2021

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FROM LEX INFORMATICA TO THE CONTROL REVOLUTION

Julie E. Cohen†

ABSTRACT

Legal scholarship on the encounter between networked digital technologies and law has focused principally on how law should respond to new technological developments and has spent much less time considering what that encounter might signify for the shape of legal institutions themselves. This essay focuses on the latter question. Within fields like technology studies, labor history, and economic sociology, there is a well-developed tradition of studying the ways that new information technologies and the “control revolution” they enabled—in brief, a quantum leap in the capacity for highly granular oversight and management—have elicited long-term, enduring changes in the structure and operation of economic organizations. I begin by considering some lessons of work in that tradition for law understood as a set of organizations constituted for the purpose of governance. Next, I turn the lens inward, offering some observations about techlaw scholarship that are essentially therapeutic. The disruptions of organizational change have affected scholars who teach, think, and write about techlaw in ways more profound than are commonly acknowledged and discussed. It seems fitting, in a symposium dedicated to Joel Reidenberg’s life and work, to use the process of grief as a device for exploring the arc of techlaw scholarship over its first quarter century. The fit is surprisingly good and the takeaways relatively clear: if, as I intend to suggest, the organizational forms that underpin our familiar legal institutions have been in the process of evolving out from under us, we still have choices to make about how legal institutions optimized for the information economy will be constituted. Finally, I identify two sets of important considerations that should inform processes of organizational and institutional redesign.

DOI: https://doi.org/10.15779/Z38C53F239
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† Mark Claster Mamolen Professor of Law and Technology, Georgetown Law. My thanks to Lindsey Barrett, Yochai Benkler, Hannah Bloch-Wehba, Ryan Calo, Erin Carroll, April Falcon Doss, Evelyn Douek, Neil Richards, Pamela Samuelson, Rebecca Tushnet, Rory Van Loo, Ari Waldman, Rebecca Weixler, Lauren Willis, and Jonathan Zittrain for their helpful comments, to Joel Reidenberg for leading the way, and to Christina Wing for research assistance.
I. INTRODUCTION

In the beginning (techlaw-wise) came two texts. Together, they defined an agenda for exploring the encounter between networked digital technologies and law—and together, they also encoded methodological fractures and disciplinary blind spots that persist today. “Lex Informatica” was an article published by a legal scholar—Joel Reidenberg, to whose memory this symposium is dedicated—for an audience of other legal scholars. Complex and subtle, it explored the ways government authorities might reassert themselves within pathways and processes defined in the first instance by computer networks and digital code. The other text—Lawrence Lessig’s *Code and Other Laws of Cyberspace*—began as a law review article but evolved into a book crafted for a more general audience. Punchy and attention-grabbing, it offered a simple, flat taxonomy of regulatory forces, each assertedly different in kind and origin from the others, and identified ways that processes emerging

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in the domain of digital code might frustrate other processes traditionally located in the domain of law.

If one accepted the premise that governing new technological activities required new types of responses from law- and policymakers, the two texts dictated different approaches to identifying those responses. Consider, for example, the question of what (if anything) to do about copyright management technologies designed to enable licensing but simultaneously frustrating other important copyright policy goals. Or consider the question of what (if anything) to do about a global networked communications architecture that promised to evade governance by both nation-states and other intermediaries traditionally entrusted with ensuring information quality. Because “Lex Informatica” was the product of a mind trained in both North American and European ways of thinking about law and regulation, it turned automatically to the mechanics of injecting regulatory authority into the processes by which networked communications technologies and associated standards were being developed and deployed. Because Code was a product of the “New Chicago School,” it foregrounded the influence of markets and norms and the bottom-up solutions they might generate. There are layers upon layers of irony here. Code, but not “Lex Informatica,” purported to offer a new approach to theorizing the regulatory properties of technology; “Lex Informatica” was more pragmatic in its orientation. And yet “Lex Informatica,” but not Code, surfaced the complex interplay between regulatory forces. “Lex Informatica” framed new digital formations as situated opportunities for interventions by policymakers and other interested actors—an approach broadly compatible with decades of accumulated, interdisciplinary learning on emergent sociotechnical processes—whereas Code described an elemental regulatory struggle that unfolded as a contest over terra nullius and that resonated with the reigning neoliberal ethos of the era.

Gradually but inexorably, however, new developments began to pose questions that the two texts did not contemplate—questions about what the encounter between networked digital technologies and law might signify for the shape of legal institutions themselves. For example, what does it mean to require ongoing “compliance” with a remedial decree directed to the operation of data-driven, algorithmic processes? What corrective actions can remedial

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orders directed to smaller actors within networked information ecosystems plausibly require, and what obligations should be placed on the larger actors that design and operate such systems? What organizational configurations and practices are needed to ensure sufficient public accountability of compliance operations? What organizational configurations and practices are needed to ensure that data-driven surveillance processes designed to operate on populations afford sufficient dignity and respect to individuals and communities?

As these examples suggest, there is an important difference between understanding networked digital technologies as “regulating” in ways that might challenge or complement law and understanding such technologies as catalyzing deep structural transformation in organizations of all sorts, including the organizational forms of legal institutions carefully stewarded—and venerated—over decades and centuries. This essay takes the latter perspective as its point of departure. Within fields like technology studies, labor history, and economic sociology, there is a well-developed tradition of studying the ways that new information technologies and the “control revolution” they enabled—in brief, a quantum leap in the capacity for highly granular oversight and management—have elicited long-term, enduring changes in the structure and operation of economic organizations. 7 Part II considers some lessons of work in that legal tradition for law understood as a set of organizations constituted for the purpose of governance.

Part III turns the lens inward, offering some observations about techlaw scholarship that are essentially therapeutic. The disruptions of organizational change have affected scholars who teach, think, and write about techlaw in ways more profound than are commonly acknowledged and discussed. It seems fitting, in a symposium dedicated to Joel Reidenberg’s life and work, to use the process of grief as a device for exploring the arc of techlaw scholarship over its first quarter century. The fit is surprisingly good and the takeaways relatively clear: if, as I intend to suggest, the organizational forms that underpin our familiar legal institutions have been in the process of evolving out from

7. The term comes from JAMES R. BENIGER, THE CONTROL REVOLUTION: TECHNOLOGICAL AND ECONOMIC ORIGINS OF THE INFORMATION SOCIETY (1986). It was later appropriated by ANDREW SHAPIRO, THE CONTROL REVOLUTION: HOW THE INTERNET IS PUTTING INDIVIDUALS IN CHARGE AND CHANGING THE WORLD WE KNOW (1999), which misunderstood the nature of the shift in control that digital networks represented. For an important but conceptually distinct exploration of the evolving role of control within digital information and communications networks, see LAURA DENARDIS, THE INTERNET IN EVERYTHING: FREEDOM AND SECURITY IN A WORLD WITH NO OFF SWITCH (2020) (arguing that digital networks are undergoing a phase shift from communication to control as their principal purpose).
under us, we still have choices to make about how legal institutions optimized for the information economy will be constituted. Learning to identify the reflex reactions emanating from grief’s intermediate stages will help us make better choices.

