

From Lex Informatica to the Control Revolution

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Abstract: Legal scholarship on the encounter between networked digital technologies and law has focused principally on how legal and policy processes should respond to new technological developments and generally has not considered what that encounter might signify for the shape of legal institutions themselves. This essay focuses on the latter question, exploring the significance of the “control revolution” in technological development for law understood as a set of organizations constituted for the purpose of governance.

I. Introduction

In the beginning (techlaw-wise) came two texts. Together, they defined an agenda for exploring the encounter between networked 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.¹ 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 life as a law review article but simultaneously evolved into a book crafted for a more general audience.² 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 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,³ 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. One had first to recognize the conflict, but what then? 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 standard-setting. Because *Code* was a product of the “New Chicago School,” it foregrounded markets and norms even as it proceeded to criticize their

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¹ Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553 (1998).

² LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE (1999); Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501 (1999).

³ Some did not. The canonical example is Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207 (1996), though I hesitate to give it yet another citation.

outputs.⁴ 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 vectors. It contemplated regulatory processes as situated sites of intervention—an approach broadly compatible with decades of accumulated, interdisciplinary learning on situated sociotechnical processes—whereas *Code* described an elemental collision of regulatory forces that unfolded as a contest over *terra nullius* and that resonated with the reigning neoliberal ethos of the era.

In other ways, though, the encounter between networked technologies and law proved astonishingly resistant to the research agendas and policy interventions suggested by both “Lex Informatica” and *Code*, for the simple reason that neither considered what that encounter might signify for the shape of legal institutions themselves. And so, gradually but inexorably, new developments began to pose questions that the two texts did not contemplate at all. For example, what does it mean to require “compliance” with a remedial decree directed to the operation of data-driven, algorithmic processes? And what institutional configurations might ensure sufficient public accountability of compliance operations? What corrective actions can remedial orders directed to actors within networked information ecosystems plausibly require?

As these examples suggest, there is an important difference between understanding code as a mode of regulation that might challenge or complement law and understanding it as a mode of development that catalyzes deep structural transformation in organizations of all sorts, including 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 framework for understanding the ways that new information technologies and the “control revolution” they enabled have elicited long-term, enduring changes in the structure and operation of economic organizations.⁵ Part II introduces that framework and considers its lessons 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 institutional 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

⁴ See generally Mark Tushnet, “*Everything Old Is New Again*”: *Early Reflections on the “New Chicago School,”* 1998 WISC. L. REV. 579 (1998).

⁵ 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 conceptual distinct exploration of the evolving role of control within networked digital information systems, 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).

suggest, our familiar legal institutions have been in the process of evolving out from under us, we still have choices to make about how governance institutions 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 design of governance institutions after the control revolution. In brief, such institutions must be optimized to networked geographies and must conform to 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 respond to—and exploit, and actively work to cultivate and reconfigure—operative legal and governance regimes in ways that are most congenial to their own activities and goals.⁶ 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.⁷ But legal institutions are also *organizations*, and so it is also important to consider the structural and organizational ramifications of the ongoing encounter between networked information technologies and law. Additionally, although some institutional realignments reflect the intentional efforts of self-interested *actors*, it is useful to ask broader questions about technologically-mediated transformation that consider both intended and unintended *systemic effects*. Here, I bring classic mid-twentieth-century studies of the encounter between for-profit organizations and emerging information systems to bear on legal institutions and their evolving accommodations to the informational era.

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 governance institutions.⁸ Scholarly accounts of the organizational entailments of networked information technologies as they collided with the means of production (in a particular political economy) has 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.

⁶ JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM ____ (2019). On the concept of technological drama, see Bryan Pfaffenberger, *Technological Dramas*, 17 SCI., TECH., & HUM. VALUES 282 (1992).

⁷ See generally Marc Galanter, *Why the “Haves” Come Out Ahead: Speculations on the Limits of Legal Change*, 9 L. & SOC'Y REV. 95 (1974); MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW, 1780-1860 (1977).

⁸ BENIGER, THE CONTROL REVOLUTION, *supra* note ____.

