
BOOK REVIEW

ECONOMIES OF SURVEILLANCE

THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER. By Shoshana Zuboff. New York, N.Y.: PublicAffairs. 2019. Pp. 691. \$38.00.

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[I]n or about December, 1910, human character changed.
— Virginia Woolf¹

It was an age of innovation and a time of dispossession. By sweeping aside centuries-old patterns of economic and social organization, the Industrial Revolution grew productive capacities, eventually enabling higher living standards and greater human well-being.² But its birth pangs were experienced as unevenly as were its early rewards. Where its burdens fell hardest, their weight provoked “counter-moves”³ challenging the new economic order. In rural Britain, for example, parliamentary acts of enclosure “drastically curtailed” common pasture and heath land used by the poor.⁴ For many, the result was squalor and penury.⁵ Enclosure “destroyed the scratch-as-scratch-can subsistence

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¹ 1 VIRGINIA WOOLF, *Mr. Bennett and Mrs. Brown*, in COLLECTED ESSAYS 319, 320 (Leonard Woolf ed., 1966) (1950).

² At the time, the “majority opinion of contemporary observers and students” saw no such gain. E.J. HOBSBAWM, *LABORING MEN: STUDIES IN THE HISTORY OF LABOUR* 106 (2d ed. 1968). Historians have conducted a long, lively debate on the Industrial Revolution’s effect on living standards, but recent empirical work finds “almost a century of hard toil with little or no advance from a low base before [British workers and their families] really began to share in any of the benefits of the economic transformation.” Charles H. Feinstein, *Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution*, 58 J. ECON. HIST. 625, 652 (1998).

³ KARL POLANYI, *THE GREAT TRANSFORMATION: THE POLITICAL AND ECONOMIC ORIGINS OF OUR TIME* 79 (3d ed. 2001).

⁴ Jane Humphries, *Enclosures, Common Rights, and Women*, 50 J. ECON. HIST. 17, 20 (1990).

⁵ *Id.* at 18–21; see also J.M. Neeson, *The Opponents of Enclosure in Eighteenth-Century Northamptonshire*, 105 PAST & PRESENT 114, 116–18 (1984) (explaining legislative dynamics of enclosure).

economy of the poor.”⁶ It “brok[e] the bond of mutual dependence between the master and his servant.”⁷ Beginning in the Elham Valley of Kent in summer 1830, laborers led more than 1000 violent incidents, including the targeting of threshing machines and other agricultural machinery.⁸ Despite not having halted the erosion of common property through enclosure, the “so-called ‘Swing Riots’”⁹ proved a “historical pivot” that politicized the rural population irreversibly.¹⁰

No less unsettled were the dark, satanic factories rising in cities and towns. The blunt clang of machinery became more familiar than the lark’s morning song. Vast industrial facilities proliferated, like the Soho Foundry and the metalworks of Smethwick.¹¹ Overseers and owners thrust “the time-sheet, the time-keeper, the informers and the fines” upon men and women habituated to setting their own labor rhythms free from the clock’s confining chime.¹² A newfangled “concept of industrial discipline” aimed to suborn recalcitrant human labor to the new economy’s inexorable rhythms.¹³ Instead, what ensued was “far-reaching conflict” over the terms of labor.¹⁴ Violent resistance to new technologies, and to measures that reduced labor’s control over working conditions, followed.¹⁵ Indeed, this continued to be the case well into the twentieth century. Labor unrest continued to be stoked by “tactics of scientific management (time study, task setting, efficiency payments, and so forth).”¹⁶ Yet still the “prophets” of this new industrial capitalist age, men like Frederick Winslow Taylor and Frank and William Gilbreth, pressed relentlessly for “scientific management” — a project meant to drain industrial labor of its unpredictability,¹⁷ but a project that also galvanized enduring conflicts over laborers’ felt autonomy and dignity.¹⁸

⁶ E.P. THOMPSON, *THE MAKING OF THE ENGLISH WORKING CLASS* 217 (Vintage Books 1966) (1963).

⁷ *Id.* at 224 (quoting PARLIAMENT, HOUSE OF COMMONS, *THE PARISH AND THE UNION; OR, THE POOR AND THE POOR LAWS UNDER THE OLD SYSTEM AND THE NEW* 90 (London, Charles Knight & Co. 1837)).

⁸ *Id.*; see E.J. HOBSBAWM & GEORGE RUDÉ, *CAPTAIN SWING* 195, 304–05 (1969).

⁹ Carl J. Griffin, *The Violent Captain Swing?*, 209 *PAST & PRESENT* 149, 149 (2010).

¹⁰ *Id.* at 150.

¹¹ See ERIC ROLL, *AN EARLY EXPERIMENT IN INDUSTRIAL ORGANISATION* 24–66 (1968).

¹² E.P. THOMPSON, *CUSTOMS IN COMMON* 385 (1991).

