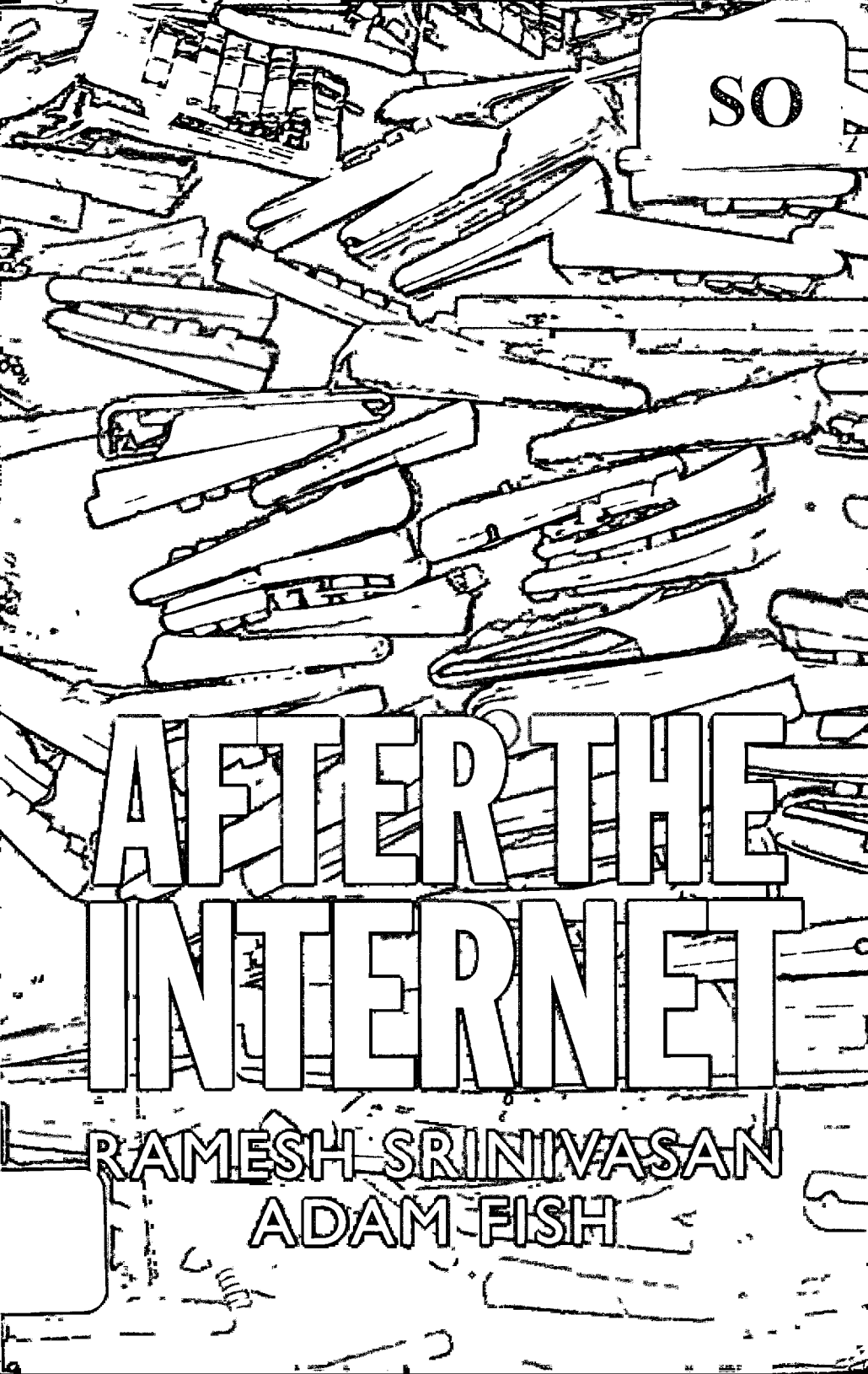

AFTER THE INTERNET

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Hacktivists," *Hau: Journal of Ethnographic Theory*, 5(2) (2015): 383–90 and A. Fish & L. Follis, "Gagged and Doxed: Hacktivism's Self-Incrimination Complex," *International Journal of Communication*, 10 (2016): 3281–300.

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Together, we dedicate this book to the memory of our inspiring friend and brother Levi Felix, a visionary in his life. His work focused on creating greater mindful awareness in our interactions with technology remains a guiding light for us both.

Introduction: After the Internet

> 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.
>
> (Barlow 1996)

In his bold declaration of the independence of cyberspace, John Perry Barlow, founder of the Electronic Frontier Foundation and a well-known figure in internet counterculture circles, proudly announced that networked technology would bring the world together as a singular and "free" space. His words, quoted above, speak to optimistic and aspirational principles that imagine the internet as autonomous from control, surveillance, and manipulation. This reflects an ideology that prioritizes individual liberty over the practices of the state or society.

These words from Barlow represent an important philosophy by which the internet has been imagined and described. Yet now, over 20 years since Barlow's declaration, the internet and what it stands for remains contested. Commercial, governmental, public, and activist interests are in conflict and dialogue as we think about the future of the internet.

We have long heard about the democratic promise of the internet. As a decentralized network, the internet would empower its users equally. It would evade the top-down

political economies of corporations that have monopolized older media networks of television and radio. It could embolden citizens to share their stories, design different sites, and mobilize and network from the grassroots. It would transform our world into a "global village" (Srinivasan 2017). Yet whose global village are we speaking about? And has such a global village of equality come to be?