The first lesson of the control revolution is that it changes *how* organizations produce outputs. As Beniger showed, the control revolution in production both necessitated and catalyzed a managerial turn in the configuration of control processes. 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 supply chains, labor market practices, and workspace configurations might be rearranged to respond most effectively to geographic and seasonal fluctuations.⁹

The second lesson of the control revolution is that it changes *what* organizations produce. Newly comprehensive and granular 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 shelf-stability.¹⁰

The third lesson of the control revolution is that changes in the how and what of production also reflected prevailing ideologies about what and whom production was (good) for—about *why* organizations produce. As labor historians like Harry Braverman and Sanford Jacoby showed, the control revolution comprehensively reshaped the conditions of labor because it required new cadres of managerial workers to operate the new information systems.¹¹ The managerial turn unfolded alongside the development of financialized metrics of success such as growth and shareholder profit—a development that also reflected and reinforced the growing influence of new information technologies—and alongside the emergence of a neoliberal ideological framework that envisioned government as existing principally to steward market processes.¹² For all of these historically contingent reasons, the instrumentalities of the control revolution 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 legal institutions themselves. Consider a few examples:

⁹ *Id.* at [REDACTED].

¹⁰ *Id.* at [REDACTED].

¹¹ See HARRY BRAVERMAN, *LABOR AND MONOPOLY CAPITAL*, 251-69 (1974); SANFORD JACOBY, *EMPLOYING BUREAUCRACY: MANAGERS, UNIONS, AND THE TRANSFORMATION OF WORK IN THE 20TH CENTURY* (rev. ed. 2004)

¹² On financialization, see GRETA KRIPPNER, *CAPITALIZING ON CRISIS: THE POLITICAL ORIGINS OF THE RISE OF FINANCE* (2012); Natascha Van der Zwan, *Making Sense of Financialization*, 12 *SOCIO-ECON. REV.* 99 (2014). On neoliberalization, see PHILIP MIROWSKI & DIETER PLEHWE, EDs., *THE ROAD FROM MONT PELERIN: THE MAKING OF THE NEOLIBERAL THOUGHT COLLECTIVE* (2009); Nicholas Gane, *The Governmentalities of Neoliberalism: Panopticism, Post-Panopticism, and Beyond*, 60 *SOCIOL. REV.* 611, 627-29 (2012); Gerard Hanlon, *The First Neo-Liberal Science: Management and Neo-Liberalism*, 52 *SOCIOLOGY* 298 (2018).

In the courts, networked information technologies and systems have enabled parties to structural reform litigation and agency enforcement litigation to develop new protocols for producing and managing large-scale settlements. The settlements require and normalize elaborate sets of managerial and organizational practices. As those processes scale up, they produce substantial benefits to the managers and shareholders of affected corporations, and also to an assortment of new third-party beneficiaries—compliance auditors, litigation financiers, specialized corps of attorneys and judges, and so on.¹³ Whether they produce enhanced accountability to those harmed by the practices prompting the flurry of managerial activity, or to society more generally, tends to be far less clear.

In the administrative state, regulators confronted with the need to oversee and regulate processes governed via the instrumentalities of the control revolution have found themselves in need of new tools and competencies. Data-driven algorithmic processes demand correspondingly sophisticated oversight mechanisms, and they also enable new types of gaming that can be difficult to detect.¹⁴ Additionally, as regulated activities in sectors such as banking, consumer finance, environmental protection, and the like have grown ever more informationalized and complex, the regulatory landscape has widened to include a diverse group of third-party auditors, systems vendors, and other compliance intermediaries.¹⁵

Within law enforcement agencies and inside the national security state, networked information technologies have enabled the growth of vast surveillance apparatuses seemingly unconstrained by more narrowly conceived constitutional and statutory protections. Although some of the new formations exist inside specific agencies, most cross preexisting organizational lines, emerging out of procurement processes, hybrid public-private partnerships, and cross-jurisdictional policing and border enforcement initiatives.¹⁶ Although some have elicited new types of managerial oversight, in their current implementations those processes have begun to

¹³See COHEN, BETWEEN TRUTH AND POWER, *supra* note __, at 159-64; Charles F. Sabel & William H. Simon, *Destabilization Rights: How Public Law Litigation Succeeds*, 117 HARV. L. REV. 1016 (2004); *see generally* Brooke D. Coleman, *One Percent Procedure*, 91 WASH. L. REV. 1005 (2016); Abbe Gluck, *Unorthodox Civil Procedure: Modern Multidistrict Litigation's Place in the Textbook Understandings of Procedure*, 165 U. PENN. L. REV. 1669 (2017); David M. Jaros & Adam S. Zimmerman, *Judging Aggregate Settlement*, 94 WASH. U. L. REV. 545 (2017); Jason Parkin, *Aging Injunctions and the Legacy of Institutional Reform Litigation*, 70 VAND. L. REV. 167 (2017).

