suited to the digital revolution, the snark, deadpan delivery and pop-culture references that marked this latest version of the new medium's voice was clearly indebted to a contemporaneous culture of independent 'zines, including the subversive temp-workers of Processed World, the media pranks of Adbusters and Mondo 2000, and the ironic odes to celebrity-culture in Spy and Might.

After Steadman began to lose interest in the site (he would leave in 1996) and Anuff began leaving for stretches of time to work on other projects, the site changed direction and focused more on popular culture than on the web, but it remained a prototype for the web criticism of many early blogs and an influence on the kinds of web-based media commentary of popular sites like Television Without Pity. Meanwhile, HotWired began building on Suck's success and that of Webmonkey, eventually refashioning itself for "web participants" in 1997. A year later, Lycos would own Wired Digital, and HotWired would be scaled back further before finally disappearing in 2001.¹²⁰

¹¹⁸ Joey Anuff, quoted in Steinberg, Steve. 1996. "Sucking Noise You Hear: Fans Being Drawn in by Honesty." *Los Angeles Times*, February 29. http://articles.latimes.com/print/1996-02-29/business/fi-41348_1.

¹¹⁹ Wolf interview, 2010.

¹²⁰ Sharkey, 2005.

While its influence on web publishing and blogging has been documented elsewhere, Suck's legacy must ultimately be understood alongside other discourses that, over time, have variously considered the web's purpose in relation to existing institutions and (especially) media. These range from the earliest designs by Tim Berners-Lee to today's discourses surrounding Web 2.0. In relation to the HotWired debate that preceded it, Suck can be seen as continuing some important strands: underlying the cynical jokes about the web's commercialization was a 'jam session'-like passion for the web's open standards, and clearly Steadman and Anuff were not shy about their roles as the new arbiters of cool. At the same time, Suck prided itself on its lack of idealism (Steadman in particular regarded the web communitarians with disdain), just as it took pleasure in debunking the kind of grand pronouncements of digital revolution that Rossetto was famous for.¹²¹ What it added was similar to Mondo 2000's new media cool as explored in chapter 2: Suck signaled a recognition that the web was increasingly of a piece with existing media and popular culture, but also the argument that it may still offer an alternative - that while earlier visions of web-powered public spheres or media revolutions were naive, the web was still an exception.

3.5 Conclusion: web exceptionalism as distributed agency

In 2005, Tim O'Reilly announced a paradigm shift with the term Web 2.0.¹²² Twelve years earlier he had predicted Mosaic would bring about a revolution in web publishing, but now the watchword was participation, companies were creating services rather than websites, and developers were "trusting users as co-developers."¹²³ His proclamation was not purely descriptive, and helped mobilize a new generation of web start-ups that promised to draw from user participation and user-generated content to transform the way media are produced and consumed. The concept has also helped organize debate about the web, with on the one side those who champion the new tools for collaboration and for engaging with news and entertainment media, and on the other side those who see the new platforms as causing serious harm to social and cultural institutions.¹²⁴ As much as it appeared to represent a paradigm shift, however, the emergence of web 2.0 may also be seen as a continuation of past discourses about the web's purpose.

In this chapter, I traced answers to the question, "what is the web for?" as they were formulated at HotWired, focusing first on a debate that helps contextualize the one that has

¹²¹ Wolf, 2003.

¹²² O'Reilly, 2005.

¹²³ *ibid.*

¹²⁴ Shirky, 2008; Keen, 2007.

surrounded Web 2.0 and platforms supporting user-generated content. Not only did similar arguments attend the first attempt to create a commercial publication exclusively for the web, but their roots extend well past web technology and into specific subcultures that were active in the Bay Area, not least the Whole Earth network as studied by Fred Turner in his historical account of the rise of 1990s digital utopianism.¹²⁵ However, I departed from some of Turner's conclusions to focus on the publishing culture of Wired - which in contrast to Whole Earth publications was characterized by a strong discourse of media criticism, its outsider-inside position, the celebritization of technological culture and (as Turner does note) a pro-business, anti-government libertarianism. Where Turner sees in Wired a culmination of ideas and practices that developed through the cultures of cybernetics researchers in the 1940s and 1950s and among the New Communalists and Whole Earth network from the 1960s, I argue that the case of HotWired displays a "conjugation" of cybercultural utopianism - one in which media, journalism and the entertainment industry and related institutions such as public relations became major objects of critique at the same time that their techniques were employed to report on, promote and profit from what Louis Rossetto and others saw as a digital revolution. At the same time, I pointed out that Wired's (and later HotWired's) version of the new media future was one that recalled the New Journalism of the 1960s and 1970s, while also being deeply embedded in media culture (especially with its celebritization of tech culture) as well as in assumptions driving the frontier and cyberspace metaphors for the World Wide Web. The new publishing paradigm, in other words, was as much a site of continuity as it was a description of a wildly different future.

In addition to these connections with the past, a study of HotWired's exceptionalism suggests significant ties to more recent debates. Among the competing ideas about the web that were made visible during the design of HotWired were those of Jonathan Steuer and the Cyborganic community, who saw in the web a means to build, maintain and profit from a loosely connected network of people and resources. In her ethnography of Cyborganic, Jennifer Cool argued that these practices undermined the dominant perception of the web at the time as a separate world, prefiguring contemporary uses and even functioning as the "birthplace of networked social media."¹²⁶ Here, I have argued that Cool is correct to see a historical lineage bound up in specific milieus where others see simply the invention of new tools, but against the division between paradigms that she assumes. Specifically, I used the case of Suck and HotWired's makeover for "Web participants" in 1997 to support one of the larger arguments in this dissertation, that the

¹²⁵ Turner, 2006.

¹²⁶ Cool, 2008.

oppositions assumed between ‘traditional’ and ‘new’ publishing paradigms, and between ‘publishing’ and ‘participation’ web paradigms, are ultimately false because they neglect the many important points of contact, exchange and transformation that occur between them. Paradoxically, perhaps, these continuities are found by taking such rupture-talk *more* seriously as an object of study.

Rather than dismiss the “new publishing paradigm” as a simple case of hype veiling the continuities between HotWired and previous media, then, this chapter has shown that an opposite approach is more fruitful. Taking declarations of rupture and a clean break from the past as a starting point, one quickly enters the intricate web of assumptions, professional cultures, styles, social groups, editorial perspectives, cultural meanings, personal conflicts, commercial pressures, metaphors, design goals and so on that contributed to the formulation of HotWired rupture-talk and the various editorial practices that were considered aligned with the web’s purpose or culture. What one begins to unravel, in other words, is the network that constitutes web exceptionalism as an historical actor. The idea of the web as an exceptional medium is not in itself an agent of change, but in its messy manifestations in HotWired’s producer culture and various novel (if not web-native) editorial practices, web exceptionalism nevertheless must be understood as such. Turning now to the promise of an open-source mode of news production as it emerged around Slashdot in 1999, I continue to emphasize this kind of distributed agency in the construction of practices, technologies and forms considered web-native.

4. Open news and informed media at Slashdot, 1997–1999.

Although articulations of the web as an exceptional medium posit a radical break from the past, they are better understood as sites of more subtle continuities and transformations. So far, I have analyzed cyberculture, or the utopian discourse on the significance and effects of new media that helped shape early perceptions of the web, and showed how elements of this discourse were central to the creation and early development of HotWired in the mid-1990s. At HotWired, the utopianism and cool sensibility that characterized cybercultural rupture-talk and its primary mode of delivery combined with other influences such as Wired's publishing culture to inform its perception of "a new publishing paradigm." Ideas about the web's purpose and its native culture became implicated in editorial and design practices at HotWired and its influential offspring Suck.com, often in ways that connected these to prior publishing cultures and movements, from the New Journalism to Mondo 2000's new media cool.

In this second case study of web exceptionalism, I revisit the emergence of the tech-news website Slashdot and its community infrastructure, which would inspire journalists and academics to proclaim that the application of principles from open-source software development was bringing about a revolution in news production. Although rupture-talk of an open-source mode of news production did, to a certain degree, emerge at Slashdot, in this chapter I argue that it was in fact secondary to a more subtle, even implicit, understanding of the web's exceptional character, one that had to do with the potential for automating processes of media production, distribution and consumption, and - crucially - using registrational data to make these processes visible. Borrowing from Shoshana Zuboff's study of the use of information technology in the workplace, I call this "informed media."¹ Although such automation and visibility is perhaps a precondition for any effort to produce 'open' or collaborative news on a large scale, the genealogy traced here sooner suggests a connection between this quality of Slashdot's community infrastructure and information systems design in various other domains, from the informed workplaces Zuboff describes to the semantic web.

¹ Zuboff, 1988.

4.1 Introduction: the cultural force of collaboration?

One of the central principles of Web 2.0 development is “openness,” a quality that proponents argue is inherent to the internet and the web (a relationship symbolized by collaboratively-written, open standards like internet protocols and W3C standards, as well as various open-source software projects like the Apache web server) and a source of competitive advantage for companies and organizations who deploy it.² For Kevin Kelly and other commentators, new media formats and platforms like blogs, Flickr, Digg, Del.icio.us, Wikipedia and YouTube bring this logic of openness to bear on the economics and institutional structures of the media, a move that ensured audience participation and a “bottom-up takeover” of traditional media.³ This radical break from existing media, Kelly wrote in 2005, could be sourced to the “cultural force” of collaboration at the heart of the web.⁴

In this chapter, I revisit an early example of such collaborative media by turning to the history of Slashdot, the tech news and discussion site that by 1999 had implemented a number of recommendation features now associated with social media and web 2.0 platforms, and that was considered a harbinger of large-scale changes in news media. Slashdot’s editors, including the site’s founder and programmer Rob Malda, would select news submitted by its readers, while comments attached to articles were filtered by a collaborative ratings system to point readers to the most informative or interesting contributions. After an article was published, comments would supply additional information and commentary, and the “rapid peer-review” of the filtering system would ensure the best comments would be highlighted.⁵ Another layer involved “meta-moderation,” a check against abuse of the moderation system. As popular accounts would soon portray it, as well as academic ones later on, Slashdot’s community infrastructure pointed the way to the web’s inevitable transformation of news production, distribution and consumption through the application of principles of decentralized, open source software production.⁶ Openness, in this sense, meant giving the audience a say in what was published: the editors relied on users to direct their attention to news, and selected from that pool. Often, users would submit the same link or article, and the editors could choose the submission with the best summary or most background information. In

² O’Reilly, 2005; Tapscott, Don, and Anthony D. Williams. 2008. *Wikinomics: How Mass Collaboration Changes Everything*. London: Atlantic Books; Shirky, 2008.

³ Kelly, 2005; Tapscott and Williams, 2008; Shirky, 2008.

⁴ *ibid.*

⁵ Glave, 1999.

⁶ *ibid.*; Bruns, 2005.

some cases, readers also provided guest editorials. Ideally, openness also meant enriching a story through commentary and interaction after publication; in a sense, extending the event of publication to include further fact-checking, analysis and other discussion. Analogous to what Eric Raymond called Linus' Law, after Linux founder Linus Torvalds, the "many eyes" that made up Slashdot's audience would make it trivial to reveal any "bugs," or flaws in the reporting of a story.⁷ This analogy would later inform Axel Bruns's theorization of Slashdot as "gatewatching," or the act of contextualizing news by a community of interest.⁸ From this perspective, the site's extensive infrastructure (called Slash) supported what Bruns calls a basic need and desire to see information in context.

In the genealogy of Slashdot's community infrastructure presented here, I depart from these notions of open news and gatewatching in a number of ways. First, even though Slashdot was closely aligned with open source technology and advocacy, I argue that its specificity as a new media publishing culture is marked by a set of interrelated histories, including Rob Malda's biography and immersion in BBS culture as well as the dynamics of the free software movement in the mid- to late-1990s, when open source projects began to compete with proprietary vendors and generate interest from dot.com investors. Second, I reconstruct key moments in the development of Slashdot's most celebrated features, which included the moderation system and, later, its tagging scheme, and argue that the evolving logic behind them was different from the perception of Slashdot 'hacking' news media open or deploying the "secret weapon [of] the collaborative power of the Web," as Lev Grossman would suggest in 2000.⁹ Rather, this proceeded in an ad-hoc fashion, with features often designed in response to more mundane problems like spam: a more appropriate metaphor than "open source news," I argue, is a responsive, problem-solving approach to Slashdot's community that could be called - following a short story Malda wrote in 1997 - "virtual parenting."¹⁰ Finally, in section 4.4, I argue that if there was a larger goal in all of this, it was not one in opposition to traditional publishing practices but rather a vision of a fully "informed" media product, in which the events, activities and processes of media production, distribution and consumption become visible.¹¹ This understanding of Slashdot removes the association of an

⁷ Raymond, Eric S. 2005. "The Cathedral and the Bazaar." *First Monday* (Special Issue 2: Open Source) (October). <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1472/1387>.

⁸ Bruns, 2005.

⁹ Grossman, 2000.

¹⁰ Malda, Rob. 2011b. "Nerds, Unix and Virtual Parenting." *Cmdrtaco.net*. <http://cmdrtaco.net/2011/09/nerds-unix-and-virtual-parenting/>.

¹¹ c.f. Zuboff, 1988.

antagonism with mainstream media, but keeps intact the notion of the web's displacement of prior media; it also recalls cyberculture by grounding its promise in a utopian configuration of the computational metaphor.

4.2 Slashdot's producer culture: BBS, the open source movement and advances in web publishing technology

Rob Malda and Jeff Bates registered slashdot.org in September 1997, linking to linux and free software news and discussing it with friends in a comments section attached to each page. Within two years, Slashdot's audience numbered in the hundreds of thousands, and Wired magazine called it a new form of community journalism.¹² Time magazine would follow suit, explaining that where Malda had sought a place on the web to chat with fellow geeks, he had built a collaborative form of news production: "Malda has taken idea of what news was, hacked it open and rebuilt it for the Internet age."¹³ Slashdot also found financial success: Malda and co-founder Jeff Bates sold Slashdot to Andover, a media company focused on technology and the open source movement, for \$7 million in cash and stock options. The value of that stock grew exponentially with Andover's successful IPO later that year, and again when Andover was acquired by VA Linux in 2000. (In another development typical of the dot.com bubble, however, those employee stock options would become relatively worthless by the time they could be exercised/sold.) Some of the keys to understanding Slashdot's form and its success are apparent in the site's pre-history, best viewed at the intersection of Rob Malda's biography with the height of popularity of online Bulletin Board Systems (BBSs), the history of the free software movement and its re-branding as open source, and the creation of accessible, powerful technologies for advanced web development, including scripting languages (Perl, PHP and Python) and the relational database management system MySQL.

The first relevant history, with respect to Slashdot's mix of tech news and geek culture, as well as the centrality of user contributions and comments, is Rob Malda's immersion in BBSs in the 1980s. Malda's childhood and teenage years coincided with a period of rapid growth in personal computing and computer networking, and it was his experiences with these technologies that helped shape his ideas about the uses of online media. By the age of 10, Malda was learning to program in BASIC on the computer his father brought home from work. Three years later, he had his own computer and a 1200 baud modem, which he used to connect to a handful of local BBSs, and by

¹² Glave, 1999.

¹³ Grossman, 2000.

high school he ran his own BBS from his room. Anecdotes from the time include how Malda was punished for misbehaving - instead of grounding him, his mother would lock his keyboard in the trunk of the car - and the fact that Malda and Bates became friends through online message boards, even though they went to the same high school. It was the kind of love for technology mixed with social isolation that geek stereotypes are made of: "I didn't really go outside, I didn't really talk to people. I was just on my computer all day," Malda would later summarize.

Even without reference to Malda's biography, it is relatively easy to see how BBSs foreshadowed the type of website Slashdot would become. Users would share files and play "door games" such as Trade Wars 2000 while using message boards to discuss a range of geek cultural topics, from new software releases to the TV shows X-Files and Mystery Science Theater 3000. The roles BBS hosts took on similarly foreshadowed the kind of work Malda would do for Slashdot: hosts, for example, had to strike some balance between determining the character of a BBS (from giving it a name to deciding which features and games to support) and acting as a facilitator - the bulk of a host's time would be spent maintaining hardware, fixing bugs and (less frequently) policing the community.¹⁴

A key point is how this heritage differs from that of other prominent actors in the early development of web publishing, and how it made Slashdot distinctive from those others. For example Suck, as discussed in chapter 3, clearly drew from a 1990s alternative publishing culture epitomized by 'zines like Spy and Might. Although Slashdot's producer culture similarly brought technology and popular media into the same discursive space (to the point that, say, Star Wars fandom was as much a sign of geek identity as using open source software), it did not display the same levels of reflexivity or media criticism. For example, although they both covered the public relations campaigns surrounding the "browser wars" and the civil actions filed against Microsoft during the 1990s, their emphases reveal basic differences. For Slashdot the story resonated with the community's passion for technological openness and confirmed a perception that the cards were stacked in Microsoft's favor, whereas Suck's take centered on the similarities between Microsoft's attempts to manipulate public opinion and those of their adversaries in the justice department.¹⁵ And although Slashdot shared a link-plus-commentary format with blogging, there was a key difference: where the development of blogging's formal and stylistic conventions went hand-in-hand with attempts to define the form culturally as an alternative to mainstream news and

¹⁴ Christopher, Timothy. 2011. "SysOp Is Dead: Community Evolution and Online Games." In Monica Evans, ed. *Videogame Studies: Concepts, Cultures and Communications*. Freeland: The Interdisciplinary Press.

¹⁵ Bray, Chris. 1998. "Toxic Shock." *Suck.com*. <http://www.suck.com/daily/98/04/27/>.

entertainment media, Malda rarely considered Slashdot in those terms, at least during its initial development.¹⁶ The BBS model (especially when run by teenagers more interested in role-playing games than the politics of media) lacked efforts at self-definition, and instead implied small and informal community around shared topics of interest.¹⁷

At Slashdot, the primary topics of interest were Linux and other open source software projects, especially news related to their mainstream success. Technology discussion was another legacy of BBS culture, however the character of Slashdot's coverage and the level of interest it attracted is better explained with reference to a second relevant history, namely the emergence of a pragmatic, business-friendly strand of free software advocacy during the height of the dot.com bubble. Slashdot celebrated open source development at a time when economic interest and media attention spiked, and acted as a forum for the exchange of ideas related to its commercialization. Slashdot's participation in this transition went deeper as well, since the code for running the site (called Slash) would be released under GNU's General Public License in 1999, and the site would become more generally recognized as an example of the potential success of applying open source principles to areas other than software development, especially media production.

The idea that releasing source code under a free license might be a viable strategy for software development - let alone inspiration for other kinds of production - had only recently gained traction. Eric Raymond wrote "The Cathedral and the Bazaar" in 1997, contrasting traditional software production ("cathedrals") with the ad-hoc, partially distributed development of Linux and his own project Fetchmail. The bazaar model held that "given enough eyeballs, all bugs are shallow," and its principles of "release early and often" and "treat users as co-developers" not only made it different from commercial production, but also from existing practice in free software development - most notably the GNU project, Richard Stallman's attempt to build an operating system entirely free of proprietary code.¹⁸ In January 1998, Rob Malda wrote a Slashdot editorial ("the first of hopefully many") called "Simple Solutions," in which he outlined why Netscape should release its source code under a General Public License, and how it would be a good move for both the company and the free software movement.