Building on the insights from Parts II and III, Part IV identifies two sets of important considerations that should inform the redesign of legal institutions after the control revolution. One set of considerations involves efficacy. Legal institutions for the control revolution require organizational forms that are optimized to networked information and communication geographies, flows, points of control, and failure modes. The second relates to normative sufficiency; the redesign of legal institutions requires appropriately framed rule-of-law criteria. Part V concludes.

II. THE CONTROL REVOLUTION IN GOVERNANCE

The relationship between law and networked digital technologies is, and always has been, a two-way street. Legal actors respond to new technological developments, but the principals in new technological dramas also exploit and work to reconfigure legal and governance regimes in ways that are most congenial to their own activities and goals.8 Scholarship in the law and society tradition has long acknowledged and grappled with the power of self-interested advocacy to reshape the rules by which litigants, regulated industries, and other actors in legal dramas must play.9 But “law” also consists of organizations constituted for the purpose of governance, and those organizations also are affected by sociotechnical change. Additionally, although some institutional realignments reflect the intentional efforts of self-interested actors, sociotechnical transformation produces both intended and unintended systemic effects. Here, I bring classic mid-twentieth-century studies of the encounter between for-profit organizations and emerging informational capabilities to bear on law’s evolving organizational and systemic accommodations to the informational era.

First, some important definitions: By “organization,” I mean to refer to an entity constituted to achieve a particular goal, with sets of rules that define its


structure and govern the practices of its members.\textsuperscript{10} For-profit companies like Amazon or Microsoft are organizations; courts, regulatory agencies, and industry standards bodies are organizations, too. By “institution,” I mean either an organization or an otherwise well-defined set of practices that serves a public or social purpose.\textsuperscript{11} Some institutions, such as courts and administrative agencies or the pre-internet “press,” have (or had) distinct organizational forms. Others, such as contract law and tort law, do not, but even institutions of the latter sort (which I will call rule-based institutions) may reflect assumptions about the particular organizational contexts within which they will be interpreted and applied. This is particularly true for rule-based institutions, such as corporate law or administrative law, that are intended to provide structural specifications for organizations. Finally, by “legal institution,” I mean an institution whose outputs are constituted as binding by political authority. In this essay, I will be concerned with transformations in the organizational forms (or, for rule-based institutions, the assumed organizational contexts) of legal institutions.

As scholars in fields like technology studies, labor history, and economic sociology began to study the organizational impacts of new information technologies, they noticed that organizations undergo profound changes as new methods of seeing and managing their own activities are taken on board. In his magisterial study of organizational transformation, historian of technology James Beniger gave this process a name—the “control revolution”—that is equally useful for thinking about changes in the organization of governance.\textsuperscript{12} Scholarly accounts of the interrelationships between information technologies and the organization of economic production have three more particular lessons for legal scholars—including not only those who say they study techlaw but also those who insist that they don’t and won’t.

The first lesson of the control revolution is that it changes how organizations produce outputs. As Beniger showed, the control revolution in production involved radical jumps in the quantity and granularity of information generated by newly mechanized production processes and correspondingly radical changes in the configuration of control processes for


\textsuperscript{12} BENIGER, supra note 7.
collecting and managing information and directing production accordingly.\textsuperscript{13} New information technologies afforded perspectives on production that were simultaneously panoptic and synoptic. One could zoom in on a particular set of operations in a highly granular way—for example, by investigating the relationship between a particular machine configuration and production throughput. One could also zoom out for a large-scale view of the organization’s operations—for example, asking and answering questions about geographic and seasonal variation in demand. And, increasingly, one could ask new types of questions about the interplay between the granular and the systemic—for example, questions about how workspace configurations, supply chains, and a host of other factors might be rearranged to respond most effectively to serve and reinforce new patterns of mass production and consumption.\textsuperscript{14}

The second lesson of the control revolution is that it changes \textit{what} organizations produce. Newly granular and comprehensive control of production logistics enabled organizations to formulate new production plans that would enable them to capitalize on the infrastructural and informational investments they were making. So, for example, as it became possible to manage food production and distribution over extended geographic areas, the nature of food production changed to emphasize pre-processing, standardized packaging, and distribution via self-service supermarkets.\textsuperscript{15}

The third lesson of the control revolution is that changes in the \textit{how} and \textit{what} of production created points of entry for changing ideologies about what and whom production was (good) for—about \textit{why} organizations produce. As labor historians like Harry Braverman and Sanford Jacoby showed, the control revolution facilitated large-scale changes in the conditions of labor. New cadres of managerial workers were needed to operate the new systems for communication and control, and the managerial turn in the organization of production aligned with the goals of those wishing to shift control of production away from workers and concentrate it among the owners of capital.\textsuperscript{16} The control revolution and the managerial turn in the organization of production unfolded alongside other, technologically-mediated transformations in financial markets—in particular, the emergence of

\textsuperscript{13} See id. Beniger rejected rigidly deterministic explanations for these changes, indicating that he viewed them as coupled in varying degrees of tightness with other economic and social developments. See id. at 6–10.

\textsuperscript{14} Id. at 293–317.

\textsuperscript{15} See id. at 248–78, 337–42.

increasingly complex and financialized performance metrics and investment vehicles—and these developments also reinforced the growing power of management and capital more generally. As the twentieth century wore on, the cumulative effects of those changes proved congenial to a neoliberal worldview that envisioned government as existing principally to steward and validate the results of market processes. For all of these historically contingent reasons, the instrumentalities of the control revolution in economic production increasingly were directed toward surplus extraction for the benefit of managers and investors.

In retrospect, it seems utterly naïve to have thought that these lessons would not apply to the organizational forms of legal institutions. Consider a few examples:

In the domain of dispute resolution, networked information technologies and systems have facilitated widespread outsourcing of small, low-dollar value disputes in areas such as consumer satisfaction and human resources, and they also have enabled parties to large-scale tort and regulatory litigation to develop new organizational mechanisms for producing and managing settlements in ways only nominally under supervision by courts. Changes in how disputes are resolved have shaped what dispute resolution produces. Both large-scale settlements and privatized processes for resolving small-scale disputes require and normalize elaborate sets of managerial practices for administering payments and (sometimes) for measuring and documenting compliance with agreed organizational changes. These processes require new cadres of managerial workers and may also involve an assortment of other third parties—compliance auditors, litigation financiers, specialized arbitrators and


Their outputs typically do not consist of citable opinions articulating rule-based formulations about proper conduct and appropriate liability. These developments have elicited both criticism and praise; within the legal academy, there is contestation over what and whom dispute resolution is (good) for.