¹⁴See Cary Coglianese & Jennifer Nash, *The Law of the Test: Performance- Based Regulation and Diesel Emissions Control*, 34 YALE J. ON REG. 33 (2017); Cary Coglianese, *The Limits of Performance- Based Regulation*, 50 U. MICH. J. L. REFORM 525 (2017); Karen Yeung, *Algorithmic Regulation: A Critical Interrogation*, 12 REG. & GOV. 505 (2018).

¹⁵ See COHEN, BETWEEN TRUTH AND POWER, *supra* note __, at 189-93; Kenneth A. Bamberger, *Technologies of Compliance: Risk and Regulation in a Digital Age*, 88 TEX. L. REV. 669 (2010); Kenneth A. Bamberger, *Regulation as Delegation: Private Firms, Decisionmaking, and Accountability in the Administrative State*, 56 DUKE L.J. 377 (2006).

¹⁶ See, e.g., Elizabeth E. Joh, *The Undue Influence of Surveillance Technology Vendors on Policing*, 92 N.Y.U. L. REV. ONLINE 101 (2017); Deirdre Mulligan & Kenneth Bamberger, *Procurement as Policy: Administrative Process for Machine Learning*, 34 Berkeley Tech. L.J. 773 (2019); Priscilla M. Regan, Torin Monahan, & Krista Craven, *Constructing the Suspicious: Data Production, Circulation, and Interpretation by DHS Fusion Centers*, 47 ADMIN. & SOC'Y 74 (2015).

seem uniquely unaccountable to the broader publics whose interests they are supposed to be serving.¹⁷

The ultimate lesson of the control revolution for law, then, 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 law¹⁸) from the inside out. They produce institutional and organizational formations that resemble the Platonic forms taught in law school courses only vestigially and incidentally. And the new institutional formations of the control revolution generate outputs that familiar modes of legal understanding cannot parse.

III. Grief Counseling for Law Professors

For legal scholars, large-scale, disruptive change in the structure and operation 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. From teaching students about institutional forms notable chiefly because they no longer exist outside the pages of casebooks, to writing about those same forms in the pages of law reviews as though they still deserved to command the lion's share of our attention and energy, to envisioning the possible futures of a system of governance whose central tenets and institutional formations 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.¹⁹ (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

¹⁷ See, e.g., Daphna Renan, *The FISC's Stealth Administrative Law*, in *GLOBAL INTELLIGENCE OVERSIGHT: GOVERNING SECURITY IN THE TWENTY-FIRST CENTURY* 121 (Zachary K. Goldman & Samuel J. Rascoff eds. 2016).

¹⁸ For more on this distinction, see Part IV.B.

¹⁹ [CW: cite Elisabeth Kubler-Ross]

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.²⁰ 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.²¹ More recently, as 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.²² Others, meanwhile, have fallen back on a third 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.²³

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 monetizes all perspectives equally, does not seem to be furthering large-scale rejection of white supremacy and hate. Rather, it has nurtured them, helping them to recruit new adherents and to seed mainstream media environments with new and pernicious discursive frames.²⁴ Because platforms rely on probabilistic profiles and engagement metrics to recommend both online content and online communities, content- and even speaker-level interventions do not meaningfully disrupt the mechanisms by which extremist sentiment diffuses across interlinked networks.²⁵ The blunt, Newtonian instruments supplied by existing constitutional doctrine are wholly inadequate to the task of apportioning governance authority within such spaces. Additionally, modes of constitutional argumentation that simply reassert

²⁰ [CW: cites – check the Bambauers (both Derek and Jane), Jeff Kosseff, Eric Goldman].

²¹ See, e.g., Dawn C. Nunziato, *The Death of the Public Forum in Cyberspace*, 20 BERKELEY TECH. L.J. 1115 (2005); [CW: add one more from 1998ish-2010ish]; see also Kyle Langvardt, *Regulating Online Content Moderation*, 106 GEO. L.J. 1353 (2018) (invoking the company town doctrine to justify public oversight of content moderation practices).

²² [CW: Knight v. Trump (Thomas concurrence); find a right-leaning 1A scholar worried about deplatforming—check the Volokh Conspiracy blog].

²³ [CW: cites – check 1A scholarship on hate speech in cyberspace].

