Epilogue: Preserving the Cloud's Future

> We all forget history.
> —former FCC Chairman Newton Minow

> If people were the deciders, they wouldn't take the deal, but they are not the deciders.
> —Google privacy and data protection executive

> Another flaw in the human character is that everybody wants to build and nobody wants to do maintenance.
> —Kurt Vonnegut

Developments in cloud policy happen at a dizzying speed, and writing about them often feels like chasing a moving target. As I was finishing this book, in 2023, Elon Musk bought Twitter for $44 billion and renamed it "X." Microsoft was fighting to save its $69 billion deal for video game publisher Activision Blizzard, encountering a rising global skepticism of tech mergers. The Biden administration funded a massive expansion of broadband on tribal lands and created an Office of Indigenous Communications and Technology in the Department of the Interior. Google and Facebook began to face increasing penalties for privacy violations, seeing fines in the hundreds of millions of dollars and euros. Section 230 had its first day in the Supreme Court. And the FCC remained deadlocked more than halfway through President Biden's first term, with the eminently qualified fifth commissioner's nomination blocked for sixteen months in Congress and, ultimately, destroyed by a coordinated lobbying and smear campaign led by News Corp and Comcast.[1]

Thankfully, a historical lens slows the pace. It also expands the analytical terrain and affords the necessary panoramic perspective to understand

long-term trends without the whiplash that comes from reacting to individual events as they unfold. In the case of cloud policy, that brings a recognition of how infrastructures come to embody a society's values, aspirations, and political power struggles over time. History reveals the long-term ideological progression in cloud networks from being a public resource to becoming a means for private gain. It further shows us that the limits on monopolies, speech rights, access to information, and privacy are interwoven in the fabric of these infrastructures. We can then recognize how the determination of civil liberties has become privatized, and democracy has become compromised, by the evolution of pipeline, platform, and data policies. The historical approach reminds us that we have been here before and that there are lessons to be learned from the triumphs, the failures, and the battles themselves.

Former FCC Chairman Newton Minow has maintained that the words "public interest" are "at the heart of what Congress did in 1934, and they remain at the heart of our tomorrows."[2] If we are to preserve this elegant vision of regulatory purpose, we must work backward to that model of Progressive Era–inspired stewardship to move forward with revitalized cloud policy. This includes rejecting vacant corporate slogans like "don't be evil" as stand-ins for the responsibility of infrastructure providers to support the public interest. It demands reclaiming the commitments to the modern infrastructural ideal that posits infrastructure as a public good, too important to be surrendered to market forces. The connective tissue from the Gilded Age to the twenty-first century includes the tyranny of corporate trusts, but monopolistic control over this ecosystem was not the only option, and the current predicaments of cloud policy are neither irreversible nor inevitable. Nonetheless, for these twenty-first-century infrastructures of democracy to function for the public once again, we cannot afford to look away from the regulatory landscape. Every moment of technological change or "disruption" is important, but so are the long stretches of entrenchment. These seemingly idle phases are when cultural practices become solidified and policy becomes a way of life. The fights over cloud policy are dependent on all of our sustained attention and engagement.

In addition to privatized governance, we have been enduring decades of what Des Freedman has called "*negative policy* . . . a form of nonintervention where media markets and institutions are left to govern themselves without outside interference."[3] The nonintervention begins with a long-held resistance to regulating digital technology that was evident during the

legislative debates preceding the 1996 Telecommunications Act. It has maintained an intractable chokehold on contemporary lawmakers in the US ever since. Former FCC Chairman Tom Wheeler recalls being scolded by Congress multiple times for "trying to regulate the internet, . . . as if regulating the internet would break it. It was as if there was something magic about it, and if you messed around with it, you were going to break the magic."[4]

Nevertheless, vibrant activist communities and organizations have kept the pressure on for decades, pushing for more from policymakers. While broadband pipelines are not yet "bound by the law of public service undertakings" such as those imagined for Parkhill's computer utility, the groundswell of recognition that the "free market" has absolutely failed the public in this arena is growing. The only people left to convince are the politicians. Public interest advocates have remained resolutely focused on ensuring the Internet is available to all without undue cost. The history of cloud policy still carries the echoes of Theodore Vail promoting universality in 1910, and the urgency of wiring the land and delivering communication "from every one in every place to every one in every other place." Incredibly, a hundred years later, the provision of broadband has not matched what was accomplished with basic telephony.