There remains both considerable support for and critique of Barlow's claims. Several writers use his words as an example of the libertarian ideology present in technoliberal culture (Fish 2017b), explaining that Barlow mistakenly treats technology as autonomous and transcendent. Indeed, in a recent interview with *Wired* magazine noting the anniversary of the declaration, Barlow revealed that he still firmly believes in what he wrote in the 1996 document – that cyberspace is "naturally immune to sovereignty" and always will be (Greenberg 2016). In this sense, he treats the internet as *deterritorialized* (Deleuze & Guattari 1983), as existing above and beyond laws, contexts, places, and peoples.

Many dispute this, however. Andy Greenberg (2016), for example, provides a variety of examples that serve to discredit Barlow's claim. Greenberg notes recent political speeches, such as one from former French president Nicholas Sarkozy in 2013, that argue for the need to increase internet governance. Greenberg also notes the internet's dependency on a range of other infrastructures. Thus, from this perspective, one cannot cleanly disentangle the internet from related social, political, and cultural factors.

Andres Guadamuz (2016) builds on Greenberg's observation by citing the problematic "digital dualism" (Jurgenson 2012) that is inherent in Barlow's declaration. There is a mistaken duality between the digital and physical worlds that fails to recognize how they shape one another, he argues. Additionally, Guadamuz points to two other major flaws with the declaration: its exclusion of non-governmental forms of regulation and its Western-centric focus. That said, Guadamuz praises Barlow's declaration as a type of aspiration, highlighting the need to develop technologies and infrastructures that can overcome the corruption of existing political institutions that threaten human rights and free speech.

Further challenging Barlow's assertions of autonomy in cyberspace, Woody Evans (2016) notes the presence of internet governance institutions such as the International Corporation for Assigned Names and Numbers (ICANN) and the World-wide Web Consortium (W3C). Their existence is evidence that the internet is in fact centralized and hierarchical, despite being lauded as the opposite. Evans' main argument centers on refuting the essentialism of cyberspace that Barlow encourages. The internet therefore cannot be treated independently of cultural, social, and political practices.

Jessica Beyer and Fenwick McKelvey (2015) offer a different perspective on Barlow's 1996 claims. Their focus is on grassroots practices that are supported by networked digital technologies, like the internet. They present a number of examples that support Barlow's belief that cyberspace offers particular advantages for combating and resisting government regulation and intervention. Through a detailed discussion of the historical significance and trajectory of projects like Napster, BitTorrent, and MojoNation, the authors present digital piracy as a symbol of non-hierarchical organization and resistance to state power. In broad alignment with Barlow's current claims as expressed in the 2016 *Wired* interview, Beyer and McKelvey ultimately endorse these examples – even despite some of their failures – because of their capacity to undermine state power and control. Thus, even if governance institutions do attempt to control the internet, activists, hackers, and the public can weaken these through their subversive practices.

We share these different perspectives around Barlow's declaration to explain how contested the internet and what it signifies actually is. In a rhetorical and playful move, we thus title this book *After the Internet* with the intention of inspiring fellow scholars, activists, and the public to think of what our world may look like outside of its existing attachment to the internet "as is." To think "after the internet" (with a lower-case "i") is to stay mindful of the ideological baggage with which the internet is so often entangled.

We are concerned with how the political, economic, and ideological visions of the internet are controlled by Western corporate giants such as Google, Facebook, and Microsoft. These corporations not only increasingly dominate our

software, hardware, and online practices, but they also increasingly control the "back end" by which user data is stored or communicated. This book thus examines existing critical theories, practices, and case studies to imagine a democratic internet where human rights, diversity, and social justice are respected and empowered.

Is the Internet Shit?

> The internet is shit today. It's broken. It was probably always broken, but it's worse than ever.
>
> (Sunde 2015)

These words, uttered by Peter Sunde, free software activist and one of the founders of the Pirate Bay sharing platform, speak to a negativity voiced by those concerned with the control of the internet by corporate and governmental institutions. Decades after the invention of the laptop, described by Bill Gates as "the most empowering tool we've ever created" (Grossman 2004), many critics have lamented how the internet has become intertwined with an economic system of neoliberal globalization marked by the "speeding up of time and shrinking of space" (Harvey 1990: 241).

We recognize ample scholarship that has problematized numerous social, economic, political, and cultural issues in relation to today's internet, all importantly noting that it is not the "internet" that should be the aim of such critique but the social, economic, and political forces that drive its deployment and application.

Concerns have surfaced around a number of core political and economic issues in relation to the internet. Across this book's chapters we share academic and journalistic research and analysis that relate the internet to surveillance, economic development, activism, and cultural diversity. We discuss research around surveillance that reveals that the internet is no longer a space for decentralized communication but instead capitalized upon by those who can best manage and manipulate digital infrastructures. It also begs the question as to why

many no longer feel safe with public forms of digital expression without fear of persecution. We also share research focused on how the digital divide is a conceptually obsolete theme. Numerous studies have begun to show that blind access to technology does not in itself combat marginalization. Indeed, the myth of the internet as making people equal across the world and overcoming geographical inequality has been rebutted by sobering realities that show how digital economies bring disproportionate wealth to the limited few (Hargittai & Hsieh 2013). Further, we share research around technology and activism that reveals that the passive political use of social media, sometimes referred to as "slacktivism," is neither necessary nor sufficient to drive the waves of social movements that have taken hold of our world since late 2010. Finally, we also share research that has debunked the myth of the internet as a solution to the world's increased loss of bio-, linguistic, and cultural diversity. We argue that one cannot collect or preserve diversity merely by placing information online, nor can one ignore the environmentally damaging infrastructures that underpin digital communications, such as the electrical grid, the undersea fiber-optic cable system, or the industrial factory systems that assemble and produce network technologies as well as house our data.

We elaborate further on each of these major themes below.