²⁴ [CW: other cites re online spread/seeding/recruitment]. See Joan Donovan, *Source Hacking: Media Manipulation in Practice*, DATA & SOC'Y (Sept. 4, 2019), <https://datasociety.net/library/source-hacking-media-manipulation-in-practice/> [<https://perma.cc/4DM7-8HR8>].

²⁵ [CW: cites – check Joan Donovan; evelyn douek; Data & Society reports].

private authority over such matters undermine efforts to render platform power publicly accountable.

My argument here is not about the way that ostensibly neutral moves within free speech discourse work systematically to benefit the powerful 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 the interpretive conventions flowing from a text that is itself an industrial-era artifact, to acknowledge and retire the underlying 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.²⁶ 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 the possibility 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 law and legal institutions to work systemic distributional and racialized injustice.²⁷ Righteous wrath over law's complicity in the perpetuation of systemic injustice has a centrally important role in legal scholarship and public 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.²⁸

Scholarly and policy debates about the future of digital copyright have been ground zero for cyberlibertarian's frustrated utopianism. 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

²⁶ See generally Tim Wu, *Is the First Amendment Obsolete?*, 117 MICH. L. REV. 547 (2018).

²⁷ See, e.g., Ifeoma Ajunwa, *Race, Labor, and the Future of Work*, in OXFORD HANDBOOK OF RACE AND LAW ____ (Emily Houh, Khiara Bridges, & Devon Carbado, 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*, Data and Pandemic Politics Series, GlobalDataJustice.org (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 UMOJA NOBLE, *ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM* (2018).

²⁸ See, e.g., Lawrence Lessig, [CW: which book?]; SHAPIRO, *THE CONTROL REVOLUTION*, *supra* note __; [CW: Dan Hunter; David Post]; see also YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* (2007) (JC: parenthetical).

control—and because the major industry stakeholders had long been accustomed to dictating the shape of new legislation—proposals for digital-era copyright legislation became highly contentious.²⁹ 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 pointed criticism because filtering algorithms could not duplicate the flexibility and nuance that fair use doctrine required, and proposals to downgrade the fidelity of audio and/or video files were criticized on the ground that depriving users of high-resolution content would limit their creative freedom.³⁰ Complaints about emergent linking and embedding practices that channeled advertising revenues away from “legacy” content producers to the new digital intermediaries were roundly mocked as the last gasps of industrial-economy gatekeepers seeking to silence new citizen performers, documentarians, and journalists.³¹

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.³² And because power abhors a vacuum, legislative and policy stalemates over the legitimate reach of “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.³³ These institutional settlements have not been costless; information intermediaries have not hesitated to design their own automated filtering systems and to develop their own linking and embedding conventions, and those choices in turn have systematically shifted creative agency away from information users and digital advertising revenues away from entities such as news providers.³⁴

²⁹ For good summaries, see BILL HERMAN, *THE FIGHT OVER DIGITAL RIGHTS: THE POLITICS OF COPYRIGHT AND TECHNOLOGY* (2013); JESSICA LITMAN, *DIGITAL COPYRIGHT* (2006).

³⁰ See, e.g., Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Copyright Management Systems*, 15 HARV. J. L. & TECH. 41 (2001); [CW: others on fair use, check Rebecca Tushnet, Dan Hunter, Mark Lemley]; [CW: need something on downgrading fidelity – look for people discussing the Audio Home Recording Act’s SCMS and the possibility of imposing analogous restrictions].

³¹ See, e.g., [CW: articles on the copyright treatment of linking and framing: Dan Hunter? Lemley? Grimmelmann? others?].

³² See, e.g., Burk & Cohen, *supra* note __; Julie E. Cohen, *Pervasively Distributed Copyright Enforcement*, 95 GEO. L.J. 1 (2006); Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799 (2000); Julie E. Cohen, *Copyright and the Jurisprudence of Self-Help*, 13 BERKELEY TECH. L.J. 1089 (1998); Julie E. Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of “Rights Management,”* 97 MICH. L.REV. 462 (1998).

³³ See, e.g., Guy Pessach, *Beyond IP— The Cost of Free: Informational Capitalism in a Post IP Era*, 54 OSGOODE HALL L. REV. 225 (2016); Thomas Poell, David Nieborg, Brooke Erin Duffy & José van Dijck, “The Space of Negotiations: Analyzing Platform Power in the Cultural Industries,” [JC need cite and permission].