Most recently, platforms have become the main target for reform efforts in cloud policy, as demands for public governance options and accountability intensify. Populist sentiments embracing public ownership as a way to control unmitigated corporate power and market forces are finding new traction in the digital age. The argument for treating platforms as public utilities has also been widely debated. Such visions in many ways hearken back to the turn of the century nationalization campaigns aimed at the telegraph and telephone, modeled after the post office. They also recall the EU's Digital Services Act package, which is a shining reminder that it is possible for policy to include consumer protections, corporate accountability, and transparency when regulating platforms. Another immediate concern for platform companies is the future of Section 230. The political calls for its repeal are mounting, but as one headline read, "Lots of Politicians Hate Section 230—but They Can't Agree on Why."[5] Some hate it because it offers too much immunity for the content that platforms host, others hate it because they think it allows for politically biased decisions about what viewpoints platforms take down. In fact, the desire to repeal Section 230 might be the one thing that the intensely polarized US Congress might agree on, but there is no consensus about what to do next.

The landscape for data policy also continues to evolve, now incorporating the turn from third-party to first-party tracking technologies that is under way. In response to widespread cultural concerns about personal privacy and legislation, such as the European Union's GDPR, Apple, Google, and Mozilla have announced plans to phase out support for "third-party cookies." These technologies track users across the Internet in order to deliver targeted ads and are foundational to the nearly $700 billion online advertising industry. Now that Apple and Google will no longer allow third parties to trail users' digital activities on their platforms, including iPhones, the Chrome web browser, and Android phones, a major shift is taking place. Among them, the data collection on users and user behavior will be done by those individual platforms themselves. With the growth of first-party tracking, the next obvious step is for the largest companies to become de facto data analytics firms for the rest of the Internet economy, with smaller firms being relegated to supporting, dependent players. Apple and Google's claim that the change was entirely motivated by the desire to protect user privacy is unconvincing. As watchdog group Ranking Digital Rights explained, these changes might shrink the number of companies that catalog our data, but "they also will help to consolidate our digital dossiers in the hands of a few uniquely powerful platforms, and reduce or even eliminate many of the smaller players in the ecosystem."[6] In keeping with the historical trajectory of cloud policy, Big Tech continues to get bigger, scoring another win for consolidated monopoly power and a loss for the public.

The trend toward more localized policies across the pipeline, platform, and data governance regimes in the US has also begun to accelerate. In many cases, these laws and regulations have begun to override or challenge federal agencies. One example is state legislation regarding net neutrality. In addition to the seven states that have currently enacted net neutrality legislation or adopted resolutions, eleven more introduced net neutrality bills in recent sessions. Moreover, twenty-nine states considered privacy bills in 2022 alone. In contrast to these positive turns in pipeline policy, Texas and Florida have passed their own state laws dictating what types of speech are protected from moderation on digital platforms, setting up what looks to be another trip through the federal court system for Section 230. Additionally, the data localization movement and sovereign clouds continue to expand, to the point that 75 percent of countries have some type of localization requirements.

This has created global complications for cross-border data flows and rising tensions between economic and privacy concerns.

The siloed nature of policy in the cloud space is one of its greatest weaknesses. Policy responses to data privacy and surveillance issues, monopolies, and speech rights need to be in dialogue with one another. They are inextricably intertwined with the vitality of the democratic process, civil liberties, and access to information. We are unable to address such matters if there is not a vision encompassing their interdependent relationships. As Moore and Tambini have noted, "policy is fragmented because the underlying thinking is siloed."[7] This applies to policymakers and the disciplinary isolation of policy-related scholarship as well. Economists, first amendment lawyers, specialists in antitrust and competition, data privacy experts, network engineers, cultural geographers, computer scientists, historians, and media scholars are rarely, if ever, in the same room together talking about policy solutions. Further, they often lack a common language and methodology to productively collaborate. If we are to reclaim the digital public interest, such interdisciplinarity and integrated approaches to cloud policy are elemental.

