Protocols and Platforms:

Historicizing the Ideologies of Social Media

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His second book project analyzes the market for and influence of popular non-fiction books in the United States and West Germany during the 1970s and 1980s. As a fellow of the GIGA's Digital Transformation Lab (DigiTraL) on Digital Diplomacy and Statecraft, he has been researching the nexus of social media, politics, and the historical ideologies embedded in networking technologies.

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Abstract

Social media has become one of the dominant spaces for a large variety of discourses. By drawing public debate to just a few large platforms owned by multinational corporations mostly based in the United States, it has built a centralized layer controlled by the specific needs of these corporations on top of the distributed infrastructure of the internet. This paper explores the underlying precepts and ideologies of the internet generally, and social media companies in particular. It investigates suggestions to return to an internet of protocols rather than platforms and explicates that this proposition is too simplistic to be adopted as general policy. The paper historicizes how the way we speak about the internet was shaped in large part by ideas emerging out of a U.S. Cold War/ countercultural context and argues that this mode still underlies seemingly neutral discourses surrounding the internet and its conceptions of freedom and free speech.

Outline

I. Introduction: A Series of Tubes

In the summer of 2006, Alaska Senator Ted Stevens went viral with a speech that featured the line "the internet is not something you just dump something on. It's not a truck. It's a series of tubes" (Senator Stevens Speaks on Net Neutrality 2006). Stevens, then 82, had delivered the impromptu remarks in a committee meeting on June 28. He expressed his opposition to an amendment to a telecommunications bill he had authored that would have provided for net neutrality, the idea that all information on the internet should be treated with equal priority. This was an idea beloved by internet activists afraid of corporate control of the internet as well as by some internet companies. Google, seeing the possible throttling of web traffic in favor of streaming services such as Netflix as a detriment to their own business, was first among these.[1]

Since the issue was frequently framed as one of the freedom and future of the internet itself, the fact that an octogenarian senator apparently unfamiliar with the workings of the very technology he was proposing to regulate seemed to expose the inability of the political process to deal effectively with the new world of what was increasingly coming to be called "Web 2.0." Cory Doctorow, an activist, science fiction writer, and co-creator of the popular blog *Boing Boing* wrote about "Sen. Stevens' Hilariously Awful Explanation of the Internet" on July 2. Doctorow, who had written continuously in support of the "net neutrality" provisions that Ted Stevens had taken aim at in his remarks, quoted several paragraphs of the senator's speech and referred to Stevens as "so far away from having a coherent picture of the Internet's functionality, it's like hearing a caveman expound on the future of silver-birds-from-sky and why we need to keep them from flying so high they anger the gods" (Doctorow 2006).

Researchers for the zeitgeisty faux-news comedy program *The Daily Show with Jon Stewart* came across Stevens's remarks and featured them in a segment that first aired on July 12, and was picked up again in a commentary by comedian John Hodgman on the topic of net neutrality on July 19. In between these two mentions on a popular television show with a target audience of liberal, extremely online millennials, something happened that would elevate Stevens's bumbling (though reasonably apt) metaphor for the network that interconnected the world.[2] Twitter then still "twttr,"[3] a social media network constructed around the idea of "status" messages that people could post to a website

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[1] I thank the members of the GIGA DigiTraL project for comments on this project at an early stage. I would especially like to thank Amrita Narlikar and Julia Kramer for their help, as well as my colleague Damien Schlarb for sharing valuable insights and his own research with me.

[2] "Extremely online" denoting someone who spends much of their time on social media. Cf. journalist Taylor Lorenz's book by that title, *Extremely Online: The Untold Story of Fame, Influence, and Power on the Internet* (Lorenz 2023, 1).

[3] Abbreviated in the fashion of mid-2000s web companies born into a world of ever-rarer unclaimed top-level domain names, a once ubiquitous naming convention still clung onto by the photo sharing site Flickr, launched in 2004, and the recently resurgent microblogging service tumblr, established in February 2007.

using the internet as well as an SMS gateway, launched on July 15 of 2006, between the two mentions of Stevens's speech on *The Daily Show*.[4]

Just over two months later, Facebook, which had been a growing network for high school and college students in mostly Western, English-speaking countries, opened to the general public. Stevens's "series of tubes" became a meme on the internet just at the time that the internet was turning into a place where sharing of memes was increasingly easier and more widespread. By 2007, the major parts that were to make up the internet social media experience for the next decade and a half had come to be.

Twitter had gained its vowels and become the breakout tech company and winner of a SXSW Interactive Web Award during the March 2007 South by Southwest music festival/ technology conference in Austin, Texas (2007 SXSW Interactive Web Awards n.d.). Two months prior, Apple Inc. had dropped the "Computer" from its company name, and its co-founder and CEO Steve Jobs had introduced the world to a "breakthrough internet communications device" that was also an iPod and a phone at a company conference in San Francisco (Marsal 2007). Dubbed the iPhone, the device went on sale half a year later and by 2010 was in its fourth iteration, complete with video calling and an app store that made contributing to what had become widely known as "social media" something that one could do from almost anywhere and at any time (Chen 2007).[5] It had also forced competitor Google to completely rethink its mobile operating system, Android, to bring it in line with the user interface conventions Apple had established (Vogelstein 2013). A duopoly of these two American tech giants was to define the way most people accessed media through the internet. The growth of mobile computing within just a few years is crucial to consider if one attempts to understand the changes wrought on the web over the coming decade.

When Ted Stevens died in a plane crash in 2010, *Washington Post* writer Alexandra Petri wrote a tongue-in-cheek obituary titled "Sen. Stevens, the Tubes Salute You" (Petri 2010). In between Stevens's viral remark and his untimely death, those "tubes" had transformed thoroughly. The internet by late 2010 was more global, but also more local, and most importantly, more mobile. China, whose number of internet users had lagged behind the United States when Jobs took the stage in California, had almost twice the American number by 2010, while India had leapfrogged Japan's 102 million internet users (Barboza 2008; Gnanasambandam et al. 2012, 3; Weitao 2007). The internet – even

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[4] Many of the social media services or the companies that own them have either changed hands or been renamed over the period surveyed in this paper. To keep references consistent, I will employ the commonly used names, such as "Google" (even though the company that owns the search engine has been called Alphabet Inc. Since 2015), "Facebook" (Meta Platforms Inc. since 2021), and "Twitter" (its parent company was renamed "X" in 2022, with the platform itself following suit in 2023).

[5] The origin of the term "social media" is contested, but it was in common usage in Silicon Valley by the mid-2000s (Bercovici 2010).

though some newspapers and web activists alike may continue to prefer to capitalize it as "Internet," implying a standardized, timeless whole – is far from uniform.[6] As technology writer Evgeny Morozov points out, it is not an unchanging canvas on which things occur, not merely a stage on which players choose to enter, exit, converse, or emote.[7] Instead, it is the very warp and weft of an ever-changing societal tapestry. The internet reflects societal mores, biases, ideologies, and trends. It also co-creates and changes them because of its very existence within the fabric of society. Throughout its history, it has never meant the same thing – neither at the same time to different people, nor across time to the same people. It must be historicized to be understood – or even separated into various component parts that we may call "the internet," but which really represent divergent ideas, ideals, and interests.