Surveillance and Freedom

Perhaps the most publicly visible concern associated with the internet today relates to surveillance. It has raised fears that we have entered a "post-privacy" world without our consent. Not only is personal privacy of concern, but so also is our faith in acting publicly without fear of repression or repercussion. The revelations associated with the National Security Agency's (NSA) PRISM project, made public by whistleblower Edward Snowden, are staggering. Not only have major technology corporations been found to be complicit with state surveillance in a post-9/11 world, but we have also learned how data that technology users assumed to be private have instead fueled surveillance and control. When President Barack

Obama attempted to defend this effort, with an argument that the NSA gathered metadata rather than data, it reflected a clear attempt to obfuscate how powerful such forms of harvesting really are (Mayer 2013). When corporations and states can control and monitor where, when, and how technology is used, they can deem users as targets to be monitored and thereby circumvent *habeas corpus*.

WikiLeaks editor Julian Assange has made the point that both Google and the NSA are in the same business of collecting all information. While one organization sells this information to advertisers and the other monitors it for suspicious behavior, the goal for both is the same, to "collect it all," as one of the NSA's leaked documents makes abundantly clear (Greenwald 2014: 97). Such control of information allows states and corporations in partnership to "discipline" their citizens.

Science and technology scholar Laura DeNardis (2012) notes the role of the internet in creating this new form of disciplining, through what she terms "internet governance." DeNardis describes three key elements that have given rise to these dynamics: (1) the digital sphere as a place of political action; (2) the deployment of technology to negotiate terms of content control; and (3) the control of content through the use of private, hidden, and proprietary intermediaries. Her work demonstrates "how the technical arrangements of Internet governance inherently embed social and economic interests and, furthermore, how these arrangements can be co-opted to enact social control and content governance" (DeNardis 2012: 734).

Karine Nahon's (2014) work continues on this thread, exposing the substantial increase in state and self-regulation of the internet and posing the question of whether all mediation might eventually represent a form of opaque censorship, far removed from the gaze of distant users. Nahon discusses the power of the mediators in networked information, and the increased role of regulation in relation to that power.

The surveillance "issue" seems to have become a point of concern among technology users worldwide, and speaks to what philosophers Gilles Deleuze and Félix Guattari have derisively described as "State philosophy," or social formations and epistemologies that support the hierarchical and

representational systems owned and managed by those in power (Massumi 1987: xi).

Recent battles over net neutrality worldwide expose the increasing consolidation of power of elite voices in driving the internet. This has brought into being what Parminder Singh (2010) terms "internet malls," or systems where preferential access is structured to make select powerful corporations more visible. While Singh discusses these issues mostly in relation to the disparity of resources to be offered in a pay-scale-run internet versus a free public internet, the implications go beyond the issue of resources to practices of how data is preserved, aggregated, and used. This is consistent with the perspective raised by Finn Brunton and Helen Nissenbaum (2013), who describe the need to prioritize and protect vulnerable non-control-holding internet users. They discuss the possibility of communally and locally developing data obfuscation tools and the potential that these tools hold to influence increasingly decentralized and autonomous internet use that escapes the dangers posed by surveillance regimes and sharing economies. At stake is a world where users have little to no power over the data they are consistently providing to "big data" repositories, which in turn can support both corporate and state power at the cost of citizen rights and freedoms.

Sharing Economy

In addition, we can also see how internet-centric communitarian language masks an economic system where the rich get richer. Today, far and wide, we hear the term "sharing economy" in relation to the internet. Yet what we hear less of is who actually benefits from that sharing. We see examples where any technology that monetizes user input is often treated as "sharing," with little critical scrutiny into how that technology functions or its associated political economies. While the term has circulated to frame internet economies as supportive of lateral or equal trade, consistent with early visions of the internet as supportive of a "gift economy," there is plenty of research that reveals macro-economic effects that generate economic inequality.

Indeed, critics argue that within many of the major sharing platforms today, such as AirBnB and Uber, the gifting appears to only go in one direction: from technology users to the owners of the platforms and those they serve. Decentralized uses of new technology were supposed to shape the world into a participatory culture (Jenkins et al. 2005), and we do at times see examples of this. But when another Silicon Valley company is purchased or makes an initial public offering on the stock exchange leading to the investment of billions of dollars in these companies, none of these funds are shared with the individual users whose "digital labor" built value for these companies (Fish & Srinivasan 2012). Several social media companies could thus be viewed as exploitative: aggregating labor without compensation, avoiding taxes through offshore accounts, avoiding unionization and the payment for laborer benefits, and migrating into new domains of industry (Fuchs 2015). And the result of this may shape disastrous macro-economic outcomes. For example, Instagram, with 13 employees, sold for $100 million in the same month within which Kodak, with tens of thousands of employees, went bankrupt (Ulanoff 2012).

If such is the pattern of the sharing economy, then where will the safeguards lie for fair, protected, and well-compensated working- and middle-class labor? These questions characterize the ethical and practical challenges that face media industries as they navigate the boundaries between creativity and capitalization, security and independence, and individualization and loose-knit "social" media collectivity (Deuze 2007). Digital labor may be the new "killer app" for these corporations, but do little to support social and economic justice.

Adam Fish (2015) discusses the double standards practiced by several internet corporations, accentuated as they spread the "opportunities" of providing access to the web across the globe through projects such as Facebook's internet-delivering drones. He claims that this establishes a pattern where technology-developing countries direct the internet's operation and growth, while offering it to others in substantially more commercialized and regulated forms. The internet is hardly open to these users, but instead constructed in the image of the access-providing corporation. Most troubling is the lack of intuitive ability to protest or undo the imbalance. We must ask: how does one protest against a Facebook internet-providing drone in the sky and out of our sight?