In the administrative state, regulators charged with overseeing the operations of the informational economy must demand, evaluate, and act on new kinds of representations by regulated entities. In fields ranging from finance and healthcare to pollution control and avionics, data-driven algorithmic processes demand correspondingly sophisticated oversight mechanisms. Meanwhile, regulators who administer large-scale benefits and revenue systems rely ever more heavily on automated tools for case management and decision-making. Changes in how regulators exercise their oversight and decision-making authority translate into changes in both the form and the substance of regulatory outputs. Guidances, collaborative best practices statements, and consent decrees requiring changes to regularized control practices increasingly stand in for more formal rules and more definite enforcement orders. Decisions about technical standard-setting and information systems procurement play increasingly central roles, and as regulated activities in sectors such as banking, consumer finance, environmental protection, and the like have grown ever more informationally complex, the regulatory landscape has widened to include a diverse group of third-party auditors, systems vendors, and other compliance intermediaries.
Concurrently, the universe of theoretical accounts of regulatory behavior has widened to include new narratives about the virtues of regulatory devolution and enlightened self-governance, and these narratives too are contested. In particular, the proliferation of new regulatory inputs, outputs, and intermediaries does not seem to be producing more effective oversight of information-economy activities, and data-driven algorithmic processes also enable new types of gaming that can be difficult to detect.

Within law enforcement agencies and inside the national security state, networked information technologies have facilitated new data-driven surveillance practices focused on the ready availability of digital traces of human movement and communication that can be gathered remotely without tasking individual officers to follow suspects, execute search warrants, and tap phone lines. That tectonic shift in how surveillance is conducted has elicited, and worked to naturalize, new tools and capabilities—for computer forensic investigations, for collecting and analyzing digital images, for gathering and correlating location information, and for conducting data-driven predictive analysis—and those tools and capabilities in turn generate new outputs that must be evaluated. Some data-driven surveillance processes have elicited new types of managerial oversight, but others continue to operate in ways


seemingly unconstrained by existing constitutional and statutory protections. Many cross preexisting organizational lines, emerging out of procurement processes, hybrid public-private partnerships, and cross-jurisdictional policing and border enforcement initiatives. Many have come to seem uniquely unaccountable to the broader public whose interests they are supposed to be serving.

The ultimate lesson of the control revolution for law is that networked information technologies are not simply new modes of knowledge production to be governed, but also powerful catalysts for organizational restructuring that change the enterprise of governance (and so, necessarily, also that of law) from the inside out. They produce new organizational formations that resemble the idealized legal-institutional models taught in law school courses only vestigially and incidentally. And the new organizational formations of the control revolution generate outputs that familiar modes of legal-institutional understanding cannot parse.

III. GRIEF COUNSELING FOR LAW PROFESSORS

For legal scholars, large-scale, disruptive change in the organizational forms of legal institutions is not an abstraction to be studied at arms-length. It represents a profound loss that reverberates through every facet of our carefully burnished, collective professional identity. As we move from teaching students about institutional configurations notable chiefly because they no longer exist outside the pages of casebooks, to writing about those same configurations in the pages of law reviews as though they still deserved to


30. For more on this distinction, see *infra* Part IV.B.
command the lion’s share of our attention and energy, to envisioning the possible futures of a system of governance whose central tenets and operational presumptions no longer seem to cohere, both our day-to-day routines and our more sustained intellectual projects continually remind us that the system into which we were trained has lost its moorings.

Put differently and more starkly, we experience grief—and grief calls for a type of introspection to which the legal academy is unaccustomed. Here, I use Kubler-Ross’s well-known five-stage framework as a device for mapping scholarly responses to the control revolution’s disruptions. 31 (Without question, this sort of exercise is reductive and risks oversimplification. Even so, it can be useful for diagnostic purposes. My aim here is to prompt reflection, not to urge outright dismissal of important works that fall into each of these categories.)

A. Back(ing in) to the Future

The first response to large-scale, disruptive, and profoundly grief-inducing change tends to be denial. So too within techlaw scholarship. An essential mode of legal theorizing about networked digital technologies has been the assertion that nothing really fundamental about legal subject x has changed, will change, or should change as a result of development y.

Denial is a tricky subject to unpack because the rearview mirror represents law’s methodological wheelhouse (and the objects reflected in it are always much closer than they appear). Judges and legislators alike move forward only slowly and tentatively, continually looking backward, identifying analogies, and redeploying familiar common law concepts—even when interpreting statutes clearly intended to craft new institutional settlements. But they also must contend with the entrepreneurialism of practicing lawyers and the self-interested actors they represent. Sometimes, however, denial benefits powerful actors, and the ensuing dynamic represents law’s most dangerous endemic failure mode: a downward spiral into institutional paralysis catalyzed by self-interest, self-importance, and conceptual rigidity.

There is no better illustration of the dynamic of denial spiraling into institutional paralysis than the path charted by the mainstream of scholarship and advocacy about the First Amendment implications of the networked information revolution. Consider the debates about “deplatforming” unwanted speakers. For some First Amendment traditionalists, questions

about the power to deplatform are easy to answer because of the public-private distinction that (in their view, appropriately) structures the universe of speech protections. The earliest scholarly commentary on deplatforming worried about private power to stifle dissenting speech emanating from members of marginalized groups and from the political left. For those commentators, there were equally traditionalist answers: the “back to the future” strategies of treating platforms as either public forums or company towns obligated to permit speech with which they disagree. More recently, deplatforming efforts directed at purveyors of white supremacist and other hate speech has caused advocates of the “company town” approach to reconsider that position, even as avowed traditionalists from the right float the very different “back to the future” strategy of subjecting platforms to common carrier obligations.

Others, meanwhile, have fallen back on a different type of traditionalist argument: faith in the “marketplace of ideas” to produce clear rejection of white supremacy and hate once brought into the light of day.

The problem, though, is that none of these arguments reckons adequately with underlying transformations in the structure of speech environments. The “long tail” marketplace of the platform-mediated speech environment, which facilitates access to and monetization of all perspectives, does not seem to be furthering large-scale rejection of white supremacy, ethnonationalism, and hate. Rather, it is nurturing them. Although mainstream media organizations


35. See, e.g., Danielle Keats Citron & Helen Norton, Intermediaries and Hate Speech: Fostering Digital Citizenship for Our Information Age, 91 B.U. L. REV. 1435, 1474 (2011) (“By challenging hate speech with counter-speech, intermediaries can help transform online dialogue by documenting the continuing existence of racism and other forms of hatred while concomitantly rebutting it.”); Richard Delgado & Jean Stefancic, Hate Speech in Cyberspace, 49 WAKE FOREST L. REV. 319, 341 (2014) (“Denouncing the group or individual publicly can demonstrate to users of the Internet that disseminating hate through this medium brings consequences and can give pause to others who might be tempted to follow suit.”).
and prominent political figures continue to function as principal content hubs in networked media ecosystems, platform-based techniques for profiling users and their social networks and for routing, upranking, and recommending content have been game-changers. These techniques have supplied powerful, flexible tools for seeding mainstream media environments with disinformation, hate, and polarizing discursive frames, recruiting new adherents to hate-based worldviews, and expanding extremist communities and networks. Because the platform-mediated speech environment relies on probabilistic profiles and engagement metrics to route, uprank, and recommend content and communities, post hoc content- and speaker-level interventions do not meaningfully disrupt the mechanisms by which extremist sentiment diffuses across interlinked networks.