¹⁶ See chapter 5; see also Rodzvilla, ed. 2002; Rosenberg, 2009.

¹⁷ The notable exception here of course is Howard Rheingold's "virtual community." See chapter 1.

¹⁸ Raymond, 2005.

Netscape is losing money as well as browser market share. What's a company to do? Maybe the solution is simple: GPL Netscape's Source Code [...] Why would the Free Software World want to take on this project? GPL means we would have a state of the art free browser.¹⁹

For the first time, Malda saw streams rather than handfuls of hits on Slashdot. The solution was provocative, and was one Netscape had in fact already decided on: on January 22nd, Netscape announced plans to release their source code with the next version of their Communicator web suite: “This aggressive move will enable Netscape to harness the creative power of thousands of programmers on the Internet by incorporating their best enhancements into future versions of Netscape's software.”²⁰

What was notably missing from Netscape's announcement, however, was the term “free software.” In the next few weeks, Eric Raymond attended meetings with Netscape's board and other industry executives interested in applying the bazaar model, and emerged with a “call to the community” to use the term “open source,” which he argued would be clearer and less adversarial toward mainstream computer companies, without changing the basic meaning.²¹ Driving the point home, the next day Raymond published revision 1.29 of “The Cathedral and the Bazaar,” in which he simply replaced instances of free software with the new term. Of course, Richard Stallman and many other proponents of free software were critical of the move, and the new term solidified what had already become an important debate within the community. The latent flame war in Raymond's proposal (entitled “Goodbye, ‘free software’; Hello, ‘open source.’”) was manifest on Slashdot, where heated discussions made up a large part of Slashdot's early user activity. Slashdot provided a more centralized forum than the various Linux or free software conferences, mailing lists and IRC channels, as well as a publisher more or less committed to presenting differing views within the community. So through 1998 and 1999, Malda would regularly publish back-and-forth editorials (sent in by readers) on issues of commercialization and the principles-versus-pragmatism debate. These included essays on why the community should be more open to the “suits” and warnings that commercialization would destroy the elements of free software that had made it effective (and its advocates passionate) in the first place.²² Although Malda was careful to never state Slashdot's

¹⁹ Malda, Rob. 1998b. “Simple Solutions (Slashdot Editorial).” *Slashdot*, January 12. <http://tech.slashdot.org/story/98/01/12/085000/simple-solutions-slashdot-editorial>.

²⁰ Baker, Mitchell. 2008. “January 22, 1998 - the Beginning of Mozilla.” *Lizard Wrangling*. <http://blog.lizardwrangler.com/2008/01/22/january-22-1998-the-beginning-of-mozilla/>.

²¹ Raymond, Eric. 1998b. “Goodbye, ‘Free Software’; Hello, ‘Open Source’.” *Tuxedo.org*. <http://web.archive.org/web/20020214222257/http://www.tuxedo.org/~esr/open-source.html>.

²² Koehn, Philipp. 1998. “Feature:Who Is the Software Communist?” *Slashdot*, September 15. <http://news.slashdot.org/story/98/09/15/1130201/featurewho-is-the-software-communist>; Perkins, Greg. 1998. “Feature:Open Source and Capitalism.” *Slashdot*, August 8. <http://news.slashdot.org/story/98/08/24/0854256/featureopen-source-and-capitalism>.

position, on occasion he let on that pragmatism had his personal preference, for instance when he openly worried that Slashdot's passionate advocacy would marginalize the movement and hurt the goal of making Linux what he called a "Mainstream Alternative."²³

Slashdot's success brought along problems of scale. One was the hundreds of emails Malda received each week - and before long, each day - with story submissions. More noticeable for readers, there were a number of issues affecting the quality of discussion in the comments section: flame wars between users were one thing, but worse were scripts or bots created to 'crapflood' the forum, at times for spam but more often for automated flames and trolling. In fact, a few days before he posted "Simple Solutions," Malda wrote a plea to readers that they not abuse the "User Talk Back" feature; this would be the first of many similar requests, each delivered with a mix of urgency ("I want to appeal to Slashdot User's sense of decency") and self-deprecation (the byline read "from the climbing-on-the-soapbox dept."). The problem, Malda said, was one of a declining "signal to noise ratio":

*Please play fairly kids. I like reading the comments- most of the time reading you guys comments really makes my work seem worthwhile, but when I see **crap** posted I feel like I have no choice but to just remove that feature from the site. Don't make me do that guys- think before you post.*²⁴

At the time, the comments section was a simple, chronological list attached to each article, with a form for entering new comments at the bottom of the page. Since there was no registration or use of browser cookies, commenters would fill in their information each time they posted, and there was no way to prevent users from posting as, say, "Rob Malda" or any other target of abuse. On the back end, comments were not entered into a database but automatically converted to HTML and attached to the end of the article's text file. There was no way to establish a connection between comments or to see which posts a user had commented on (i.e. to delete multiple comments by a single user). Malda would only moderate comments sparingly, and doing so meant manually removing the offensive comment.

As Slashdot continued to grow in early 1998, a more pressing concern than abuse of the comments section was the ability to keep up with increasing traffic loads. Slashdot was being run out of the office where Malda had a part-time job building websites for an advertising company, on

²³ Malda, Rob. 1998c. "How Not to Kill Linux (editorial)." *Slashdot*, April 5. <http://linux.slashdot.org/story/98/04/05/1034239/how-not-to-kill-linux-editorial>.

²⁴ Malda, Rob. 1998a. "Slashdot User Abuse." *Slashdot*, January 8. <http://news.slashdot.org/story/98/01/08/093100/slashdot-user-abuse>; Malda is somewhat infamous for his poor spelling and grammar. I've chosen not to add the adverb "sic" to each instance, but these appear intentionally and each quote has been reproduced verbatim.

a box that doubled as a mail server (the situation was similar for many independent web publications at the time, since hardware and bandwidth were too expensive for what was more or less a hobby). Malda began looking for a more efficient solution, and in April rewrote from scratch the software that organized the site's content. Among the improvements were a web-based system for managing user submissions and "an actual honest to god SQL database" to replace the slow system of flat text files.²⁵ These made the site faster, but also provided the infrastructure for many of the innovative features that would be added to the site later (and which are discussed in the next section). Alongside the Linux operating system, the Apache web server and a new implementation in Perl (which Malda had also used to create the first, "stupid simple" Slashdot content management system), Malda ported the site to mod_perl (a module that embeds a Perl interpreter in Apache, speeding up the processing and delivery of dynamic content created by Perl scripts) and added MySQL.²⁶ This was the software stack that would become commonly known as LAMP (Linux, Apache, MySQL and php, Perl or Python), and the emergence of this relatively easy-to-use, free software set-up forms a third history relevant to Slashdot.

On the one hand, the history of LAMP is one of an accumulation of advances in free software (in the classic technological history sense of sophistication and dissemination). Linux, for example, had become a popular alternative to proprietary operating systems around 1993, just before Malda went to college, while Apache had solidified its position as the most popular server software by 1998. Together, these technologies inspired the famous "Halloween" documents - two leaked Microsoft reports that identified the open source software development model as a threat, and recommended spreading "fear, uncertainty and doubt" (or FUD) about the stability and security of open source software.²⁷ On the other, the presence in LAMP of Perl (alongside other scripting languages) and MySQL also points to significant shifts in the overall direction of web publishing at the time. First, Perl and MySQL not only represented open source alternatives to existing technologies, but were specifically designed for easier use and were thus more suited to a growing share of casual or non-professional web development. Scripting languages like Perl can be distinguished from system languages such as C and C++ in that they are higher-level, meaning they automate many of the details of tasks while sacrificing some performance and capacity for

²⁵ Malda, Rob. 2007. "A Brief History of Slashdot Part 2, Explosions." *Slashdot*, October 10. <http://news.slashdot.org/story/07/10/10/1445216/a-brief-history-of-slashdot-part-2-explosions>.

²⁶ Malda interview, 2011.

²⁷ Wikipedia contributors. 2012. "Halloween Documents." *Wikipedia, the Free Encyclopedia*. Wikimedia Foundation, Inc. http://en.wikipedia.org/w/index.php?title=Halloween_Documents&oldid=482487675.

complexity.²⁸ MySQL, meanwhile, focused on the “niche” of web applications, and intentionally left out some features associated with professional databases such as database transactions (which separates actions and saves state, providing more stability) and foreign keys (used in complex databases to define relationships between objects in different tables).²⁹ Second, whereas with earlier web publications (such as HotWired) pages were often ‘hand-coded’ and manually organized in a file system, this practice would be supplanted by increasingly powerful content management systems (CMSs) that automated much of this work. Without the relative ease-of-use of LAMP, or the free licenses, content management systems were prohibitively complex and expensive for independent or amateur applications (one example of a project failing due to CMS costs comes from Howard Rheingold’s Electric Minds, an elaborate attempt in 1995 to build a ‘virtual community’ on the web).³⁰ By 1998, however, various amateur CMSs such as Dave Winer’s Frontier software were made freely available, and the first examples of widely distributed blogging software were being developed.³¹ Third, and perhaps most important in this context, Perl and MySQL made it much easier to manage user activity at the scale that Slashdot would eventually take on. Perl (like php and Python) is well known for its suitability for working with large collections of text files - using regular expressions, one can quickly and easily identify and manipulate highly-specific strings of data (e.g. a series of actions to format a user’s submission or comment as html).

The heterogeneous set of actors discussed here - from BBSs and geek culture to open source advocacy and Perl - all helped shape the site in terms of its content and form. So these were not a set of preconditions so much as elements that would continue to resonate, and their influence was taken more or less as a given by those involved. For Malda, there was no reason to reflect on what the site was becoming, since it felt like a logical extension of the forums and newsgroups he had grown accustomed to. This was the case even when geek celebrities like Eric Raymond and Bruce Perens spent time on the forums, and the site more generally became a central node for everyday news, discussion and debate around free software and open source. And Slashdot’s reliance on

²⁸ Ousterhout, John. 1998. “Scripting: Higher Level Programming for the 21st Century.” *Computer* 31 (3) (March): 23 – 30. doi:10.1109/2.660187.

²⁹ Holck, Jesper, Volker Mahnke, and Robert Zicari. 2008. “Winning Through Incremental Innovation: The Case of MySQL AB.” In *IRIS 31*. Are, Sweden.

³⁰ Rheingold interview, 2010.

³¹ A development related to the move towards more standardized content management was the gradual adoption of the Cascading Style Sheets standard, which separated instructions for presentation (color, layout, etc.) from site content. Together, these helped provide the technological conditions for the creation of various widely used CMSs, most notably blogging software.

improving technology for web publishing was both a simple means to an end, and a source of enjoyment in itself - site maintenance news would generally be dryly recorded in stories on the front page, but pleasure and pride were involved when this news conveyed clever hacks or an ability to solve performance issues with limited time and hardware. These histories were also visible as Rob Malda created, implemented, modified and made sense of the increasingly elaborate Slashdot feature set that would be praised as a major innovation in news production and web publishing, and be the impetus for the site's legacy as a significant forerunner of Web 2.0.

4.3 “Open news” or “virtual parenting”? The emergent logic of Slashdot's community infrastructure

In the summer of 1999, there were few web publications generating as much buzz as Slashdot, and this would translate to financial as well as critical success for the site. In June, Malda and Bates sold Slashdot to Andover, with a contract clause that they retain (in their words) “complete and total creative control.”³² Malda was appointed to Andover's board, and the deal included a few million dollars in stock options. Along with the announcement (in the same month) that the Linux distribution Red Hat would go public, Slashdot's acquisition was interpreted as proof of the transformation of “open source software from a serious hobby to a serious business proposition.”³³ This was primarily due to Slashdot's status as the most popular destination for news about open source technology; however, excitement around Slashdot was also about *how* it produced news. Dan Gillmor, for instance, wrote that Slashdot “makes us think about journalism's inevitable evolution as the Web takes hold.”³⁴ The effect on news media would be described in popular and academic accounts with technological metaphors, and Wired News was the first to argue that Slashdot's was “open-source journalism,” and a thus threat to traditional, closed modes of production.³⁵ For one thing, the open source principle of releasing early and often appeared to match journalistic aims of breaking news and continuous coverage: if you are a tech journalist, James Glave wrote, Slashdot “may eventually make your job obsolete” because it “gets the scoop

³² Malda, Rob. 1999e. “Slashdot Acquired by Andover.net.” *Slashdot*, June 29. <http://news.slashdot.org/story/99/06/29/137212/slashdot-acquired-by-andovernet>.

³³ Shankland, Stephen. 1999. “Andover.Net Scoops up Seminal Slashdot Site” *Cnet*. http://news.cnet.com/Andover.Net-scoops-up-seminal-Slashdot-site/2100-1001_3-227793.html.

³⁴ Gillmor, Dan. 1999. “Slashdot Almost Addictive for Those Who Care.” *SiliconValley.com*. <http://web.archive.org/web/20000505084954/http://www.mercurycenter.com/svtech/columns/gillmor/docs/dg052599.htm>.

³⁵ Glave, 1999.

faster than you can -- along with about 600,000 news-hungry eyeballs a day” (ibid). Most important, however, were the ‘many eyeballs’ that submitted stories and comments:

[Slashdot] relies on the eyes and ears of the thousands of its readers to create what amounts to a collaborative newswire [...] The conversation that follows is part expert commentary, part peer review, and part cocktail-party banter, as credible sources and experts weigh in alongside crackpots in a rapid peer-review process.³⁶

The similarities had not been lost on Malda or Slashdot readers. After hearing Eric Raymond deliver his paper “Homesteading the Noosphere” at the 1998 Linux Expo, Malda wrote that “[i]n a lot of ways, Slashdot is an application of the same principles that make open source work, but shifted over to the news stuff.”³⁷ Raymond’s piece elaborated on one of the central arguments in “The Cathedral and the Bazaar,” that participation in open source development was motivated by self-interest rather than altruism, and that despite the free licenses, ‘ownership’ (in an informal, non-legal sense) actually played a significant role.³⁸ Malda reasoned that Slashdot readers, similar to Linux developers, were willing to devote time and energy to improving a news discussion forum they had no financial interest in if it compensated them in other ways, most importantly credit for their work and respect from their peers.³⁹ The open source metaphor would stick, and would later form the starting point for theories of a new mode of cultural production, one that represented a radical departure from those of mass and mainstream media.⁴⁰

Although open source can be a useful frame for understanding, say, incentives that may be similar for contributing code to Linux and for contributing a story to Slashdot, or for designing more finely-grained licenses for sharing copyrighted work, it also leaves large gaps in any explanation. For one thing, when openness in media production is treated as a progressive alternative to traditional methods, this ignores the fact that (if Raymond’s argument is correct)

³⁶ ibid.

³⁷ Malda, Rob. 1998d. “Rob’s Return/LinuxExpo Wrap Up.” *Slashdot*, May 31. <http://news.slashdot.org/story/98/05/31/1650242/robs-returnlinuxexpo-wrap-up>.

When I asked Malda to clarify what he meant by this relationship between Slashdot and open source principles in 2011, he characterized this as primarily a relationship between the open-source development style (rapid-prototyping, evolutionary design, etc.) and Slashdot’s code. As I argue in the rest of this chapter, it would be a stretch to understand the development of the moderation system or other features as conscious efforts to re-imagine news production.

³⁸ Raymond, Eric. 1998a. “Homesteading the Noosphere.” *Catb.org*. <http://www.catb.org/~esr/writings/homesteading/homesteading/>.

³⁹ Malda, 1998d; Raymond 1998a.

⁴⁰ Benkler, 2002; Bruns, 2005; Bruns, Axel. 2008. *Blogs, Wikipedia, Second Life, and Beyond: From Production to Producership*. New York: Peter Lang.

‘open sourcing’ does not represent a moral or political project so much as a hacker or engineer’s desire for a more efficient solution to a given task. More practically, there are any number of distinctions to be drawn between software development and the ‘given tasks’ of producing, distributing and consuming news or other media; proving that Linux outperforms Windows according to standard benchmarks is one thing, evaluating news commentary is another. For this reason, it’s worth closely examining the design, implementation and evolution of key Slashdot features: to what extent does a history of Slashdot’s participation architecture support the ‘open news’ argument?

From the spring of 1998 to mid-1999, Malda would make a number of key changes to Slashdot’s interface and back-end that, together, provided the foundation of Slashdot’s formal composition and (in sparking the open source analogies) came to characterize the site as much as the topics it covered. Many of these, however, grew out of surprisingly mundane concerns. Malda created the web-based submissions box, for example, simply to separate these from his regular email, and it was only after the fact that he realized this enabled him to create separate accounts and share the work of reading and selecting stories. (In addition to Bates and Malda, editors would include a few Slashdot readers who volunteered their time until the sale to Andover, when they became employees). Another affordance was the ability to automatically format submissions in HTML tables. At first this was rudimentary - there were columns for submitter, date, section and the text itself - but even sorting by section made the process of browsing and selecting content much more efficient. The innovation was that submissions were now data objects, rather than flat text.

User registration was implemented in the summer of 1998, “largely in response to spam” and “the occasional DDoS [Distributed Denial of Service] and crapflood of our forums.”⁴¹ Here, too, was a straightforward answer to a well-defined problem that in fact made new exploits possible, and it was to the credit of Malda and his collaborators that they saw potential uses far beyond the original design (even if this process was more intuitive than anything else). For many regular commenters, registration and the use of browser cookies meant they wouldn’t have to fill in their information each time, but with a few tweaks by Malda, it also meant they could set preferences for sections and topics, how comments were displayed, page size, and a few other things. Other customization features would follow, including “slash boxes,” which imported headlines from other sites using Netscape’s RDF site summary (later RSS).

Persistent identity also meant user activity could be registered and tracked (and a number of Slashdot readers opposed the feature for this reason), and this would eventually make Slashdot’s

⁴¹ Malda, 2007.

elaborate moderation system possible. Unreliable, ‘weak’ data such as IP addresses (and user names generated on the fly) had largely been replaced by unique, numbered User IDs, and tables could be drawn up with various columns for login statistics and number of comments posted, time zone and other customization preferences, and so on. In September 1998, after going over possible solutions to various abuses of the comments system - from disallowing anonymous comments to elaborate perl scripts to try to intercept or weed out spam and other abuses - Malda wrote a system for awarding points to comments, and invited 25 regular contributors to do the moderating. Moderators would receive a set number of ‘credits,’ and could spend these by either adding a point to a comment they thought was high quality, or subtracting one from a comment that was abusive (they could also choose to do neither). Comments from logged-in users would start with a score of 1 and those from anonymous posters with 0. The score would then be updated with each moderation, and readers could set a “threshold” for viewing comments - the default setting was to hide comments with a score of -1 or lower.