Project

In this article, I undertake part of the task of such a historicization by addressing the rise of social media, especially in terms of its underlying assumptions and ideology, and how these tie to its function both in society, and to its current and potential uses in politics and governance, expansively conceived. I come at it from the perspective of a historian of the United States and Germany, with a focus on histories of technology, nationhood, networks, ideas, and their intersections with culture. I expand on literature that addresses how communication networks grew up at the same time as nation states during the nineteenth century, and the ways in which they interacted and co-enabled each other. From the creation of the U.S. Postal Service as the largest and most comprehensive linkage of a national domain to the, often joint, spread of telegraphy and railroads, through to the emergence of the ARPANET beginnings of the internet, the transnational creation and transportation of ideas was furthered, contested, and most importantly perceived differently in different societies. How both society at large, and politics more specifically, contributed to, as well as reacted to the dissemination of ideas, was always in flux. Networks of any kind were never finished but, with the advent of either new social uses or new technologies, under constant reconstruction during their useful life.[8]

I apply a "history of the present" lens and ask the question of why and how the social networks we know today are constituted around a certain kind of ethos, what that ethos is, and what it means to private, but also governmental actors using such platforms.[9] As the ongoing exodus from Twitter after

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[6] As Annette N. Markham and Nancy K. Baym put it, the lower-case "internet" is often preferred because "[c]apitalizing suggests that 'internet' is a proper noun and implies either that it is a being, like Nancy or Annette, or that it is a specific place, like Madison or Lawrence. Both metaphors lead to granting the internet agency and power that are better granted to those who develop and use it" (Markham and Baym 2009, vii).

[7] This argument is present throughout Morozov's *To Save Everything, Click Here*, but it is perhaps most readily apparent in his discussion of "epochalism" in chapter 2 (Morozov 2013, 36–39).

[8] Among a vast literature, which has so far mostly concentrated on the imperial and nationalizing aspects of network creation and the cultural and social worlds which it affected, see e.g.: (Gallagher 2016; Hochfelder 2016; John 2009, 2010; Leonard 2016; Müller 2016; Nickles 2009; Wenzlhuemer 2013).

[9] On the concept of a "history of the present," see: (Garland 2014, 367–368).

Elon Musk's purchase and years of grumblings about Facebook and TikTok have shown, people are very aware not only of politics on social media, but also of the politics of social media. How they perceive either, however, is very much bound up with how the ethos of the social media platform of their choice aligns with their world view.

In that sense, both remaining on and abandoning a social media platform is a statement of intent, and therefore of politics. And while private citizens can mostly make such calls based on personal preference, user numbers, or group dynamics ("Why are you on Twitter/ Facebook/ TikTok when the problem of disinformation/ racism/ sexism/ etc. is so rampant there?" / "Why have you abandoned a social space when it is an essential place for our community?"), governments, politicians, companies, and similar public actors need to find ways to be present in or leave certain spaces for multiple reasons which may be at cross purposes. A European institution abandoning or remaining on an American- or Chinese-owned social media platform that has come under fire either internationally or at home, for example, might send a political message one may not want to send.[10]

Since Musk's Twitter takeover, calls for a protocol-based, open social media landscape have grown in number and in volume. Such a model was perhaps most prominently espoused by technology writer and "internet veteran" Mike Masnick in his 2019 article "Protocols, Not Platforms: A Technological Approach to Free Speech" (Masnick 2019).[11] While such an approach has merits, it is, however, no panacea and may in fact create other issues, some of which have already played out on services like Mastodon.[12]

After setting out to define cultural, technological, and ideological issues facing social media in particular, as well as any communication network in a more general sense, I turn my attention to the platform formerly known as Twitter. As it has changed significantly and at a rapid pace since the fall of 2022, and changed its name to X in summer 2023, denoting a conscious move away from its past function and community, we can begin to historicize its role during a moment in internet and media history now past. It is important to note here that, undoubtedly in part because of its previously open policy toward researchers using its API, a vast number of studies have been done using Twitter data. It has therefore served as a convenient source for those studying a plethora of aspects of technologies, politics, and societies, both on- and offline, and the literature studying its design features and communities is likewise vast. The most comprehensive academic works addressing the history of Twitter are Dhiraj Murthy's *Twitter* (first published in 2013, with a second edition coming out in 2018)

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[10] For example, when asked about Apple's continuing advertisement on Twitter, the company's CEO Tim Cook reflected "[i]t's something that we ask ourselves. Generally, my view is Twitter's an important property. I like the concept that it's there for discourse and there as a town square. There's also some things about it I don't like!" (Dickerson 2023).

[11] The moniker was applied to longtime blogger Masnick by the *New York Times* in a July 2023 article (Hill 2023).

[12] For more on the differences between protocols and platforms, see section V. of this paper.

and Jean Burgess and Nancy Baym's *Twitter: A Biography* (2020).[13] As of this writing, however, none exist that survey the platform's most recent history in breadth.[14]

Further, I will briefly survey the landscape of platforms (or protocols) that have been hailed as Twitter replacements or alternatives to show in which important ways they differ from Twitter itself. This will elucidate not only their differing design features and thus affordances, but also differences in their underlying ideologies. Understanding that there is ideology and politics inherent in any platform, protocol, or conceptualization of the internet, as well as knowing about the general ideology behind the internet on the one hand, and the specific politics of individual social media platforms and their historical roots on the other, is essential to researchers studying social media. It is just as important for those who use or who would attempt to regulate it.

II. Operating Systems

Month-Day-Year

In any operating system, certain assumptions are built in. The Macintosh OS I used to write the bulk of this paper is the product of assumptions by engineers and programmers mostly living in California. This becomes apparent once one tries to do certain things with it. When I change the end date on a multi-day calendar event, for example, I frequently get error messages. If I try to end a conference attendance at the end of March but then decide to extend it by a day, because I am changing a 31 to a 1, the system assumes I am trying to end my travel before it begins. Of course, I am not, I am trying to end it on April 1. But the system expects that I put in the month, which in my day-month-year view is in the middle position, before I put in the day.

This makes sense if one considers that the majority of the app's programmers are located in the United States. In that country, the standard calendar view is month-day-year. Those directly responsible for the software therefore never encounter this error: they naturally enter the month before the day. While this is only a minor annoyance, the fact that it has not been addressed in a code base over twenty years old, demonstrates how engrained some suppositions are, and how much they are considered unproblematic and taken for granted by those who do not have to deal with potentially adverse consequences of their choices.[15]

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[13] (Burgess and Baym 2020).

[14] Though aspects of it have appeared in both academic work (Chang et al. 2023) and popular non-fiction (Isaacson 2023; Mezrich 2023). Among the extensive literature about Twitter, see e.g.: (Ott and Dickinson 2019; Stefanowitsch 2020; Vasterman 2018; Weller et al. 2013).

