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Reconstructing Public Utility Networks: A Program for Action

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As COVID-19 has spread, the power and reach of tech and networking companies have expanded and their transgressions against the commonweal have multiplied, provoking calls to make them more accountable. How might this be accomplished? I argue that a renewal of public utility regulation will be essential, regardless of whether it is accompanied by government antitrust action. I offer a historical sketch of how 19th- and early 20th-century reformers developed conceptions of networks as public utilities to establish democratic norms and practices in telegraph and telephone service provision. Big business and the state mobilized during World War I and defeated the movement to nationalize U.S. telecommunications via a takeover of networks by the U.S. Postal Service but, meanwhile, a different road to public utility status had opened: regulation by state and federal administrative commissions. After reviewing this conflicted history, I enumerate necessary features of a regenerated public utility framework, from popular education about network issues and policies of nondiscrimination to public control over social networks and search engines and decommodification of profit-driven network industries.

Keywords: telecommunications, networks, public utility regulation, U.S. Postal Service, Internet industry

At the end of 2019, with the COVID-19 virus beginning to diffuse, Apple, Alphabet, Facebook, Amazon, and Microsoft made up about 17% of the value of the Standard & Poor 500 (Levi & Konish, 2020); five months later, with 40 million U.S. workers having filed for jobless benefits, they accounted for 23% of this index and, by the end of July, the five behemoths boasted a collective market valuation in excess of $6 trillion, about 30% of the U.S. gross domestic product (Foroohar, 2020; Opinion Lex, 2020a, 2020b). Far from restraining them, COVID-19 sent tech and networking companies scurrying to augment their power over our swerving U.S. social life (Isaac, 2020; Kruppa & Fontanella-Khan, 2020; Waters, 2020a).

Their efforts extended as the virus spread. As 2020 began, Microsoft and Amazon were sparring over a $10 billion military contract for cloud computing services, aligning them even more closely with the U.S.'s militarized foreign policy. Then, former Google CEO Eric Schmidt was named to head a commission to generate tech-saturated "solutions" for New York state's problems, as if this expedient could substitute for democratic deliberation (Klein, 2020; Morozov, 2020). Amazon became the country's merchandising lifeline, among other things for personal protective equipment, as COVID-19 erupted in a hundred of its own warehouses; executives

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thereupon retaliated against employees who spoke up to condemn Amazon for refusing to provide them with adequate protective gear (Nguyen, 2020; Nilsson, 2020). Apple collaborated with Google to roll out a contact-tracing smartphone app that, notwithstanding a lot of ballyhoo about decentralized data storage, still raised privacy concerns (Hern, 2020; Paul, 2020a; Rosen, 2020; Singer, 2020; Thomas, 2020). Microsoft joined the UnitedHealth Group to provide an app to screen for symptoms of the virus, whose function was to legitimize employers' attempts to compel employees to return to work (Brooks, 2020; Microsoft News Center, 2020). Facebook and Twitter blazed with medical misinformation and racist hate, while the nation girded for a presidential election in which Facebook CEO Mark Zuckerberg's "personal decision about whether to intervene in how politicians use the social network could play a significant role in the outcome" (Waters, 2020b, para. 13; see also Bradshaw, 2020; Murphy, 2020; Murphy & Stacey, 2020; Swisher, 2020). While Silicon Valley acquired medical and health care companies (Google alone held investments in 50 of them), the data infrastructure used to compile and circulate valid public health statistics about the virus's spread was a shambles (Kliff & Sanger-Katz, 2020; Stolberg, 2020; Thomas, 2020). Online scammers exploited the situation by stepping up their price gouging and fraud (Hodgson, 2020). Big telecom and cable companies faced no obligation to provide residential Internet access, and the ensuing racially stratified lack of connection prevented one fifth of U.S. households from performing telework and thus also less able to quarantine (Free Press, 2020; Hanna, Lawrence, Buller, & Brett, 2020, p. 2).[2] Finally, the Trump administration sought relentlessly to push the nation's only universal telecommunications network—the U.S. Postal Service (USPS)—into a death spiral (Bradbury, 2020; Burns, 2020; Graves, 2020).