Fish notes that there is no process by which the elites that control technology can be easily stopped, and that indeed the current dynamic contributes to inequality in a number of arenas. For example, while a few musicians and video producers may use the internet to be discovered by millions, the vast majority of grassroots artists have been found to be even further distanced from the resources they need to sustain and succeed (Byrne 2013). A number of corporations that have productively used the scalability of the internet to create successful businesses have been purchased and incorporated into multinational and multiplatform media companies that in the process monopolize certain sectors of the internet (Patelis & Hatzopoulos 2013).

Such concerns around the privatized overtones of the internet relate to the early work of Saskia Sassen (1998) and later work by Karl Rethemeyer (2007) regarding the impact of such corporatization on the potential for decentralized and autonomous use of the internet. Sassen notes the changing architecture of the internet in influencing the emergence of "non-state-centered governance mechanisms" (1998: 545), which she argues have altered the meaning of territory, especially the transformation of the internet into "a contested space with considerable potential for segmentation and privatization. Perhaps the most important takeaway from her piece is the claim that "network power is not inherently distributive" (1998: 546).

Sassen points to the absence of excessive commercialization as the key factor in the internet's distributed nature, as we see even ostensibly participatory networks become increasingly more concentrated in power and resources. Rethemeyer (2007) discusses this increased concentration of commercialization and resources online in the context of government participation, concluding from a series of case studies that the internet is exacerbating the ongoing corporatization of state and federal government, silencing citizen voices and anti-hegemonic movements. The internet may be a decentralized network, but those who control the way information flows and is monetized are well equipped to exploit this architecture.

Neoliberalism in Action

Issues around technology and inequality shape not just poorer distant users of the global South but also the places and cultures where technology is produced. An example of such is the San Francisco Bay Area. This part of the world has long given birth to grassroots activist and social justice movements, from the anti-Vietnam war student protests to the Black Panther movement. It is also an important witness to the birth of the internet and the web, particularly via countercultural online communities dedicated to principles of environmentalism, economic equality, and the gift economy.

While various forms of activism focused on supporting the voiceless still exist within the Bay area region of Northern California, we note that the profitability of the internet industry can be tied to San Francisco's status as the most expensive city in the United States. It has become an increasingly visible flashpoint of gentrification in action, displacing immigrants, activists, and working-class laborers (Bort 2015). It is also a reminder that the effects of a supposedly ubiquitous infrastructure like the internet are *material*. The internet shapes and is shaped by people and places.

Critics point out that today's internet must be seen in relation to neoliberal policies and economics, which is increasingly seen as a desirable positive given the absence of more progressive or fundamentally democratic political choices: for example, the United States election between Hillary Clinton and Donald Trump or the "Brexit" issue regarding the United Kingdom leaving the European Union. Neoliberalism can be viewed as the outgrowth of increasingly close relationships forged between states and private corporations, as evidenced by increased deregulation (Martinez & Garcia 2000). As an intertwined set of economic and political systems, its effects have increasingly delegated public spaces and services to private corporations.

Our public spaces online are often managed and manipulated by for-profit corporations such as Facebook or Google, whose parent holding company is called Alphabet, Inc. Critics argue that such a neoliberal system supports the mirage of freedom while working to manipulate economic, political,

and informational transactions. Yet we also know that "free" trade agreements such as NAFTA, a poster child of neoliberalism, have functioned to displace indigenous peoples, and galvanized the rise of indigenous-led social movements such as those of the Zapatistas of Mexico, who have fought against the privatization of their lands and lives (Cleaver 1998).

Within spaces of power and privilege in the United States, the collusion between major internet apostles and the US government is barely veiled, though largely left undiscussed by the popular media. Jared Cohen, a former State Department and current Google employee, has recently written a book with Eric Schmidt, chairman of Alphabet (and former CEO of Google), extolling the power of Western tools to "solve problems" (Cohen & Schmidt 2013), while failing to discuss that these tools are private and proprietary and that their use ultimately serves Google's bottom line. "Problems," from their perspective, represent a way of framing social or public conversations that are consensus-based or radically democratic. In another example, Megan Smith, a former manager at Google, became President Obama's Chief Technology Officer (Scola 2014). While many progressive activists decry the revolving door between Wall Street and the US government, few scrutinize a similar pattern in relation to Silicon Valley. Indeed, Silicon Valley is often treated as an unmitigated good, which is dangerous given its incredible economic and social power. The connections between technology corporations and the state must thus be unpacked rather than merely taken for granted.

Perilous Myths

This book cites ample scholarship that reveals that the internet as it stands is not the democracy-producing dream technology that it was perhaps imagined to be in its early days. We continue to live in a world where the internet continues to be portrayed as transcendent (Hayles 1999; Naude 2009), democratic, and transformative. But perhaps unlike some of our colleagues, we believe that in these imaginaries lie great value, and the potential for a rethinking of the internet in line with

social, political, and economic justice. We must understand how transcendent ideas of the internet are socially or culturally constructed, and how they may be appropriated to support a democratic and just world "after the internet." Our six chapters reimagine technological networks in line with grassroots populations from the global North and South, and point to the potential of an internet that is *reassembled* alongside legal, environmental, and cultural factors to support these values.

Yet to truly take a step toward *situating* technology alongside these grassroots voices, we must do away with the mistaken presumption that the internet is largely autonomous from the many people, places, and infrastructures which go into its construction and, in turn, are shaped accordingly. Otherwise it becomes far too easy to give in to what psychotherapist Barry Richards has called *technophilia*, which "impedes rational discussion... and produce[s] referential or dismissive attitudes rather than realistic appraisal of social costs and benefits" (1993: 188).