The blunt Newtonian instruments supplied by current First Amendment doctrine are wholly inadequate to the task of apportioning governance authority within such spaces. Because current doctrine presumes functioning speech markets populated by rational listeners, it assumes away the distinctive dysfunctions of platform-based information environments optimized for behavioral microtargeting, automatic engagement, and rapid, cascading spread. And modes of constitutional argumentation that simply reassert private authority to govern such processes in a more fine-grained way...


37. See, e.g., Corin Faife & Dara Kerr, Facebook Said it Would Stop Recommending Anti-Vaccine Groups. It Didn’t?, THE MARKUP (May 20, 2021), https://themarkup.org/citizen-browser/2021/05/20/facebook-said-it-would-stop-recommending-anti-vaccine-groups-it-didnt; Nadler et al., supra note 36; Tripodi, supra note 36.

undermine efforts to render the increasingly complex manifestations of platform power publicly accountable.

My argument here is not about the way that ostensibly neutral moves within free speech discourse work systematically to benefit already-powerful economic and political actors and to effect erasure of other distinctions that really do matter (in part because I think that is so clearly true as to be beyond serious debate); rather, I want to underscore a more basic point. It is long past time to call into question interpretive conventions devised during the era of broadcast media for a constitutional text that is itself an artifact of an even earlier era, to acknowledge and retire the assumptions about information flow that have continued to inform those interpretive conventions even when they no longer describe reality, and to pursue other ways of honoring the foundational commitments the text sought to express.39

The costs of denial are existential. Failure to recognize and reckon with the paradigm shifts in our information environment may yet herald the end of both our particular 250-year experiment with democratic self-governance and other democratic experiments worldwide. Fortunately, the therapeutic lens also suggests that First Amendment denialism represents an evolutionary stage that techlaw scholarship and our legal system more broadly may yet transcend.

B. THE WRATH OF NETWORKS

The second stage of grief is anger, and here an initial caveat is in order. I do not mean to use the stages-of-grief device to diminish techlaw scholarship expressing anger at the ways in which new forms of informationalized power have mobilized legal institutions to work systemic economic and racialized injustice.40 Righteous wrath over law’s complicity in the perpetuation of systemic injustice has a centrally important role in legal scholarship and public


40. See, e.g., VIRGINIA EUBANKS, AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR (2018); Ifeoma Ajumwa, Race, Labor, and the Future of Work, in OXFORD HANDBOOK OF RACE AND LAW (Devon Carbado, Emily Houh & Khiara M. Bridges eds., 2020); Alvaro M. Bedoya, Privacy as a Civil Right, 50 N.M. L. Rev. 301 (2020); Rashida Richardson, Government Data Practices as Necropolitics and Racial Arithmetic, GLOBALDATAJUSTICE (Oct. 8, 2020), https://globaldatajustice.org/covid-19/necropolitics-racial-arithmetic; see also RUHA BENJAMIN, RACE AFTER TECHNOLOGY: ABOLITIONIST TOOLS FOR THE NEW JIM CODE (2019); SAFIYA UMOWA NOBLE, ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM (2018); CATHY O’NEIL, WEAPONS OF MATH DESTRUCTION: HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY (2016).
interest advocacy. The anger that I want to spotlight here is different and more unique to techlaw. It is the anger of the frustrated (cyber)libertarian who takes issue with the asserted need to have a system of law at all.

Confronted with the increasing inadequacy and imperfection of traditional governance mechanisms, some legal scholars began to advance variations on the theme of frustrated utopianism. They argued that centralized gatekeeping was the enemy, that bottom-up creativity and crowd-sourced ordering were potent forces for good, and that under such circumstances, law’s highest and best goal was to minimize its own footprint.41

Anger and frustrated utopianism have been especially notable features of scholarly and policy debates about the future of digital copyright. Copyright law has always represented an effort to balance the competing goals of commercial reward and creative and expressive freedom. Because networked digital environments enable both new types of freedom and new types of control—and because the major industry stakeholders had long been accustomed to dictating the shape of new legislation—proposals for digital-era copyright legislation were highly contentious.42 As the major copyright industries pushed for legal recognition of expanded control and the mainstream of copyright scholarship resisted proposals that seemed overly draconian, the perfect became the enemy of the good. Some scholars rejected compromises that would entail any sacrifice of flexibility to copy, manipulate, or share digital content. So, for example, proposals for automated filtering of content uploaded to file-sharing platforms drew criticism because filtering algorithms could not duplicate the flexibility and nuance that fair use doctrine required, and proposals to restrict copying of audio and/or video files were criticized on the ground that depriving users of the ability to reuse content would limit their creative freedom.43 Complaints about emergent linking and

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41. See, e.g., David R. Johnson & David Post, Law and Borders—The Rise of Law in Cyberspace, 48 STAN. L. REV. 1367 (1996); Lawrence Lessig, The Future of Ideas: The Fate of the Commons in a Connected World (2002); Shapiro, supra note 7; see also Jane R. Bambauer & Derek E. Bambauer, Information Libertarianism, 105 CALIF. L. REV. 335 (2017). Two prominent works in cyberutopian canon were more nuanced, offering accounts of bottom-up creativity that were also keenly sensitive to the prospects for abuses of private power and to the roles that law might play in constraining such abuses. See Yochai Benkler, The Wealth of Networks: How Social Production Transforms Markets and Freedom (2007); Jonathan Zittrain, The Future of the Internet and How to Stop It (2008).

42. For good summaries, see Bill Herman, The Fight Over Digital Rights: The Politics of Copyright and Technology (2013); Jessica Litman, Digital Copyright (2006).