Activism and the Way Forward

Reforming cloud policy in the public interest will require the public's interest. In order to cultivate "an Internet of the public, by the public, and for the public . . . that advances instead of threatens democracy and the public sphere," as Christian Fuchs and Klaus Unterberger have advocated in their public service media and Internet manifesto, we must all get involved.[8] The advocacy community leading the way includes organizations such as the Center for Democracy & Technology (CDT), the Electronic Privacy Information Center (EPIC), American Civil Liberties Union (ACLU), and Electronic Frontier Foundation (EFF), as well as Public Knowledge, Access Now, and Ranking Digital Rights, among many others. These groups work with legislators, policymakers, Big Tech companies, and civil society to protect and advance the public's interest in matters of cloud policy and well beyond.[9] Part of this labor includes directing attention to the gaping holes in legacy regulatory frameworks compromised by more than a century's worth of regulatory capture and corporate lobbying, toward new possibilities that prioritize social justice and public values.[10] Alexandra Reeve

Givens, president and CEO of the Center for Democracy and Technology, addresses one source of her own inspiration despite the challenging circumstances in which advocacy organizations do their work:

> So many of the social justice issues of our time are closely tied to technology. And there's something that a group like CDT can do about them. It feels particularly true at this point in history. . . . If you care about civil rights in the 21st century, if you care about voting rights, if you care about reproductive freedom, all of those are tech issues. It feels lucky and very motivating to do this type of work when you realize just how much of our day to day lives and freedoms are embodied by technology, and how much we need groups like this focused on those rights.[11]

Labor activists have also begun their own efforts from within platform companies. Silicon Valley is largely built on the invisible labor of content moderators, identity verification workers, and caption teams—what Gray and Suri have termed "ghost work" or "the humans behind the seemingly automated systems that we all take for granted."[12] The labor is grueling, often traumatizing, isolating, and precarious. These employees do not enjoy any union protections, as contract labor, and they are among the most exploited workers in the digital media economy. However, the dominant platforms have begun to face a growing labor organization movement that is reverberating across many sectors of the US economy. In response they have turned to union busting. The threatening success of workers' efforts at Amazon, Apple, and Google have been met with aggressive company-led resistance tactics including worker surveillance, disinformation campaigns, intimidation, and firings.[13] Big Tech's message is the same one that journalist Ida Tarbell found in her groundbreaking investigations of Standard Oil at the turn of the twentieth century: cross us and you will be crushed. Such values have been the privilege of monopoly corporations and have endured across time, markets, and technologies.

The continued vitality of journalism is critical for activists. A healthy, well-funded industry of investigative journalism is one of the advocacy community's best tools. Without it, citizens remain uninformed and democracy is on the ropes. Victor Pickard has emphasized the importance of this connection, writing that "any society that aspires to be a democracy must ensure the existence of reliable news and information systems."[14] The struggle against "trusts" in the Progressive Era was significantly aided by journalists like Tarbell, Upton Sinclair, Henry Demarest Lloyd, Lincoln Steffens, and Ida B. Wells—all writers known as muckrakers who documented government

and corporate abuses and corruption. Tarbell's 1904 two-volume *History of the Standard Oil Company* began as a popular series in McClure's magazine that grew to be nineteen parts. Tarbell had watched her father go bankrupt in 1872 thanks to John D. Rockefeller and Standard Oil, and she went on to write the book that led to the company's breakup at the height of Rockefeller's power. She did this without any tradition of investigative journalism to draw on—she invented it as she went along. All the while, her journalistic work influenced the Supreme Court, Congress, and regulatory agencies.[15] Throughout this book, the connections among monopoly capitalism, platform business models, and the collapse of the news industry have been explored for their collective danger to democracy. What is most alarming in this loop of effects is how much of Tarbell's crucial tradition we have lost. The passion for justice and exposing the truth that drives journalists still survives, but the financial support for the industry has withered. The consequences of losing this democratic safeguard have reverberated across the domain of cloud policy, as we find ourselves in a new Gilded Age for the digital era.