In line with Richards' discussion, we can recognize that the internet, like any technology, should be viewed relative to the myths by which it has been described and evangelized. Myths are historical narratives that provide social meaning to individual lives and assist subjects in transcending the contradictions of their society (Lévi-Strauss 1978). They work to serve and support ideology – a discourse that concurrently seems to liberate and constrain social and cultural life (Moyers & Campbell 1988). They can be dystopic or utopic, yet may only loosely cohere with what one may learn from an engaged empirical analysis. As semiotician Roland Barthes so aptly stated: "Myth does not deny things; on the contrary, its function is to talk about them; simply, it purifies them, it makes them innocent, it gives them a natural and eternal justification, it gives them a clarity which is not that of an explanation but that of a statement of fact" (Barthes 2000: 143).

Technology critic Evgeny Morozov, who in his *To Save Everything, Click Here* (2013) consistently wrote "internet" in scare quotes, argued in an interview with CNN that "[t]he reason for putting 'the Internet' in quotes is simply to indicate that we have accumulated too many myths to continue without harming our own ability to arrive at wise policy" (Leopold 2013). We agree with Morozov's points about myth and the "internet." We need to demystify the internet by viewing it as material and situated. This is one of the reasons we write this word with a lower case "i" throughout the book.

One of the most prominent myths of the internet is that it is universally undifferentiated, encompassing all knowledge regardless of place or culture. Yet we must recognize that a massive Chinese internet exists in parallel, rarely intersecting with the English-dominated platform that many take for granted (Qiang 2011), and that the information made visible by Western platforms such as Facebook or Google is algorithmically mediated, often resembling "echo chambers." We recognize that the internet can be spoken about along multiple categories: as an infrastructure (Musiani 2012), media network (Coleman 2010), or space for global communication (Hargittai 2007). Yet each of these is often described relative to myths that articulate the internet as a force to unite, expand, and connect people. It is assumed that "connection" is better, and that somehow with greater connectivity equality arises. Little is spoken about who owns these connections, who creates and manages the architectures of connectivity, and whose underlying epistemology drives the structure and network of connectivity. From this perspective, any singular framing of the internet is at best partial. And more damagingly, this universalizing myth dismisses the critical inquiry necessary to support grassroots democratic and activist objectives.

While myths can help individuals cope with the contradictions of modernity and point to a realm of the possible, the level of mythmaking and fetishization of the internet has reached a point where perhaps new myths need to be constructed. Richard Maxwell and Toby Miller ask us to counter the "myths that swirl around digital media convergence – managerial efficiency, experiential immediacy, global interactivity and interpersonal connectedness... with the histories of the environmental plunder and toxic sweatshops that have made old and new media possible" (2011: 595).

Myths about technologies both open and close realms of political possibility. Vincent Mosco says these qualities can "depoliticize speech but they can also open the door to a restoration of politics, to a deepening of political understanding"

(2004: 16). Thus myths, like metaphors, can communicate aspirations and intentions. They are persuasive stories we tell ourselves about our technologies and their near-mystical possibilities, obfuscations that gesture toward a potentiality.

Myths speak through metaphors that obscure the internet, situating it as something knowable by referencing familiar objects and practices. With respect to the internet, the metaphors are numerous and at times quite dated. The web may be an ocean we surf, a library we scan, an information superhighway we navigate, a market for e-commerce, or a community for friends and family. The web itself is a metaphor, invoking a complex structure that still maintains order. The internet is imagined as biological, forming a webbed media ecology. It is an agora, a public space for reasoned or passionate debate. We upload to the cloud. Oceans, libraries, clouds, webs, markets, ecologies, democracies, highways – these are all metaphors for the internet. Words are thus often used as symbolic replacements for the phenomenological world itself. In this way, metaphors are unavoidable and each has its moment. But metaphors like myths are not empty signifiers. Instead, they frame the internet in ways that are socially and politically enacted – influencing the very means by which it is understood, used, and regulated. Metaphors are thus often incorporated into larger and more inclusive systems of belief; or mythologies.

Mosco (2004) and James Curran (2012) have identified and deconstructed numerous myths in relation to the internet. They reveal how the internet has been mythologized as capable of bringing about an end of history with the arrival of a capitalist democracy fueled by an information economy. The role of the state as a monopoly of coercive political power would diminish as vigilant citizen journalists arose and gatekeepers disappeared. Another myth sees environmentally harmful practices of mining, processing, and shipping atom-based goods replaced by the production of weightless bit-based information. Yet another is the myth that the internet would bring about world peace because, naturally, oppositional groups would take to the internet and, without the intimidation of meeting face-to-face, overcome their differences through generative discourses. And finally, another posits that the internet, reducing the advantages associated with economies of scale, would place small businesses and massive corporations on a level playing field (for these myths of the internet, see Curran 2012). These are but a few of the myths of the internet that have captured the popular imaginary in ways that support the practices and aspirations of those with the persuasive power of public myth-making.

Myths have consequences. For instance, the myth of the end of history, advanced most notably by Francis Fukuyama (1992), fails to consider how democracy and capitalism, and their linkages, are in a constant state of flux and negotiation within which the internet plays an important though not decisive role (Curran 2012). To claim that the internet automatically results in direct democracy and a kinder, gentler capitalism is to ignore the role played by more traditional, grassroots politics. Similarly, the myth of direct digital democracy is challenged by the fact that only 14 percent of Americans have produced a simple blog (Curran 2012), with numbers far smaller in other nations worldwide. Faith in this myth of digital participation and democracy places undue attention on technology and away from structural and institutional inequalities in political voice and literacy (Couldry 2010).