These are shameful abuses, intolerable in a democratic society; and these are merely some topical examples. Thankfully, a countermovement is strengthening. One commentator explains that, as "the influence of the biggest tech companies has spread into more areas of personal, economic and political life, how Big Tech wields its power is returning to the political agenda" (Waters, 2020b, para. 4). Another analyst even evinces confidence that "Facebook, Google, Amazon and the like will be brought under political control" (Wolf, 2020, para. 18). What recourse do we have?

Often mentioned is antitrust law. The U.S. Department of Justice has relied on antitrust historically to alter the political economy of U.S. telecommunications. Throughout the 20th century, successive federal prosecutions of what was long the nation's dominant supplier, AT&T, impinged on this giant company's structure and behavior and partially reconfigured the country's network infrastructure. Today, influential critics and politicians call for a new round of antitrust action to break up big tech (Teachout, 2020; Wu, 2018).

Does antitrust law offer a remedy? Certainly, it is needed: To choose just two from among many examples, antitrust action could undo Facebook's ownership of Instagram and Google's ownership of its advertising unit, DoubleClick. Yet, we may doubt that, of itself, antitrust will be enough. It targets bottlenecks and obstructions that flout norms of market competition: price manipulation, predatory power over rivals and customers, and the like. This focus is too narrow. On one side, some of the greatest harms

[2] Even in a relatively wealthy state, only 65% of Iowa's 216,007 census blocks had access to broadband Internet speeds of at least 25 Mbps download (Boshart, 2020; Paul, 2020b). In one account, "In 2017, neighborhoods in Dallas and Cleveland with high poverty rates were found to have slower download speeds because AT&T didn't provide those areas with up-to-date broadband improvements" (Martinez, 2020,).

we suffer reach beyond any one corporate malefactor: Transgressions against privacy and speech rights, notably, are ubiquitous. On the other side, essential Internet services and applications, akin to basic telephone service a century ago, may be best provided by monopolies. (Both suppliers' economies of scale and demand-side network effects factor in: The unit costs of providing service may be lowered and the ease of use improved if everybody is served by the same system.)

Even if political will becomes strong enough to break up one or another of the tech giants, for these reasons, we will need to design and institute policies and ground rules and to establish mechanisms of oversight, accountability, and enforcement. To render tech and networking companies' responsibilities legible and legally explicit, therefore, antitrust prosecutions must be joined to an expansive campaign of reorganization. A legal scholar-activist aptly underlines that this initiative will involve alterations to campaign finance laws, labor laws, tax laws, and public utility regulation (Teachout, 2020, p. 4).[3]

Public utility doctrines merit special attention, as—in light of abuses that prefigure those we suffer today—generations of reformers germinated them to imagine and implement democratic forms of network service provision. By no means a settled formula, the public utility conception arose as a capacious and open-ended framework for political creativity and experiment (Novak, 2017; Schiller, forthcoming). Within its ambit, controversies flared over how to actualize inclusive or universal service provision, how to curtail service discrimination, and where to limit corporate profit strategies and operating practices. At the center of debate was the structure of network ownership and control. Between about 1870 and the end of World War I, millions of Americans came to believe that corporate telephone and telegraph services could be transformed into genuine public utilities only through nationalization.