[15] The Calendar program that throws up the error is based on iCal, first released in 2002 (Apple Introduces iCal 2002). Since the company is notoriously tight-lipped about its user research, it is unclear to which degree users based outside the United

All social media platforms, in this sense, run not only on the digital operating systems of their servers, but also the social operating systems of the norms and conventions that went into building them. Beneath the outwardly visible user interface and operating system of each social network, however, lurks an even more unquestioned base layer; that of assumptions about the nature of technological progress and the teleological implications of such assumptions.[16] Much of the discussion surrounding "the internet" for two and half decades has cast the network itself as both somehow inevitable (and thus following a historical path that cannot be changed or questioned) and outside the purview of temporality. That is to say, internet entrepreneurs, thought leaders, journalists, and theoreticians have filled many Google Docs, Word files and plain text documents discussing what the implications of the internet are, and devoted much less thought and ink to how these implications are caught up within the various societies that they affect – and how those societies in turn can affect, regulate, make use of, and change the networks that are available, and create new ones. This constitutes a major and continuous oversight in public discourse.[17]

The internet is present in almost every place on Earth, and thus subject to interpretation, use, and abuse by any government or organization that can avail itself of the technology. Therefore, concerns about online connectivity are not merely questions of either outward-facing national security or implications for the national media sphere. Because of its very omnipresence, the differences in internet usage are a large yet overlooked component in communications and relations between individuals, nations, and organizations.

Perhaps it is instructive to recall how differently separate generational cohorts, even though raised in the same place, avail themselves of the technology. From incompatible usages of the same emoticons between younger and older users to cultural perceptions among Millennial and older users that "serious" planning with online resources requires a full-fledged desktop or laptop computing environment, while younger generations, raised in an age of ever-present mobile devices make no such distinctions, differences can vary from barely worth noting to stark even within one society. This is clearly exacerbated in any attempt to reach an intercultural understanding.

For anyone seeking to engage with social media from a research or regulatory angle, therefore, as well for public officials making use of social media as a matter of political expediency or governmental necessity, it is imperative to take stock of one's own position as someone well versed in the "operating

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States are considered by Apple researchers, programmers, and engineers, how often such issues come up in user interface design, and how seriously they are taken (Spillers 2014).

[16] Jean Burgess has called platforms' underlying proprietary software stacks "quasi-operating systems" (Burgess 2021, 21).

[17] I am here specifically referring to public debate. Academic (especially sociological and philosophical) discourses, as well as discussions among groups of internet users, often address specific aspects of these contexts, both technological and structural.

system" of their own society, but likely not those of others, even (and sometimes especially) if they are seemingly similar. This will make it possible to let go of facile, and sometimes contradictory but still unquestioned, framings of the technologies involved. After all, the internet, if one believes the most simplistic arguments, is a technology both like others (the printing press, the telegraph, the railroads) and at the same time so spectacularly new and groundbreaking that it has the gravitational pull of a small star, remaking the world according to its image and sending blinding rays throughout the older Gutenberg galaxy in which the world has found itself for the past half millennium. Such framing has allowed for a sloppy, solutionist discursivity in the public sphere that can make historical analogies as it sees fit while at the same time it is freed from actual history.

Proof, sourcing, and the actual construction of historical narratives that complicate the overwhelming impact of the invention of the printing press (and that posit its invention was one heroic stroke of genius instead of a transnational development lasting centuries) all are all too often deemed to be self-evident. Consequently, those steeped in such assumptions see no need to look for inconsistencies and to tread carefully when making predictions as to the impact of the internet itself, just as the simplified Gutenberg-made-the-modern-world story is accepted at face value. We will have a better sense of why such assumptions have been made about the internet once we understand their historical and cultural origins. These are rooted generally in U.S. discourses and more specifically in a host of developments and ideologies emerging out of early Cold War scientific research, as well as the American counterculture of the 1960s.

Platforms, Protocols and the In-Between

There is disagreement among scholars and programmers over how the term "platform" should be applied. I will follow Tarleton Gillespie's definition, according to which a platform must "a) host, organize, and circulate users' shared content or social interactions for them, b) without having produced or commissioned […] that content, c) built on an infrastructure, beneath that circulation of information, for processing data for customer service, advertising, and profit." This encompasses most of the large social media platforms, such as Facebook, YouTube, Twitter, or TikTok, as well as various others. As Gillespie notes, "[p]latform is a slippery term, in part because its meaning has changed over time, in part because it equates things that nevertheless differ in important and sometimes striking ways, and in part because it gets deployed strategically, by both stakeholders and critics" (Gillespie 2018, 18). What qualifies as a platform is circumscribed by the technological structures and possibilities that exist, and may vary over time. Andreas Jungherr and Damien Schlarb have, for example, convincingly argued that video game engines, now used for such applications as film production and architecture, also constitute platforms, growing in importance alongside increasingly powerful computers that make shared virtual spaces possible (Jungherr and Schlarb 2022).

There are further issues when we discuss platforms in terms of the "infrastructure […] for processing data for customer service, advertising, and profit," as this makes a clear distinction between protocols and platforms even murkier. If we follow Masnick's idea that an existing platform or company could adopt an open protocol, perhaps in response to overwhelming demands on moderation or as a challenge to a more popular but closed competitor, there would be questions as to when it would cease to be a platform.[18] Philosophically, if the delineation is ownership by one entity, it would no longer be a platform the moment even one insignificant other company, organization, or private person used the same protocol to access the network. Yet functionally and terms of a power balance between the company and the new nodes in the network, the point at which a platform would cease to be that and instead become a protocol-connected community is much harder to determine. In addition, the comparison to protocol-based services among which large tech companies hold significant market share (such as Gmail's 75.78% in the United States in 2023) confuses the definition even more (Ruby 2023).

As long as the large platforms continue to be owned wholly by one company and remain built on proprietary protocols, these distinctions do not matter all that much. But if more competition enters the space, we will have to draw ultimately arbitrary lines or, more likely, expand the meaning of "platform" to encompass the in-between: any (mostly) shared space on the internet on which acts of speech can proliferate. The fact that "platform studies" has already become an interdisciplinary approach to assess the social, political, and technological impacts of shared online spaces and is thus also poised to offer a set of tools appropriate to study the interface between protocols and platforms makes the latter more likely (Cf. Burgess 2021).

III. Starting with the Whole Earth: The Californian Ideology Encounters the California Effect

As Samir Saran has pointed out, the fact that most globally visible and active internet and social media companies are concentrated not only in the United States, but in a small sliver of the state of California, whereas most globally effective regulation of internet media – or in a larger sense, technology enterprises whose products are built on the internet – originates in the European Union, leads to a stunning mismatch between where the corporate stakeholders are located versus where the regulatory framework that most affects them originates (Saran 2023).[19] While Saran sees this as a problem, I argue that it is as much an opportunity, if necessarily imperfect, to separate out the interests

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[18] ActivityPub integration has been announced for both Tumblr and Threads, though whether and how this will be implemented remains to be seen (Perez 2022; Pincus 2023).