When we think of myth and the history of the internet, it is hard not to consider former US Vice President Al Gore. In 1991, Gore wrote that "high-speed networks must be built that tie together millions of computers, providing capabilities that we cannot even imagine" (1991: 150). In 1994, Gore gave a speech in Los Angeles stating: "Our current information industries – cable, local telephone, long distance telephone, television, film, computers, and others – seem headed for a Big Crunch/Big Bang of their own" (Gore 1994). A few months later, in Buenos Aires, he discussed the potential of this Big Crunch to create "networks of distributed intelligence" that would "spread participatory democracy" (quoted in Brooks & Boal 1995: xii). Thus, Gore developed a myth about internet democratization which he then advocated for throughout the world.

Then on March 9, 1999, Gore told CNN's Wolf Blitzer, "During my service in the United States Congress, I took the initiative in creating the internet." Gore's remarks were made at a historical point when "the fascination with markets, privatization and deregulation and a correlate antipathy to

government regulation – seemed to be on the wane" (Streeter 2003: 655). The internet would be the new myth that would fuel financial investment, creative work, political vision, and citizens' involvement. With Yahoo, Amazon, and eBay's Initial Public Offerings (IPOs) in 1996, 1997, and 1998, the myth seemed to become a self-fulfilling prophecy. On the campaign trail, Gore attempted to link himself to the powers of this new communication platform (Fish 2017b).

Politicians who have made the internet central to their campaigns are notable for the myths they concoct. Consider the case in which Vermont Governor Howard Dean and his campaign director Joe Trippi borrowed language from the free and open source software movement (FOSS) during the 2004 Democratic Party primaries, discussing theirs as an "open source campaign" (Kreiss 2011). This argument can be tied to the rhetoric of Silicon Valley and the rising excitement of participatory culture. Making these connections enabled journalists to write about the campaign through powerful symbols (Kreiss 2011: 373).

The presidential campaigns of Dean, Barack Obama, and recently Donald Trump are notable for their creative use of the internet for organizing. Obama, like Dean and Gore, used the internet as a myth on the campaign trail. In a speech on July 13, 2012, Obama argued, "The internet didn't get invented on its own. Government research created the internet so that companies could make money off the internet." This remark, unscrupulously edited, started a debate about who "made" the internet. The *Wall Street Journal* accused Obama of being wrong, stating that it was a corporation, Xerox PARC, and not the government that should be given credit (Crovitz 2012). *Slate* disagreed, stating that the President was correct, as the government funded what became the internet (Manjoo 2012). *Time*'s opinion was that it was neither the state nor corporations that invented the internet, but genius individuals like the creator of HTML, Tim Berners-Lee (McCracken 2012). Finally, the *New York Times* disagreed with all of the above, crediting the creation of the internet to the people, pointing to the community of open source developers (Johnson 2012). Thus these conflicting accounts of internet history reveal a political jockeying over whose myths hold power, and therefore shape technical, economic, and political practices around how the internet may continue to take form (Fish 2017b).

There are also dystopic myths that we can associate with the internet. Toby Miller, a scholar who focuses his recent work on environmentalism and technology, wrote in a 2016 Facebook posting:

> A deregulated, individuated, technologized world makes consumers into producers, frees the disabled from confinement, encourages new subjectivities, rewards intellect and competitiveness, links people across cultures, and allows billions of flowers to bloom in a post-political cornucopia. It is a bizarre utopia. People fish, film, fornicate, and finance from morning to midnight. Consumption is privileged, production is discounted, and labor is forgotten.

Miller's position resonates with some of the criticisms that we raised in the previous section. Yet his point also speaks to that which seems to be tantalizing about the moment in which we live today: the sense of freedom, liberty, and decentralization that empowers internet subjectivity. He explains that this false sense comes at the cost of many traditional values associated with community, governance and the public sphere, cultural traditions, and more.

As we discuss next, our intention in this book is to use myth productively while recognizing that, in and of themselves, unifying dystopic or utopic myths do little to help us understand or imagine the internet in relation to the complex social, political, cultural, and economic practices that must always be viewed alongside technology. We thus argue throughout this book that the internet is better understood as an *assemblage* of heterogeneous people, devices, contexts, and meanings. In this sense, our concern is neither with the existence of myth nor with its undeniable value, but with the question of who makes such myths and how much power they hold in shaping the agendas of some at the cost of others.

Fragments and Assemblages

Artist and critic Zach Blas has written persuasively about the dangers of the "post" language that seems to describe so many phenomena today. He argues that we no longer pay attention to the term that follows "post" and instead embrace a sort

of existential nihilism, a "haziness... a blanket generalization that is an empty descriptor" (Blas 2014: 85).

Blas goes on to apply this critique to the internet, arguing that instead of thinking "post" internet, we must think "contra" internet, where internet practices can be identified that overturn the hegemony enacted by the political and corporate forces we have discussed. Contra-internet aesthetics opens up a space for possibility, and builds upon important critiques of the internet, from standardization and quantification, to rampant privatization (Blas 2014). Blas describes a number of aesthetic and political projects that work with network technology to expose the fallacies of existing systems to shape better alternatives, such as public stagings of drone crashes, mesh network efforts to support transgender activism, darknet networks for Occupy activists, and mobile phone GPS systems to aid migrants crossing the US–Mexico border. Each of these, he explains, contains the "aesthetic potentiality to make the political alternative" (Blas 2014).

It is in this spirit that this book's chapters reimagine the internet through four perspectives, split evenly across the global North and South. At all these sites, we see how what the internet is and stands for can shift away from its increasingly centralized, commodified, and "personalized" hegemonic incarnation to something more in line with the original spirit of it as a network technology to support grassroots communication. We explore this rethinking of the internet in relation to indigenous communities worldwide, hacker activists dedicated to free speech and transparency, revolutionaries of the Arab Spring, and policymakers and social entrepreneurs fighting for data protection and privacy in Iceland.

