The web as exception: The rise of new media publishing cultures
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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 became 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

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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.


⁴ ibid.


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

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7 Chun, 2006.
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.”

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.

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

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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

<table>
<thead>
<tr>
<th>New media publishing culture</th>
<th>Rupture-talk</th>
<th>“Web-native” qualities</th>
</tr>
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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. 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.” 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.

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15 ibid.

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. 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.

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. 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.

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. Although I agree with Morozov’s main argument - that complex

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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 “Disinformatocracy.”
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.” 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. “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.

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. 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. 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

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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.


26 ibid.
different,” and suggests that internet exceptionalism guides “some of the means of production and cultural creativity that are associated with the Internet.” 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. 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. 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

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27 ibid: 179, 186.
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.


\(^{32}\) 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.’ 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.” 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

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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


40 ibid: 142.

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.” 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. 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.” 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. 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.

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42 ibid: 264.


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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{51} In this dissertation, in contrast to

\begin{itemize}
  \item \textsuperscript{47} ibid: 165.
  \item \textsuperscript{48} ibid: 21.
  \item \textsuperscript{49} ibid: 67.
  \item \textsuperscript{50} ibid: 21.
  \item \textsuperscript{51} Latour, 2005.
\end{itemize}
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. 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

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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

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. 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. 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


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

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\(^{60}\) 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)

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. 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. 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. 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

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defined by Roger Silverstone as a “particular institutionalization of culture.”

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.

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.

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. 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.

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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 Sapnar Ankerson’s work on the aesthetics of dot.com era web publishing. 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

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