[19] The Chinese internet operates largely separately and therefore is not further analyzed here.

of media corporations from those of the public that has parallels in environmental legislation and industrial policy.

The reasoning for this is something known as the "California Effect." To understand what it is and how it has affected legislation, we must take a short detour into the history of U.S. environmental legislation. As David Vogel has observed (Vogel 1995, 248–270, esp. 259–260), and as other studies have since confirmed (Perkins and Neumayer 2012), the U.S. state of California's comparatively large population and therefore important market caused (first American, then global) carmakers to standardize on higher standards for automobile emissions set by California and apply them across their range, and also to vehicles sold in other states and abroad. California has thus been able to complete a regulatory end-run around the highly influential car lobby in the United States. While California is the largest American state by population, throughout the twentieth century it had comparatively little economic dependence on the car industry, which was historically, and still overwhelmingly is, concentrated in the American Midwest.

While carmakers were an important economic factor in both Midwestern and U.S. federal politics, wielding the cudgel of millions of potential jobs affected by any legislation pertaining to the industry, they had very little practical influence in California. The state, spurred on by the very visible effects of air pollution in car-heavy metropolitan areas like Los Angeles, therefore could force the auto industry's hand by creating laws that required enhanced emission standards starting in the 1960s (Environmental Protection Review of Selected 1970 California Legislation 1970, 406–407; History: California Air Resources Board n.d.). Nominally, these laws applied only to its own market. Yet, while carmakers could thus theoretically still sell automobiles not meeting these standards elsewhere, because of the requirements of mass market production it was neither practical nor economical to develop two sets of vehicle fleets, one for sale solely in California and one for sale in the rest of the United States. As the California auto market was too large by far to ignore, this meant that in effect, the local emission standards emanating out of the state capital, Sacramento, dictated what kinds of car models would be produced for all markets.[20]

Californian voters and politicians, therefore, made decisions for voters across the United States, and in an appreciable way, the world. The question as to where such regulatory activism on behalf of one polity sits in a larger context remains vexing. On the one hand, democratically elected leaders are given

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[20] Since David Vogel coined the term "California Effect," an expansive literature has studied various industries and standards regimes in regard to when "race to the bottom" and "race to the top" (i.e., "California Effect") regulatory effects occur. Unsurprisingly, the conclusions vary depending on the methods used and the target of a study. There is, however, a recurring theme of stricter than usual regulations expanding from one market to others in certain cases (Vogel 1995, 248–270; Carruthers and Lamoreaux 2016; Radaelli 2004). For a summation of the conditions that make this effect likely, see (Princen 2004, 128).

constitutional powers to make laws for and on behalf of their constituents. On the other hand, if these cause other actors – corporations, individuals, or countries – to then lose the ability to make regulatory choices for themselves, as the choice has already been made for them, practically, if not legally, how democratic is the result for the rest of the world? This, though, is by far not the only issue arising out of the regulatory power of polities that represent large markets or powers. Representative democracy can only ever approach a meaningful choice by all its constituents, and the "California Effect" is evidence that it is possible for geographically remote voters to make choices for other political communities. When it comes to the distributed virtual geographies of the internet as well as its material infrastructure, in the form of cables, servers, factories creating the necessary small- and large-scale devices it uses, and energy production, the way such effects unfold can be even trickier to trace. They are also just as difficult to either justify or condemn.

The "California Effect," ironically in the case of the technology industry, stands in conflict with what Richard Barbrook and Andy Cameron have termed the "Californian Ideology" (Barbrook and Cameron 1996). For "Big Tech," California is what the Midwest is to car manufacturers: their geographic home, and the place that sees the most direct impact from regulations pertaining to the technology and software platforms they produce. Barbrook and Cameron coined the term "Californian Ideology" in 1996 in an article that stood as a prime example for the first wave of criticism against the boosterist exuberance of internet advocates in the first half of the 1990s. In their view, a very specific, neoliberal, quasi-libertarian techno-utopianism had grown out of the New Left movement in the 1960s, and was, by the middle of the 1990s, both ubiquitous and largely unquestioned in the technology and mainstream press which relied on descriptions, frames, and networks of the very same people who advocated for an untrammeled, almost necessarily liberatory, internet.

As historian Fred Turner has pointed out, Barbrook and Cameron mistakenly attributed this ideology to the New Left, an agonistic political movement trying to change U.S. politics from within the political system in the 1960s, when in reality it had emerged out of what Turner calls "New Communalism," the countercultural movement that attempted to create new forms of community and governance away from government oversight, and that itself was not interested in political action at all (Turner 2008, 35–36, 208). This distinction matters, as it makes clear that the proponents of the "Californian Ideology," for their ideology to become widespread and pervasive, ignored that they were perpetuating any ideology at all, insisting instead on the naturalness of the cybernetic environmental and human processes that their framework for the internet was based on.

The proponents of this networked ideology were also themselves masters at networking, binding journalists, academics, politicians, and other influential voices to their understanding of the emerging "cyberspace" through personal contacts, conferences, and online communities, like the highly

influential WELL, or *Whole Earth 'Lectronic Link*, an early virtual community; in fact, the community for which the phrase "virtual community" was coined (Turner 2008, 158). The WELL was an outgrowth of the *Whole Earth Catalog*, an influential publication of recommendations and reviews, and a kind of printed network forum for those elements of 1960s U.S. counterculture that conceived of themselves as settlers on a new, communitarian frontier. The *Catalog* had been founded by Stewart Brand, an enterprising editor and relentless networker, who would come to play pivotal roles in a multiplicity of contexts beginning in the middle of the 1960s and into the internet age (Turner 2008, passim, esp. 103–140).

The Californian Ideology of the internet, born out of Brand's and his fellow "New Communalist" countercultural co-militants' sensibilities, was based in Norbert Wiener's cybernetic view of the world, Marshall McLuhan's popular writings about media, and the futurist-holistic ideas of inventor-activist Buckminster Fuller. It could spread widely for two reasons.

First, because its proponents were early adopters of internet technologies steeped in countercultural thought who, being among the first to fully utilize these technologies, were also poised to write about them. They did so through their very specific frame of reference. As these writings were among the very few publications about internet culture available to journalists, corporate executives, and politicians in the early 1990s, their influence on what the new networked society should come to be was outsized. Second, because, acting out of a tradition that questioned the antagonistic, democratic politics of larger American society, they could pretend to political impartiality, and thus, present a highly powerful set of ideological precepts as inherently free from ideology.

This "Californian Ideology" found its clearest expression in a manifesto titled "Cyberspace and the American Dream: A Magna Carta for the Knowledge Age" prepared by people from Brand's extended network, including journalist and all-around internet commentator and maven Esther Dyson, Republican political activist George Gilder, former Reagan campaign advisor George Keyworth, and futurist Alvin Toffler (Dyson et al. 1994; Turner 2008, 228). Inspired heavily by Toffler's categories of "Second Wave" (industrial) and "Third Wave" (postindustrial, postmodern) civilizations, the document contended that:

> Cyberspace is the latest American frontier. As this and other societies
> make ever deeper forays into it, the proposition that ownership of this
> frontier resides first with the people is central to achieving its true
> potential.