Changing that ill-fated course requires confronting other foundational issues as well, including

- **Lobbying and campaign finance reform**: This is ground zero for eradicating the corporate chokehold over our political system. Confronting these issues necessarily involves revising campaign finance laws and tax laws, and radically increased transparency in all areas of political contributions, lobbying, and "outside spending" including by dark money organizations.[16] At one time, comedian Bill Maher suggested that US politicians should look more like NASCAR drivers, forced to wear the corporate logos of their sponsors sewn onto their suits. Why is this more radical than allowing invisible corporate money to dictate our laws and basic rights?
- **Antitrust policy and thresholds for industry competition**: The approach to antitrust must be completely revised, leaving the antiquated, ineffectual, and monopoly-enhancing standard of consumer welfare in the dustbin of history. Instead of consumer welfare, some economists have begun pressing lawmakers to consider market behaviors in terms of "citizen welfare," which incorporates the impact of competition on a democratic system of government.[17] The impact of competition (or lack thereof) on individual privacy is another key consideration for the health of democracy in this age of surveillance capitalism.

- **Education**: Digital media literacy should be a required component of formal education, beginning in junior high school. Thinking critically about issues such as disinformation, media ownership, and online privacy cannot start in elective university courses. Once young people are interacting on digital devices and social media platforms, they also need to be armed with knowledge about this larger ecosystem that dramatically impacts their lives. It is just as urgent as educating our students about climate change, history, or civics.
- **Public visibility**: These issues must become a regular feature of political discourse, and their news coverage should be as ubiquitous as that of the stock market. We can no longer afford for cloud policy to be unintelligible to the general public. To that end, key cloud policy issues such as Internet pricing and access, competition in the platform economy, public/private surveillance partnerships, and digital speech rights should be part of the platforms for all candidates for state and federal office. Citizens have a right to know where their potential leaders stand on matters of cloud policy, and they should be an expected component of all public debates.
- **Legal frameworks**: It is time to move beyond obsolete legislation and policy written in bygone technological eras that keep us tethered to the past. The persistence of legacy constructs such as the "third-party doctrine," "natural monopoly," and the "consumer welfare standard" contribute to regulatory environment that is willfully toothless and wholly incapable of addressing the realities of contemporary technocultures. They are among the many norms in the cloud policy landscape that are long past due for an upgrade.

Creative Solutions

The answers to the many questions that arise in the pursuit of better policy depend on the questions we see fit to ask. For example, legal scholar Alan F. Westin wrote, in 1967, "Will the tools [of surveillance] be used for man's liberation or his subjugation?" adding, "Can we preserve the opportunities for privacy without which our whole system of civil liberties may become formalistic ritual?"[18] Marietje Schaake, former member of the European Parliament, connected platforms to the demise of democracy when pointing to their governance by tech companies and asking the obvious: "With what oversight and legitimacy?"[19] Former FCC Commissioner Nicholas Johnson,

when trying to discern whether regulations contributed or detracted from the contribution of the telephone network to American lives, asked during a visit to Bell Labs, "Do you have an anthropologist working here?"[20] Crafting solutions to any of the problems explored throughout this book could only benefit from questions with a similar spirt.