³⁴ [CW: Cites re burdens of platform automated filtering on users and cultural production] On the impacts of platformization on journalism, see MIKE ANANNY, *NETWORKED PRESS FREEDOM: CREATING INFRASTRUCTURES FOR*

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.³⁵ CDA 230 also reflects the continuing influence of First Amendment denialism; over the years, its 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 historical rightness of an institutional settlement that assigns private intermediaries all of the power to shape information environments and their users—and democracy more generally—all of the risk.³⁶ 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.³⁷ 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.³⁸

The ongoing debates about content moderation and digital privacy protection illustrate the perils of bargaining without discernible leverage. In the U.S., the potent combination of

A PUBLIC RIGHT TO HEAR (2018); Erin C. Carroll, *Platforms and the Fall of the Fourth Estate*, 78 MD. L. REV. (2019).

³⁵ 47 U.S.C. § 230(c)(1).

³⁶ [CW: Examples from CDA 230 debates]

³⁷ See generally Thomas O. Main, *ADR: The New Equity*, 74 U. CIN. L. REV. 329 (2005).

³⁸ [CW: Something law-and-economic-y on information costs in ADR?].

statutory immunity for content moderation operations, privileges to harvest and process most user personal information, and sheer economic might has allowed the dominant platforms 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, a litigation campaign to extend First Amendment protection to all platform-based manipulations of information has been gathering strength.³⁹ Should it succeed, information businesses of all sorts will gain new and powerful defenses.

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.⁴⁰ Additionally, although platforms govern their own operations continually, they share only the most basic and superficial information about how internal governance processes work. Without such information, it is impossible to formulate concrete proposals for governing differently.⁴¹

As a different illustration, consider the evolving discussions about algorithmic fairness, accountability, and transparency in search, digital advertising, and image recognition. As both journalists and scholars began to document patterns of biased results, advocacy organizations began to file discrimination lawsuits.⁴² Particularly when considered in light of the longer history of antidiscrimination litigation, the research and the lawsuits seemed to dictate fairly obvious corrective measures—correct the algorithms to make them fairer, exclude particularly problematic fields (such as race or gender) from the data sets, and so on. In a series of highly publicized settlements, digital giants such as Facebook and Google agreed to make those sorts of changes.⁴³ 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.⁴⁴ Addressing patterns of injustice that are fundamentally social, not technical, requires different types of intervention in the design of data-driven

³⁹ See *Sorrell v. IMS Health, Inc.*, 564 U.S. 552, 563–70 (2011); Jane R. Bambauer, *Is Data Speech?*, 66 STAN. L. REV. 57 (2014); Eugene Volokh & Donald Falk, *First Amendment Protection of Search Engine Search Results*, 8 J. L. ECON. & POL’Y 88 (2012); see generally Amanda Shanor, *The New Lochner*, 2016 WISC. L. REV. 133 (2016); Jameel Jaffer & Ramya Krishnan, *Clearview AI’s First Amendment Theory Threatens Privacy—and Free Speech Too*, SLATE (Nov. 17, 2020), <https://slate.com/technology/2020/11/clearview-ai-first-amendment-illinois-lawsuit.html>.

⁴⁰ Cites, esp. Zuboff and Pasquale.

⁴¹ See generally [CW: cites – check evelyn douek].

⁴² [CW: Cites – early investigations such as Facebook housing ads, Google labeling images as gorillas, Latanya Sweeney’s bail bond ads, etc.]

⁴³ [CW: Cites – not sure if there is one involving Google? Definitely a couple involving FB]

⁴⁴ [CW: Cites – e.g., Markup showing bias still exists on FB, etc.]. See generally David Lehr & Paul Ohm, *Playing with the Data: What Legal Scholars Should Learn about Machine Learning*, 51 U.C. DAVIS L. REV. 65 (2017); Andrew D. Selbst & Solon Barocas, *The Intuitive Appeal of Explainable Machines*, 86 FORDHAM L. REV. 1085 (2018).

algorithmic processes—and ensuring efficacy requires the ability to audit those processes, even when their operator would prefer to keep them proprietary. The tech giants that are household names have been unwilling to grant the sorts of access that would enable researchers to hold them accountable.⁴⁵

Unlike denial and anger, bargaining under conditions that guarantee failure has some salutary uses. It underscores power disparities and 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.

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. It 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.⁴⁶ 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.⁴⁷

But depressive celebrations of private authority over content moderation also have attached themselves to more concrete forms. The 2018 Santa Clara Principles for Accountability and Transparency in Content Moderation set forth recommendations that included publication of

⁴⁵ [CW: cites re CFAA suits; pressure on organizations such as NYU, ProPublica, The Markup; etc.]