This clearly linked the internet (framed as "cyberspace," a term originally denoting only virtual reality, but beginning to be applied to the internet more generally at the time) to a highly U.S.-centric, settler-

colonial, project of land-taking and resource extraction, while also re-treading centuries of deliberate as well as careless misconception of the geographical space of the U.S. West as belonging to the "people," freed from governmental oversight and regulation. Conceived in popular culture as a space of freedom, the American West had in fact only become available for colonization because of government action, from the American Revolution in part prompted by investors encumbered in their land purchases west of the established colonies by the British Crown, to the violent genocide of Indigenous Americans based in congressional legislation and presidential action, and the conquest of formerly Mexican territory by the U.S. Army. As historian Howard Lamar once wryly commented, the government had "arrived before the people" in the American West (on the U.S. government in the West generally, see Balogh 2009; Lamar quoted in Gordon 1999, 28).

The "Magna Carta" went on to compound the historical error in its analogy by tying the commonweal of the "people" it ostensibly wanted to own the web frontier to calls by large telecommunications providers for deregulation:

> To the extent it prevents collaboration between the cable industry and
> the phone companies, present federal policy actually thwarts the
> Administration's own goals of access and empowerment.

The document was immediately politically powerful. After the passage of the Telecommunications Reform Act of 1996, inspired by the "Magna Carta," the Clinton White House touted on its website:

> The President and Vice President believe that when the walls of
> regulations are brought down, prices come down for American
> consumers. This Act breaks down the Berlin Walls of regulation that
> previously kept local Bell Telephone companies and long-distance
> telephone companies from competing with one another, while
> keeping safeguards in place to ensure competition and serve the
> public interest (Summary of Telecommunications Act n.d.).

When all was said and done, while the uneasy alliance between post-hippie countercultural tech-libertarians and conservative politicians, both in the Republican and Democratic parties, was not to last, the "Californian Ideology" had been enshrined not only into the first major update to federal telecommunications rules in the United States in more than half a century, but, on account of the U.S.'s role as a quickly-advancing internet powerhouse, into the fabric of the web itself. This was most obvious in the role that social networks, building on virtual communities like the WELL, would come to play in the following two and a half decades.

IV. The Emergence of the Internet: Interoperable Protocols

The internet grew out of a project by the U.S. Defense Department's Advanced Research Projects Agency (ARPA) in the 1960s. It was meant to connect computers housed in the military installations and research institutions of what Dwight D. Eisenhower, after he had presided over it for years and saw its influence grow, concernedly called in the first draft of his farewell address the "military-industrial-academic complex" (Giroux 2015).

Built supposedly to create a means of networked communication that would survive a nuclear attack, in reality ARPANET was just as much a child of Cold War Science as it was of Cold War politics. The nuclear threat may have inspired it, but in terms of its building out and becoming an actually useful part of scientific collaboration and governmental communication, this was much like the U.S. highway system, which Eisenhower had directed to be built as well. Federal funding came to the highway system, in part, so modern infrastructure for quick troop transport in the event of a war could be built. Yet, it was clear to all that this was merely one of its functions, with a much more important one being to reduce travel times, thus encouraging tourism and exchange, and therefore, stimulating the economy.

The same would become true once ARPANET gave way to the more generalized internet, built on the TCP/IP internet protocol suite, finalized in 1982, and universally deployed across the network at the beginning of 1983. Together with application layer protocols for e-mail, such as IMAP, SMTP, and POP, as well as NNTP, the network news transport protocol, the early internet became a place of multipoint-to-multipoint exchange.[21]

What can in retrospect be called the first wave of social media emerged in the form of news groups. News groups were similar to older bulletin board systems, in which people who logged onto the same computer network could "pin" messages onto a virtual cork board and therefore communicate. But while bulletin boards had been limited to specific clusters of computers, news groups extended the model to multiple servers, administered by either organizations, corporations, commercial providers, or volunteers, who could decide which of a burgeoning number of thematic groups they would carry.

This is an important infrastructural but also ideological feature of early social media: it was at once user-generated and subject to a certain amount of editorial control, exercised on a meso level between the individual and the whole network, at the hands of administrators making decisions for their specific

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[21] The models under which the layering of data transmission protocols is conceptualized matter to those who deploy and administer networks on a practical level. As Christopher S. Yoo has shown, they also have policy implications and should be considered in both technical and political terms (Yoo 2013, esp. 1710–1715; 1770–1771). Further discussion regarding the interaction between conceptual models, technical implementations, and their effects is needed, but outside the scope of the present paper.

user groups (Gillespie 2018, 25–29). This made for a very loosely connected system of messaging, though, because not everyone would be able to see every message on every group. Their provider might not even carry the group on which the message was posted. Second wave social media phenomena such as "piling on" the "main character of the day" on Twitter or something "blowing up" on TikTok were thus structurally impossible, even had the user base been larger.

The internet provider was akin to a news stand owner featuring a certain number of magazines on display: if something was considered inappropriate content, that content would simply not be available, though other news stand owners might make a different judgment. Protected by the "safe harbor" clause of the Telecommunications Act of 1996, these early "intermediaries" could, but importantly were not required to, censor or remove content (Telecommunications Act of 1996 1996, Sec. 230).

V. From Protocols to Platforms

Endless September

Uptake of the internet was an initially slow process in the 1980s and 1990s that at some point accelerated exponentially. On the news groups, 1993 saw the beginning of the "Endless September," so called because traditionally, new users who did not know the rules and therefore frequently broke them, typically flocked to news groups in September each year, coinciding with the beginning of the school year at American colleges, who provided their students internet access. As the internet became increasingly commercialized, this "September" began to drag on, as new users, lured onto the network by services such as CompuServe and AOL, were coming aboard constantly now. This marked an inflection point, as consequently a culture of rules (though these, too, were contested) gave way to agitation, and often, resignation and flight. To some older users, it seemed as if a group of rowdy youths had not just come over for a barbecue, but invaded their back yard and now kept a raucous party going there at all hours. Some kept on insisting that community rules be kept up, while others retreated. This could be termed the first prominent instance of a phenomenon danah boyd later, in regard to users abandoning MySpace for Facebook, called "digital white flight" (boyd 2011, 31). The name of the phenomenon already describes its political implications: the creation and tending-to of an online space is as much an act of public engagement as is the taking-part in a real-world neighborhood, with sometimes similar economic results, and certainly similar disparities in terms of race, gender, or class of its inhabitants apparent.

The slow sunsetting of news groups also coincided with the advent of the World Wide Web. Created as a layer on top of the internet protocol so accessing information would become more visual and

easier, the WWW most importantly provided the ability to go from one place on the web to another by means of a standardized relay, a hyperlink.[22] The internet subsequently exploded into the Dotcom bubble, which for the first time made the network commercially viable. What followed was a slow transition, accelerating in the second wave of internet enthusiasm and investment, the "Web 2.0" era of the mid-2000s. This change was one from protocols which anyone with a certain technological know-how and capital could implement, thus co-creating their social space, to platforms controlled by individual companies, subject to their rules. These companies were in turn majorly impacted by user expectations as well as governmental regulation. They reacted in various ways, copying each other's supposedly best practices, and innovating on large-scale moderation, either human-powered or technological (Gillespie 2018, 71–73).