Solutions also come from historical successes. The design elements that have been key to the Internet's survival through military, civilian, and corporate control—flexibility, neutrality, interoperability, decentralization, and longevity—must also find their way into cloud policy's core values today. As van Schewick and Abbate have each argued, adaptability to unpredictability has to extend beyond network architecture to inflect policy values as well.[21] Of course, some of the challenges facing cloud policy do not have direct historical precedent, such as how to address the potential harms of AI in the form of chatbots or the profit-driven algorithms powering the platform economy, for example. They do underscore the necessity for algorithmic transparency, however, a value that has been proposed (thanks to the efforts of civil society) in legislation in the US, Europe, and elsewhere.[22]

It is also important to emphasize that we cannot engineer our way out of this policy crisis. Shoshana Zuboff has argued that the only solutions to this siege on democracy are political, not technological.[23] Fred Turner has also added, "It's time to let go of the fantasy that engineers can do our politics for us, and that all we need to do to change the world is to voice our desires in the public forums they build."[24] The solutions we seek entail new policy regimes that are undoubtedly dependent on political transformation, but also on larger societal-wide shifts. Policy *is* politics, but it is also culture, economics, and ideology. It is a way of constructing the world. It is also a system of power and control. It is time to inject values that prioritize the public good over the welfare of corporations into that system.

To enact the fundamental changes addressed throughout this book, it is also imperative to renew our understanding of public utilities and their role in society, as well as their future in the cloud policy domain. We can begin with Harold Feld's explanation that "when we designate a service as a utility, that means it has become too important to leave to the benevolence of corporations, the kindness of kings, or the cold indifference of the market. We must guarantee fair access for all under a rule of law."[25] Along these lines, Dan Schiller has argued that "our conception of public utility must be refreshed, reimagined. It needs to be sufficiently capacious to permit us to erect a common roof over all segments of contemporary networking: not only terrestrial,

submarine, satellite, and mobile carriers, but also search, e-commerce, and social network companies. To accomplish this will require much political creativity."[26] Creativity is not necessarily a strength of contemporary regulatory politics, at least when it comes to serving the public. Perhaps things would begin to change with anthropologists, historians, and artists at the table. Without them, we are often incapable of seeing these less-visible dimensions of the policy emergency that the cloud represents.

Our cultural understanding of data also needs to adapt to current conditions in which it is a ubiquitous resource and a vector of surveillance. Jathan Sadowski has offered one proposal in this spirit, suggesting that we liken data controls for platforms to those of rent control that limits the amount of money that landlords can demand from tenants. He argues that a policy of data control should "[restrict] the conditions, purposes, and uses of data that corporations extract from people, while also overseeing the flow and exchange of data across different markets and industries. Data controls are crucial for reversing the vast political and economic asymmetries that currently exist in our system while delivering more power over platforms to the public."[27] This call for a core of accountability, transparency, and compliance regimes has been echoed in the work of the advocacy community, as well as by scholars across disciplinary divides.

Noted media scholar and activist Ethan Zuckerman has said that "our ability to imagine alternatives is directly related to the histories we tell."[28] Accordingly, it is crucial that we recognize this history of cloud infrastructure as one of failed policy. It is also the historical success of regulatory capture and compromised politicians supporting the unmitigated growth of corporations at the expense of public welfare. These ideological pathways have been paved by corruption and greed. They have been also supported by what Luzhou Li has called "media policy silence," or "policy practices marked by policy opacity rather than policy visibility, by the absence of formal policy or 'un-decisions' rather than decisions and by policy inertia rather than intervention."[29] Des Freedman views such silences and failures to act as pointing to "the options that are *not* considered, to the questions that are kept *off* the policy agenda, to the players who are *not* invited to the policy table, and to the values that are seen as unrealistic or undesirable by those best able to mobilize their policy-making power."[30] When these absences and exclusionary tactics are highlighted in the telling and retelling of policy history, the need for new frameworks and leadership is urgently apparent. The voices of activists and scholars have become louder in these silences of inaction, and

so have their alternative visions for cloud policy that will allow for different histories to be told someday. Appel et al. have argued that "infrastructures are important not just for what they do in the here and now, but for what they signify about the future."[31] The future signified by contemporary cloud policy is undeniably bleak. With this book, I hope to render these destructive politics manifest so that, together, we can begin to redirect our infrastructural destiny onto a more equitable civic path.