For no particular reason at the time, Malda also wrote code that updated each user’s entry in the user database with a total score for their comments - this would become the basis for Slashdot’s reputation system. In March 1999, after the activity of the original 25 moderators waned and the average number of comments rose, Malda used these total scores to invite another 400 users to moderate. The cumulative comments score, in other words, had become a user attribute, standing more or less in for the user’s reputation on Slashdot. In a post about the changes, Malda called this total score a user’s “alignment,” a reference to the BBS role-playing game Trade Wars 2000, and the name would later be changed to “karma.”⁴² Over time, moderation would undergo a number of changes, each one adding to the complexity of the system’s back end, generating new user attributes and applying existing ones in new contexts. A ‘jury duty’ model was introduced to automatically select eligible users to serve as moderator for a few days at a time; part of this was deciding which pool of users to select from, and Malda came up with metrics that he thought would constitute the average Slashdot commenter (and on occasion subsequently tweak these metrics). The data included karma along with various activity measures (article views, comments, etc.).

At this point, the system had become somewhat dislodged from the original, basic aim of hiding abusive comments. In early 1999 Malda wrote a Moderation FAQ, and reformulated the goals as:

1. Promote Quality, Discourage Crap

⁴² Malda, Rob. 1999c. “Several Slashdot Notes.” *Slashdot*, April 6. <http://news.slashdot.org/story/99/04/06/2125239/several-slashdot-notes>.

2. Make Slashdot as readable as possible for as many people as possible.
3. Do not require a huge amount of time from any single moderator.
4. Do not allow a single moderator a 'reign of terror'.⁴³

In some descriptions, the moderation system and similar online reputation systems have been described as methods for “scaling up” conversation, but clearly this was not a transparent intermediary.⁴⁴ Instead it helped shape interaction, and its highest priority was to bring the best comments to the fore (and given the many enthusiastic responses in the Slashdot forums in the following weeks, this and its other goals appeared to have largely succeeded). One commenter wondered aloud whether his consciousness of looming moderators affected his contribution, and asked “Read any Foucault [sic]...?”⁴⁵

The metaphor that had been used to describe the problem originally was a diminishing “signal to noise ratio”; with the system’s abstract character, the intuitive nature of its aims, and the continuous tweaks and alterations meant to test out different effects, the solution now no longer resembled moderation so much as another engineering concept, modulation.⁴⁶ Looking to improve the quality of the pool of moderators? Change karma to take other factors into account, for example whether users had had stories selected by the editors for publication. Are moderators spending too many points on comments that already have extreme scores? Try normalizing the scores, so that users only see a scale of -1 to 5.⁴⁷ Some changes were more involved, for instance the introduction of meta-moderation in September 1999, with which eligible users judged whether moderations of comments were fair or unfair - this would in turn bring along new considerations and require adjustments over time, for example to ignore a user’s metamoderation when she or he skewed too far in one direction (judging everything as unfair, for example). Others allowed for more detailed analysis: Malda introduced moderation labels (positive ones such as “informative” and “funny,” and negative ones such as “spam” and “flamebait”) so that moderators would have to explain their actions, and hopefully by doing so give more thought to what comments were truly worth rating up or down. With these, Malda was able to make the editorial decision to not count “funny” comments

⁴³ Malda, Rob. 1999a. “Slashdot Moderation.” *Slashdot*. <http://web.archive.org/web/19991012194116/http://slashdot.org/moderation.shtml>.

⁴⁴ Bates, Jeff, and Mark Stone. 2006. “Communicating Many to Many.” In *Open Sources 2.0: The Continuing Evolution*, ed. Chris DiBona, Danese Cooper, and Mark Stone, 373–396. O’Reilly Media, Inc; Rheingold, Howard. 2002. *Smart Mobs: The Next Social Revolution*. Cambridge, MA: Perseus.

⁴⁵ EricRCH. 1999. “A Couple of Thoughts...” *Slashdot*. <http://slashdot.org/comments.pl?sid=16655&cid=1962945>.

⁴⁶ Malda, 1999c

⁴⁷ *ibid.*

toward a user's karma - the thinking being that while humor should be encouraged to an extent, in that they were displayed at higher thresholds, "interesting" and "informative" comments were more valuable, and should be rewarded accordingly.

New features, sometimes added in response to innovations elsewhere, generally folded back into the existing ones of user submission, karma and moderation. So when, for example, Slashdot followed LiveJournal and made it possible for users to post stories to their own page (where their comments were displayed, along with their 'friends' and 'foes'), these were later tied into the submission system: users could add section and topic labels, and send their posts to editors to consider for publication on the home page. Perhaps the most interesting addition in this respect came in 2006, when Slashdot implemented tags. At the time, a number of commenters pointed out that the new feature borrowed heavily from the social bookmarking site del.icio.us, created in 2003. What the commenters missed, however, was the extent to which it was integrated with the existing feature set, and how it departed drastically from most "folksonomic" classification schemes.⁴⁸ For one, tags were created to replace topics in the Slashdot categorization scheme, and thus take over some of the work of editors. Users would tag URLs in a shared database, and these would help editors evaluate it when sent in as a story submission. To this end, there were a range of tags that were Slashdot-specific: stories could be tagged with "dupe" (duplicate) if they'd appeared on the site before, while "nod" and "nix" were indicators of whether users thought a link deserved publication. More importantly, tags could be added by all logged in users, but not every user's tags carried equal weight. Each user who tagged was given a distance measure, based on how closely his or her tags matched or predicted those of Malda and the editors, and that translated to the weight attached to their tags. The system was an intricate construction, a kind of "pyramid scheme" in which Malda sat at the top, followed by editors and then users whose decisions most often aligned with those of the staff.⁴⁹ The system, in other words, was not designed to distribute decision-making so much as it was to predict the editors' choices based on user activity.

The elaborate system - the tag database, but more generally the range of interconnected Slashdot features that had accumulated over the years - had as its goal the efficient classification and distribution of news and news commentary, and this trumped the aim of creating opportunities for participation (even if these sometimes went hand in hand). The aim was for quality - as much as

⁴⁸ Shirky, Clay. 2005. "Ontology Is Overrated -- Categories, Links, and Tags." http://www.shirky.com/writings/ontology_overnated.html.

⁴⁹ Malda interview, 2011.

this may have meant “what Rob likes” - to rise to the top.⁵⁰ In some sense this was achieved through distributing the workload among the community, but for such ‘open news’ to be at all possible, its production, distribution and consumption had to first be articulated as an information system: submissions, published stories, users and any number of actions and activities were expressed in a relational database, as data objects with defined attributes and associated metadata. A metaphor that is more appropriate than open source development for these intricate (and in the case of tagging, somewhat fantastical) programs comes from a short story Malda wrote in 1997, a few months before he created Slashdot. Called “Nerds, Unix and Virtual Parenting,” the story begins with the premise that virtual pets like the Tamagotchi require too much work, and describes in humorous detail a fictional virtual child coded by Linux nerds (“the best nerds”). This included “obvious improvements” that made it more realistic (instead of just beeping when it wanted attention, the ‘baby’ would blare obnoxious sounds while running the CPU at 100%). The story also describes a series of hacks that made the work of caring for the virtual child easier, from scripts to forward the child’s requests via email to a daemon that processes instructions from the parent, until parenting itself was a self-regulating information system:

So my child is now 58 weeks old. He is perfectly happy, he receives his allowance in clock cycles, is scolded when he is not nice 20, and his played with when he is bored- all automatically. I haven’t actually intervened since his first birthday- I added him to my systems init files last summer.⁵¹

When Malda resigned from Slashdot, after 14 years as its chief engineer and editor, he wrote that he was comfortable doing so, since all of the pieces were in place to ensure that Slashdot would continue to operate as it should, with or without his involvement.⁵²

4.4 Informed media and the computational metaphor

If the significance of Slashdot’s innovations should not be understood as the “open-sourcing” of journalism and the news, to what extent did they constitute the articulation of the web as an exceptional medium? Malda never set out to create an alternative to media production practices and tended to ignore or downplay claims that Slashdot represented such an alternative. At most, for him, this was a matter of automating or scaling up the work of traditional editors and others involved in

⁵⁰ *ibid.*

⁵¹ Malda, 2011b.

⁵² Malda, Rob. 2011a. “Rob ‘CmdrTaco’ Malda Resigns From Slashdot.” *Slashdot*, August 25. <http://meta.slashdot.org/story/11/08/25/1245200/rob-cmdrtaco-malda-resigns-from-slashdot>.

news production and distribution. In this way, something like the comments recommendation system was seen less as a critical or subversive act, and more akin to, say, customizing server software to increase load capacity: the purpose was overall efficiency and a better news product. Malda himself rarely gave another impression, tending to dismiss the rupture-talk around open news as fluff: when Dan Gillmor wrote in May 1999 that Slashdot “makes us think about journalism's inevitable evolution as the Web takes hold,” Malda called it “a nice little ‘Slashdot as a weblog’ piece apparently designed to stroke my ego.”⁵³

There were, however, a few notable exceptions to this absence of rupture-talk, which I would argue point to a subtle but important difference from ‘open news’ in how Malda interpreted Slashdot’s significance. In July, 1999, Malda published reader Matthew Priestly’s essay in which Slashdot and the conservative political message board Free Republic were analyzed in terms of how they used technology to address the general “malaise of distrust among media consumers.”⁵⁴ Using concepts from cryptology and graph theory, Priestly contrasted the structure of “trust decisions” in traditional news - where information flows are ultimately governed by the “descended tree” of trust, with corporate news agencies, commercial interests and powerful sources at the top - to a hypothetical “distributed trust model, [in which] each consumer inhabits a single node in a formless but highly connected graph. Central authority is weak, participants are anonymous, and all nodes perform small amounts of voluntary labor.”⁵⁵ As the first “community information filters,” Priestly argued that Slashdot and Free Republic could be the first steps in a larger shift toward the wholesale redistribution of information flows to fit the needs of consumers, and away from those of media conglomerates, advertisers and other dominant interests. Such redistribution would bring about what Priestly called, in the title of his essay, “Honest News in the Slashdot Decade.” Interestingly, though, the word “honest” was removed when Malda posted it t. This may have been accidental (even though a simple copy-paste would), but it was clear in Malda’s short introduction to the piece that his interest was less in Priestly’s criticism of mainstream media, and more in his use of technological concepts to make sense of underlying processes in the distribution and consumption of information. Priestly’s article was excellent because it analyzed “how The internet is changing

⁵³ Gillmor, 1999; Malda, Rob. 1999d. “Dan Gillmor on Slashdot.” May 25. <http://news.slashdot.org/story/99/05/25/1316203/dan-gillmor-on-slashdot>.

Although Malda generally remained ‘cool’ about Slashdot’s supposed displacement of existing media practices and institutions, the Slashdot community was more amenable to the idea. Many of the highest-rated comments attached to the “Dan Gillmor on Slashdot” story praised Slashdot as a .

⁵⁴ Priestly, Matthew. 1999. “Honest News in the Slashdot Decade.” *Slashdot*. July 16. <http://slashdot.org/story/99/07/16/1316248/featurenews-in-the-slashdot-decade>.

⁵⁵ *ibid.*

the way that news moves about, and discusses problems and advantages related to it.”⁵⁶ The *visibility* of information flows was primary, and how this related to traditional media was secondary.

One of the only examples of rupture-talk from Malda himself came when he implemented a key element of Slashdot’s comment recommendation system. After explaining with some pride his ‘hack’ for automatically selecting moderators, Malda wrote:

Where is this heading? Think of a news site like Slashdot without a guy like **me**, or a group of guys at the center. One where the best **comments** become the articles on the homepage. If we could make that work... wow.⁵⁷

Where Malda privileged the visibility of information flows over media criticism in Priestly’s analysis, his comments here (given the context of his pride in automating a potentially tedious task) seem less concerned with a democratization of the news, and more with automation and technological achievement. Based on these two instances, which are especially notable given the general lack of such rupture-talk from Malda, I would argue that while notions of the displacement of prior media were important in Slashdot’s development, these had more to do with the qualities of visibility and automation than they did with an opposition to existing editorial practices or institutions.

To put the importance of this difference in perspective, I would like to suggest that Slashdot’s significance should be seen less in terms of its creation of a general infrastructure for participatory news aggregation and commentary, and more in terms of how it helped institute a perception - much more widespread and established now than in 1998 - that the web makes social and cultural phenomena quantifiable and visible, in particular the information flows that (in this view) constitute the production, distribution and consumption of media. However ad-hoc Malda’s innovations were, what they had in common was an awareness that registrational data could be harvested in a way that made previously nebulous phenomena visible, including user types, reputation within the community and the quality and character of commentary, but also eventually things like the emergent categories of news through tagging. In this way, Malda’s actions perhaps foreshadowed Tim O’Reilly and John Batelle’s insight, ten years later, that a “key competency of the Web 2.0 era is discovering implied metadata, and then building a database to capture that metadata and/or foster an ecosystem around it.”⁵⁸ Although the competence described by O’Reilly and Batelle appears to

⁵⁶ *ibid.*

⁵⁷ Malda, Rob. 1999b. “Slashdot Moderation Phase 1.1.” *Slashdot*. March 23. <http://news.slashdot.org/story/99/03/23/1058204/slashdot-moderation-phase-11>. Emphasis in original.

⁵⁸ O’Reilly, Tim, and John Battelle. 2009. “Web Squared: Web 2.0 Five Years On.” *Web 2.0 Summit*. <http://www.web2summit.com/web2009/public/schedule/detail/10194>.

capture the essence of Slashdot's innovations in web publishing, what this genealogy has shown is that their phrasing - "discovering implied metadata" - does not do justice to the complexity and creativity involved. On the one hand, it is true that formalizing straightforward relationships was an important piece of the puzzle: for example, when Malda realized that author names should be included in article metadata, it allowed users a further means to customize Slashdot according to their preferences (what some users called the Jon Katz filter, after the Slashdot columnist whose exuberant writing style and lack of tech-savvy was often ridiculed by commenters). However, things quickly become more complicated when one considers the kinds of reputation measures that Malda employed for moderation and tagging. Constructs such as "karma" and the "average user" comprised a range of variables, incorporating attributes from duration of membership and page views to accepted story submissions and moderator activity.⁵⁹ The exact mixes, though, would often be adjusted based on results, new inputs and other factors: this was not a matter of discovering implied relationships, then, but continually tweaking and modulating a data model until a desired overall effect had been reached. With the tagging system, Malda similarly hoped the collaborative effort and weighted measurements would lead to the automatic grouping of related stories, whether this meant categories like political leaning or collections of different stories related to the same news event.⁶⁰

Whether conceived of as a process of discovery or ad-hoc construction, the larger goal of Malda's work might best be described as "informating" media. This term was introduced by Shoshana Zuboff to describe the effect of information technology on work: in addition to automating tasks previously carried out by humans, information technologies also register actions, producing data that can then be used elsewhere. In an example she gives, the bar-code scanner automates the checkout at the grocery store, but it also produces data useful for a variety of logistical and marketing tasks.⁶¹ Many of the the key Slashdot features were similarly made possible through the automation or improvement of other tasks: for example, user accounts were introduced to help combat spam, but these unique identifiers could also be repurposed for other analytical work. Zuboff notes that another profound effect of informed work is that it affords an expansive, over-arching vision of the events and processes that it consists of. Informating the

⁵⁹ For an overview of these variables, see Chromatic, Brian Aker, and Dave Krieger. 2002. *Running Weblogs With Slash*. Sebastopol, CA, O'Reilly: 90-92.

⁶⁰ Malda, 2011c; Malda interview, 2011.

⁶¹ Zuboff, 1988: 9.

workplace meant creating an “electronic text” that made the totality of an organization’s activity visible in ways that were previously not possible:

In the mills, the data interface provided a view, not only of one piece of equipment but also of the processes in an entire production module; not only of one module but also of the production process across the mill; and not only of the production process across the mill; and not only of the production process but also of management information, expert models with which to calculate optimization parameters, and other data related to personnel, markets, sales, and much more. Thus, access to the electronic text meant access to far more than discrete memos or reports could ever provide: the organization’s work is made visible in a new way.⁶²

At Slashdot, one similarly had both a finely-grained view of individual user actions and site-wide patterns, much like the transparent audience Andrew Anker and Louis Rossetto had hoped would become a reality at HotWired (see chapter 3). When I asked Malda in 2011 how running Slashdot affected his ability to design information systems, his response echoed the sense of textualized, over-arching vision described by Zuboff:

[M]y position at Slashdot uniquely qualifies me for understanding how information moves through the internet. There's lots of things that people just don't understand, or don't really quantify, that I just sort of experienced. How reputation works, how individuals are motivated, how people rank and trust different bits of information, different sources of information. There's tons of really interesting and subtle stuff. But also things like how media replicates. If somebody says something in one place and six months later it reappears somewhere else [...] all of those things go through the same sort of lifespan. Like the wacky stories. Wacky stories tend to appear in August. Just general news media sorts of things. August is a great time for crap news because everybody goes on vacation, so there's nothing happening, and reporters are bored. And there you go, suddenly you've got the story about the world's biggest tomato or something, and it's front page news of the New York Times.⁶³

By informing media at Slashdot, it would appear that one not only gained a detailed view of the events and activities that comprised tech news and its audience, but even glimpsed the larger set of information flows that constitute the media environment in a broader and more abstract sense.⁶⁴

Malda’s “vision” resonates strongly with a number of commercial and academic projects today that seek to use web data to extract the hidden patterns, structures and relationships of social and cultural life. These include efforts to measure attention through search data, as well to quantify

⁶² Zuboff, 1988: 179.

⁶³ Malda interview, 2011.

⁶⁴ Malda’s statement is a little ambiguous, in that he’s speaking about knowledge (or visibility) gained through quantification and things he “just experienced.” What’s important to note, however, is that in the intuitive process through which he developed the comments moderation system and other features, these two kinds of knowledge are not distinct but rather mutually constitutive.

“influence” through users’ activity across social media.⁶⁵ Within the humanities and social sciences, such informed visibility is at the center of calls to innovate method and theory. For example, the Digital Methods Initiative at the University of Amsterdam (which I am a member of) asks how claims about society and culture might be ‘grounded online’ as the web is taken more seriously as a source of data.⁶⁶ The University of California at San Diego’s Software Studies Initiative, meanwhile, asks how to “take advantage of unprecedented amounts of cultural data available on the web to begin analyzing culture in new ways,” and author “new cultural theory for the 21st century.”⁶⁷ Perhaps the most famous example of the informed web and its promise, though, comes from the web developers who advocate a unified social graph, which at its most spectacular is described as “the global mapping of everybody and how they’re related.”⁶⁸ According to Brad Fitzpatrick, a developer and proponent of the idea, such a complete map of social relations would be a matter of convenience for social network sites and their users, given that a shared graph (including shared standards for creating it) would ease the process of porting one’s data from one site to another.⁶⁹ Facebook’s recent limited release of search functionality on top of their own “graph” has revealed both some of the fascinating potential uses of such technology as well as the significant financial interest underlying it.⁷⁰

In addition to these more recent examples of informed media, the case of Slashdot may also be situated in reference to previous articulations of the web and new media as exceptional. The sense that social and cultural phenomena are interpenetrated by discoverable information patterns, and that web data may reveal these - a sense marked by O’Reilly and Battelle’s notion of “implied metadata” - may be seen as a conjugated form of cyberculture, in that utopian claims attached to it are grounded in the computational metaphor. Where the computational metaphor previously formed the basis for the belief that cyberspace would allow for social interaction and cultural forms detached from the materiality, history and politics of the real world, it now grounds the most

⁶⁵ See for example Google Trends (<http://www.google.com/trends/>) and Klout (<http://www.klout.com/>).