Cyberculture

With the maturing and commercialization of the internet, the former emphasis on open and interoperable protocols and standards took a backseat. This did not mean a complete change of pace. We should not misunderstand the internet then as exclusively based on open, interoperable nodes: It was not a fully government-led project. It also was not a commercial enterprise, purpose-built to make money. Nor was it a ramshackle idealist haven created by counterculture hacktivists. It was none of the above because it was in part all three. Not recognizing all these origins is to mischaracterize the history of the internet, and to likely make avoidable mistakes regarding its use and regulation, at the present point in time as well as in the future.

An interesting case illustrating the net's multiple origins is that of previously mentioned San Francisco-based online community the WELL. It was founded in 1985 as a bulletin board by tech entrepreneur Larry Brilliant and Stewart Brand, publisher of the counterculture mainstay the *Whole Earth Catalog* mentioned above. Brilliant's idea had been to simply move the *Catalog* online. As Fred Turner discusses at length in his detailed history of the forum and the ideas and people that occupied an ever-growing network around it, Brand resisted that impulse. But he understood that one of the major roles the *Whole Earth Catalog* had fulfilled for its readers was as a site of information exchange where readers could write in, share experiences, and sometimes become paid reviewers. Moving this part of the publication online came naturally (Turner 2008, 141–175, esp. 142–145; Beckerman 2022, 150–161).

The WELL spans both ages of the internet; before and after the emergence of the World Wide Web. Having migrated to the web, it still exists, though it never had more than a few thousand members. Yet, the influence of the WELL far exceeds its size, as proprietor Brand's networking savvy contributed to a large number of journalists for important U.S. national publications joining the platform, many

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[22] USENET still exists, though it has been vastly overshadowed by more modern modes of message exchange (Proven 2023).

because they were given free accounts (Turner 2008, 143). While they used the WELL to find out about topics worth reporting on, or contributed ideas for discussion on its topical message boards – called conferences – they also made the WELL itself and its community their topic. The way they wrote about it became a template for the way that the early internet would be discussed in the United States, and through the weight that U.S. media and U.S. companies had in the networked computing space, this in turn influenced the discourse surrounding the potentialities and possibilities of the internet elsewhere. This can be traced most directly through one author, and especially one book: Howard Rheingold's *The Virtual Community: Homesteading on the Electronic Frontier*.

Penned in a readable, folksy style,[23] Rheingold's New Journalism-inspired mixture of Geertzian participant observation and internet boosterism appeared in 1993, the year before the first version of the Netscape browser was released. As there was otherwise a dearth of long-form descriptions and definitions of just exactly what online, or "virtual" communities were, it quickly became a staple source of journalistic writing about the internet and the nascent World Wide Web (Rheingold 1993, 3, passim). Rheingold's book and other writings, next to those by John Perry Barlow and several other journalists who frequented the community in the early 1990s, made the WELL a household name in Silicon Valley and among the "digerati" of the early internet. It was used as a direct inspiration by the creators of Microsoft's online venture MSN, as well as the iconic America Online (AOL) service most infamous for sending out, by one estimate, over a billion free trial floppy disks and CD-ROMS in the late 1990s and early 2000s (Turner 2008, 161; Edwards 2015; Lewis 2012).

The WELL shows an uneasy but straightforward marriage between American countercultural thought and the internet, a move, as Turner has it in his book's title, *From Counterculture to Cyberculture*. It is based on principles of self-government, and its original management team included former members of hippie commune "The Farm" (Turner 2008, 141–143). Encapsulated in the WELL's culture is both this countercultural origin, as well as the admixture of philosophies and literary exegeses underlying the motivations for many in Silicon Valley's technology industry. Adrian Daub has identified these as *What Tech Calls Thinking.* Silicon Valley, Daub holds, variously runs on a moralized interpretation of Schumpeter's "creative destruction," self-images of entrepreneurs as Ayn Randian heroes, and a post-hoc rationalization of real-world success into having arisen out of genius or smart work (Daub 2020).

The WELL has had an outsized influence on the development of the (certainly Western) internet. Its culture, mixing journalists, academics, fans of specific bands or media, and generally those seeking similar-minded people in an online space, as well as its affordances of being a text-centric medium designed for, in John Coates's phrase, "talking by writing" lent itself to especially gain a foothold on

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[23] "A full-scale subculture was growing on the other side of my telephone jack, and they invited me to help create something new," Rheingold (1993, 3) writes in his introduction.

one platform that had grown out of a new media company's small group messaging service and the limitations of the cell phone short messaging service protocol: Twitter (Turner 2008, 155; Vanian 2022).

All A-Twitter

To understand how the particular policies, politics, and design features of social media map onto society in a larger context, it is necessary to take the step from general framings and the underpinnings of the "California Ideology" to how these play out in specific cases. The social media platform formerly known as Twitter is a good example, both because of its massive cultural effect despite only middling user numbers (556 million active users as of January 2023, as opposed to Facebook's close to 3 billion, Instagram's 2 billion, TikTok's 1 billion, and China-only TikTok owner Douyin's over 700 million users; (Biggest social media platforms 2023 n.d.)) and shaky finances through its existence, but also because, with its very public change in management in the fall of 2022 and the following changes to its moderation policies and finally its ongoing rebranding to "X" in the summer of 2023 it has changed so much as to be, in essence, a wholly different virtual space.[24]

Twitter, in its heyday, was a one-stop shop of a platform on which various communities interacted both amongst themselves and where discussions that bubbled up in one could be taken up and reflected on in others.[25] In some cases these discussions could then become highly visible parts of public discourse, thanks mostly to a mix of celebrities, politicians, bureaucrats, experts in a multiplicity of fields, entrepreneurs, and journalists occupying their own, though often personally or algorithmically interconnected, niches. This allowed for a transference of concerns in one, sometimes relatively small, community, to a societal level by dint of the concern being recognized and amplified by influential voices in other communities.

VI. Network Ideologies

What would become the big social networking sites out of Silicon Valley all had taken onboard "New Communalist" ideologies. In addition, a very U.S.-centric absolutist ideal of "free speech" adapted from

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[24] As evidenced by the number and kind of users that have since fled the platform or limited their use of it (Chang et al. 2023; Mier 2022; Stokel-Walker 2022; Sweney 2022). For example, in a surge after Elon Musk quoted posts by two supporters of the far-right German AfD party in late September of 2023 to which even the German foreign ministry saw itself prompted to respond, many notable German commentators, academics, and politicians opened accounts on the Bluesky network (Tanno 2023; Neuerer 2023).