43. See, e.g., Dan L. Burk & Julie E. Cohen, Fair Use Infrastructure for Copyright Management Systems, 15 HARV. J.L. & TECH. 41 (2001); Rebecca Tushnet, Copy This Essay: How Fair Use
embedding practices that channeled advertising revenues away from legacy content producers to new digital intermediaries were roundly mocked as the last gasps of industrial-economy gatekeepers seeking to silence new citizen performers, documentarians, and journalists.\textsuperscript{44}

Having spent some quality time in this stage of scholarly grief myself, I continue to think that some of the anger at copyright overreach was and is amply justified—as we are about to see, compromise requires two sides—but it also has delayed a much-needed reckoning with the governance challenges of networked digital environments.\textsuperscript{45} And because power abhors a vacuum, legislative and policy stalemates over the legitimate reach of copyright law have privileged narrower, self-interested arrangements that reinforce economic power. The leading copyright intermediaries have retained and in some cases expanded their traditional strongholds, while newer information platforms have emerged as the default aggregators for new forms of cultural production (such as short video clips) and for self-published content.\textsuperscript{46} These institutional settlements have not been costless. Platform intermediaries have moved quickly to design their own automated filtering systems and develop their own

\textit{Doctrine Harms Free Speech and How Copying Serves It}, 114 YALE L.J. 535, 558–60 (2004); Rebecca Tushnet, \textit{I Put You There: User-Generated Content and Anti-Circumvention}, 12 VAND. J. ENT. & TECH. L. 889 (2010). For more recent variations on these themes, see Dan L. Burk, \textit{Algorithmic Fair Use}, 86 U. CHI. L. REV. 283 (2019); Rebecca Tushnet, \textit{All of This Has Happened Before and All of It Will Happen Again: Innovations in Copyright Licensing}, 29 BERKELEY TECH. L.J. 1447 (2014) [hereinafter Tushnet, \textit{All of This Has Happened Before}].


linking and embedding conventions, and those choices in turn have systematically shifted creative agency away from human beings and digital advertising revenues away from entities such as news providers that serve important public needs.47

The push to elevate generativity over gatekeeping also produced section 230 of the Communications Decency Act (CDA 230), which insulates information intermediaries from most forms of civil liability for most expressive choices by their users, while granting them broad latitude to engage in content moderation operations of their own design.48 Over the years, debates about the wisdom of the institutional settlement reflected in CDA 230 have demonstrated the continuing influence of First Amendment denialism (thereby illustrating that grief is not a linear journey). CDA 230’s supporters and advocates have expressed both cyberlibertarian outrage at the prospect of imposing gatekeeping obligations on the new digital frontier and backward-looking lawyerly confidence in the crude public-private distinction that the statute encodes.49 They have held to both positions even as the death of gatekeeping has demonstrated more and more powerfully that generativity is a scalar, not a vector; that torrents of xenophobia, hate, and conspiracy theory are generative in all the wrong ways; and that platforms govern their own operations continually in ways that amplify those torrents because they are profitable.

I do not mean to be glib about the urgency of the threats to freedom of expression surfaced by cyberlibertarian legal scholarship. Conflicts between institutional control and expressive freedom arise in any centrally governed


regime, but in networked spaces they are both endemic and especially difficult to resolve. Sublimated anger about law’s inherent repressiveness, however, is untenable as a long-term survival strategy both for the legal academy and more generally for any moderately complex society. Concededly, governance institutions are always-already imperfect and freedom-limiting, and they also must fight continual rearguard actions against capture, abuse, and overreach. But they are also necessary.

C. GETTING TO MEH

After anger comes bargaining—another wheelhouse mode for lawyers. In the particular context of techlaw scholarship, bargaining expresses hope that the control revolution’s disruptions might be accommodated by making relatively minor tweaks and adjustments to the law’s core institutions and routines.

In many contexts, bargaining is an ordinary and expected way of producing good-enough results for all parties—and sometimes, it can yield creative resolutions vastly superior to the remedies that a court would be empowered to devise. But bargaining presumes both a relatively equal distribution of bargaining power and a clear understanding of the universe of effective interventions. If one party is relatively well-resourced and well-equipped to undertake costly litigation, it will have little incentive to agree to concessions that seem unnecessary. If the same party also controls access to information about feasible remedial actions and need not share that information, it may be impossible for the other party to know what interventions to propose.

The ongoing debates about content moderation and digital privacy protection illustrate the perils of bargaining without discernible leverage. In the United States, the potent combination of statutory immunity for content moderation operations, broad privilege to harvest and process most user personal information, and sheer economic might has allowed the dominant platform firms to assume that refusal to compromise is costless. Whether defying requests for information from regulators, violating issued enforcement orders, or deflecting questions from members of Congress, their behavior has manifested clear awareness of their own impunity. Additionally, continuing a

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52. See U.S. SENATE COMM. ON COMMERCE, SCIENCE, AND TRANSPORTATION, OFFICE OF OVERSIGHT AND INVESTIGATIONS MAJORITY STAFF, A REVIEW OF THE DATA BROKER INDUSTRY: COLLECTION, USE, AND SALE OF CONSUMER DATA FOR MARKETING PURPOSES 10–11 (Dec. 18, 2013); U.S. FED. TRADE COMM’N, DATA BROKERS: A CALL FOR
theme developed in the previous two Sections, information technology firms of all sizes have leveraged the staying power of First Amendment denialism, weaponizing arguments about expressive liberty in the service of a more narrowly self-interested vision of immunity from regulatory oversight. Fueled by their contributions, a litigation campaign to extend First Amendment protection to all forms of information processing has been gathering strength.53

The content moderation and digital privacy debates also illustrate the costs of insufficient access to relevant information about the operation of data-driven algorithmic processes. Technology firms—especially the dominant platforms that wield the greatest economic and cultural power—go to extraordinary lengths to keep their processes for profiling users and routing content shrouded in secrecy.54 Additionally, although platforms govern their own operations continually, they share only the most basic and superficial information about how internal governance processes work.55 Without such information, it is impossible to formulate concrete proposals for governing differently.

As a different illustration of the costs of insufficient access to relevant information, consider the evolving discussions about algorithmic fairness, accountability, and transparency in search, digital advertising, and image recognition. As awareness of endemic problems of bias in automatic activity began to spread, journalists and scholars documented troubling patterns and
advocacy organizations filed discrimination lawsuits. Particularly when considered in light of the longer history of antidiscrimination litigation, the research and the lawsuits seemed to dictate fairly obvious corrective measures—adjust the algorithms to make them fairer, exclude particularly problematic data fields (such as race or gender), and so on. In a series of highly publicized statements and settlements, digital giants such as Facebook and Google agreed to make those sorts of changes. In reality, however, such limited interventions only make problems of bias more intractable. Machine learning algorithms reproduce and reinforce the patterns that exist in the data sets used to train them. Even when first-order data about protected characteristics such as race or gender is placed off limits, they will detect and reproduce preexisting patterns of systemic racial or gender-based disadvantage. Addressing patterns of injustice that are fundamentally social,
not technical, requires different types of intervention in the design of data-driven algorithmic processes—and ensuring efficacy requires the ability to audit those processes, even when their operators would prefer to keep them proprietary. Generally speaking, the dominant technology firms have resisted granting the sorts of access that would enable researchers to hold them accountable, and some have taken aggressive steps to block researchers from collecting such information on their own.59

Unlike denial and anger, bargaining under conditions that guarantee failure has some salutary uses. It underscores power disparities, and it highlights the information deficits that prevent good-faith negotiation and foreclose mutually acceptable compromise. Unless those pathologies can be addressed, however, that is all it is good for. Bargaining remains, at best, a way station in the process of reckoning with bereavement.