Western Union's high telegraph rates thwarted access, and the nationwide carrier also practiced service discrimination, engaged in financial machinations and political chicanery, and was infamous for mistreating its low-paid employees (Schiller, forthcoming; Wolff, 2013). AT&T, which quickly came to dominate provision of U.S. telephone service, seemed to be headed the same way. Populists, socialists, trade unionists, and other reform groups responded with a demand to make the US Post Office the home for what they termed "the electrical means of intelligence," as indeed was already true for the nation's major trading partners. The Post Office was not, to be sure, a paragon. It was faulted often for being an engine of political party patronage, and it acted as an institutional axis of the settler colonialism that continually expanded the Republic's boundaries by seizing the lands of indigenous nations. Nevertheless, at the turn of the 20th century, the US Post Office constituted an attractive template: a model of technological progressiveness and efficiency, nondiscriminatory service provision, and inclusive, or universal, service. In light of these positive attributes, Eugene V. Debs, leader of the American Railway Union and later the Socialist Party candidate for U.S. president, was terse in explaining why the Post Office should supplant the behemoth corporate carriers: "The people should own them, or they will own the government" (Debs, 1896, p. 597).

[3] A prominent analyst of contemporary telecommunications likewise calls for regulating broadband Internet service as a utility (Crawford, 2019).

Big business, predictably, was loath to relinquish networking, which offered a lucrative territory of profit. After a 50-year struggle, during World War I the campaign for postalization was undone—as it turned out, permanently—by corporate capital and the state (Schiller, forthcoming). Reformers had succeeded in augmenting Post Office functions to include not just mail carriage, but also package delivery and postal banking; but electrical telecommunications remained off-limits. Concurrently, however, an alternative route was opened to public utility networking.

Its beginnings were inauspicious: Regulation by specialized administrative commissions commenced as a palliative—a weak-knee alternative to postalization. It was heavy on professional expertise and publicity, and light on the political power needed for meaningful oversight. As state commissions multiplied around the turn of the 20th century, numerous contemporaries understood that these agencies' jurisdiction over networks was both incomplete and flawed. Catering for leading carriers and business users, the public utility commissions did not even grant legal standing to those lacking a property interest in networking. Their legalistic discourse was all but unintelligible. Their purview, finally, was restricted to intrastate service, whereas the major carriers were nationwide corporations, able to evade and manipulate state regulation even, indeed especially, when it threatened to become robust. Although the Interstate Commerce Commission gained federal jurisdiction over telecommunications rates in 1910, it was repulsed when it sought to discharge its responsibilities (Schiller, forthcoming); after World War I, the commission became mostly inert as a telecommunications regulator.

Administrative regulation nonetheless harbored an emancipatory promise—to industry owners, a threat—that public power might, someday, be brought to bear. Following some state regulators' dissatisfaction with the status quo during the 1920s, in the Great Depression, this promise was unexpectedly rekindled. A 1934 creation of the Roosevelt administration, the Federal Communications Commission (FCC) boasted a couple of ardent New Dealers and cadres of likeminded staffers. They threw themselves into the task of investigating, restructuring, and, where needed, rescuing the nation's networks. Some regulators dared believe that it might actually be easier to discipline an errant monopoly— AT&T, by now the biggest unit of capital on the planet—than to cure the evils of ruinous competition, with which they were brought face-to-face by the now-beleaguered telegraph industry. Early on, indeed, the FCC did seek to bring AT&T to heel. The Commission's activism proved short-lived, however, as AT&T fought to preserve its prerogatives and to canalize the efforts of its overseers. In the late 1930s, as a result, the reform project again was contained. For the next quarter of a century, the vigor of public utility regulation dissipated, paradoxically, even as something approaching universal household telephone service was finally realized—and as the immense AT&T manipulated a timorous bureaucracy to enlarge its profits (Schiller, forthcoming).

In the late 1960s, diverging pressures built up inside and around this system. On one hand, civil rights struggles targeted networks, and succeeded in revising public utility law and regulation to make at least some room for those without a property interest— both workers and consumers. On the other hand, suppliers of new networking technology and services collaborated with big business users of telecommunications to restrict the scope of public utility regulation and to slow the momentum that was massing to expand it. As these contradictory initiatives jostled and clashed, they demarcated a changed political dynamic. Bottom-up struggles to democratize the polity and to equalize social relations confronted "capitalists, former bureaucrats and right-

wing intellectuals," who sought to expand market freedom on the basis of their claim that governments "had become 'overloaded' by claims to social justice and participation" (Panitch & Leys, 2020, p. 7).