[25] There is an obvious analytical issue in defining such a period, as no one metric or even a combination of metrics can reliably measure cultural or political influence. The site's influence in terms of cultural and political agenda-setting over the past decade, however, cannot be denied. A plethora of news articles and several studies since late 2022 have shown that a significant number of journalists, celebrities, and others have either deactivated their accounts or reduced engagement. Twitter's ad revenue has likewise plummeted, showing a diminished willingness of ad buyers to be associated with a platform that has seen hate speech rise (Stokel-Walker 2022; Mier 2022; Sweney 2022; Romano 2022).

the U.S. Constitution, in which it applies solely to government respecting the free speech of its citizens, suffuses American social media sites. This is most evident when this ideal rubs up against other countries' legal frameworks, such as German or French prohibitions against Neo-Nazi symbolism and hate speech. Yet, even if it does not, it always undergirds the platforms' moderation policies (Gillespie 2018, 31,40).

The inherent difference between platforms controlled by one entity and protocols implemented in accordance with local contexts is stark. Platforms, by virtue of being centralized spaces – akin to a solar system with one center of gravity around which everything revolves – can link disparate communities through that gravitational well. This means everyone is on one open plain, and therefore can be elevated as much as targeted. Further, the affordances of some platforms, the very decisions that stem from their ideology, make specific types of community possible in the first place. One example is "Black Twitter," a community of mostly U.S.-based Black Twitter users relying on Twitter's immediacy for advocacy and activism, and on its "quote tweet" function for the cultural practice of "call and response" transliterated to the internet (Dr. Johnathan Flowers is also @shengokai@zirk.us [@shengokai] 2022).

Therefore, as the shaky past two years of Twitter, which gave rise to a mass movement of users to create backup online presences, have shown, the medium is, in some cases, very much the message. Presence on a platform, and not simply speech on the platform, needs to be considered as a communicative act by itself. While the Mastodon network run by a German nonprofit, itself expressly designed to operate mostly, but importantly not completely like Twitter, prompting many cultural clashes, initially took off as an alternative, it has yet to reach anything close to Twitter's numbers. Recent statistics (for what they are worth, as counting is hard due to its structure) show anything between 2.5 and 10 million users to even comparably small Twitter's hundreds of millions. Bluesky, the initially invite-only platform founded out of Twitter originally as a test bed for a different, more distributed, approach to social media, boasted over a million downloads in July of 2023 (Stringer 2023). It passed 6 million users in July 2024 after opening up to the public in February of that year.[26] Like Bluesky, which sits atop the AT protocol, Mastodon is also built on an interoperable protocol, ActivityPub. It is distributed, much like earlier newsgroup servers, across nodes called "instances."

Though Bluesky and Mastodon have similarities in this regard, they also differ fundamentally in terms of what the idea behind their distributed approaches is. Mastodon takes a conservative, community-based point of view when it comes to its standards and the implementation of certain features. Moderation, length of post, translations, allowable topics and discussions, even the availability of

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[26] (Product Roadmap 2024; Stats for Bluesky by Jaz (jaz.bsky.social) 2024; Silberling 2024).

emoji are all left to individual instances. While some of these can grow into the millions of users, many are much smaller, hosting from as few as only one person to several dozens or hundreds. While this allows for a replication of smaller, often found to be less contentious, communities on the internet, it also fundamentally prevents Mastodon from being a platform on which most users operate under broadly similar, if not the same, rules and regulations. Many of the early online communities, from the WELL to USENET groups to the forums hosted and policed by the likes of America Online and CompuServe, had fewer (though not none) issues with personal attacks, illegal materials, or practices that today would be called doxing and stalking. This was not through fundamentally better moderation or different settings in the software these spaces ran on, but mostly because of their much smaller size, in which community policing of norms is easier to handle (Gillespie 2018, 40).

Mastodon can in part recreate such spaces, as those who worry about personal attacks, privacy invasions, or other detrimental consequences to sharing information broadly online can retreat to virtual communities in which these are harder to accomplish for nefarious actors because of rigid moderation or altogether banned words and phrases. That many of those who belong to disadvantaged communities not usually front and center in the thought processes and business plans of Silicon Valley capitalists see this as a reprieve from the cacophonous state of other social networks should come as no surprise. However, this hands-on approach also comes with downsides. Some choices in software development, for example, make it easy to spread topics that internet activists need to disseminate far and wide to advance their cause or preserve their own safety. Twitter became an important venue for information sharing because it had low barriers to posts entering general discourse. If platforms that provide for such spread change their protocols or become less important in public discourse, this has repercussions.

One instructive case is the disappearance from social media of Chinese influencer Naomi Wu, whose popularity on Western platforms and thus the attention she brought to positive sides of living in China's manufacturing and electronics capital, Shenzhen, had permitted her a measure of safety from the repressive Chinese state. After Elon Musk's takeover of Twitter and resulting increased flight from the platform by many of her would-be Western fans and supporters and fundamental changes to Twitter's algorithms, now surfacing much more often the posts by those who pay for the service, this worldwide visibility was diminished. Together with her bringing attention to spyware installed on Chinese-made keyboards, this meant that Wu received a visit from the Chinese state police. Though it is possible that Wu's revelations of government-sanctioned data privacy violations would have been met with repercussions anyway, it is likely that a decreased visibility outside of China was a contributing factor in her disappearance (Singh 2023).

Mastodon's affordances were designed from the start to replicate most, but not all of Twitter's functions, leaving out or changing those aspects that the service's initiator, German software designer Eugen Rochko found to be detrimental to the online experience. These included functions essential to Twitter's working, such as universal search across all posts (to prevent targeted harassment of people or groups posting on specific topics) and the retweet function that allowed users to include a citation of a tweet along with their own commentary in their own timeline. While the latter allowed for Twitter's frequent "pile ons" by members of a certain community or political persuasion on tweets by someone they did not agree with, it was also a way of sharing someone else's ideas or opinions with qualifications or endorsement, something that many users engage in constantly. Furthermore, the fact that instances can "moderate away" certain topics may make instances run by certain communities safe for them, but it also leads to constant conflicts not only with one, central company responsible for moderation, but to myriad smaller and larger disagreements among instances and users about what is and is not allowed.

This has disadvantaged members of racial minorities, for example, whose personal experiences of discrimination and activism are seen by others as either themselves racist or impermissible, or which simply make them uncomfortable, leading to a banning of prominent activist voices on various instances. This affects such voices especially when moderation happens on their own instance, but in a larger sense also curbs the spread of any utterance not deemed appropriate on any instance to which it may otherwise proliferate. In essence, by recreating the more insular structure of earlier online spaces, Mastodon reproduces problems that were inherent in these spaces, but as most posts are still theoretically visible to most of its users, the fact that these problems exist or persist is newly visible to many more users than only those occupying a small virtual community.

The events surrounding journa.host, an instance set up specifically by and for journalists, are indicative. On earlier forums such as the WELL and especially on Twitter the presence of journalists was essential to making the discourses present in online spaces visible to the outside world of non-users. When journalists sought to recreate this function on Mastodon, the instance was quickly banned by several other instances primarily for fear that what users shared would be used in shoddy journalism, revealing private details and leading to harassment (Keys 2023). While complaints about biased and intrusive algorithms have been par for the course on all major social media platforms, such attitudes, as well as the fact that Mastodon eschews any complicated algorithms and instead presents chronological timelines on which users only see what has been shared by people they follow and what those people have shared in turn, makes chance discoveries, important for an experience of serendipity that will keep users engaged on a platform, much harder.