D. THE UNBEARABLE LIGHTNESS OF DEVOLUTION

The fourth stage of grief is depression. Those who have been bereaved begin to acknowledge a future indelibly stamped with loss but remain unable to envision anything other than emptiness and absence. Like anger in scholarly work about techlaw, depression is often sublimated. Unlike scholarly anger, which finds its outlet in rejection of imposed legal constraints, scholarly depression masquerades as cheerful optimism about law’s increasing marginality. Techlaw scholarship in the depressive mode frames the initial, powerfully self-interested governance formations that have begun to emerge—often, governance formations resulting from the lopsided bargaining described above—as both inevitable and inevitably beneficial.

The wish to put a bright face on corporate performances of accountability did not begin with techlaw; rather, it is broadly reflective of the devolution of governance in an era of ascendant neoliberalism and extractive capitalism. As private economic power increasingly has succeeded at placing itself beyond the reach of law both domestically and globally, lawyers and policymakers have fallen back on optimistic exhortations about corporate social responsibility,
often set forth as nonbinding statements of “principles” and “best practices” designed to serve as fulcrum points for assertions of moral authority.\(^{60}\)

The very earliest developments in the policy discourse around online content moderation followed this pattern. The Global Network Initiative, a voluntary association of global information businesses formed in 2008, promulgated principles that were intended to empower its members to resist authoritarian states’ demands for censorship, and the United Nations released a series of special reports on the protection of fundamental human rights in networked digital environments.\(^{61}\)

But depressive celebrations of private authority over content moderation also have attached themselves to more concrete forms of privatized governance. The 2018 Santa Clara Principles for Accountability and Transparency in Content Moderation set forth recommendations that included publication of statistics about complaint resolution and provision of notice and appeal rights.\(^{62}\) Many social media companies have adopted the recommendations, and some have gone further, publishing information about their criteria for complaint resolution.\(^{63}\)

Some legal scholars and tech activists have celebrated these developments while downplaying the fact that the transparency afforded into private content governance operations remains relatively low and that public accountability for the design of such systems—and of the content recommendation systems that are their operational counterparts—is essentially nonexistent.\(^{64}\) Some embrace

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the flowering of private governance in ways that also reflect the lingering influences of denial and anger; for these authors, the assertion of public governance authority is unlikely to improve matters and is far more likely to introduce unacceptable risks.\textsuperscript{65}

Both reactions ensure that new ventures in private governance are heralded even as other possible institutional settlements remain underexplored. So, for example, the Facebook Oversight Board, a body of legal and human rights experts constituted by Facebook (on the advice of an eminent Harvard constitutional law professor) to undertake “review” of selected content moderation decisions, has received breathless coverage in the media and praise from some academic commentators, even though it has very little actual authority.\textsuperscript{66} It accepts very few cases and can recommend action only on the particular content that is before it. It is not charged to recommend more sweeping changes to Facebook’s content moderation policies and practices. It also lacks authority to review the policies and practices that drive content amplification or the processes by which Facebook recommends its Groups and


Scholarly explorations of the prospects for systematic, public oversight of the data-driven, algorithmic processes that amplify hate and disinformation remain relatively rare. The growing body of literature about the processes and mechanisms of privacy governance supplies additional examples of techlaw scholarship in the depressive mode. As described in Part II, the two decades-long push to institute appropriate oversight of collection, processing, and use of personal information has produced vast new compliance industries dedicated to the pursuit, perfection, and legitimation of self-governance. As Ari Waldman documents, the processes of compliance are performative—they have as both their clear purpose and their undeniable effect the legitimation of existing practices that serve tech industry interests while allowing individuals very little informational self-determination and regulators very little direct authority to shape industry behavior. Many privacy scholars put a bright face on these developments, using terms like “coregulation” and “collaborative governance” to describe practices that involve almost no collaboration and produce even less accountability. Others praise the California Consumer Privacy Act (CCPA) for its boldness, choosing not to dwell on the fact that the CCPA’s principal governance mechanism—post hoc individual assertion of control

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rights—largely reinforces private authority over the mechanisms and patterns of data collection and use.71

To be fair, the urge to sublimate depression about the shortcomings of privatized governance solutions also reflects the fact that many other approaches to governing information-economy activities seem to be worse. In particular, authoritarian states have developed a suite of strategies for weaponizing social media, coercing platform compliance with content removal mandates, and extending and enforcing surveillance mandates, and those strategies are manifestly antidemocratic.72 If the only alternative to private ordering is authoritarianism, private ordering doesn’t seem so bad. That proposition, however, tends to be assumed rather than proved, and it has become a favorite tech industry talking point. U.S.-based information technology firms have worked to position global governance debates as zero-sum games in which the reigning U.S. deregulatory ethos is the only serious alternative to authoritarian rule more broadly.73 The result has been a steady downward spiral toward a future in which effective democratic governance of the control revolution seems increasingly out of reach.

E. SO NOW WHAT?

After depression comes acceptance. Unlike depression, however, acceptance does not simply entail resignation to a “new normal” consisting of continuing absence. It also represents an opportunity for new beginnings. If the legacy organizational models underpinning legal institutions have changed beyond recognition, making it infeasible simply to reassert their continuing primacy, perhaps it is time to envision new ones. And if the new, largely privatized governance formations emerging at the intersection of law and technology are not producing the sorts of governance that we want or need, perhaps other kinds of change are now in order. Part IV suggests ways for techlaw scholarship to structure those lines of inquiry.


IV. THE RULE OF LAW AFTER THE CONTROL REVOLUTION

If the project of techlaw is not to wither into irrelevance as it enters its second quarter century, its core research agenda must concern new organizational forms for legal institutions—organizational forms that are optimized to networked information and communication geographies while reasserting the centrality of public, political authority. As a way of framing that agenda, it is useful to recall Langdon Winner’s important meditation on the possibility of inherently political technologies, which identified nuclear power as a technology that uniquely required authoritarian chains of control.\footnote{See LANGDON WINNER, THE WHALE AND THE REACTOR: A SEARCH FOR LIMITS IN AN AGE OF HIGH TECHNOLOGY 19–39 (1986)} In her powerful new book, Kate Crawford extends Winner’s point about politics to political economy and to the processes that constitute “artificial intelligence.” She argues that those processes are both inherently authoritarian, because they rely on imposed classification and sorting, and inherently extractive, because of the natural and human resources they demand and consume.\footnote{See generally KATE CRAWFORD, ATLAS OF AI: POWER, POLITICS, AND THE PLANETARY COSTS OF ARTIFICIAL INTELLIGENCE (2021).} From a lawyer’s perspective, however, Winner’s conclusion about nuclear power was incomplete because authoritarian control processes still might be situated within and subjected to forms of oversight by larger and more democratically accountable institutions. By analogy, it is important to consider not only the modes of control and resource extraction that data-driven, algorithmic processes seem to require in their current implementations, but also whether it might be possible to reconfigure such processes in ways that constrain them to serve democratic, human, and planetary needs.