Under President Nixon, the executive branch deployed the FCC to bulwark this reactionary bloc. Just as the Black freedom struggle and the women's movement were expanding and reorienting the conception of public utility networking, the FCC perversely responded by paring back its own jurisdiction. Taking express cues from the Nixon White House and its successors, the FCC—ostensibly an independent agency—relaxed and withdrew regulation over the explosively dynamic new industry of computer communications. Unlike AT&T, which, during the 1940s and 1950s, had been compelled to acquiesce to collective bargaining with its unionized workforce, specialized new market entrants such as MCI were authorized and seized the opportunity to act as unbridled antagonists of trade unionism.

Thus was laid a foundation on which tech vendors and big business users could capitalize on data networking all but unhindered. By the late 1970s and 1980s, official Washington vied with corporate America in expressing contempt for regulation. Nixon's executive branch concurrently transformed the Post Office into the US Postal Service a government corporation —no longer a cabinet department—and, in an equally fateful action, scarcely a decade later, Ronald Reagan evicted a now-diminished postal service from the impressively expanding service of e-mail (Schiller, 1982, forthcoming). The result was predictable: self-interested exploitation of innovations in and around computer communications with scarcely a pretense of accountability. During the 1990s and the 2000s, as the process accelerated, it was ultimately promoted and praised as "disruption" rather than abuse and abandonment (Schiller, 1999, 2014).

Half a century after this debacle commenced, it is plain that a radical reconstruction of public utility networking may no longer be postponed. What should be its aims and purposes?

To begin, some disabling features of the older system of public utility regulation need to be supplanted. The system was built around agencies that were remote from the public and, more often than not, in thralldom to political appointees. Popular participation gave way to an endless contest over the terms of trade between the regulated carriers and their biggest business customers. To whom and for what purposes should the electromagnetic spectrum—the natural resource on which all forms of wireless communication must depend—be allocated and allotted? How much investment should flow to different kinds of networks? How should prices be set for different services and distinct types of users? What sorts of technical capabilities should be designed and enabled, and which disallowed? What responsibilities for employment, job quality, and service provision should be borne by network operators, both commercial carriers and proprietary systems operated by business users?

Genuine, universal participation is essential in formulating answers. Expansive and critical public education about telecommunications and technology, as well as issue-specific information campaigns, must be built into a new public utility system to ensure that investigative and decision-making tribunals foreground the needs and concerns of the actual populace.

Equally important, the unbalanced structure of power over the institutions of service provision and regulatory decision making must be set aright. We may begin by enacting rigorous legal prohibitions against

revolving door appointments and corporate lobbying, both of which are staples of the tech and telecom industry. Not less imperative will be to mandate trade union legality across the field of networking, construed broadly to encompass both carriers on the supply side and the thousand largest organizational users of network equipment and services on the demand side. Also part of this rebalancing will be elections of labor representatives by rank-and-file workers to policymaking and regulatory bodies.

Beyond these repairs, our very conception of public utility must be refreshed, reimagined. We must make it 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. The overarching goal must be to regenerate our much-reduced system of shared provision. Thankfully, there are precedents to draw on. It is often forgotten that, around the Civil War, an ensemble of public domain institutions paradoxically began to expand, even as corporate capital concurrently strengthened its hold over telecommunications and media. The Government Printing Office (Seavey & Sloat, 2009, p. 260) became "America's largest alternative to the commercial publishing system" (Casper, 2007, p. 191). The U.S. Post Office provided distribution at subsidized rates for newspapers, government documents, and congressionally franked mailings (McChesney & Nichols, 2011, pp. 121–126). The Patent Office collected and distributed seeds, gratis, and the Department of Agriculture constituted a major site of scientific research and expertise, cooperating with expanding land-grant universities. The Smithsonian Institution housed collections brought back by dozens of scientific expeditions. In 1870, the Library of Congress began to build a comprehensive collection and became a de facto national library, as thousands of local libraries also grew (U.S. Library of Congress, n.d.). These examples might be multiplied.[4] Into the post-World War II decades, this system of public institutions remained robust, even as profit-making organizations moved from the edges to the center of the political economy of communications.