Bluesky currently is only one major server, with moderation being as of yet scattershot and lagging behind the needs of the community, reflecting a repeat of the learning curves of earlier platforms. Its creation out of the Twitter company before Musk's takeover as a potential open protocol to replace Twitter's own, led to a close replication of the Twitter user interface, along with having a repost function akin to Twitter. This, along with a focus on what the company calls "the global conversation" across all servers, makes it much more like the former network (About Bluesky n.d.). The growing pains of moderation that is both acceptable to a large community as well as legally sustainable are already palpable on the platform.

Tarleton Gillespie points out that "all platforms moderate," but for ideological and business reasons usually denigrate the importance of moderation while relying extensively on it to make themselves viable as loci of idea and information exchange. Effective moderation will thus be the touchstone of whether or not nascent networks such as Bluesky can gather and sustain a large user base (Gillespie 2018, 5–14). Bluesky's initial strategy of only letting people sign up who have been invited in by others may have had a double benefit. On the one hand, it likely reduced the number of users who create troll accounts or otherwise engage in behavior disruptive to the community. On the other hand, it increased the chance that well-connected influencers such as journalists who are more likely to be able to get an invitation, would make Bluesky one of their major homes on the internet, giving the network and its discourses a much higher visibility than would otherwise be possible in the press and other traditional media. While promising, this strategy from an American-based company also meant that users would cluster around existing users, making the community relatively homogenous and, at least initially, limited to the United States. Its ultimate fate will be borne out in the popularity of the service in the coming years, especially as measured against Twitter, Mastodon, and other direct competitors, first and foremost Threads, the service created by Mark Zuckerberg's Facebook parent company Meta in response to the stumbles by Twitter.

Launched at the beginning of July 2023, Threads was positioned as a direct competitor to Twitter. It can rely on both a large corporate structure to support it, as well as profit from a preexisting userbase, as every user handle on Meta's highly popular photo and video sharing app, Instagram, automatically is reserved for Threads. After an initially highly promising start, Threads itself has had issues, however, as users quickly realized that the content visible was not particularly interesting to them, and the wide-ranging monetization of user data immediately apparent. The latter lead to the service not operating in the European Union until questions of privacy and data security under the bloc's Digital Markets Act would be resolved (Kelly 2023). This meant the network launched across the EU almost half a year later (Paul 2023). Not entering a diverse market of more than 300 million potential users for months may or may not prevent the platform from gaining a foothold internationally in the long run. This depends

mostly on what other alternatives present themselves, and how damaging the assumption inherent in this delay, that Meta is unwilling or uninterested in quickly resolving privacy and security issues, will prove to be in the EU and elsewhere.

Speculation has run rampant that the era of the platform is coming to an end (Bogost 2022). As most of the viable alternatives to Twitter (plus the continuing, though diminished existence of the platform, under its new moniker "X" as well as the success of Facebook and other social media apps controlled by one independent company or, in the case of China, a state-controlled entity) suggest, such a prediction is premature. It is further predicated in part on a false assumption that protocols disappeared during the Web 2.0 years, when in reality they much more "went underground," used now by other services instead of remaining obviously visible parts of the service itself. One example here is the RSS protocol, used from the 2000s into the 2010s prominently for the syndication of blog posts and news articles. Once Google Reader, the most popular application through which RSS feeds were displayed, was discontinued, the protocol disappeared from view on the internet, where it had been omnipresent in the form of sharing buttons and links to software and plugins. However, it still forms the backbone of the growing podcasting industry, with hardly any production foregoing distribution on this universal standard protocol, readable by any number of websites, computer programs, and mobile apps (Target 2019).

Either way, there are changes ahead in the social media space. Whether the oft-poo-pooed Metaverse will become a viable option or remain stuck in rendering limbo, governmental, corporate, and personal use of social media will continue to play a role. That role will be different to different demographics and generations, but nonetheless significant, at least until technology moves on from screens big and small all around us.

VII. Conclusion: A Future of Protocols and Platforms

Protocols and platforms (however defined) will continue to be fundamental to public and private discourse on the internet. No platform can run without protocols be they ever as proprietary, and many open protocols are used by platforms with strong identities and discussion cultures without being identified as such. What matters for the future of the structure of the internet, but even more for the applications and services that run on it that shape users' experiences, is how companies, governmental regulators, and private citizens define what they are willing to accept, what they are willing to spend, and what they are willing to give away.

The rise and halting fall of Twitter is instructive. It demonstrates how quickly a service that even at its height not even 15% of the world's population used (in fact, the number may be significantly lower, as

there are myriad fake accounts on any social media platform, and avid users may have more than one account) can punch above its weight in terms of cultural and political impact. The way in which former U.S. President Donald Trump held public discourse in a stranglehold with his often erratic missives on the platform is only the most prominent example. Yet, in the fast-moving, uncertain world of internet companies, even something that a large sector of public-facing media and politics has heavily relied on can change fundamentally in mere months, leaving networks destroyed and trust lost. Regulators can only do so much. Twitter is clearly in violation of multiple laws in the European Union alone, but the processes to curb behavior deemed unacceptable from a purveyor of internet media are oftentimes labyrinthine, usually slow, and not always backed up by enough political will.

When Elon Musk orchestrated the purchase of Twitter, with himself at the helm, an era ended. This was not because of his very public antics on the social media platform he now co-owned and controlled. It was because these antics – firing the majority of the workforce without even being aware of what they did, banning critical journalists, reinstating bad actors, confusing Twitter's users by introducing (and charging them for) ever changing verification badges, closing third-party client access, and in one darkly hilarious instance, making developers work overtime to "fix" the problem of his own tweet on the occasion of the Super Bowl getting many fewer likes than the one from President Joe Biden's account – revealed something about this, or any social media platform:

Platforms are indeed not open protocols, potentially administered by anyone, with all advantages and disadvantages contained therein, but platforms. The analogue of a wooden structure raised above its surroundings visualizes this. Platforms are constructed in a specific way and ruled over by someone or several someones; people with ideologies and agendas. They can decide who to allow on their platform, who to raise up, and whose thoughts and opinions to let die on the vine.

Twitter's case is instructive: because so much about the operating system of Twitter changed so quickly, it became apparent for the first time to many users that it in fact had an operating system. This in turn shed more light on long-ongoing discussions in public and in politics regarding control over social media platforms, and what role states had in regimenting and overseeing such control, whether it be from individual actors (such as former U.S. President Donald Trump), companies (Facebook), or other states (China and TikTok, as also evidenced by the heated discourse around the de facto ban of the application in the United States going forward). It also helps us see much clearer than before where the pitfalls and opportunities for social media as a shared space for public discourse and politics lie. Social media users now have to, much like Elon Musk during a PR stunt as he arrived at – then still Twitter – headquarters, "let that sink in."

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