A. NETWORKED GEOGRAPHIES: MAPPING FLOWS, CONTROL POINTS AND FAILURE MODES

Designing governance institutions capable of subjecting the networked information processes of the control revolution to effective, democratically accountable oversight requires attention to their distinctive geographies—to the patterns of flow they enable, the points of control they offer, and the failure modes they present. The problems that have seemed most unruly when considered from traditional legal-institutional perspectives can help us to surface deeply-rooted assumptions about how a functioning system of legal institutions ought to work, and to define new research agendas that do not take those assumptions as givens.

The first and most basic difficulty that networked information processes have been thought to present for legal institutions is the decentralized, nonhierarchical structure of networks themselves. Networks are not ungovernable, however; they are just governed differently, via the standards that bind participants together and that work—more or less effectively—to prevent defection and alternative network-making.\(^76\) Standard-based governance mechanisms present distinctive failure modes, some of which relate to hegemonic power, others to defects in mechanisms for inclusion and participation, and others to moral hazard.\(^77\) Preexisting rule-based legal institutions can amplify the failures. In particular, dominant information platform firms can and do leverage contract, trade secrecy, and intellectual property rights to control access to and uses of their networks.\(^78\) Legal institutions for the control revolution need not take any of those arrangements for granted, but law- and policymakers must be willing to revise their own assumptions about the primacy and sanctity of contract and property rules designed for an earlier era.

A second set of problems concerns the interdependence of actors and regulatory objects within networked ecosystems. Data-driven predictions derive from and operate on population aggregates, and the scope of effective protection for private information typically depends on the behaviors of relatives, friends, and other members of one’s professional and social networks.\(^79\) Networked information and communication tools have similarly broad affordances and effects.\(^80\) Legal theories of causation and duty handle such network effects poorly, framing them as externalities and sharply limiting opportunities to impose corrective obligations on those whose conduct creates diffuse external harms. Grants of regulatory jurisdiction designed for a

\(^{76}\) For a useful summary of the different ways that networks reflect and reproduce power, see MANUEL CASTELLS, COMMUNICATION POWER 45–46 (2nd ed. 2011).


\(^{78}\) See generally Solon Barocas & Karen Levy, Privacy Dependencies, 95 WASH. L. REV. 555 (2020).

previous era (and often further constrained by insistently deregulatory approaches to cost-benefit analysis) do not perform much better. Governance institutions for the control revolution require more sophisticated understandings of collective harm and obligation, and of the ways that design interventions can protect both individual and collective values.

Third and relatedly, as described in Section III.C, digital processes that operate via machine learning detect preexisting patterns in the data upon which they rely and, unless constrained to behave differently, will reproduce those patterns along with whatever biases and systemic injustices they encode. If such processes are not merely to be mechanisms for further entrenching inequality and injustice, law- and policymakers will need to learn to make different uses of what they reveal and must stand ready to reconsider the law’s relationships to a wide variety of institutions and practices, many of which are decades and even centuries old.

A fourth set of problems revolves around the fact that access to networked processes and services is unavoidably mediated in ways designed and controlled by others. Even technically trained experts cannot fully access the details of complex machine learning processes that operate in real time over very large, heterogeneous data sets. The rest of us experience such processes and services (and can hold them accountable) only via interfaces, indicators, and dashboards that communicate selected items of information about how they operate. The traditional criteria relied on by regulators and judges tend not to make sense in such environments—information is always imperfect, choices are always imposed by others, and autonomy is always only partial. Interfaces, indicators, and dashboards also have distinctive failure modes. These range from dark patterns deliberately designed to deceive users to interface conventions designed for their addictive properties to simplifying conventions that reflect incomplete and self-interested perceptions of relevancy and risk. Governance institutions for the control revolution will

81. See COHEN, supra note 8, at 146–54, 173–85.
83. For three very different approaches to questions involving the legitimate design of predictive algorithmic tools, see Crystal S. Yang & Will Dobbie, Equal Protection Under Algorithms: A New Statistical and Legal Framework, 119 MICH. L. REV. 291 (2020); Pauline Kim, Race-Aware Algorithms: Fairness, Nondiscrimination, and Affirmative Action (May 2021) (unpublished manuscript) (on file with author); and Deborah Hellman, Big Data and Compounding Injustice, 18 J. MORAL PHIL. (forthcoming 2021).
84. On dark patterns, see generally WOODROW HARTZOG, PRIVACY’S BLUEPRINT: THE BATTLE TO CONTROL THE DESIGN OF NEW TECHNOLOGIES (2018); Arunesh Mathur, Gunes Acar, Michael J. Friedman, Elena Lucherini, Jonathan Mayer, Marshini Chetty & Arvind Narayanan, Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites, 3 PROC. ACM
need to speak the relevant technical and design languages and to open underlying design and optimization processes to appropriately structured forms of public scrutiny.

A final and enormously important cluster of problems involves scale and amplification. Networked digital processes operate and are designed to operate at scale, and their dysfunctions also scale up commensurately. Existing legal institutions do not adequately reckon with scale-based effects or the processes of data-driven intermediation that produce and entrench them. So for example, doctrinal frameworks for common carriage and contributory liability remain tethered to outdated notions of neutrality and fault, but data-driven algorithmic processes chart a middle path, rearranging online interactions in ways that are neither neutral nor intentional but rather driven by instrumental considerations and optimization parameters.\(^85\) First Amendment doctrine presumes listener rationality and holds that the costs of mistakenly suppressing protected speech outweigh those of mistakenly allowing unprotected speech to spread, but data-driven algorithmic processes optimized for engagement and virality short-circuit the presumptive self-correction mechanisms of hypothesized speech markets.\(^86\) Theories of privacy oriented toward individual control rights and litigation-centered enforcement cannot constrain data harvesting and processing practices designed to operate on populations.\(^87\) Governance institutions for the control revolution should be designed in ways that respond to these dynamics.\(^88\)

**B. LEGAL NORMATIVITIES: COUNTERING SYSTEMATIC ABUSES OF POWER**

One might wonder whether new forms of governance constructed along the lines sketched above still deserve to be called “legal” at all—and why that

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\(^87\) See generally Julie E. Cohen, How (Not) to Write a Privacy Law, KNIGHT FIRST AMENDMENT INST. (Mar. 23, 2021), https://knightcolumbia.org/content/how-not-to-write-a-privacy-law.