⁴⁶ See Representative of the Secretary-General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises, Human Rights Council, U.N. Doc. A/HRC/17/31 (Mar. 21, 2011) (by John Ruggie); “The Ten Principles of the UN Global Compact,” United Nations Global Compact, <https://perma.cc/5LZV-AJYY>.

⁴⁷ The GNI Principles, Global Network Initiative, <https://globalnetworkinitiative.org/gni-principles/>. For the most recent United Nations Report, see Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, Human Rights Council, U.N. Doc. A/HRC/38/35 (Apr. 6, 2018) (by David Kaye), <https://www.undocs.org/A/HRC/38/35>; Michael Blowfield & Jędrzej George Frynas, *Setting New Agendas: Critical Perspectives on Corporate Social Responsibility in the Developing World*, 81 INT’L AFF. 499 (2005).

statistics about complaint resolution and provision of notice and appeal rights.⁴⁸ Many social media companies have adopted the recommendations, and some have gone farther, publishing information about their criteria for complaint resolution.⁴⁹ Many legal scholars and tech journalists have praised these developments, downplaying the fact that the transparency afforded into the operation of private content governance operations remains relatively low and emphasizing that perfection in post hoc content moderation and removal is an unattainable goal.⁵⁰ Widespread acceptance of that proposition ensures that other possible institutional settlements—including, for example, systematic and publicly accountable oversight of the data-driven, algorithmic processes that amplify hate and disinformation—remain underexplored. The Facebook Oversight Board, a body of legal and human rights experts constituted by Facebook 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.⁵¹ It accepts very few cases and can make binding recommendations only on the particular content that is before it; it cannot require more sweeping changes to Facebook’s content moderation policies and practices.⁵² And it entertains appeals only from decisions about content *removal*. It has no authority over the policies and practices that drive content *amplification*, nor over the processes by which Facebook recommends its Groups and Pages.⁵³

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 simultaneous reinforcement and legitimation of existing information practices that serve tech industry interests while allowing individuals very little informational self-determination and regulators very little direct authority to shape industry practices.⁵⁴ 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.⁵⁵ Others praise the California Consumer

⁴⁸ The Santa Clara Principles on Transparency and Accountability in Content Moderation, <https://santaclaraprinciples.org/>.

⁴⁹ See, e.g., Casey Newton, *Facebook Makes Its Community Guidelines Public and Introduces an Appeals Process*, THE VERGE (Apr. 24, 2018), <https://www.theverge.com/2018/4/24/17270910/facebook-community-guidelines-appeals-process>.

⁵⁰ [CW: Examples of praise for tech firms adopting Santa Clara Principles, or any of them: transparency reporting, notice of content removal, appeal rights].

⁵¹ [CW: Examples of praise for FOB, esp. Klonick].

⁵² [CW: Cites – check evelyn douek].

⁵³ [CW: Cites – check evelyn douek].

⁵⁴ See Ari Ezra Waldman, *Privacy, Practice, and Performance*, ___ CAL. L. REV. (forthcoming 2021); Ari Ezra Waldman, *Privacy Law’s False Promise*, 97 WASH. U. L. REV. 773 (2020).

⁵⁵ See, e.g., Dennis D. Hirsch, *The Law and Policy of Online Privacy: Regulation Self-Regulation, or Co-Regulation?*, 34 SEATTLE U. L. REV. 439, 465–66 (2011); Margot Kaminski, *Binary Governance: Lessons from the GDPR’s Approach to Algorithmic Accountability*, 92 S. CAL. L. REV. 1529, 1557–77 (2019); Anupam Chander, Margot Kaminski, & William McGeeveran, *Catalyzing Privacy*, ___ MINN. L. REV. (forthcoming 2021).

Privacy Act for its boldness, choosing not to dwell on the fact that the CCPA’s principal governance mechanism—post hoc individual assertion of control rights—largely reinforces private authority over the mechanisms and patterns of data collection and use.⁵⁶

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.⁵⁷ 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.⁵⁸ 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 organizational models formerly understood as timeless 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 institutions 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 uses the problems that have seemed most unruly (when considered from traditional legal-institutional perspectives) to suggest ways of structuring that 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 the kinds of *public* governance institutions that new networked digital technologies might support. As a way of framing that agenda, it is useful to return to 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.⁵⁹ In her powerful new book, Kate Crawford argues that the processes that

⁵⁶ [CW: Examples; check C, K, & McG above].