⁶⁶ Rogers, Richard. 2009. *The End of the Virtual: Digital Methods*. University of Amsterdam.

⁶⁷ Manovich, Lev. “About.” 2007. *Software Studies Initiative*. <http://lab.softwarestudies.com/2007/05/about-software-studies-ucsd.html>.

⁶⁸ CBS/AP, 2010.

⁶⁹ Fitzpatrick, 2007. The notion of a standardized, universal social graph has been quite extensively debunked by another developer, Maciej Ceglowski. See Ceglowski, 2011

⁷⁰ At the time of writing, Facebook’s graph search is only available on a limited basis. Within days of its limited release, however, an independent developer posted screenshots of “actual Facebook graph searches” that included such queries as “current employers of people who like racism.” See <http://actualfacebookgraphsearches.tumblr.com/>. See also CBS/AP, 2010.

ambitious claims about the ability of the web to fully capture and represent the information patterns and flows that compose culture and society. As Wendy Chun has argued more generally, software is often attributed the capacity to render supposedly hidden or mystical structures and phenomena as visible and logical - databases, algorithms and programs are posited as “knowing” while users interact and explore.⁷¹ I would add that in the current context of Web 2.0 and social media, a central location of such “knowing” is the kind of informed media built and imagined at Slashdot.

4.5 Conclusion: web exceptionalism as sociotechnical system

Where Slashdot has been portrayed as having unsettled the traditional role of gatekeeping, I’ve argued that its history and a close reading of its “participatory” features resists this interpretation. Slashdot’s emergence as a popular forum for technology and geek culture should be seen in light of three intersecting histories - BBS culture, the advocacy of open-source software during the dot.com bubble, and advances in web publishing technology that made powerful database applications feasible for small-scale, independent web publishers. From the perspective of editor/engineer Rob Malda, creating Slashdot was a way to extend the kinds of discussions he’d had on Usenet and other forums, although both the level of attention these received and Malda’s incentives changed as open-source gained traction and Slashdot itself was transformed into a business. The most important features that supported community involvement - the submissions box and comments moderation - must also be seen within the context of these (pre-)histories, both in terms of their extension of the kinds of community involvement in BBS culture and the need to innovate as the site gained in popularity. Although I have argued against seeing Slashdot as open-source news, the site certainly resembled open-source development’s “permanently beta” production, where one releases “early and often,” tending not to err on the side of caution (in the early years Malda would occasionally update the site “live,” implementing changes before testing them offline).⁷² This kind of responsive design is also reflected in the fact many features were fortuitous inventions, based on affordances of solving other problems such as spam.

Instead of the application of open-source principles to news production, I have argued that Slashdot’s history reveals a different conceptualization of the web as an exceptional medium. The promise of the web expressed by Slashdot was not that of participatory news, but an efficient, largely automated and customizable media product based on registrational data. What was unusual and unprecedented was the extent to which the web might automate processes of media production,

⁷¹ Chun, 2011b: 71.

⁷² Raymond, 2005.

distribution and consumption, as well as how this automation made these processes visible - transparent audiences, reputation drivers, underlying news genres and so on - an articulation of exceptionalism that I have called “informed media.” Because this view derives from and helps to sustain notions of social and cultural phenomena as essentially (quantifiable) information patterns, it also recalls the fundamental idea underlying cybercultural utopianism.

In addition to situating Slashdot in relation to past and present notions of the web as an exceptional medium, it is also worth noting that the case benefits an understanding of such instances of web exceptionalism as historical actors. In the previous chapter, I wrote that the articulation of the web as an exceptional medium may be understood as an actor-network: the vision of a clean break from history implied by the “new publishing paradigm” was not simply rhetorical gloss, but comprised a range of heterogeneous actors from multiple historical trajectories and cultural milieus, and in this sense could be seen as the ‘source’ of novel publishing practices at HotWired and Suck.com. Now I would like to point out that among such heterogeneity, an important category highlighted by Slashdot’s case is the “sociotechnical system.” Although the term has a longer history, it has been used in connection with web culture to describe the mix of social and technological protocols that enable large-scale collaboration on Wikipedia and other Web 2.0 platforms.⁷³ In Slashdot’s case, at least, I would go further than highlighting the necessity and functionality of such socio-technical arrangements, and argue that they may be intimately tied to perceptions of the web’s exceptional character. The vision of an informed media environment was not something projected afterwards onto Slashdot’s sophisticated infrastructure; rather, as I have demonstrated in this chapter, it was an important element in its invention.

⁷³ Niederer, Sabine, and José van Dijck. 2010. “Wisdom of the Crowd or Technicity of Content? Wikipedia as a Sociotechnical System.” *New Media & Society* 12 (8): 1368–1387.

Although Niederer and van Dijck align their use of “sociotechnical system” with Actor-Network Theory and a focus on the role of hybrid, human-and-nonhuman agency, it is worth noting the term originally comes from systems theory approaches to organizational development (Trist, 1981). The term refers to the goal of achieving joint optimization of social and technical systems of work - that is, to balance between psychosocial needs and the requirements of an organization’s tasks, procedures and technologies, thus providing a warmer, friendlier work environment than cold rationalization. With my use of this term and Zuboff’s notion of “informed” work to describe Slashdot’s innovations, I would like to suggest that a closer examination of the links between notions of participatory culture and the use of information technology in institutional contexts is overdue. The promise of democratized, participatory media must be reconciled with the ways that its articulations (as web 2.0 platforms) act a source of continuity, bridging the ostensibly centralized, bureaucratic institutions that they presumably represent a break from to the new media environment. A thorough investigation of this would be in line with what Daniel Kreiss, Megan Finn and Fred Turner call a “need to consider peer production not only as a challenge to bureaucratic forms, but as a complement and, at times, even an extension of their missions” (2011: 255). Unfortunately, although this chapter suggests how such explorations will benefit from closer examinations of the production of peer production infrastructure, a thorough discussion of this topic falls outside of the scope of this dissertation.

See Trist, Eric. 1981. “The Evolution of Sociotechnical Systems as a Conceptual Framework and as an Action Research Program.” In *Perspectives on Organization Design and Behavior*, ed. Andrew H. Van de Ven and William F. Joyce. New York, Wiley: 19-75; Kreiss, Daniel, Megan Finn, and Fred Turner. 2011. “The Limits of Peer Production: Some Reminders from Max Weber for the Network Society.” *New Media & Society* 13 (2) (March 1): 243–259.

5. Blogging as web-native cultural form, 1998–2002

In this final case study, I continue to explore how notions of the web's displacement of mass and mainstream media are tied to articulations of "web-native culture." So far I have used the latter term as a shorthand for media practices, technologies and forms considered to have a close connection to the web's essence, whether called its nature or purpose, the internet's logic, the inherent capacities of the medium, or other similar notions. Here, however, I turn to the prominence of the actual term 'web-native' (as well as its variants) in early bloggers' definitions of the blog as distinct from prior media. My claim is that this genealogy of blogging's emergence as web-native reveals how it is shaped by historical and cultural context. Where other theories have de-emphasized the formal properties and generic conventions of blogging and described it as a flexible means of communication, I build on this genealogy to instead propose a theory of blogging as cultural form - or what Roger Silverstone called "a particular institutionalization of culture."¹ But in place of the 'web-native' designation given to it by practitioners, I highlight its continuity with previous (new media) publishing cultures: specifically, I argue that blogging may be defined formally as a logic of 'exposure,' one that recalls the cool reflexivity of *Mondo 2000*, *HotWired* and *Suck*.

5.1 Introduction: Why web-native?

Commentators have called the emergence of blogging as a popular web publishing format in or around 2002 significant for a number of reasons, each of which ties into a narrative about blogging's connection to the "nature" or original purpose of the web. For some, the rise of blogging represented a novel form of public conversation, in particular a means to share personal perspectives on key events. In this view, the terrorist attacks of September 11, 2001, provided a watershed moment in which the value of blogging's public intimacy became apparent.² Nick Denton, the journalist who would later found the Manhattan gossip-blog *Gawker*, praised this quality in the weeks following the attacks:

Only through the human stories of escape or loss have I really felt the disaster [...] These stories, some laced with anecdotes of drunken binges and random flings, have a rude honesty that does not make its way through the mainstream media's good-taste filter.³

¹ Silverstone, 2003: xiii.

² Andrews, Robert. 2006. "9/11: Birth of the Blog." *Wired*. <http://www.wired.com/techbiz/media/news/2006/09/71753>; Rosenberg, 2009.

³ Denton, Nick. 2001. "Second Sight: The Atrocity Through the Eyes of Weblogs." *The Guardian*. <http://www.guardian.co.uk/technology/2001/sep/20/internetnews.onlinesupplement2>.

A few years later, during the U.S. presidential elections, Howard Dean's surprisingly competitive campaign to become the Democratic nominee was attributed to his ability to "listen" to the web and the people using it: blogs, along with web services like Meetup, were credited with giving people a voice in the political process and impacting the course (if not the outcome) of an election.⁴ This ties into a third, more general account of blogging as "participatory journalism," importance centered on 'citizen journalism' and its antagonistic relationship with corporate media. Dan Gillmor, the technology columnist for the San Jose Mercury-News, situated the emergence of blogs within a history of "personal journalism," from the work of pamphleteer Thomas Paine to the Washington newsletters self-published by I.F. Stone - a history of "individuals who found ways to work outside the mainstream of the moment."⁵

Underlying these accounts of blogging's significance - as personal perspective, political participation and citizen journalism - is a broader argument about how blogs revealed, restored or otherwise invigorated the web's original purpose. This is an argument made, for example, by the journalist Scott Rosenberg, whose book *Say Everything* documents the experiences of prominent early bloggers and is one of the most comprehensive accounts of this history.⁶ For Rosenberg, blogging showed that the web's promise of interactivity was not about "cool buttons," or bells and whistles, but something more fundamental, namely "each reader's ability to be a writer as well."⁷ He writes that this "*was the whole point of the Web*, the defining trait of the new medium - like motion in movies, or sound in radio, or narrow columns of text in newspapers."⁸ According to Rosenberg, part of the reason it did so is because it was built upon a "native" structural feature of the web, rather than an extension of a foreign format. He argues that the essential formal feature of blogging - its reverse chronological order of updates - is part of "the medium's DNA" and could be traced back to the first web page (<http://info.cern.ch>), which was a frequently updated list of web servers with the newest at the top.⁹ Similarly, Gillmor points to the fact that Tim Berners-Lee's original browser was both an html editor and reader - blogging was a way of restoring this read/

⁴ Wolf, Gary. 2004. "How the Internet Invented Howard Dean." *Wired*, January. <http://www.wired.com/wired/archive/12.01/dean.html>; Trippi, Joe. 2005. *The Revolution Will Not Be Televised: Democracy, the Internet, and the Overthrow of Everything*. New York: HarperCollins.

⁵ Gillmor, Dan. 2004. *We the Media: Grassroots Journalism By The People, For The People*. Sebastopol, CA, O'Reilly: 3.

⁶ Rosenberg, 2009.

⁷ *ibid*: 13.

⁸ *ibid*: 12-13, emphasis in original.

⁹ *ibid*. 9.

write capacity.¹⁰ In making these claims about blogging's significance, however, Rosenberg and Gillmor not only ignore other, arguably more central formal features of blogging - most notably, the fact that blogs are built with a database rather than flat text files - they also misrepresent the 'original vision' of the web, as there was nothing in Berners-Lee's proposal for information management that suggested uses for personal expression or journalism.¹¹

What is particularly relevant about the conflation of blogging with the web's original purpose, historical inaccuracy notwithstanding, is that this definition was not 'pasted on' after the fact, but actually coincided with the format's early development. Reflections on blogging during its maturation from a handful of self-identified blogs to the widespread phenomenon discussed by Rosenberg and Gillmor - a period that runs roughly from 1998-2002 - often implicitly and explicitly identified blogging as something native to the web.¹² Practitioners argued, for example, that the publication format was "of the web itself," that blogs were written by "web people" (as opposed to "dot.com" types), and that they represented the "inclusive nature" of the medium.¹³ This sense of identification with the web, of its inner logic and inherent capacities being revealed and fulfilled, suggests a definition of blogging as a web-native cultural form - as a form of cultural expression that arises naturally from the medium. It also suggests the kind of distinction that Denton, Gillmor and others would later describe: if blogging is "of the web," then it is easy to understand it as something opposed to traditional media. But where it succeeds in describing blogs as exceptional, 'web-native' fails to give any rich description of the specificity of the format. The definition is tautological: blogs are exceptional because they reveal and fulfill the web's exceptional nature.

This vague understanding of blogs as web-native suggests some of the general difficulty involved in defining them beyond a web publishing format (which I've called them so far) - a problem that has been exacerbated as the format has become so widely used. As danah boyd argues,

¹⁰ Gillmor, 2004: 24.

¹¹ Berners-Lee, 1989. On the significance of blogging's back-end database and content management system, see especially Alan Liu's discussion of "social computing": Liu, Alan. 2013. "From Reading to Social Computing." *Literary Studies in the Digital Age*. <http://dlsanthology.commons.mla.org/from-reading-to-social-computing/>; see also my discussion of Slashdot's custom content-management system in chapter 4.

¹² A more specific periodization would be somewhat arbitrary, but what is important is that the first reflections on weblogs as a cultural phenomenon, such as Cameron Barrett's "Anatomy of a Weblog," appeared in 1998, while various milestones marking blogging's emergence as a popular web publishing format and source of media criticism can be located in or around 2002. These would include the use of blogs after the September 11th, 2001 terrorist attacks, as well as the role blogs played in Trent Lott's resignation as U.S. Senate Majority Leader in December 2002. See e.g. Shirky, 2008.

¹³ Blood, Rebecca. 2002. "Introduction." In *We've Got Blog: How Weblogs Are Changing Our Culture*, ed. John Rodzvilla. Cambridge, MA, Perseus: xi; Hourihan, Meg. 2000. "I've Been Thinking a Lot." *Megnut*. <http://megnut.com/2000/04/ive-been-thinking-a-lot.html>; Powazek, Derek M. 2000[2002]. "What the Hell Is a Weblog and Why Won't They Leave Me Alone?" In John Rodzvilla, ed. *We've Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 3-6.

the first bloggers may have celebrated blogging as a medium free of editorial control, but today there is no shortage of professional and corporate blogs that appear to contradict this idea.¹⁴ More generally, boyd argues against definitions of blogs as genre (i.e. as diaries or journalism), instead drawing on Marshall McLuhan to conceptualize them as a medium: blogs, she argues, are as flexible as paper in terms of the content they can carry, and discussions of their effects should tend towards what McLuhan called the “the change of scale or pace or pattern that [a medium] introduces to human affairs.”¹⁵ In this view, for example, blogs are important for how they blur orality and textuality - something reflected in commonplace descriptions of blogging in terms of “voice” and “conversation.”¹⁶ boyd’s definition, it should be noted, does not oppose that of blogging as web-native - in fact, she uses the term “web-native genre” elsewhere to describe blogging, social network sites and other social media that allow for the creation of what she calls “networked publics.”¹⁷ Although I agree with boyd’s primary motive for defining blogging as a medium - that analytical models based on analogies with existing genres such as diaries are insufficient - I would argue that in her attempt to avoid such constraints boyd goes too far in removing blogging from its history, conventions and the meanings that have been attached to it over the years. As boyd herself points out, prototypical blogs tend to shape our expectations of blogging more generally. I would add that early definitions of blogs as web-native and opposed to mainstream media may have more staying power than boyd assumes. For example, the most influential blog today according to the search engine Technorati is The Huffington Post, a news website that is certainly a professional operation but also happily retains an “outsider” status derived in part from a perception of it as ‘webby’ media (a perception it seeks out, for example, by calling itself “The Internet’s Newspaper”).¹⁸

¹⁴ boyd, danah. 2006. “A Blogger’s Blog: Exploring the Definition of a Medium.” *Reconstruction* 6 (4). <http://reconstruction.eserver.org/064/boyd.shtml>.

¹⁵ boyd, 2006; McLuhan, Marshall. [1964]2001. *Understanding Media*. London, Routledge: 8.

¹⁶ boyd, 2006.

¹⁷ boyd, danah. 2008. “Taken Out of Context: American Teen Sociality in Networked Publics”. Berkeley, CA, University of California: 94. <http://www.danah.org/papers/TakenOutOfContext.pdf>.

¹⁸ See <http://technorati.com/blogs/top100/> (accessed 12-02-13).

Admittedly, the example of The Huffington Post (<http://www.huffingtonpost.com/>) muddles the situation a little more, since the site paradoxically describes itself as the “Internet’s newspaper” while featuring blogs - often written by celebrities and professional columnists - as one of its main types of content. The takeaway, however, should be that as a blog, or blog-like media, The Huffington Post opposes itself to traditional media such as newspapers and identifies with the new medium (the internet) in the same move. Internet- or web-native, here, means something distinct from previous media.

An approach that re-introduces history and generic conventions - that is, that avoids the pitfalls of defining blogging as “web-native” or a flexible medium - would be to understand blogging as what Raymond Williams calls a “cultural form.”¹⁹ In his canonical analysis of television, Williams distinguishes between “received” (or what today might be called “remediated”) cultural forms such as televised drama and sport on the one hand, and new or mixed forms on the other.²⁰ Of these new forms, the most significant is the meta-category that Williams calls “flow.” A description of the organizational logic of television rather than one of its genres, flow refers to the juxtaposition and interstitial sequencing of content through interruptions like advertising and trailers for other programs (as well as such juxtapositions within individual programs). For Williams, flow marks television’s novelty, but his point was that this was not inherent to the technology, but rather developed according to specific intentions - in this case, a desire to “capture” viewers for an evening of programming.²¹ As cultural form, television flow was thus not “native” to the technology, then, but “a particular institutionalisation of culture.”²²

In this chapter, I revisit the articulation of blogging as web-native in order to arrive at an understanding of blogging as cultural form. Asking why blogging emerged as ‘web-native’ in the period 1998 to 2002, I turn to influential definitions and reflections of practitioners from the period and show how these described the exceptional qualities of blogging as renewals of the web’s promise, understood as transparency, community and meaningful communication (as opposed to the ‘noise’ of mainstream media). But included in these reflections are a number of disavowals of blogging’s promise - as much as practitioners articulated blogging as an exception to commercial and mainstream practices on the web and in other media, they also sought to expose blogging as unexceptional: transparency is revealed as performance, community as celebrity, and meaningful communication, or signal, as more noise. Where this might be interpreted as a cycle of hype and debunking that attends any new medium, I argue that this pattern points to a basic logic of exposure underlying the formal features and generic expectations of blogging - from revealing the self to uncovering the best links on the web, from scrutinizing media narratives to deconstructing blogging itself, to blog is to expose. As a formal logic that characterizes blogging without specifying its content, exposure is akin to Williams’s concept of flow, and I argue that its significance is similarly found in how the logic of exposure captures bloggers and their audiences. In pointing to blogging-

¹⁹ Williams, [1974]2003.

²⁰ *ibid*: 39; c.f. Bolter and Grusin, 1999.

²¹ Williams, [1974]2003: 91.