What brings these chapters together is their treatment of the internet as an assemblage, a collection of heterogeneous actors, places, and objects. Not only are the technologies that comprise the internet assemblages, but the cases we share are also examples of assemblage, owing to the ways in which they rethink technology alongside a number of environmental, institutional, and legal factors.

Gilles Deleuze and Félix Guattari (1987) describe an assemblage as a set of complex systems constituted by the convergence of bodies, ideas, technologies, and other transecting entities. Deleuze stated: "In assemblages you find states of things, bodies, various combinations of bodies, hodgepodges; but you also find utterances, modes of expression, and whole regimes of signs" (2007: 176–7).

To recast our understandings of what an assembled internet is, we must do away with what Deleuze describes as an arborescent treatment of matter and knowledge as hierarchical, tree-like, fixed, or entity-centric. In contrast with a static understanding of that which is, Deleuze and Guattari introduce the metaphor of the "rhizome," an underground stem that is dynamic, multiplicitous, decentralized. They explain that the rhizome "has no beginning or end; it is always in the middle, between things, interbeing, intermezzo.... The planar movement of the rhizome resists chronology and organization, instead favoring a nomadic system of growth and propagation" (Deleuze & Guattari 1987: 32–3).

To treat the internet rhizomatically must involve doing away with stable, singular, and hierarchical thinking (or myths) of it. This is not merely a philosophical shift but indeed in-line with the way RAND engineer Paul Baran, the inventor of the packet-switching technology that facilitates data sharing, has described the internet. Baran's description highlights the "heterogeneous within the ephemeral" and the instability of networked communications "infused with movement and change" (Marcus & Saka 2006: 102). One, therefore, must thus see the design and development of technology as a type of nonlinear layering:

> The process of technological development is like building a cathedral.... Over the course of several hundred years new people come along and each lays down a block on top of the old foundations, each saying, "I built a cathedral."... If you are not careful, you can con yourself into believing that you did the most important part. (Paul Baran, cited in Hafner & Lyon 1996: 79–80)

The internet is an assemblage of hardware, software, corporations, government regulations, code, practices, users, and engineers in a constant state of flux and emergence. A subset of scholarship in science and technology studies (STS) employed a similar approach in its *sociotechnical analysis*, focusing on the interplay between institutions and technical infrastructure of the internet as a way to explore emerging patterns of use

and governance (DeNardis 2012; Musiani 2012). Though this work often does not explicitly employ the use of the term "assemblage," its perspective toward analyzing and discussing the intersections of technology and society speaks to an assemblage-like understanding. The work of the STS scholars we cite throughout the book reveals the value in moving beyond a static or unidirectional view of technology and its "effects" toward instead seeing technology users, institutions, infrastructure, policies, computational attributes, and more, as co-constituted.

After the Internet

The assemblages we share in this book's following five chapters represent a reflection on a world "after the internet." This book's title is a play on Terry Eagleton's *After Theory*, which criticizes the limitations of postmodern cultural theory. According to Eagleton, postmodernism is ill equipped to deal with material political problems because it "rejects totalities, universal values, grand historical narratives, solid foundations to human existence and the possibility of objective knowledge" (2003: 13). Postmodernism may give way to the nihilistic relativism that Blas critiques in his writings on contra-internet aesthetics. What is needed, according to Eagleton, is critical inquiry into the means for social solidarity – that which brings us together. *After Theory* implores scholars not to focus on either the grand nor the minute, but to argue about the "real life" issues of morality, revolution, and the problems associated with fundamentalism.

We take this politically aware and middle-range approach to the study of the internet. In titling our book *After the Internet*, we align ourselves with Eagleton's approach to consider the mechanisms by which internet technologies are developed and deployed to support economic, cultural, social, and political justice, not as articulated from afar but as emergent from the communities across the world who serve as this book's protagonists. Our use of this title is both playful and tactical. The theoretical and applied scholarship we share is of our world rather than some imagined future "after the internet." Yet by using the word "after" in our title, we wish to provoke an imagination that is respectful of contemporary practices. The world our cases describe and imagine is not a world where the internet fails to exist, but is instead shaken from its current incarnation.

We take issue with approaches to internet culture that too emphatically celebrate what is unique about a world fragmented by seemingly infinite possibilities for identity politics. Today, many articles are published in media studies that focus on the curious rituals of small online communities and their semiotic or performative modalities. We are responsible for some of this relativistic scholarship ourselves (Khalikova & Fish 2016; Srinivasan 2017), which is conducted with the intention of *provincializing* our understandings, or seeing them with the matrices of culture, context, and politics. Yet we cannot hone in on the local without thinking about how these examples may travel or intervene in the very bases by which networks, technologies, or infrastructures are deployed or constructed. Our chapters attempt to bring together the microscopic and the macroscopic, seeing the mesoscopic interplay between scalable theories and specific contexts and vernaculars.

After the Internet is an attempt to conceptualize internet theory after decades of overwhelming and at times silencing myths of the internet. While each of our chapters discusses a unique subcultural fluorescence, together they also illustrate how various local and "global" publics interact and shape one other. Indeed, it is true that there are ample examples of how localized political powers develop from the temporary autonomous zones that may be supported by digital media tools and environments. But we are also interested in how these seemingly local events may impact the formation of larger-scale systems and networks, and perhaps the internet itself. As Ramesh Srinivasan has argued (2014), it may be more interesting to consider what Tahrir Square can teach us about the internet rather than vice versa. What an internet "after the internet" may look like can be imagined when one learns from local assemblages such as those we share across this book's four case studies.