⁵⁷ See, e.g., Rebecca Hamilton, *Governing the Global Public Square*, 62 HARV. INT’L L.J. 117 (2021); Min Jiang, *Authoritarian Informationalism: China’s Approach to Internet Sovereignty*, 30 SAIS REV. INT’L AFF. 71 (2010): 71–89; MARGARET ROBERTS, *CENSORED: DISTRACTION AND DIVERSION INSIDE CHINA’S GREAT FIREWALL* (2019); ZEYNEP TUFECKI, *TWITTER AND TEAR GAS: THE POWER AND FRAGILITY OF NETWORKED PROTEST* (2017).

⁵⁸ [CW: Examples of platforms/lobbyists/pundits/scholars citing the need to compete with China as justification for not regulating Big Tech]

⁵⁹ See LANGDON WINNER, *THE WHALE AND THE REACTOR: A SEARCH FOR LIMITS IN AN AGE OF HIGH TECHNOLOGY* 19-39 (1986)

constitute artificial intelligence 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.⁶⁰ 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.

B. 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 our most deeply-rooted assumptions about how a functioning system of governance 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.⁶¹ Network externalities and well-designed standard-based governance mechanisms reinforce the power of dominant hubs.⁶² Standard-based governance mechanisms also present distinctive failure modes that preexisting legal institutions can amplify. In particular, dominant information platform firms leverage contract, trade secrecy, and intellectual property rights to maintain their proprietary control over network standards and so over the mechanisms and forms of access.⁶³ Governance institutions for the control revolution need not take any of those arrangements for granted, but law- and policy-makers must be willing to revise their own assumptions about the primacy of those enabling legal mechanisms.

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.⁶⁴

⁶⁰ KATE CRAWFORD, *ATLAS OF AI: POWER, POLITICS, AND THE PLANETARY COSTS OF ARTIFICIAL INTELLIGENCE* (2021).

⁶¹ For discussion of network-and-standard-based governance and its pitfalls, see COHEN, *BETWEEN TRUTH AND POWER*, *supra* note __, at 217-37. For a useful summary of the different ways that networks reflect and reproduce power, see MANUEL CASTELLS, *COMMUNICATION POWER* 45-46.

⁶² See generally ALBERT-LASZLO BARABASI, *LINKED: THE NEW SCIENCE OF NETWORKS* (2002); Michael L. Katz & Carl Shapiro, “Systems Competition and Network Effects,” 8 *J. ECON. PERSP.* 93 (1994).

⁶³ See COHEN, *BETWEEN TRUTH AND POWER*, *supra* note __, at 40-46.

⁶⁴ See generally Solon Barocas & Karen Levy, *Privacy Dependencies*, 95 *WASH. L. REV.* 555 (2020).

Legal theories of causation and duty handle such network effects poorly, framing them as externalities and sharply limiting the avenues for imposing corrective obligations on those whose conduct creates diffuse external harms. 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 Part 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. Although technically trained experts may be able to make sense of all the details, 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.⁶⁵ Governance institutions for the control revolution will 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. Legal tools for responding to scalar effects translate poorly to the networked digital environment. So for example, theories of common carriage and contributory liability remain tethered to outdated notions of neutrality and fault, whereas 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

⁶⁵ On dark patterns, see generally WOODROW HARTZOG, *PRIVACY'S BLUEPRINT: THE BATTLE TO CONTROL THE DESIGN OF NEW TECHNOLOGIES* (2018); Arunesh Mathur et al., *Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites*, in 22ND ACM CONFERENCE ON COMPUTER-SUPPORTED COOPERATIVE WORK AND SOCIAL ENGINEERING 81 (2019). On addictive design, see generally ADAM ALTER, *IRRESISTIBLE: THE RISE OF ADDICTIVE TECHNOLOGY AND THE BUSINESS OF KEEPING US HOOKED* (2017); ZUBOFF, *supra* note __, at 159–62, 457–74; Tristan Harris, *The Slot Machine in Your Pocket*, DER SPIEGEL ONLINE (July 27, 2016), <http://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html> [<https://perma.cc/V3AA-ZBWM>]. On the pitfalls of simplifying conventions, see [[to do](#)]