²² Silverstone, 2003.

as-exposure, this genealogy does not situate its formal properties and conventions in relation to an inner logic of the web, but rather within a history of prior publishing forms and practices.

5.2 Blogging as cultural form

How to conceptualize blogging as cultural form? Here I propose to treat blogging genealogically, focusing on how early practitioners and commentators conceptualized and attached meaning to blogging's qualities, features, conventions and (imagined) functions as the form was popularized from 1998 to 2002. As Ignacio Siles has shown, the weblog had been articulated as a technology and practice from 1997 to 1999, when a small community formed around the term and the shared format of posting interesting links with short notes or commentary.²³ This process of articulation, Siles argues, accounts for how blog technology was "stabilized" in blogging software, and thus made it possible for blogging to become a widespread practice. According to blogger and blogging historian Rebecca Blood, there were only 23 known weblogs in early 1999, but this number reached hundreds after easy-to-use blogging tools such as Pyra's "Blogger" were introduced later that year, and many thousands by 2001.²⁴ The technology's stabilization, however, appeared to destabilize what up until then had been a relatively cohesive, coherent understanding of blogging's form and function as a frequently updated "log" of interesting links with commentary. The rapid growth in terms of the number of blogs, the variety of genres (from diary-like blogs to those that focused on specific topics) and the level of media attention blogging received, all contributed to the removal of the kind of overview that had briefly characterized the weblogging community.²⁵ The link-plus-commentary weblog had been conceptualized by one of its inventors as a way of bringing order to the web, but soon achieved quite the opposite effect.²⁶

The popularization and destabilization of blogging did not end attempts to define the publishing form, but rather multiplied them, with perspectives ranging from the original sense of blogging as a 'filter' to those that considered it personal voice, organic community, a form of

²³ Siles, 2012.

²⁴ *ibid*; Blood. [2000]2002; Denton, 2001.

²⁵ Brigitte Eaton attempted to keep track of every blog - defined simply by dated entries - from early 1999. By February 2000, the Eatonweb Portal had grown from under 50 to over 500 blogs, while registered users for tools like Blogger and Dave Winer's "Manila" publishing tool numbered in the thousands. See Kahney, Leander. 2000. "The Web the Way It Was." *Wired*. February 23. <http://www.wired.com/culture/lifestyle/news/2000/02/34006?currentPage=all>.

²⁶ References to the weblog as the organization and cataloguing of the web are found, for example, in Dibbell, Julian. [2000]2002. "Portrait of the Blogger as a Young Man." In John Rodzvilla, ed. *We've Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 69-77.

“disintermediation” or a meaningful engagement with news and entertainment media.²⁷ To perform a complete analysis of these definitions, their circulation and influence during this period, one might consider collecting such self-reflections from the archives of blogs known to be active at the time, and snowballing outward to include definitions found on other (perhaps previously unrecognized) blogs and from accounts in other media, expanding that search to include the blogs and external accounts that no longer exist but to lesser and greater degrees remain accessible through the Internet Archive’s Wayback Machine, performing in-link analysis to measure influence and so on.²⁸ Although such ‘big data’ approaches to the history of blogging have begun to take shape, here I have chosen to limit such collection to what might be called an ‘expert list’ of available resources.²⁹ Published in 2002, the blogging anthology *We’ve Got Blog: How Weblogs Are Changing Our Culture*, is a collection of “early reflections on the weblog phenomenon,” or “real-time responses to the formation and expansion of the community as participants and observers attempted to make sense of the phenomenon that was growing around them.”³⁰

We’ve Got Blog provides a rich description of blogging’s early development and popularization in various ways. For example, a cursory reading provides insight into the early blogging subject: the large majority of the “pioneers” - including Jason Kottke, Meg Hourihan, Derek Powazek, Dave Winer, J.D. Lasica, Brad Graham and others - are web and media professionals using blogs as an outlet for their work-like activities (from web design to journalism) outside of the norms and institutional contexts of their occupation. Others, like Jorn Barger, aspire to professional quality while consciously avoiding perceived constraints.³¹ Early bloggers, in other words, may be seen to extend the lineage of “outsiders-inside” and “insiders-outside” that I have emphasized in my descriptions of new media and web publishing in this dissertation. More importantly for the purposes here, the volume is most concerned with how these early bloggers conceptualized their practice, often grounding the distinctions they make with prior media in terms like “web native.” What emerges from their considerations is a picture that is quite different from

²⁷ Examples of each of these can be found in the collection *We’ve Got Blog*, as discussed in the rest of this chapter, as well as other accounts by well-known bloggers during the period. See Rodzvilla, ed., 2002, especially the entries by Rebecca Blood and Jon Katz. For “disintermediation,” see Winer, Dave. 1999. “Dave the Disintermediator.” *Davenet*. July 24. <http://scripting.com/davenet/1999/07/24/daveTheDisintermediator.html>.

²⁸ On the methods available for researching the “archived blogosphere,” see Weltevrede, Esther, and Anne Helmond. 2012. “Where Do Bloggers Blog? Platform Transitions Within the Historical Dutch Blogosphere.” *First Monday* 17 (2) (February 2). <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3775/3142>.

²⁹ Weltevrede and Helmond, 2012.

³⁰ Blood, 2002.

³¹ Dibbell, [2000]2002.

notions of blogging as (simply) a publishing format or danah boyd's later definition of blogs as a flexible medium that resists generic traits.³² Instead, *We've Got Blog* sooner suggests similarities with the establishment of a literary or artistic movement. The volume is not a collection of posts so much as insightful definitions, manifestos, commentaries, myths, histories and so on - that is, a collection of posts and commentaries that seem to be on the outside looking in.

If *We've Got Blog* resembles the formulation of a common 'web-native' aesthetic or form, however, it should be noted that it is an especially self-conscious one: a clear tendency among the posts presented is how these reflections oscillate between accounts of blogging's virtues and profound significance - its exceptional qualities - and, through qualifications, dismissals and reversals, the exposure of blogging as thoroughly unexceptional. Alongside enthusiastic accounts of blogging's potential for "electronic community" is the satire of "Credo of the Web Log Writer," which takes aim at the fame-seeking behaviors of both "A-list" bloggers and their "wannabe" fans.³³ Alongside the manifestos are rants, and alongside earnest statements about enlightenment and self-fulfillment are those that characterize blogging as a source of mediocrity and pettiness. This oscillation might be attributed to the fact that blogging - as a new and little understood phenomenon - invited relatively extreme reactions during this period, or to an editorial decision to present 'both sides.' However, I would like to argue that it is representative of a more fundamental reflexive impulse in blogging. In the following subsections, I discuss some of the tensions and paradoxes that pervade these early reflections on blogging, noting how accounts of blogging's exceptional qualities are continually 'revealed' to be otherwise. After discussing the inherent tensions between blogging as transparency and performance, as community and celebrity, and as signal and noise, in section 5.2.4 I zoom out from this genealogy to propose a more general theory of blogging as a logic of exposure.

5.2.1 Transparency and performance

"Read any weblog for a few weeks and it is impossible not to feel that you know its writer."³⁴ Whether as public diary or in the original link-plus-commentary format, the blog is conceptualized in first instance as the transparency of author. Throughout the collection, there are references to how blogs reveal their authors. Writing in May 1999, Cameron Barrett discusses his plan to link less and focus more on commentary and the occasional essay, because of the realization that "CamWorld is

³² boyd, 2006.

³³ Geekman, [2001]2002. "Credo of the Weblog Writer." In John Rodzvilla, ed. *We've Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 119-121.

³⁴ Blood, 2002: xi.

about me. It's about who I am, what I know, and what I think. And it's about my place in the New Media society. CamWorld is a peek into the subconsciousness that makes me tick.”³⁵ Jason Kottke notes that laying one’s thoughts bare is not simply a side-effect of blogging, but of an impulse he feels to share his personal life on the web rather than in a diary: “Somehow [a diary] seems strange to me. For a lot of the Web publishing crowd, the Web is the place for you to express your thoughts and feelings and such. To put those things elsewhere seems absurd. Or is it just me?”³⁶ A poetic way of describing this impulse comes from Joe Clark, whose definition has an uncanny resemblance to McLuhan’s “extensions of man” media theory:

A blog is a form of exteriorized psychology. It’s a part of you, or of your psyche; while a titanium hip joint or a pacemaker might bring technology *inside* the corporeal you, a weblog uses technology to bring the psychological you *outside* of it. Your weblog acts as a new limb, a new mouth, and a new hemisphere of the brain. Once those new organs come into being, you’re no more likely to remove or amputate them than the original organic equipment they augment.³⁷

Clark’s definition is actually in reference to the link-plus-commentary weblog (rather than its diary-like “variant,” as he calls it).³⁸ This ‘original’ type of weblog is often described in terms of a soapbox: Jesse James Garrett calls blogs the “pirate radio stations of the Web, personal platforms through which individuals broadcast their perspectives on current events, the media, our culture, and a basically anything else that strikes their fancy.”³⁹ At the same time, however, the link-plus-commentary weblog lends itself to the same kind of transparency that marks the diary blogs. As Rebecca Blood argues in the introduction to *We’ve Got Blog*:

Every weblog has a point of view, and even those that contain no personal information reveal, over time, detailed maps of their creators’ minds. It is captivating to see the biases, interests, and judgments of an individual reveal themselves so clearly.⁴⁰

For both types of blog, transparency and authenticity contribute to blogging’s distinction from older media and the mainstream web. Derek Powazek, a journalist and web producer who began blogging

³⁵ Barrett, Cameron. [1999]2002. “More About Weblogs.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 29.

³⁶ Kottke, Jason. 2000. “A Lot of Stuff Happens.” *Kottke.org*, March 24. <http://kottke.org/00/03/a-lot-of-stuff-happens>.

³⁷ Clark, Joe. 2002. “Deconstructing ‘You’ve Got Blog’.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 68.

³⁸ *ibid*: 59.

³⁹ Rosenberg, 2009: 46-73. Jesse James Garrett’s definition is quoted from Katz, Jon. [2001]2002. “Here Come the Weblogs.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 21.

⁴⁰ Blood, 2002: xii.

in 1999, writes that while initially wary of blogging's hype, he warmed to the practice as he saw it extended his understanding of the web's basic promise: "Here was the mother lode of personal expression - the one place in our lives that we (as people lucky enough to have access) can say whatever we want about anything we want. This was the anti-television. Digital democracy."⁴¹ Similarly, Blood argues that along with the reverse-chronological, link-plus-commentary format and the interconnections between blogs, the form's "immediacy" is derived from that fact that blogs are "native to the Web."⁴²

Where tying blogging's transparency to the web's inherent logic implies an inevitability, other explanations suggest locating this quality historically and culturally. In a *New Yorker* article called "You've Got Blog," Rebecca Mead tells the story of how bloggers Meg Hourihan (who co-founded Pyra Labs and helped create Blogger, the blog-publishing tool, together with Evan Williams) and Jason Kottke calls blogging "the CB radio of the Dave Eggers generation."⁴³ Mead's analogy suggests multiple layers - the San Francisco-based author is well known for the confessional style of writing that marked his first two novels but also for his outspoken opposition to mainstream publication practices (especially regarding publicity) and a self-conscious presentation of his work.⁴⁴ Most of all, the analogy is more telling than "web-native" because it highlights a tension in blogging between transparency and performance. *A Heartbreaking Work of Staggering Genius*, Eggers's first novel (and the reference in Mead's analogy), is a reflexive memoir that continually plays with the blurred categories of authenticity and artifice, a theme it explores in reflexive devices like an "Incomplete Guide to Symbols and Metaphors" and throughout the plot, for example recounting Eggers's attempt to be cast for MTV's *The Real World*.

As in Eggers's novel, blogging's capacity to reveal the self is itself continually revealed to be caught up in the requirements of public exhibition and performance. Joe Clark, in a widely circulated post about Mead's article (called "Deconstructing 'You've Got Blog'"), argues that "counterblogging" - what Mead called the conversational, or CB radio, quality of blogging - "pretends to function as a conversation, but, unlike email or instant messaging or any kind of threaded discussion forum, the effect is one of talking at people rather than *with* them."⁴⁵ The

⁴¹ Powazek, [2000]2002: 3.

⁴² Blood, 2002: xi.

⁴³ Mead, Rebecca. [2000]2002. "You've Got Blog." In John Rodzvilla, ed. *We've Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 50.

⁴⁴ Brouillette, Sarah. 2003. "Paratextuality and Economic Disavowal in Dave Eggers' You Shall Know Our Velocity." *Reconstruction* 3 (2). <http://reconstruction.eserver.org/032/brouillette.htm>.

⁴⁵ Clark, 2002: 63.

contradictions between blogging the self and blogging as performance are clear in Cameron Barrett's rejection of the criticism that there is nothing new about weblogs:

Others have dismissed it as nothing more than people rediscovering the power of a quality home page. I disagree. Home pages are places where you put pictures of your family and your cats. It's a place to distribute information to a close circle of family and friends. Weblogs, however, are designed for an audience. They have a voice. They have a personality. Simply put, they are an interactive extension of who you are.⁴⁶

Here, "voice" and "personality" are located in public exhibition rather than in the domestic space of the homepage: blogs do not invite readers 'in' but are "interactive."

The most incisive description of transparency-as-performance comes, perhaps surprisingly, from Jorn Barger, whose weblog *Robot Wisdom* displayed a somewhat notorious archivist's passion for meticulous logs and concise descriptions.⁴⁷ Where one might expect Barger, whose main interests are hypertext theory and the work of James Joyce, to cite the likes of Ted Nelson and Tim Berners-Lee in his description of weblogs, he describes instead how he was "inspired by Ana Voog's Anacam, by the whole aesthetic of being on the Net twenty-four hours a day, and being as transparent as possible."⁴⁸ By comparing blogging to Voog's infamous ongoing webcam performance - where cameras set up in her home allowed viewers to voyeuristically follow her activities, however mundane or sexually explicit - and equating this kind of mediation with transparency, Barger's description suggests a richer foundation for the formal qualities of blogging than a description as publication format or medium would allow.

5.2.2 Community and celebrity

In addition to transparency, "community" appears in *We've Got Blog* as one of the form's central functions and promises. In "Here Come the Weblogs" (originally published as a Slashdot column), John Katz sees in blogs the "biological evolution of electronic communities."⁴⁹ Perhaps with Slashdot's own concerns with community management in mind, he sees the move to "small and exclusive" - where the blogger focuses on a limited audience and controls the flow of communication - as an improvement: "Because the site creator limits and approves membership, they don't need to be defended as intensely as bigger sites, nor do they attract - or permit - posters

⁴⁶ Barrett 1999: 29-30.

⁴⁷ Dibbell, [2000]2002.

⁴⁸ quoted in Dibbell, [2000]2002: 75.

⁴⁹ Katz, [2001]2002: 20.

who abuse others. One obvious payoff is that the flow of ideas is strong, uninterrupted, and impressive.”⁵⁰ Brad Graham and Jorn Barger similarly see in blogging an answer to problems they encountered on discussion forums. With blogging, Graham “rediscovered” a “sense of community” that he’d lost while spending time on Usenet.⁵¹ Barger turned to blogging in part because of the distraction of flame wars.⁵²

The emergence of blogging-as-community, then, was in some sense a renewal (or revision) of an earlier internet promise. But as with transparency, community is continually exposed as something else. Derek Powazek recalls his initial reservations toward blogging, when he sensed that “the weblog community circled its wagons almost immediately.”⁵³ This reservation would show up again when Powazek encountered what he called the “dark side” of blogging. After being labeled a “jock” by a fellow blogger (“which would be hysterical to anyone who knew me in high school”) and subsequently mocked by another, Powazek wrote:

It saddens me because, over the last year, weblogging really matured as a genre. And as a community. We should strive to stay true to the inclusive nature of the web. We should be welcoming and encouraging to new voices and ideas, because, in the end, that’s how the Web evolves [...] And innovation comes from people who do things a little differently. Anyone who forgets that and clings to narrow-minded ideologies will take their rightful place in a forgotten history.⁵⁴

For others, exclusivity is not a matter of deviation, but the essence of the blogging community. In his deconstruction of “You’ve Got Blog,” Joe Clark instituted what would be a long-standing practice of calling the top bloggers the “A-list.”⁵⁵ Clark’s criticism - that bloggers like Jason Kottke and Meg Hourihan are not appreciably better at digging up links or commenting on them than many others who do not get profiled in *The New Yorker* and other mainstream media - recalls Daniel Boorstin’s critical definition of celebrity as “a person who is known for his well-knownness.”⁵⁶ In Mead’s article, the potential for community among bloggers was encapsulated by a meme that began when Kottke and Hourihan posted near-identical, detailed posts about a girl on a bike and the childhood memories she triggered - within days, the couple’s coded display of affection was copied

⁵⁰ *ibid*: 19-20.

⁵¹ Graham, Brad L. [1999]2002. “Why I Weblog: A Ruminaton on Where the Hell I’m Going with This Website.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 39.

⁵² Dibbell, [2000]2002.

⁵³ Powazek, [2000]2002: 4.

⁵⁴ *ibid*: 5-6.

⁵⁵ Clark, 2002: 59.

⁵⁶ Boorstin, Daniel. [1962]2012. *The Image: A Guide to Pseudo-Events in America*. New York, Knopf Doubleday: 57.

and pasted by other bloggers in what might be called an early, coded form of “public displays of connection.”⁵⁷ For Clark, however, the event amounted to a “publicity stunt,” one that unintentionally “highlight[ed] the incestuousness and insularity of the crème-de-la-blogging-crème.”⁵⁸

Clark’s demystification of blogging-as-community is itself a recurring theme in *We’ve Got Blog*. The A-list metaphor is deployed regularly, as is an analogy to a high-school-like obsession with popularity. The entry “Credo of the Web Log Writer” is especially notable for how it satirizes the A-list’s arbitrary acts of distinction and the plight of the unknown blogger (who, of course, wants only to join the A-list).⁵⁹ Here is the first of four verses:

I want to be a Web Log Writer.

I will create an ugly website using warez software and ad-infested free web hosts.

I will write something every other day about my boring and uninteresting life.

I will write in “Hackerese” and forego the use of initial caps, for caps are for the weak and non-l337.

I will become an avid reader, loyal fan and devout worshipper of the most popular ‘A-List’ Web Log Writers.

I will learn how to do what they do, only not as well.

I will purchase gifts for them via PayPal and their Amazon Wish Lists.

I will frequent their CafePress stores.

I will submit my site for review by any Internet critic with a website.

I will not become discouraged when they fail to reply to my emails or notice my website or me.

I will never give up in my quest.⁶⁰

Such satires, of course, could themselves be seen as shameless attempts to generate publicity - this was part of the joke. In much the same way the makers of Suck would strategically target highly-visible figures in the emerging web culture (and then self-deprecatingly highlight this strategy), this was an ironic participation in the logic of celebrity, but nonetheless one that served to reveal the promise of egalitarian community in blogging as lacking.

⁵⁷ Donath, Judith, and danah boyd. 2004. “Public Displays of Connection.” *BT Technology Journal* 22 (4): 71–82.

⁵⁸ Clark 61-62.

⁵⁹ Geekman, [2001]2002.

⁶⁰ *ibid*: 119.