We Could Have Been a Contender . . .

Much like Marlon Brando's character Terry Malloy famously lamented in *On the Waterfront*, there have been points throughout the history of cloud policy when we had a chance to do so much better. Indeed, things could have gone very differently at multiple junctures over the past hundred years.

The early twentieth-century battles between the government and AT&T, for example, were a series of missed opportunities for telecommunications policy reform. The FCC's 1939 report chronicling the lack of competition and the need for "actual and not nominal regulation" to protect the public interest went nowhere, as did the antitrust suit that followed ten years later, thanks to internal conflicts among government agencies. The first rewrite of the Communications Act of 1934 was a chance to establish policy for the digital era that comes once in a generation. Unfortunately, the Telecommunications Act of 1996 was a deregulatory assault on the public interest, allowing for unprecedented levels of industry concentration and cross-ownership. Six corporations soon controlled most major media properties and distribution channels. The Telecommunications Act also failed to ensure public access to the Internet, classifying ISPs as "information providers" and ultimately derailing the FCC's efforts to codify "net neutrality" and establish common carriage protections for broadband service. Thus far, the US Congress has failed to reestablish the landmark Internet privacy protections and the net neutrality rules established during Obama's presidency that were summarily repealed under Trump.

It's not as if we haven't been repeatedly warned about the problems we would be facing throughout the span of cloud policy's history. H. D. Lloyd linked the "railroad problem" and the forces of the trusts to the future of American democracy in the nineteenth century, writing back in 1881 that "the forces of capital and industry have outgrown the forces of our government."[32] Douglas Parkhill presciently argued back in 1966 that among the

many critical needs for the growing "computer utility" was the need to understand the related economic and social issues, particularly as it "broadens and merges with the myriad other challenges that are endemic to our modern society—the promise and threat of automation, the struggle for racial and social justice, and finally, the problem of survival in a divided and nuclear-armed world."[33] At the same time, Congress was holding hearings about the dangers of the government controlling citizen's data. Their 1968 report from the "Computer and Invasion of Privacy" proceedings cautioned against "a suffocating sense of surveillance" in which democratic principles could be sacrificed and freedom could not survive. At that point, Congress demanded that the federal government and the "computer community" guarantee all Americans that "the tonic of high speed information handling does not contain a toxic which will kill privacy."[34] And of course, Frank Church's 1975 prophecy of doom has now become our reality: technological advances have undeniably been "turned around on the American people" to facilitate government surveillance, and we are left without our privacy, just as he predicted.

As a result, in the policy space we are now faced with the consequences of Jill Lepore's question: "What if the future forgets its past?"[35]

All historians struggle with the implicit job requirement of remaining hopeful despite knowing too much, as "history does not offer a happier lesson very often."[36] That much is certain—the warnings of Chris Pyle, Neil Gallagher, Frank Church, and Frances Haugen are among the many testimonials affirming this point. They all told us so, as did Eugene V. Debs, Michael J. Copps, and the community of public interest advocates who have been working for better cloud policy since the analog era. And yet, as Edward Snowden reminds us, "awareness alone is not enough."[37] These twenty-first-century cloud infrastructures are shackled to policy that has become ruinous for society, and there is much work to be done. So we look to the boldness of rancher Thomas Carter and privacy activist Max Schrems, underdogs in the arc of cloud policy who took on Goliaths and prevailed. We take inspiration from Ida Tarbell, who successfully went after the most powerful trust in the world in an era when women did not even have the right to vote. And we try to live up to the legacies of Newton Minow and Nicholas Johnson, both tireless champions of the public interest who continued their respective crusades throughout their lifetimes. Although the villains usually get all the press, the history of cloud policy is replete with unsung heroes. May they be the ones to guide our fight going forward.

Cloud Policy

A History of Regulating Pipelines, Platforms, and Data

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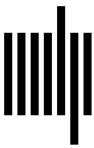

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