parameters.⁶⁶ Theories of privacy oriented toward individual control rights and litigation-centered enforcement cannot constrain data harvesting and processing practices designed to operate on populations.⁶⁷ First Amendment doctrine presumes listener rationality and holds that the costs of mistakenly suppressing protected speech outweigh the costs of mistakenly allowing unprotected speech to spread, but data-driven algorithmic processes optimized for engagement and viral spread short-circuit the presumptive self-correction mechanisms of hypothesized speech markets.⁶⁸ The platform-based, massively-intermediated environment operates at scale to produce fertile conditions for the spread of hate-based extremism and for common-knowledge attacks on foundational democratic institutions.⁶⁹ Governance institutions for the control revolution should be designed in ways that respond to these dynamics.

B. Legal Normativities: Countering Systematic Abuses of Power

Designing governance institutions for the networked information era also requires new thinking about how to translate high-level rule-of-law commitments into mid-level principles capable of being operationalized within networked digital environments. One might wonder whether new forms of governance constructed along the lines sketched above still deserve to be called “law” at all—and why that 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.⁷⁰ 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. The project of developing a new framework for constraining networked digital power is still just beginning.

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.⁷¹ 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.⁷² Those criteria, however, are bound up with the

⁶⁶ See generally Julie E. Cohen, *Tailoring Election Regulation: The Platform Is the Frame*, 4 GEO. L. TECH. REV. 641, 653-55 (2020).

⁶⁷ See generally Julie E. Cohen, *How (Not) to Write a Privacy Law*, Knight First Amendment Institute at Columbia University (Mar. 23, 2021), <https://knightcolumbia.org/content/how-not-to-write-a-privacy-law>.

⁶⁸ See Cohen, *Tailoring Election Regulation*, *supra* note __, at 649-53; Lyriisa Barnett Lidsky, *Nobody’s Fools: The Rational Audience as First Amendment Ideal*, 2010 U. ILL. L. REV. 799 (2010); Wu, *supra* note __.

⁶⁹ See [CW: cites on spread of extremism]; Henry Farrell & Bruce Schneier, *Common-Knowledge Attacks on Democracy*, Research Publication No. 2018-7, BERKMAN KLEIN CENTER FOR INTERNET & SOCIETY (Oct 2018), <https://pdfs.semanticscholar.org/4b52/376ddf73591114d597f992acdf108a1607a.pdf> [<https://perma.cc/MMF3-XVAH>].

⁷⁰ MIREILLE HILDEBRANDT, *SMART TECHNOLOGIES AND THE END(S) OF LAW: NOVEL ENTANGLEMENTS OF LAW AND TECHNOLOGY* 174-85 (2015).

⁷¹ See generally W.B. Gallie, *Essentially Contested Concepts*, 56 PROC. ARISTOTELIAN SOC. 167 (1956).

⁷² HILDEBRANDT, *SMART TECHNOLOGIES AND THE END(S) OF LAW*, *supra* note __, at 174-85; see also *id.* at 133-56 (discussing rule of law components). Relatedly, though with a narrower, Anglo-American focus, Lewis Kornhauser

institutional forms within which they have been articulated and reinforced; in particular, they are designed to privilege judicial oversight. 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 institutional forms and accompany evaluative practices might be devised. Such forms and criteria might bear only passing or partial resemblances to the institutions 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.

Second, scholars have long recognized that some contemporary formulations of rule of law are exceedingly thin and serve as fig leaves for new concentrations of economic, authoritarian, and kleptocratic power.⁷³ 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. 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.⁷⁴

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 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. 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.⁷⁵ A rule of law framework for a post- and decolonial era might—and, I would argue, should—give much greater weight to such considerations. 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.⁷⁶

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

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* (January 7, 2021). NYU School of Law, Public Law Research Paper No. 21-04, <http://dx.doi.org/10.2139/ssrn.3762033>.

⁷³ See generally PAUL GOWDER, *THE RULE OF LAW IN THE REAL WORLD* (2016).

⁷⁴ See, e.g., Martin Krygier, *The Rule of Law: Pasts, Presents, and Two Possible Futures*, 12 ANN. REV. L. & SOC. SCI. 199 (2016).

⁷⁵ GOWDER, *supra* note __, at [redacted].

⁷⁶ 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).

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 public governance 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 include everyone. Especially, include communities that have borne the brunt of legally- and technologically-facilitated abuses. Above all, remember that law is a means to an end and that denial, defeatism, arrogance, and entitlement undermine that end utterly.