5.2.3 Signal and Noise

Alongside transparency and community, blogging's promise is identified as its capacity to filter information and provide an alternative or complement to mainstream media. Often using the flexible terms "information," "data" and "signal" (over possible alternatives like news, entertainment, publicity, product, and so on), descriptions of this promise tend to ground their claims in the computational metaphor, a move that de-contextualizes the problems blogs aim to solve. For example, if the problems of hype or media saturation are envisioned as a matter of distributing information differently - rather than problems embedded, say, in commercial aims and cultural practices - then it makes sense to understand the weblog as a solution. But to level this criticism is in some sense to simply repeat what early bloggers themselves acknowledged: both relatively enthusiastic reflections and more cynical responses in *We've Got Blog* ultimately display an ambivalence regarding new media solutions to failures of mainstream media - a trait that evokes similar attitudes seen in *Mondo 2000*, *HotWired*, *Suck* and *Slashdot* (see chapters 2-4).

As "the original web filter," the link-plus-commentary weblog would 'pre-surf' the web, bringing light to its darker continents.⁶¹ For Julian Dibbell, the weblog is a modern-day version of the *Wunderkammer*, or the "random collection of strange, compelling objects" that, during the Renaissance, "reflect[ed] European civilization's dazed and wondering attempts to assimilate the glut of physical data that science and exploration were then unleashing."⁶² The weblog-as-*Wunderkammer* is thus above all a romantic symbol among a larger range of efforts - including indexes and search engines - aimed at "taming the data storm."⁶³

Blogging's function in relation to mainstream media was similarly described in terms of a filter, and as a temporary respite from the 'noise' of mass and mainstream media. One can see the argument that weblogs would supplant the mass media's gatekeepers as early as June, 1999:

An old maxim states that editors separate the wheat from the chaff and then publish the chaff. As the weblog movement matures, our sites will wrest editorial authority from the few editors of today and divide it among the many.⁶⁴

Complementing Brad Graham's vision of a distributed effort to manage the flows of media is one that positions blogging as the practice of exposing the flaws in mainstream reporting. Within filter blogs, Rebecca Blood writes, "links are nearly always accompanied by the editor's commentary. An

⁶¹ Dibbell, [2000]2002: 69.

⁶² *ibid*: 73. The *Wunderkammer* definition continues to resonate, for example, with the well known blog *Boing Boing*, which is subtitled "A Directory of Wonderful Things." See <http://boingboing.net>.

⁶³ *ibid*: 73.

⁶⁴ Graham, [1999]2002: 40.

editor with some expertise in a field might demonstrate the accuracy or inaccuracy of a highlighted article or certain facts therein; provide additional facts he feels are pertinent to the issue at hand; or simply add an opinion or differing viewpoint from the one in the piece he has linked.”⁶⁵ In this way, blogs would offer a space of reflection and “critical evaluation” within the “deluge of data” that constitutes the contemporary media environment.⁶⁶

Like transparency and community, blogging’s function as a media filter is tied to a renewal of the web’s promise. J.D. Lasica writes that corporate media appeared to have disbanded groups of “starry-eyed Net denizens,” however:

a funny thing happened on the way to the Web’s irrelevance: the blogging phenomenon, a grassroots movement that may sow the seeds for new forms of journalism, public discourse, interactivity and online community.⁶⁷

But also like the promises of transparency and community, visions of blogging transforming media are continually undermined in *We’ve Got Blog*. The “may” in Lasica’s rupture-talk is telling, because it reflects a cautiousness and ambivalence that marks other entries. Blood, for instance, tempers her argument that blogs will provide an “antidote” to mainstream media by noting that “[o]ur strength - that each of us speaks in an individual voice of an individual vision - is, in the high stakes world of carefully orchestrated messages designed to distract and manipulate, a liability. We are, very simply, outnumbered.”⁶⁸ Still others satirize blogging, preaching that “painfully mediocre blogging is an inevitable part of existence.”⁶⁹ Such satire feeds into further criticism that, in the end, blogging achieves an opposite effect than the one intended - that blogging does not locate signal but generates more noise. Neale Talbot’s rant against hype in and around blogging begins, “First, let’s get one thing straight. Weblogging (or ‘blogging’) is not a revolution.”⁷⁰ Talbot explains that blogging adds very little to publishing formats that were already available, and that many of the most popular weblogs are merely side-projects for their owners. But the form, he writes, has

⁶⁵ Blood, [2000]2002: 8-9.

⁶⁶ *ibid*: 16.

⁶⁷ Lasica, J.D. [2001]2002. “Blogging as a Form of Journalism: Weblogs Offer a Vital, Creative Outlet for Alternative Voices.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 163.

⁶⁸ Blood, [2000]2002: 15.

⁶⁹ Fishrush. 2002. “The Four Noble Truths of Blogging.” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 135.

⁷⁰ Talbot, Neale. [2001]2002. “Weblogs (Good God Y’all) What Are They Good For (Absolutely Nothing - Say It Again).” In John Rodzvilla, ed. *We’ve Got Blog: How Weblogs Are Changing Our Culture*. Cambridge, MA, Perseus: 130.

become about competition (e.g. linking the fastest, receiving the most links) and “self-importance.” All of this is then “only inflated in a terrible manner by the media, who have fallen into the trap of believing the future may just be bloggerized.”⁷¹ He goes on:

The media, in its wonder of the instantaneous way petty thoughts can now reach the Web, has forgotten that personal publishing on the Web has always been possible; it’s now just a lot easier than before.

With their attention a vicious cycle of hype has started. Weblogs, once the landfill of the brains of those with better things to do, have become the voice of a new generation. And with that, everything the detractors have been bitching about is coming true: the writing, design and overall quality of weblogs has dropped since a year ago.⁷²

Here, in a circular logic, Talbot displays the kind of reflection and savvy media criticism that supposedly marks blogging’s potential for disruption, only to reveal that potential as another media fiction.

5.2.4 Blogging and the logic of exposure

So far in this section, I have discussed how blogging is considered in *We’ve Got Blog* both in terms of transparency and performance, community and celebrity, signal and noise. I should stress that my aim is not simply to reveal blogging as something other than advertised, but rather to argue that this act of revealing is the reflexive logic that organizes blogging itself. I would argue that to blog is to *expose*, in the various rich (but bounded) senses that the term affords. Blogging makes the self visible and uncovers hidden gems on the web. Bloggers seek to expose biases in the news and reveal politicians’ flaws; they aim to fact-check reporters and parody clueless columnists. They speculate about what is beneath George Bush’s jacket, and how a letter exposing him as AWOL was faked. They make an art of media criticism, taking pleasure in revealing the essences, themes, tropes, and logical flaws of their favorite shows. Bloggers deconstruct themselves just as they deconstruct media. Blogs famously uncover worlds we’d otherwise not see: the sex worker’s blog, the blogger living under occupation, the blogger evading state censorship. In the minds of science fiction writers and the prototypes of “design fiction” engineers, the “blogjects” and “spimes” formerly known as products expose their entire production histories, and this hidden world of objects provides glimpses into the complex realities of globalization and climate change.⁷³ In its

⁷¹ *ibid*: 132.

⁷² *ibid*: 132.

⁷³ Sterling, Bruce. 2005. *Shaping Things*. Cambridge, MA: MIT Press; Bleecker, Julian. 2006. “Why Things Matter: A Manifesto for Networked Objects—Cohabiting with Pigeons, Arphids and Aibos in the Internet of Things.” <http://www.scribd.com/doc/14748019/Why-Things-Matter/>.

utopian register, blogging-as-exposure is extreme Enlightenment: bringing light to the dark corners of the mind and the outside world. But the same logic of exposure is also how this utopia is continually compromised. Blogs overexpose, their digital traces hanging like a shadow over the teen's future; public exhibition devolves into exhibitionism; quality suffers in the pursuit of more hits, more inlinks and more exposure. And most of all, blogging exposes blogging itself as unremarkable - bloggers expose the promises of transparency, community and meaningful information as the inevitabilities of performance, celebrity and more noise.

As these examples suggest, I would also argue that this overarching logic of exposure - while perhaps most visible in early attempts to define the form - remains key to understanding blogging and the general set of conventions and expectations attached to it, even (or perhaps especially) in the professional and mainstream blogs that are often portrayed as a departure from blogging's underground roots. This persistence is clear, for example, in Emily Gould's excellent 2008 essay "Exposed." In a cover story for the *New York Times Magazine*, Gould recounts her history of "over-sharing" on her personal blog (called "Emily Magazine"), a subsequent job as a highly-visible editor at the Manhattan gossip-blog Gawker, and the various detrimental effects all of this had on her personal life: relationship problems, attacks on her character from hundreds of anonymous readers, panic attacks and an upended career.⁷⁴ It would not be a stretch to say that the memoir touched a collective nerve: within 24 hours, the online version generated more than 700 comments, many of them angry, and the *Times* (likely anticipating this) invited Gould respond to some of the issues raised a few days later.⁷⁵ The feature is above all a cautionary tale for those with a predilection for over-sharing, an exposé on the dangers of blog-enabled exposure (thus the redundancy in the teaser text "Blog-Post Confidential"). Gould writes, for example, that the panic attacks she developed while subjected to constant scrutiny from commenters as a Gawker editor "were about a desire to be invisible, but if I showed any sign that I was having one, everyone would pay attention to me."⁷⁶ But the magazine feature, along with the unprecedented response it received, also shows how a logic of exposure in blogging is hardly reserved for those who write for Gawker or blog about their sex lives, instead operating at a more fundamental level. Consider, for example, the hundreds of negative comments that seek to summarize and dismiss the piece in a single move, reproducing the sarcastic, pithy tone Gould herself employed at Gawker. The first comment posted

⁷⁴ Gould, Emily. 2008a. "Exposed." *The New York Times*, May 25. <http://www.nytimes.com/2008/05/25/magazine/25internet-t.html>.

⁷⁵ *ibid*; Gould, Emily. 2008b. "Emily Gould Responds to Readers." *The New York Times*, May 27. <http://www.nytimes.com/2008/05/27/magazine/27gould.html?ref=magazine>.

⁷⁶ Gould, 2008a.

establishes this basic format: “At first, I thought I was reading the sophomore page of the student newspaper at Harding High in Yokelville, Ohio. Then I realized that it was the New York Times. Just awful.”⁷⁷ In addition to revealing Gould’s memoir to be drivel, these comments express anger and disgust with both Gould and the Times editors who had the nerve to expose the public to the story. In their mass expression of indignation, though, the comments recall Gould’s source of pleasure in working at Gawker: “At my old job, it would have taken me years to advance to a place where I would no longer have to humor the whims of important people who I thought were idiots or relics or phonies. But at Gawker, it was my responsibility to expose the foibles of the undeserving elite.”⁷⁸

At this point, one might ask - along with the commenters on Gould’s piece and the bloggers who expose blogging as unremarkable - why Gould’s story should be considered significant beyond its merits as autobiography, or why a theory of blogging-as-exposure might be useful or necessary. The reason, I would argue, is found in similarities with Raymond Williams’s discussion of flow as a televisual “cultural form.” Williams, as mentioned above, saw flow as the overarching (or in today’s terminology, “meta-”) formal logic of interstitial sequencing in television, marked by the seamless cuts between programs, advertising, trailers, and so on, as well as by similar kinds of juxtapositions within programs (his prime example of this being how news programs cut from one story to another, sometimes suggesting a conceptual continuity among diverse topics). Williams’s assessment of flow’s significance is simultaneously his critique of McLuhan-style media formalism - flow is an “intrinsic visual experience,” but should not be considered the realization of television’s inherent nature.⁷⁹ Rather, he argues, it is something that developed intentionally, even if such intention was diverse and dispersed: it developed within and alongside production practices and commercial aims geared towards “capturing” viewers.⁸⁰

If flow is the basic formal logic that captivates and captures television viewers, exposure is its analog in blogging. Exposure in blogging is a formal feature, arriving built-in: blogging software, for example, automatically pings (notifies) search engines when new content is added, while detailed traffic statistics and other analytics immediately measure impact. Exposure is the source of pleasure and captivation for bloggers and their readers. Gould explains this first from her perspective, as the will to blog:

⁷⁷ *ibid.*

⁷⁸ *ibid.*

⁷⁹ Williams, [1974]2003: 75.

⁸⁰ *ibid.*: 91.

The will to blog is a complicated thing, somewhere between inspiration and compulsion. It can feel almost like a biological impulse. You see something, or an idea occurs to you, and you have to share it with the Internet as soon as possible.⁸¹

She also mentions this compulsion from the reader's perspective: "Other people's mistakes, which is to say, their impulsively revealed thoughts and opinions, can be fascinating" and are the "best and worst thing about the blogosphere."⁸² It would seem the commenters on her memoir agree, whether implicitly by reading and commenting in spite of their anger, or explicitly, as the minority of positive comments attest. Gould's description, meanwhile, echoes that provided by Rebecca Blood six years earlier, who argues that the fascination with how blogging exposes its author holds for whatever kind of blog it is, including those that are simply lists of links with spare commentary: "It is captivating to see the biases, interests, and judgments of an individual reveal themselves so clearly."⁸³

The overarching logic of exposure - as conventional practice, as generic expectations and formal features, and as the means by which bloggers and readers are captured - should be seen as a counter-weight to descriptions of blogging as "web-native." Where web-native articulates a distinction in media practice, exposure emphasizes continuity with existing (web) publishing practices. These range from the basic act of publication to the suite of tools for measuring circulation and syndication. It is a "counter-weight" because, as the practitioners' accounts in *We've Got Blog* continually show, the qualities that supposedly reveal the web's nature or renew the web's purpose (transparency, community and signal) are revealed to be the qualities that extend the excesses of mainstream media (performance, celebrity and noise). Exposure is both blogging's promise and its reflexive deconstruction.

The genealogy of blogging outlined here may also be seen to contextualize more recent theories of blogging. In particular, the logic by which blogging seeks to expose the flaws in mainstream media but uses that same logic to fold back in on itself, subverting its own position as an alternative, resonates with Geert Lovink's theory of blogging as the "nihilist impulse." Lovink situates blogging in opposition to mass media, but also argues against romantic notions such as citizen journalism or open news. Blogs 'witness' and 'facilitate' the implosion of mass media without offering an alternative. As Lovink writes:

Blogs bring on decay. Each new blog is supposed to add to the fall of the media system that once

⁸¹ Gould, 2008a.

⁸² Gould, 2008b

⁸³ Blood, 2002: xii.

dominated the 20th century. This process is not one of a sudden explosion. The erosion of the mass media cannot be traced easily in figures of stagnant sales and the declining readership of newspapers. In many parts of the world television viewership is still on the rise. What is declining is ‘Belief in the Message.’ That is the nihilist moment, and blogs facilitate this culture as no platform has ever done before.⁸⁴

For Lovink, blogging serves so well as an entry-point for studying this culture because the practice is the clearest expression of what he calls “Internet cynicism,” a response to the dot.com bubble and “millennial madness.”⁸⁵ Here, I would argue that the genealogy of blogging and web exceptionalism offers a different take. Blogging’s ambivalence and cynicism was visible in its early development at the height of dot.com bubble, and this ambivalence resonates strongly with previous articulations of new media and the web as exceptional - from Mondo 2000 to HotWired and Suck.

What Lovink calls a decline in “Belief in the Message,” meanwhile, Jodi Dean has theorized as a decline in symbolic efficiency: blogs are emblematic of a culture in which the circulation of images and messages is rapidly increasing but the capacity for these symbols to carry the same meaning from one context to another is eroding.⁸⁶ Declining symbolic efficiency leads to a media environment in which reflexive criticism continually undermines any message, where an attitude of ‘You have your facts, I have mine’ prevails. As Dean argues:

The contemporary setting of electronically mediated subjectivity is one of infinite doubt, ultimate reflexivization. There’s always another option, link, opinion, nuance, or contingency that we haven’t taken into account, some particular experience of some other who could be potentially damaged or disenfranchised, a better deal, perhaps even a cure. The very conditions of possibility for adequation (for determining the criteria by which to assess whether a decision or answer is, if not good, then at least adequate) have been foreclosed. *It’s just your opinion.*⁸⁷

This reflexivity is paraded as ‘democratization’ by those who stand to profit from more traffic, eyeballs, links, comments, tweets and so on, but for Dean signals how “communicative capitalism” exploits this decline and short-circuits the kind of critical thought that would provide an alternative.⁸⁸ The genealogy of blogging-as-exposure explored in this chapter suggests how the relationship between blogging and communicative capitalism may be further explicated, but it also raises questions in this regard. How, for example, might one reconcile Dean’s critical theorization

⁸⁴ Lovink, Geert. 2008. *Zero Comments: Blogging and Critical Internet Culture*. New York, Routledge: 17.

⁸⁵ *ibid*: 12.

⁸⁶ Dean, Jodi. 2010. *Blog Theory: Feedback and Capture in the Circuits of Drive*. Cambridge: Polity.

⁸⁷ Dean, 2010: 6.

⁸⁸ *ibid*.

with the fact that blogging developed largely outside of the commercial contexts (platforms, marketing budgets, advertising, and so on) that it is now undoubtedly a part of? I would argue that this may only be done by tracing the discursive and material connections between blogging and existing media; that is to say, in the genealogy of blogging as a media practice, technology and form.

5.3 Web exceptionalism and web cultural form

Why web-native? As I have shown here, early bloggers used this term to distinguish blogs from prior media forms and practices, as well as to mark a renewal of the web's supposedly original promises of transparency, community and meaningful communication and reflection. In this chapter, I revisited this articulation of blogging as exceptional, but also described how these same accounts continually 'exposed' blogging as an exacerbation of the problems it supposedly addressed. These unexceptional should not be seen as separate from blogging's utopian promise - as simply correctives to misunderstandings of the form or to the false hopes attached to it. Instead, I argued that exposure - as public exhibition, as publicity, as the disclosure of the self and the unearthing of interesting links, as the deconstruction of media, and ultimately as the exposure of blogging itself as unremarkable - is the organizational logic that defines blogging as cultural form. As with Raymond Williams's description of flow as an overarching formal logic of television, exposure is how blogging captures - that is, how it captivates and fascinates users and readers.

For early bloggers, 'web-native' was meant to distinguish their practice from what came before, but in fact it is what directs attention to blogging's ties with earlier visions of the web as an exceptional medium and previous new media publishing cultures. In their somewhat contradictory distinction from the mainstream - e.g. rebel journalists acting outside of industry norms, amateur web and media critics seeking a more professional outlet for their commentary - many of the early bloggers discussed here fit within a lineage of "outsiders-inside" and "insiders-outside" in new media publishing that goes back to *Mondo 2000*. With their ambivalence regarding blogging's ability to actually form an exception to the perceived failings of mass and mainstream media, the reflections analyzed here also echo the mix of utopianism and cool sensibility in *Mondo 2000*, *HotWired* and *Suck* (chapters 2-3). In many ways, blogging follows in the footsteps of *Suck*, where the homepage served the newest essay and where sarcasm exposed the distance between pretense and reality (as *Suck* co-founder Joey Anuff put it, "We're not being cynical, we're being honest."⁸⁹).

⁸⁹ Quoted in Steinberg, 1996.