The examples presented in the following chapters describe processes by which technological components are placed within an assemblage of other elements to shape the aspirations of

indigenous communities across the world, hacktivists, Arab Spring revolutionaries, and entrepreneurs and bureaucrats fighting for data protection. Each case reveals how elements of the internet are *disassembled* and give rise to new forms of *reassembly*. The chapters together reveal how the internet can no longer be seen as inseparable from the places, people, laws, and infrastructures of our world. It no longer serves economic, political, social, or environmental justice to continue to treat the internet as autonomous, detached, or neutral.

Chapter 1 reveals the power of fusing culture with technology in how we think about grassroots assemblages around the internet that involve culturally diverse communities worldwide, with an eye in particular toward indigenous peoples. It presents three cases whereby diverse global and indigenous communities have reimagined network technology infrastructures, such as the internet and mobile telephony. The assemblages it describes situate the internet alongside the cosmologies of these communities, "collective" economic models they have that are in direct contrast with increasingly monopolistic telecommunications companies and neoliberal internet corporations, and the environmental topographies of local places. The internet in this chapter is recast as an assemblage that brings together network technology with *beliefs*, *values*, *economics*, and *environments*.

Our second chapter discusses the extra-judicial criminalization and persecution of hacktivists, activists dedicated to exposing information around corporate and governmental abuse. We describe the work of hacktivists to create and exploit liminal zones of the internet. Our point in this chapter is that to best understand these dynamics one must see the internet not as stabilized or autonomous but instead as layered by a number of policing practices, which place networked technology in a precarious relationship with several legal, policing, and technological practices. This chapter's contribution therefore is to illuminate assemblages that are at the center of the battle for the internet and the values for which it stands. This assemblage includes legal statutes, technologies that aid and disrupt surveillance, and three extra-judicial policing practices employed by states and hacktivists: *selfie-incrimination*, *versioning*, and *edgework*. It is a reminder that despite myths of being friction-free, internet technologies and the meanings for

which they stand are refracted through the prisms of national boundaries, histories, and institutions.

With an eye primarily toward the Arab Spring, our third chapter considers the wave of grassroots movements and revolutions that our world has witnessed since late 2010. This chapter exposes a troubling myth that sees the internet as interchangeable with terms such as "Facebook revolution." The assemblages it describes view the internet in relation with other modes of building and mobilizing networks, such as labor movements, mosques, or neighbourhood councils. Describing the case of Egypt and Tahrir Square in detail, this chapter argues that we must see the internet and digital networks as part of an assemblage that brings together *offline networks and spaces*, *"older" media* such as television and radio, *economic and political institutions*, and *physical bodies* in shaping political activism.

Our fourth and final chapter considers the troubles with personal data, increasingly routed to massive privatized data centers, made accessible for surveillance along the way. We consider how privacy-minded individuals, activists, and corporations are attempting to make Iceland into a data haven. In this way, Icelandic data activists and politicians have assembled an alternative imaginary of "the cloud," one that may represent fertile ground for experiments in technology-assisted democracy. The assemblages this chapter describes frame the internet in relation to policies and laws of a liberal Northern Atlantic nation-state and the increasingly global concern around unchecked surveillance. This chapter speaks to the realization by technology users across the world that their uses of the internet are no longer anonymous but instead subject to capture, surveillance, and tracking. It further speculates on what this means for public actions and speech, or whether we have entered a digital world where the public sphere has become increasingly threatened. As we move forward with supporting the privacy of users, we must think about what type of public spaces we can still support in our world, and how speech and expression in such environments can be protected. The internet in this chapter is thus recast as an assemblage that includes *national policy*, *extra-legal attempts to capture and manipulate data*, and a *cultural vision of social liberalism* that holds ties to classical post-Enlightenment philosophy.

From our perspective, the practices described in each of our four chapters are complementary in that they intentionally contest the forces that dominate how the internet and new technologies are evangelized, designed, and deployed. They interrupt our current moment of *technodeterminism*, where we all too easily assume that the technologies around us are here to stay and to be passively used as prescribed.

These cases should not be blindly embraced but understood as responses to a world where the internet has increasingly come to benefit the agendas of elites at the cost of others. By opening up the conversation around "who" it is that creates, designs, deploys, assembles, and reassembles technology, the previously peripheral has the opportunity to become central, the fragments can become modes for reassembly, and networks and technologies can be rethought of in the image of activist causes. Our aim in the following chapters will be to inspire critical thinking of what a world "after the internet" may look like for grassroots communities and activists across the world – one that blends their local concerns and creativity with the need to achieve scalable change and transformation.

1

Reimagining Technology with Global Communities

In the summer of 2009, Ramesh Srinivasan, one of this book's authors, was able to arrange a trip to the Sepik River of Papua New Guinea (PNG) thanks to a local guide, Seby Mai, whom he met in the nearby town of Wewak. The Sepik is famous for its dramatic landscapes featuring winding rivers and swamps with villages interspersed every few miles. The village communities of this region are known to have maintained relatively distinct indigenous practices of worship, performance, and language. While Pidgin and English were "taught" to the local people by the colonial missionaries, PNG's several hundred indigenous languages continue to thrive.

In line with the story we share, we recognize how important it is to be wary of the ethical transgressions, historical and contemporary, and heed the words of scholars who are wary of social science work that has contributed to the objectification of tribal and non-Western peoples worldwide (Clifford 1989; Hayes & Hayes 1970). An experience of other places or peoples may perhaps be better understood as one of the "borderland" (Badone 2004; Rosaldo, Calderón, & Salvadívar 1991), a theory that recognizes the heterogeneity of any place, culture, or community. Our telling of this story is thus not intended to essentialize the "other" but instead to reveal the potential agency and ingenuity of all peoples.

Having reached the river long after dusk following several hours of transportation via cars, buses, and donkey carts,