\(^88\) For preliminary explorations of topics relating to scale-based governance, see id.; Paul Ohm, Regulating at Scale, 2 GEO. L. TECH. REV. 546 (2018); Rory Van Loo, The New Gatekeepers: Private Firms as Public Enforcers, 106 VA. L. REV. 467 (2020).
designation might matter. According to Mireille Hildebrandt, “law,” as we have customarily understood it, is an artifact of print technologies, and especially of the fixity and the temporal rhythms that they impose. If that is right, then the project of reconstructing the rule of law for the networked digital era is doomed to failure. Understood more broadly, however, “rule of law” language is intended to supply a framework for talking about power, calling it to account, and constraining its systematic abuse. Designing governance institutions for the networked information era requires new thinking about how to translate those broadly framed rule-of-law commitments into mid-level principles capable of being operationalized within networked digital environments.

Legal philosophers probing below the surface of contemporary rule of law discourses have long recognized that the “rule of law” is an essentially contested concept. Three features of those debates are worth emphasizing here.

First and most important, rule of law discourses are situated in particular places and times, and so they have tended to privilege correspondingly situated institutional solutions. Hildebrandt links law’s decline to the failure of traditional legitimacy criteria such as generality, stability, and reproducibility within digital environments. Those criteria, however, are bound up with the organizational forms within which they have been articulated and reinforced; in particular, they are designed to privilege oversight by courts. If courts and textual fixity cannot contend with new forms of networked power and their endemic failure modes, it becomes important to consider what new organizational forms and accompanying evaluative practices might be devised. Such forms and criteria might bear only passing or partial resemblances to those with which we have been familiar, but there will be learning from other disciplines (such as information security and quality assurance) that might inform their design.

91. HILDEBRANDT, supra note 89, at 174–85; see also id. at 133–56 (discussing rule of law components). Relatedly, though with a narrower, Anglo-American focus, Lewis Kornhauser has suggested that law represents an “achievement” of governance that satisfies certain operational and evaluative criteria. See Lewis A. Kornhauser, Law as an Achievement of Governance (NYU Sch. L. Pub. L., Working Paper No. 21-04, 2021), http://dx.doi.org/10.2139/ssrn.3762033.
92. For preliminary explorations of topics relating to new governance modalities for data-driven algorithmic systems, see John Bowers, Elaine Sedenberg & Jonathan Zittrain, Platform Accountability through Digital “Poison Cabinets”, KNIGHT FIRST AMEND. INST. (Apr. 13,
Second, scholars have long recognized that some formulations of the rule-of-law ideal are exceedingly thin and serve as fig leaves for new concentrations of economic, authoritarian, and kleptocratic power. The mostly performative array of institutions that answer to autocrats and dictators tend to track existing, industrial-era presumptions about the form of legal institutions; it is no accident that authoritarian regimes constitute courts and appoint judges even as they withhold the authority that such entities require. (Those who conceived and designed the Facebook Oversight Board to cater to a modern-day autocrat’s desire for the trappings of the rule of law could have learned a thing or two from this history.) Judged according to the traditional legitimacy criteria, however, such regimes implement the rule of law in name only. Responses to such efforts emphasize the importance of higher-level evaluative criteria such as, for example, tempering arbitrary power. Power is resourceful, the project of tempering it is ongoing, and experiments in legal-institutional design will be more or less successful in that regard. Returning iteratively to higher-level rule of law criteria will be important in assessing the resilience and durability of new legal-institutional governance formations.

Finally, rule of law discourses can appear to sanction results that, while nonarbitrary, are nonetheless deeply unjust. Our notions of merit and fault as essentially individualized attributes have produced widespread acceptance of legal-institutional practices that satisfy the traditional criteria of regularity and publicity—and so, not coincidentally, may be consistent with fig-leaf accounts of what the rule of law requires—but that are designed to further and widen systematically unequal resource distribution. I have in mind here a wide and varied set of practices including, for example, land use and public education regulations that reinforce patterns of economic inequality; rules for conducting elections that, while formally neutral, produce systematic disparities in voter turnout and political representation; and rules regarding the imposition and enforcement of legal financial obligations that impose crushing burdens on the poor. In contrast, Paul Gowder’s exploration of the rule of law foregrounds an equality criterion and demands that rule-of-law institutions work to


counteract strategies for hoarding perks and privileges. A rule-of-law framework for a post- and decolonial era might—and, I would argue, should—give much greater weight to such considerations. A rule of law framework for the networked information era should include mid-level principles for operationalizing an equality criterion within networked digital environments. In particular, it should recognize that those with greater access to knowledge and processing power will always be able to take advantage of information gaps, and that considerations of systemic, distributive, and intergenerational justice may require leveling interventions.

V. CONCLUSION: WWJD?

The legal academy and the legal profession now confront a generational challenge. It is useful to begin simply by recognizing as much. In the context of this symposium, it is also both fitting and instructive to return, once again, to “Lex Informatica” and to Joel Reidenberg. What would Joel do?

That question is easy to answer: Look past overly reductive models and pat solutions. Center legal institutions as necessary sites of innovation. Consult technologists, but don’t conflate their particular expertise with wisdom about how to run a just, inclusive, and democratically-accountable society. Consult industry, but don’t confuse its self-interested, ideologically overdetermined positionings about “progress” and “innovation” with the demands of human flourishing more broadly understood. Design processes that prioritize public accountability. Especially, prioritize accountability to communities that have borne the brunt of legally- and technologically-facilitated abuses. Bring

95. See generally PAUL GOWDER, THE RULE OF LAW IN THE REAL WORLD (2016).
96. On the consequences of differential access to information and processing power, see generally MARK ANDREJEVIC, INFOGLUT: HOW TOO MUCH INFORMATION IS CHANGING THE WAY WE THINK AND KNOW (2013); Hellman, supra note 83. For preliminary explorations of topics relating to leveling interventions in systems design, see Julie E. Cohen, Turning Privacy Inside Out, 20 THEOR. INQ. L. 1 (2019); Mireille Hildebrandt, Privacy as Protection of the Incomputable Self: From Agnostic to Agonistic Machine Learning, 20 THEOR. INQ. L. 83 (2019); Paul Ohm & Jonathan Frankle, Desirable Inefficiency, 70 FLA. L. REV. 777 (2018); Paul Ohm, Forthright Code, 56 HOUS. L. REV. 471 (2018).
99. See Kroll et al., supra note 97, at 702–05.
everyone to the table, and treat everyone with generosity and respect. Above all, remember that law is a means to an end and that denial, defeatism, arrogance, and entitlement undermine that end utterly.