These resonances with previous new media publishing cultures may be seen to contextualize an influential definition of blogging as participatory media and an extension of a spirit of ‘openness’ - a definition that simultaneously placed blogging at the center of descriptions of Web 2.0.⁹⁰ In 2005, for instance, when Kevin Kelly grouped blogs together with Wikipedia, open source software and peer-to-peer technologies to describe blogging as a sign of the “new cultural force of mass collaboration” at the “heart” of the web, his definition ignored key elements of blogging’s past. The suggestion in such accounts is that blogging applies a technological ideal of openness to publishing and media more generally - a ‘foreign’ ethic that would imply transparency, inclusive community and the uninhibited flow of information. What I would like to suggest is that more or less the opposite is true: as exposure, the formal logic of blogging arguably extended key techniques, norms, conventions and styles from existing publishing cultures into an increasingly generalized socio-technical practice. As similar rhetoric is used to describe newer web-native forms such as social media - including Mark Zuckerberg’s stated goal to create a more “open” world with Facebook - it is worth recalling the genealogies of the practices, forms and technologies underlying such openness, and in particular the emergence of blogging as a *publishing* logic of exposure.⁹¹ However positively or negatively one views such developments, I believe that, in some sense, Rebecca Blood was correct in her early assessment of blogging’s legacy: “weblogs have made all of us publishers.”⁹²

⁹⁰ O’Reilly, 2004; Tapscott and Williams, 2008.

⁹¹ Vogelstein, Fred. 2009. “The Wired Interview: Facebook’s Mark Zuckerberg.” *Wired*. June 29. <http://www.wired.com/business/2009/06/mark-zuckerberg-speaks/>.

⁹² Blood, 2002: x.

Conclusion: web exceptionalism and legacy systems

Is the web exceptional? In the most enthusiastic accounts of the web's exceptional character, including those surrounding participatory media and Web 2.0, this is a matter of the web's inevitable displacement of its predecessors, as well as the presence of a set of inherent capacities or 'nature' that marks the web's distinctiveness. In this dissertation, I have argued against such web exceptionalism: if the web presents a challenge to mass and mainstream media, and if it exhibits unique, novel characteristics, this is because it is made to do so. The more interesting question is how the web is articulated as exceptional, and what this means for its production: what I have shown is that narratives of the web's displacement of mass and mainstream media have been a recurring theme in web history, and that these have been key actors within the establishment of media practices, technologies and forms considered to be representative of the web's purpose or nature. The role of web-related rupture-talk, however, is paradoxical, in that it shapes such 'web-native' culture as a site of historical and cultural continuity. Against notions of wholesale change and rupture, then, I have argued that one can locate the past's persistence within web exceptionalism. This claim has been the central thread in this dissertation, and may be seen to connect six key findings.

First, this dynamic - in which rupture-talk shapes the specificity of new media as a site of continuity - precedes the web, and was a central element in cyberculture in the late 1980s and early 1990s. Cyberculture is normally defined as the culture of cyberspace, but an historical account shows that the reverse is more accurate: as various scholars have demonstrated, cyberculture is better understood as a culturally and historically specific discourse in which it made sense to conceptualize virtual reality, the internet and eventually the web as cyberspace.¹ The basic assumption underlying cybercultural rupture-talk, and specifically cyberspace as a separate realm in which society could be made anew, is what N. Katherine Hayles calls the condition of virtuality and what I have referred to as the computational metaphor: the idea, originating in cybernetics and cybernetics-influenced research, that information is distinct from matter, and that social and cultural phenomena are essentially systems of information exchange and feedback.² This assumption is essential to cyberculture, and is the grounds for the implicit and explicit claims in utopian visions of cyberspace: that breaking bodies down to bits is not a reduction but a purification; and that entering cyberspace means revealing so many real-world constraints on community, identity,

¹ Turner, 2006; Chun, 2006.

² Hayles, 1999.

(self-)organization and enterprise as artificial. Cybercultural rupture-talk cast the specificity of new media as the capacity for a virtual existence, an exceptional quality that appeared to be realized in the concepts and practices of virtual community and virtual identity. But in defining online interaction as virtual dislocation, cyberculture simultaneously located it within the lineage of the computational metaphor.

Second, in addition to helping set expectations for online interaction and providing a powerful metaphor for understanding (and designing and using) the World Wide Web, cyberculture helped shape the key ‘offline’ media form of the tech-culture magazine. Although it is widely accepted that independent magazines like *Mondo 2000* and *Wired* played an important role in popularizing cybercultural claims and concepts, what has generally not been addressed is the relationship between cybercultural rupture-talk and the cool, irreverent style that characterized its most prominent expressions.³ As I demonstrated in a case study of *Mondo 2000*, the magazine’s vision of a subversive, techno-transcendent future - which editors called the New Edge - was simultaneously an ambivalent rumination on the possibilities for underground and resistant culture, one that structured the magazine’s cool style. The New Edge was about bringing “cyberculture to the people” and the multiplication of opportunities for subversive culture and transgressive experience, but it was also a vision of intensified commercial logics, institutional forces and media-driven distraction.⁴ *Mondo*’s specificity as a media form - its self-conscious positioning between authentic subculture and mass commodity, ironic style, self-deprecation, media pranks and “irresponsible journalism” - may be seen as an expression of its ambivalent New Edge discourse, and forms what I called, following Alan Liu, the magazine’s “new media cool.”⁵

Third, these two elements of cyberculture - the computational metaphor and new media cool - continue to resonate in articulations of the web as an exceptional medium, even if cyberculture and the concept of cyberspace themselves increasingly appear dated. Although it would be difficult to identify an exact end point for cyberculture, it seems fairly obvious in the ‘age’ of social media that the explanatory value of cyberspace, which John Perry Barlow once called the “new home of Mind,” has declined.⁶ Moreover, there are signs that even when virtuality and cyberspace are still

³ Silver, 2000; the notable exception here is Liu, 2004.

⁴ Mu and Sirius, 1989.

⁵ Liu, 2004.

⁶ Barlow, 1996.

used it is without their utopian connotations.⁷ Despite this, the computational metaphor at the base of cybercultural rupture-talk may be seen as a central component of other, more recent cases of web exceptionalism. As seen in chapter 4, for example, Slashdot's increasingly complex news and community infrastructure was driven in part by a belief that processes of media production, distribution and consumption could be fully captured and made visible on the web, whether this meant the information flows that represented reputation, trust, quality, genre, political leaning, etc. Similarly, the idea of a universal social graph relies on the assumption that one might formalize social connections in a limited set of attributes and values like one might mark up web content with HTML.⁸ My point is not to expose the shortcomings of these initiatives - strong critiques of the universal social graph (and, relatedly, the semantic web) that show the conceptual failings of such schemes already exist - but to situate web exceptionalism historically within the lineage of the computational metaphor, and to put a question mark behind the idea that, once rid of the delusions of cyberspace, one is rid of the assumptions that allowed the web-as-cyberspace to make sense in the first place.⁹ If cyberspace at its most fantastic was a space of pure information where one could construct the world anew, more recent utopian expressions of the computational metaphor are those in which the web-as-data reveals the deep, underlying structures, patterns and flows that constitute social and cultural phenomena. The "cool" that marked the cybercultural magazine *Mondo 2000*, meanwhile, may also be seen to extend beyond the techno-transcendentalism of virtuality and cyberspace. As idiosyncratic as *Mondo 2000* was, the basic structure of what I called new media cool - an ambivalent (and self-conscious) positioning in relation to mass culture and mainstream media, a related ambivalence regarding the potential for new media to offer an alternative to their mass and mainstream predecessors, as well as a corresponding cool sensibility - also characterized the new media publishing cultures of *HotWired* (especially *Suck*), early blogging and, to a lesser extent, *Slashdot*. At *HotWired*, this grew out of *Wired*'s own rebel cool and 'outsider' journalism, but was particularly apparent in *Suck.com*'s daily essays debunking web hype and parodying web culture. In the *Slashdot* case, a similar ambivalence could be seen in creator Rob Malda's offhand dismissals of enthusiastic descriptions of the site's effects on journalism, but "information cool" is a perhaps a better description of its style than "new media cool," as much of the site's humor derived

⁷ As argued in chapter 1, the most prominent uses of cyberspace today appear to be in connection with security, especially national security (see footnote 104 from that chapter). See also Steven Shaviro's discussion of the contrasts between early virtual worlds and more recent virtual economies such as *Ultima Online*. Shaviro, Steven. 2007. "Money for Nothing: Virtual Worlds and Virtual Economies." <http://shaviro.com/Othertexts/MMOs.pdf>.

⁸ Fitzpatrick, 2007.

⁹ Ceglowski, 2011; Cramer, Florian. 2007. "Critique of the 'Semantic Web'." December 18. <http://www.nettime.org/Lists-Archives/nettime-l-0712/msg00043.html>.

from plays on its elaborate information architecture.¹⁰ New media cool, meanwhile, was integral to early blogging. Echoing Mondo, bloggers' reflections on the form oscillated between seeing it as outside the norms of mass and mainstream media on the one hand, and as an extension of the problems of publicity, celebrity and hype on the other. This meant that irony, parody and sarcastic commentary was not only aimed at mainstream news and entertainment, but also at blogging itself.

Fourth, as Mondo's ambivalent New Edge discourse foreshadows, conceptualizations of the web's displacement of older media are not (or not necessarily) naive reactions to new technology, but richly textured cultural and historical objects. In the case of HotWired's "new publishing paradigm," for example, the belief that the new publication would tap into the web's nature or purpose was shared but also fragmented. It was a product of the Whole Earth outlook, in which cyberspace meant the paradoxical return to more organic forms of community and individual liberty through technology, but also of Louis Rossetto's conviction that the electronic frontier meant a wholesale restructuring of the media landscape and required a 'braver' editorial direction than that offered by mainstream media. It developed in diverse social networks and milieus, from Wired's editorial brain trust to the WELL and Cyborganic, and drew on a range of cultural references from Rolling Stone to New Journalism and independent 'zines. And it was couched in various conceptual models and metaphors - from the electronic frontier and the idea of "planting flags" in different content areas of the web to Rheingold's "global jam session" of collaboration.¹¹ To trace an articulation of the web as an exceptional medium, in other words, is to see how it is distributed among multiple concepts, practices and spaces. This was true for the emergence of blogging as web-native cultural form as well, where practitioners' reflections reveal its ties to 'sources' as diverse as flame-wars on Usenet and early web art. As such variety suggests, the actual composition of web-related rupture-talk and web-native culture may be counter-intuitive. This was the case with the notion of open-source news production that emerged around and to some degree on the tech-news site Slashdot, but which is an inaccurate interpretation of the site (at least in terms of its production) when looking more closely at its history. This label seems to make sense because of the close relationship between Slashdot and the excitement surrounding open-source software

¹⁰ As mentioned briefly in chapter 4, this included absurd categories for stories (the byline always reads "from the X dept.," where X is usually be a pun, ironic label, or some other form of reflexive 'distancing' from the story subject). It also included a number of community in-jokes surrounding low user id's, moderation points, "karma" and so on. Although I focused my genealogy on Slashdot's 'back-end' production, I think a more complete analysis would show how this 'front-end' style complemented - but also ambivalently commented on - the site's ambitious attempts to automate and make visible various processes of the site's production. This front-end style would thus sooner resemble the cool that Alan Liu sees as part of the informed and networked workplace, rather than the derivative "new media cool" I identified in Mondo 2000's publishing practices and form. See Liu, 2004, especially chapters 5 through 7 on cool as ethos, feeling and style.

¹¹ Wolf, 2003; Anker interview, 2010.

development in 1998 and 1999, and various commentators were quick to see in the site's user-submitted stories and clever comments moderation system an application of open source principles. However, this community infrastructure is better understood in light of Slashdot's lineage in BBS culture, and as creator Rob Malda's ad-hoc efforts to respond to various issues unrelated to a criticism of media. Slashdot's production did involve a sense of the web's displacement of previous media, but the emphasis in Malda's enthusiasm was on automation and web-enabled visibility - what I called informed media.

Fifth, understood as distributed, web exceptionalism must also be considered for how it is doubly productive, as an important source of both the web's novelty and its material and conceptual ties to previous media. Web exceptionalism, in other words, produces change and continuity in a single move. The sense (however fragmented) that the web required a new publishing paradigm led to editorial practices at HotWired and Suck that were new, even if these represented a mix of various cultural influences more than inevitabilities owing to the new medium's properties. Likewise, Slashdot's infrastructure was clearly innovative at the same time that it resonated with BBS culture, previous manifestations of the computational metaphor and the use of information technology in the workplace. Early blogging, meanwhile, marked the establishment of an important (self-)publishing genre while also shaping this as a site of continuity: blogging would be an extension of an aesthetic of transparency, internet-based community and independent media commentary, but was also seen to replicate negative qualities of mass and mainstream media such as celebrity and hype. This contradictory dynamic in early blogging - in which the exceptional status attributed to it was consistently deflated, often by the very same bloggers - is part of what I called an overarching formal logic of exposure, one that may itself be thought of in terms of its continuity with traditional publishing and broadcasting. In this way, some of the instances of web-native culture encountered in these case studies may be thought of as 'conjugated' media practices, technologies and forms. As deployed by Gabrielle Hecht, the metaphor of conjugation refers to how nuclear age rupture-talk and its inscriptions re-introduced elements of the colonial power structures that a technological society supposedly departed from.¹² Here, I use it to describe how the combination of web-related rupture-talk and its inscriptions in web-native culture served to re-introduce core elements of previous media, including the mass and mainstream media supposedly being displaced by the web. HotWired's editorial direction, for example, conjugated that of predecessors in independent publishing, from the New Journalism of the 1970s to 1990s 'zine

¹² Hecht, 2002.

publishing. Blogging, far from displacing the conventions and logics of mass and mainstream media, re-established key values (such as transparency, celebrity and exposure) within a new form.

Sixth, the genealogies of web exceptionalism presented here may be seen to engage critically with the popular periodization of Web 2.0, in particular the distinction between the top-down, one-way communication of the publishing paradigm and the bottom-up, collaborative media production of a new paradigm of participation.¹³ The case studies have shown how elements of the participatory paradigm were present early on, but more importantly they bring the assumption of an opposition between these paradigms into question. As seen in the case of HotWired, not only did prominent debates about the value of editorial over amateur content foreshadow those that would occur many years later around Wikipedia, YouTube and other platforms, but HotWired's own 1997 makeover as a platform for participatory web culture suggests some ways in which publishing formatted participation.¹⁴ To participate through HotWired was to write like HotWired writers (and even have one's essay published on Suck), to design like HotWired designers and so on: participation was about "transforming visitors from outsiders to insiders," and thus fit within Wired's ambition to be an arbiter of style for the new medium.¹⁵ Although the various community and customization features developed at Slashdot were central figures in accounts of a new paradigm of participatory, open news, their genealogy reveals the very different goals and logics of automated community management and an "informed" media product.¹⁶ In the case of blogging, I argued against the assumption in Web 2.0 discourses that participation means the expansion of a technological ideal of 'openness' to media production. Rather, the formal logic of exposure that I identified in blogging should be understood as the opposite, i.e. the expansion of a publishing logic to new domains of socio-technical practice.

Although a focus on the productive capacity of web exceptionalism and a critical engagement with Web 2.0 are this study's strengths, they also point to its major limitation. As a history of web publishing, the scope of this dissertation has been very narrow, and the cases are not representative of web publishing more broadly - neither of the period in which they emerged, or in the sense of 'pioneering' what was to come. Similarly, this history does not deal in any direct way with important structural issues such as the economics of web publishing in relation to its predecessors,

¹³ O'Reilly, 2005; Kelly, 2005.

¹⁴ Keen, 2007.

¹⁵ June Cohen, quoted in Frauenfelder, 1997.

¹⁶ Zuboff, 1988.

nor does it address reception.¹⁷ Rather, such topics only emerge within the specific cases to the extent that they affected notions of the web's displacement of previous media and the establishment of web-native culture. As I discuss in the following section, the value of genealogies of web exceptionalism lies elsewhere, namely in how these reveal the persistence of more contingent and conceptual 'legacies' from previous media and other domains.

Towards the study of web exceptionalism and legacy systems

This dissertation's relevance to the field can be seen in how it ties together two different, important strands within new media studies. On the one hand, I have looked to build on a 20-plus year tradition of criticism and research questioning prominent speculative and utopian accounts of new media, beginning perhaps with Vivian Sobchack's essay on *Mondo 2000* (originally published in 1992) and extending into work such as Fred Turner's history of cyberspace and various critical accounts of blogging, social media and Web 2.0.¹⁸ On the other, I have sought to contribute to the emerging field of web history by analyzing key events and innovations within the history of web publishing during the period now commonly referred to as Web 1.0, while focusing on significant media practices, technologies and forms that have been articulated as native to the new medium. My original contribution has been to show how web-related rupture-talk has shaped web-native culture as a site of continuity.

The novelty of my approach to web exceptionalism and web publishing history similarly lies in this combination of two objects - web-related rupture-talk and web-native culture - that have not yet explicitly been studied together, as well as my emphasis on genealogy, or the contexts in which instances of web exceptionalism have emerged. However, since the various case studies have differed in terms of precise object of study and mode of analysis, it is worth briefly summarizing and generalizing these in a way that could be useful for further research. What I have done is collect and analyze articulations of the web as exceptional, i.e. various historical instances of web-related rupture-talk and web-native culture, and the relationships between them. This is a heterogeneous corpus, in that it includes discursive or rhetorical expressions (concepts, narratives, arguments, metaphors, etc.) as well as various material ones: the media practices, technologies and forms considered aligned with the web's nature, purpose or inherent capacity. This heterogeneity, combined with the availability of resources and, most importantly, the specificity of each case, led

¹⁷ For an overview of work within web history, and particularly the history of web publishing, see Brügger, Niels, ed. 2010. *Web History*. New York: Peter Lang.

¹⁸ Sobchack, 1994; Turner, 2006; Lovink, 2008; Van Dijck, José, and David Nieborg. 2009. "Wikinomics and Its Discontents: a Critical Analysis of Web 2.0 Business Manifestos." *New Media & Society* 11 (5): 855–874.

to qualitative differences in approach, even if the basic outline of genealogy remained the same. In the case of HotWired, discussions and arguments about the web's purpose or nature - recorded in a variety of forms, from press material and contemporaneous interviews to email communications and historical accounts - were tied to various concerns about the nature of content 'required' by the new medium, from debates about how much readers should be involved in contributing content to the style of reporting suited to the new environment. To understand the dynamics of rupture-talk and web-native culture in this case meant contextualizing editorial practices and decisions based on the analysis of the social and cultural milieus - what I have called HotWired's producer culture or new media publishing culture - in which they emerged. The Slashdot case was similar, in that the rupture-talk of open-source news directed attention to the site's story submission and comments moderation infrastructure. Here, however, contextualizing the production of Slashdot's community infrastructure meant venturing into biographical history (including Malda's immersion in BBS culture) and technological history, alongside the primary resource of Slashdot's archives. In the case of blogging, meanwhile, the focus was on the properties and conventions that established blogging as a genre or, more accurately, a cultural form, and the affordances of this form for transparency, community, insightful analysis and meaningful communication, but also for performance, celebrity and hype. Here, all of the relevant 'action' - web-related rupture-talk, the articulation of the form as web-native, as well as traces of early blogging as a new media publishing culture (i.e. the visible social and cultural contexts in terms of specific interactions and influences) - could be found within a set of influential reflections on the form. Because this case focused on media form, I was able to draw more directly from media studies, in particular Raymond Williams's analysis of television as cultural form, whereas the approaches in the HotWired and Slashdot cases sooner resemble contextualizing histories of science and technology, such as Peter Galison's work on the cybernetic vision and Fred Turner's account of the history of cyberculture.¹⁹

Despite these differences among the case studies, what I have effectively done in this dissertation is create an 'expanded view' of web exceptionalism as I initially defined it in the introduction. In tracing the dynamics of web-related rupture-talk and web-native culture within specific new media publishing cultures, the various case studies have revealed the continuities and resonances that may be summarized as web exceptionalism's 'legacy systems' (see table 2). In computing, a legacy system is "software or hardware that has been superseded but is difficult to replace because of its wide use."²⁰ Seen from the perspectives of a technological ideal of efficient

¹⁹ Williams, [1974]2003; Galison, 1994; Turner, 2006.