This public system provides clues as to how we might proceed today in light of changed circumstances and priorities. This will be a complex, experimental path to social learning. Finally actualizing the plans promulgated by late 19th century reformers, the USPS must be rescued from corrupt politicos and granted resources ample enough for it to shoulder multifarious communicative functions—from broadband and mobile service provision to cloud storage. Social networks can be operated by a not-for-profit consortium of schools and universities. The nation's library system, properly funded and staffed, can take custody over algorithms, notably for search engines, but also for other functions, ensuring that they are nonexploitive and nondiscriminatory. A basis will need to be laid, furthermore, for extensive and routine administrative coordination between and among these disparate segments of the new network system. What we must have is, in short, a new institutional structure of public operation and control.

Institutional change must be complemented by strengthened accountability requirements and reawakened responsibilities. The "duty to serve" that has long been associated with regulation must be

[4] For some other examples packed into a valuable but rose-colored synthesis, see Starr (2004).

comprehensively modernized. It must encompass universal broadband access[5] supported by tax levies on corporations and wealthy households, and by cross-subsidies from business users to households. Despite politically contrived barriers in nearly half of U.S. states, no fewer than 331 municipal broadband systems were operating in 2020, and they often offered lower-price plans than those operated by commercial suppliers (Chamberlain, 2020). Municipal networking organizations compose a precious repository of expertise.

Although necessary—indeed crucial—inclusive access is in itself insufficient to constitute a democratic system. It must be complemented by a sweeping policy of nondiscrimination, beginning with net neutrality to prevent selective degradations of service (Pickard & Berman, 2019) and carrying forward to a reconfiguration of search, social network, and other Internet services. Because rights to free expression and privacy attach to society as a whole, rather than only to individuals, we also must decide how to guarantee these foundational rights under contemporary conditions. "Transparency" will not be enough: Algorithms must be open to processes of democratic deliberation before they are introduced, and subject to stringent public accountability requirements throughout their period of service.

Nondiscriminatory and nonexploitive Internet apps and services are obstructed by more than the misbehaviors of "bad apple" executives; they are contained by a system logic that is rooted in private ownership and control. As many 19th-century reformers understood, only a far-reaching process of decommodification can overcome this. Advertising must be eliminated as a funding mechanism for essential services, and replaced by government support, with measures to insulate these services from political meddling. Beyond this, emerging industries, such as online education and medical care, must be withdrawn from the nexus of corporate profit taking.

Finally, structural interlocks between networks and their longstanding military patrons must be destroyed. Active complicity by Internet and telecom companies in military intelligence was (unforgivably) exposed by Edward Snowden; but the ties go beyond this, and even yet they have not been fully documented, let alone remedied. To do so, free and full access to often-classified sources will be necessary. Not only domestic U.S. practices, but also U.S. foreign relations will need to be inventoried, notably the institutional arrangements that underpin U.S. power over networking across every corner of the globe, from NATO in Europe to often-secret pacts with countries in Asia, Latin America, Africa, and beyond.

The crisis grants us an opportunity to rediscover our will to act. It is time to commence the task of renewing the public utility conception.

[5] As Australia has mandated (TeleGeography, 2020). The New York Times editorial board has called for an expansion of investment in infrastructure, including high-speed Internet access; but this of course falls short of an explicit policy of universal broadband access ("America Needs Some Repairs," 2020).

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