²⁰ "Legacy." 2013. *Oxford Dictionaries*. Accessed March 11. <http://oxforddictionaries.com/definition/english/legacy>.

performance or a commercial strategy of selling newer product, legacy systems carry a negative connotation as they interrupt progress. The concept is also nebulous, however, and some have argued against the notion that legacy simply means outdated technology. Bjarne Stroustrup, the creator of the C++ programming language, writes that legacy code “is a term often used derogatorily” but that this code “often differs from its suggested alternative by actually working and scaling.”²¹ Elsewhere, legacy code has been defined not in terms of programming language ‘vintage,’ but essentially as inherited code that for various reasons - poor documentation chief among them - constrains future action.²² Within organizational management, meanwhile, what is outdated might not be the technology so much as the quantity and quality of activities and operations that a given system was built to sustain - here the question becomes to what extent a system may be evolved as this context changes.²³ The common thread, perhaps, is that legacies in computing imply dependency but not determinism. Here I would like to suggest that a metaphorical use in the context of web exceptionalism serves to illustrate how cases of web-related rupture-talk and web-native culture are steered by existing concepts, social and cultural contexts, as well as previous media practices, technologies and forms. In this use as in computing, legacy systems may be foundational but do not fully determine what is built on top.

Table 3: Web exceptionalisms (expanded view)

New media publishing culture	Rupture-talk	“Web-native” qualities	Legacy systems
HotWired (1994-1997)	“New Publishing Paradigm”	Editorial practices and style	Cyberspace and electronic frontier, communitarian counterculture, new media cool, New Journalism, ‘zine and other independent publishing
Slashdot (1997-1999)	“Open-source news”	Community infrastructure	BBS culture, open source movement, computational metaphor, informed work

²¹ Stroustrup, Bjarne. n.d. “FAQ.” *Stroustrup.com*. Accessed March 20, 2013. http://www.stroustrup.com/bs_faq.html.

²² Feathers, Michael. 2004. *Working Effectively with Legacy Code*. Upper Saddle River, NJ: Prentice Hall PTR.

²³ Bisbal et al, 1999.

Early Blogging (1998-2002)	“Web-native” publishing	Cultural form (formal properties and conventions related to production, presentation and structure)	Reflexive aesthetic of transparency-through-mediation (e.g. Dave Eggers, Ana Voog), celebrity culture, independent journalism, new media cool
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The concept of legacy systems serves two main purposes. First, it provides an overarching category for the wide range of social, cultural and technological phenomena that are nonetheless made common within instances of web exceptionalism. These have included utopian configurations of the computational metaphor and its lineages in cybernetics and the counterculture, cybercultural style as it appeared in *Mondo 2000*, as well as various other concepts, aesthetics, values, practices and forms associated with previous media and technology. One might further expand this view to include the many social groups and cultural and institutional contexts - from loose networks of Bay Area web producers to open-source software companies and ‘A-list’ bloggers - that helped establish and operated through the new media publishing cultures of HotWired, Slashdot and early blogging. Second, the metaphor provides a concise description of the dynamic repeatedly seen throughout the various case studies, of the past’s persistence through new media practices, technologies and forms.

I began this dissertation by asking how to situate web exceptionalism historically, and how narratives of the web’s displacement of mass and mainstream media have affected the media practices, technologies and forms considered to be web-native. The notion of legacy systems helps to clarify the answers I have provided. I have demonstrated, for instance, how cyberculture - however dated it may appear to be - continues to resonate beyond the concept of cyberspace. Legacy systems such as the computational metaphor and new media cool may be seen not only to extend beyond their prominent expressions in the early 1990s, but to do so in ways that help produce new practices, technologies and forms, from HotWired’s editorial direction and Slashdot’s innovative community and content management infrastructure to blogging as cultural form. In addition to demonstrating a relationship between cyberculture and subsequent notions of the web as an exceptional medium, I have shown how web-related rupture-talk has shaped web-native culture as sites of continuity. Notions of the web’s displacement of mass and mainstream media encountered in the case studies - HotWired’s new publishing paradigm, the Slashdot vision of an automated and visible media environment and early practitioners’ descriptions of blogging as web-native and a renewal of the web’s promise - aligned associated practices, technologies and forms with (among other things) prior publishing practices, the use of database technologies in the

workplace and the values, formal conventions and excesses of mass and mainstream media. Investigations of web exceptionalism, in other words, became a study of the legacy systems underlying it.

Although my focus has been on specific instances of rupture-talk related to the displacement of mass and mainstream media, legacy systems also points to the possibility of a broader research agenda covering notions of the web's newness or rupture within other domains (such as education and government). Its usefulness may also be considered in light of one the central themes in this dissertation concerning the productive capacity of concepts and metaphors, from cyberspace to visions of informed media and various conceptualizations of the web's nature. Perhaps the concept of legacy systems, through this dissertation and further research, can provide a constructive intervention in how we understand both the web's novelty and its connections to the past.

Appendix: list of interviews

Andrew Anker (former HotWired president and CEO). 2 October, 2010, San Francisco, CA.

Brian Behlendorf (former HotWired engineer). 9 September, 2010, San Francisco, CA.

Justin Hall (former HotWired production intern and “mascot”). 24 August, 2010, San Francisco, CA.

Rob Malda (Slashdot co-founder and former editor/engineer). 8 December, 2011, Ann Arbor, MI.

Howard Rheingold (former HotWired executive editor). 6 August, 2010, Mill Valley, CA.

Gary Wolf (former HotWired executive editor). 20 August, 2010, Berkeley, CA.

Summary

This dissertation offers a history of web exceptionalism - or the notion that the web is a source of radical change and that it is inherently different from its 'mass' and 'mainstream' media predecessors - as well as its role in various innovations in web publishing. Web exceptionalism combines a discourse of the displacement of older media with the articulation of specific media practices, technologies and forms as "web-native," i.e. as somehow reflective of the web's essence or nature. Its expressions range from early visions of the web as a virtual space and ideal public sphere to the concept of Web 2.0 and recent discussion of social media as a new form of decentralized, citizen-powered journalism. Here, I examine manifestations of such ideas in new media publishing cultures in the 1990s and early 2000s, arguing that while these narratives of exceptionalism portray the web's development in terms of rupture, or sudden break from the past, they paradoxically shape web culture as a site and source of historical continuity. The aim of this study is not to debunk claims of the web's exceptional nature. Rather, it is concerned with how a closer investigation of web exceptionalism, focused on the conditions of its emergence, serves to reveal the various historical and cultural legacies that shape the web and our perceptions of it.

In the first part of the dissertation, I explore the roots of web exceptionalism by returning to the influential conceptualization of the web as cyberspace in the early 1990s. In its most utopian configurations, the-web-as-cyberspace would be a space of 'pure information' that would free its users from physical, social, cultural and economic constraints on identity, community and enterprise. As much as cyberspace symbolized a radically different future, however, the concept was also the site of a remarkable connection between cybercultural utopianism and cybernetics, or the science of communication and control, which developed in military-related research during the 1940s and 1950s. One of the key ideas that emerged from cybernetics - that social and cultural phenomena are essentially formalizable (and thus computable) systems of information and feedback - is extended in the basic assumption underlying cybercultural utopianism, that the world might be made anew within the electronic frontier of cyberspace. This underlying assumption may also be seen to resonate with more recent articulations of the web as an exceptional medium: despite the disappearance of a utopian notion of cyberspace, similar computational metaphor is found in concepts such as the social graph, which carries the promise of a universal mapping of social relations.

In addition to the concept of cyberspace, cybercultural utopianism may be typified by its primary mode of delivery, the cool tech-culture magazines such as *Mondo 2000* and *Wired* that

entered mainstream culture in the early 1990s. As I argue in a case study of *Mondo 2000*, the magazine's mix of irony, rebellious attitude and unconventional production practices was closely aligned with its depictions of the cybercultural future, which oscillated between enthusiastic and negative visions of the potential for empowerment and authentic experience through new media. *Mondo*'s ambivalent "cool" not only represented a particular new media publishing form, but was in part produced by the rupture-talk at the center of *Mondo 2000*'s identity. Like the computational metaphor, I argue, *Mondo*'s new media cool may be seen to resonate with later manifestations of web exceptionalism, where a similar ambivalence about the effects of new media endures.

The second part of the dissertation comprises three case studies of web exceptionalism, each of which emphasizes the interplay between rupture-talk and the establishment of novel media practices, technologies and forms. The first concerns the promise of a "new publishing paradigm" at HotWired, the web-only publication launched by the creators of *Wired* magazine in 1994. At HotWired, questions of site design and editorial practice were addressed in terms of the web's promise and what the new medium required. Embedded in these ideas about the web's exceptional status and the resulting practices, however, were a series of cultural influences - from the New Journalism of the 1970s to the Bay Area rave scene of the 1990s - that tied HotWired's production to past media practice. The second case revisits what appeared to be the arrival of a new age of "open news," a narrative of exceptionalism spurred by the rapid rise to prominence of the tech-news website and forum Slashdot in 1998. With its reader-submitted stories and intricate commenting infrastructure, Slashdot seemed to embody principles of open-source software production, where engineering work is delegated to a dispersed, self-organized group of volunteers. In this new context, 'openness' meant spreading the work of news production and distribution among diverse participants and providing an alternative to the closed process of decision-making by traditional gatekeepers. A closer look at the emergence of Slashdot's unique technological infrastructure, however, suggests a different lineage involving the early online culture of Bulletin Board Systems. And rather than a critical intervention in news production, the site's history sooner resonates with accounts of the introduction of information technology in the workplace, as its central thread is the automation and increased visibility of production tasks. The third case study deals with the emergence of blogging as a popular web publishing format in the late 1990s and early 2000s. Taking as a starting the influential definition of blogging as "web-native," I show how blogging was defined by early practitioners as both a solution to perceived problems in mainstream media and an extension of some of its worst excesses. Most of all, I argue, the articulation of blogging as "web-

native” was aligned with what I call blogging’s logic of exposure, extending conventional publishing values and practices related to publicity into a novel web cultural form.

Overall, the case studies demonstrate how significant innovations in web publishing were simultaneously a product of narratives of the web as an exceptional medium as well as a range of cultural influences. In doing so, they support the dissertation’s central claim, that rupture-talk paradoxically shapes web-native culture as a site and source of historical continuity.

Nederlandse samenvatting

Dit proefschrift zet de geschiedenis uiteen van het *web exceptionalism*, een gedachtegoed waarin het web in haar kern afwijkt van haar voorgangers en beschouwd wordt als een uniek medium en bron van radicale verandering, en de rol die dit gedachtegoed speelt in diverse innovaties binnen het online publiceren. Web exceptionalism combineert een discours rondom een verschuiving van oudere media met de typering van specifieke mediapraktijken, -technologieën en -vormen als *web-native*. Dit wil zeggen dat deze zouden reflecteren op de daadwerkelijke essentie en eigenschappen van het web. Web exceptionalism komt tot uiting in de vroegere visies van het web als een virtuele ruimte en daarmee als de ideale publieke sfeer, maar ook in het concept van Web 2.0 en de hedendaagse discussie omtrent sociale media als een nieuwe vorm van decentrale, burgerjournalistiek. Ik bestudeer verschillende uitingen van dergelijke ideeën die gangbaar waren binnen de kringen van nieuwe media publicatie aan het einde van de 20^{ste} en begin van de 21^{ste} eeuw. Hierbij beargumenteer ik dat hoewel deze verhalen over exceptionalisme de ontwikkeling van het web portretteren als een plotselinge breuk met het verleden, ze tegelijkertijd *web culture* vormgeven als een terrein en bron van historische continuïteit. Het doel van dit onderzoek is niet om de beweringen over het buitengewone karakter van het web tegen te spreken. Dit onderzoek streeft er juist naar om de sporen van web exceptionalism te traceren, met een focus op de omstandigheden van haar opkomst, zodat de verscheidenheid aan historische en culturele erfenissen die het web en onze perceptie ervan vormden blootgelegd kan worden.

In het eerste deel van dit proefschrift ga ik op zoek naar de wortels van het web exceptionalism door terug te keren naar de invloedrijke periode van conceptualisering van het web als *cyberspace* in de vroege jaren 90 van de vorige eeuw. In de meest utopische verbeelding van het web als cyberspace, bestaat het web uit 'pure informatie' die gebruikers bevrijdt van fysieke, sociale, culturele en economische belemmeringen in de vorming van hun identiteiten, gemeenschappen en ondernemingen. Ook al leek cyberspace een radicaal andere toekomst te symboliseren, het was een concept waarin een opmerkelijk verband kon worden gelegd tussen *cybercultural utopianism* en cybernetica, een wetenschap van communicatie en beheer die zijn oorsprong vond in militair-gerelateerd onderzoek uit de jaren 40 en 50 van de 20^{ste} eeuw. Eén van de prominente ideeën uit de cybernetica is dat sociale en culturele verschijnselen in essentie formaliseerbare (en daarmee in potentie berekenbare) systemen zijn die drijven op informatie en terugkoppeling. In de basis van *cybercultural utopianism* wordt hierop voortgeborduurd: Omdat

de wereld in essentie uit informatiesystemen zou bestaan, zou deze opnieuw uitgevonden kunnen worden binnen de technologische grenzen van cyberspace. Deze onderliggende aanname lijkt ook door te klinken in recentere uitspraken over het web als een buitengewoon medium. Ondanks het verdwijnen van de utopische voorstelling van cyberspace, doen vergelijkbare computermetaforen van zich spreken in concepten zoals de *social graph*, die universeel sociale relaties in kaart lijkt te kunnen brengen.

Aanvullend op het concept van cyberspace, kan *cybercultural utopianism* gekarakteriseerd worden op grond van diens voornaamste manier van overlevering, namelijk de coole technoculturele tijdschriften zoals *Mondo 2000* en *Wired* die in de vroege jaren 90 hun intrede deden in de massacultuur. Zoals ik beargumenteer in de case study naar *Mondo 2000*, het tijdschrift kende een combinatie van ironie, een recalcitrante houding en onconventionele productiemethodes die sterk aansloot op haar uitbeeldingen van een cyberculturele toekomst die schommelden tussen enthousiaste en sombere visies op de potentie van nieuwe media in de zin van *empowerment* en authentieke beleving. De tweeslachtige ‘coolheid’ van *Mondo* stond niet alleen voor een specifieke vorm van nieuwe media publicatie, maar het kwam ook deels tot stand door de *rupture-talk* die tot de kern van *Mondo 2000*’s identiteit behoorde. Zoals in het geval van de computermetafoor, beweer ik, dat *Mondo*’s nieuwe media coolheid terug te vinden is in latere uitingen van web exceptionalism, vanwege hun vergelijkbare ambivalentie omtrent de effecten van nieuwe media.

Het tweede deel van dit proefschrift bestaat uit drie case studies naar web exceptionalism, die ieder de nadruk leggen op de wisselwerking tussen *rupture-talk* en de totstandkoming van nieuwe mediapraktijken, - technologieën en - vormen. In de eerste case study staat de belofte van een nieuw paradigma rondom het publiceren bij HotWired centraal, de online publicatie gelanceerd door de makers van *Wired* magazine in 1994. Vraagstukken over webdesign en redactioneel handelen werden bij HotWired behandeld onder de vlag van de beloftes van het web en de benodigdheden voor de inzet van dit nieuwe medium. Verweven in deze ideeën over de buitengewone status van het web en de daaruit volgende praktijken waren echter meerdere culturele invloeden die HotWired’s productie in verband brachten met voormalige mediapraktijken. Denk aan New Journalism uit de jaren 70 en de Bay Area *rave scene* uit de jaren 90 van de 20^{ste} eeuw. De tweede case study kijkt terug op wat de intocht moet zijn geweest van een nieuw tijdperk van ‘open nieuwsvoorziening’, een verhaal van exceptionalisme aangespoord door de snelle opkomst van de techno-nieuws website en forum Slashdot in 1998. Slashdot kende een gecompliceerde infrastructuur voor het leveren van commentaar op artikelen

die voornamelijk door lezers werden ingediend. Hierdoor leek Slashdot de belichaming van de principes die gelieerd zijn aan de productie van open-source software, waarvan de ontwikkeling in handen kwam van een wijdverspreide, autonome groep vrijwilligers. Binnen deze nieuwe context houdt ‘toegankelijkheid’ in dat de daadwerkelijke productie en distributie van het nieuws wordt overgedragen aan diverse deelnemers. Daarmee is een alternatief ontstaan voor het gesloten besluitvormingsproces dat traditionele *gatekeepers* hanteren. Echter, een nadere blik op het ontstaan van Slashdot’s unieke technologische infrastructuur suggereert een afkomst die verwijst naar de vroege online cultuur van prikboardsystemen. In tegenstelling tot het teweegbrengen van een doorslaggevende interventie in nieuwsproductie, toont de geschiedenis van de website veel meer gelijkenissen met de introductie van informatietechnologie op de werkplek. Ook hier wordt de rode draad gevormd door automatisering en verhoogde zichtbaarheid van productionele taken. De derde case study betreft de opkomst van het *bloggen* als een populaire vorm van online publiceren in de late jaren 90 en begin van de 21^{ste} eeuw. Ik neem als uitgangspunt de invloedrijke definitie van het bloggen als ‘web-native’ om aan te tonen dat de eerste bloggers hun activiteit zagen als zowel een oplossing voor de problemen die zich in hun ogen voordeden in de populaire media als een uitbreiding van diens buitensporigheden. Bovenal, beargumenteer ik, dat de typering van bloggen als ‘web-native’ aansluit op de *logic of exposure* die ik het bloggen toeschrijf, waarin de conventionele waarden en praktijken die gekoppeld werden aan publiceren en publiciteit uitgebreid worden tot een nieuwe online culturele vorm.

Kortom, de case studies tonen aan hoe betekenisvolle innovaties binnen het online publiceren een product zijn van zowel verhalen over het web als zijnde een buitengewoon medium als van een breed assortiment aan culturele invloeden. Daarmee ondersteunen zij de centrale these van dit proefschrift dat *rupture-talk* in strijd met de verwachting vorm geeft aan *web-native culture* als een terrein en bron van historische continuïteit.

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