¹³ Sidney Pollard, *Factory Discipline in the Industrial Revolution*, 16 *ECON. HIST. REV.* 254, 259 (1963).

¹⁴ THOMPSON, *supra* note 12, at 399.

¹⁵ Immanuel Ness, *Luddism and Machine Breaking*, in *THE INTERNATIONAL ENCYCLOPEDIA OF REVOLUTION AND PROTEST* 2133, 2133–34 (Immanuel Ness ed., 2009).

¹⁶ Mike Davis, *The Stop Watch and the Wooden Shoe: Scientific Management and the Industrial Workers of the World*, in *WORKERS’ STRUGGLES, PAST AND PRESENT* 83, 87 (James Green ed., 1983).

¹⁷ Bryan Palmer, *Class, Conception and Conflict: The Thrust for Efficiency, Managerial Views of Labor and the Working Class Rebellion, 1903–22*, 7 *REV. RADICAL POL. ECON.* 31, 34–35 (1975).

¹⁸ See *id.* at 41–44.

Two centuries later, amidst avulsions in everything from our planet's climate to prevailing democratic structures, conflicts over dignity, autonomy, and predictability remain all too familiar, even if they occur in a distinct and newly dissonant register. In *The Age of Surveillance Capitalism*, Professor Shoshana Zuboff offers a far-reaching, and in some regards groundbreaking, account to explain why and to elucidate how these conflicts are evolving in the early twenty-first century. What people around the world are now enduring, she claims, is a convulsive rupture in economic and social life that is comparable in scale to the one precipitated by the first Industrial Revolution. Just as enclosure robbed the rural poor of a common heritage, today a novel economic form of "surveillance capitalism" works a "dispossession" (p. 100), a "domination" (p. 10), an "expropriation" (p. 128), and a "robbery" (p. 158) by usurping people's control over the data associated with their lives.

The most salient difference Zuboff perceives between our experience and that of Cumbrian peasants and Lancaster weavers is the magnitude of our loss. Today, it is not mere surplus value, but "human nature" itself that is "scraped, torn, and taken for another century's market project" (p. 94). Hence, akin to Virginia Woolf a century before her, Zuboff posits a radical discontinuity in "human character."¹⁹ But whereas Woolf explored the literary possibility of a more complex grasp of psychological interiority,²⁰ Zuboff channels the outrage of some more modern figures. We think her tone similar to that of the conservative commentator William F. Buckley or the Berkeley student activist Mario Savio.²¹ Standing athwart the train of history as they did, Zuboff cries stop. She laments in unremitting terms the emergence of technologically mediated "one-way mirror[s]" that eviscerate the very possibility of interiority (p. 81), a development that "threatens to cost us our humanity" (p. 347).²²

Zuboff's dire diagnosis of what she terms "surveillance capitalism" culminates in a call to resistance. Hers is a rallying cry that echoes the resistance offered by laborers and artisans to enclosures of land and time two centuries ago. It is an effort to reimagine the anguished Marxian empathies of the early Industrial Revolution, but with crucial variations. Where once machine breaking and rick burning were the instruments of protest, today Zuboff is careful to avoid relying merely on civil society and the private resistance. It is not enough, on her view, to rely on

¹⁹ WOOLF, *supra* note 1, at 320.

²⁰ *See id.* at 326–37.

²¹ Roger Kimball, *Introduction to ATHWART HISTORY: HALF A CENTURY OF POLEMICS, ANIMADVERSIONS, AND ILLUMINATIONS* xxix (Linda Bridges & Roger Kimball eds., 2010); *Mario Savio Dies at Age 53; Led '60s Free-Speech Protests*, WASH. POST, Nov. 8, 1996, at B6 ("There comes a time when the operation of the machine becomes so odious, makes you so sick at heart, that . . . [you must] put your bodies on the gears, and upon the wheels, upon the levers, upon all the apparatus. And you've got to make it stop." (quoting Berkeley student activist Mario Savio)).

²² Emphasis has been omitted.

“signal-blocking phone cases, false fingerprint prosthetics . . . [,] LED privacy visors . . . [, and] a ‘serendiptor app’ to disrupt any surveillance” (p. 489). Instead it is law — and more profoundly, the state — that stands in potent counterpoise to the threat of surveillance capitalism. In her reckoning, the state is a site of imperfect political action needful to vindicate human well-being and autonomy.

Such a mix of theory, exemplars, critique, and exhortation is no doubt heady stuff. It strikes a timely and relevant chord for lawyers and legal scholars. Ours is a historical moment at which worries about the technology economy, the health of civic life, and inequality haphazardly diffuse, a bit like Don DeLillo’s airborne toxic event, across domains of law ranging from antitrust to free speech to international security. Zuboff’s polemic crystallizes and offers vindication of that zeitgeist.

As we shall argue momentarily, certain elements of Zuboff’s account bristle with difficulties. But before broaching these concerns, we want to acknowledge her substantial contributions. To her large credit, Zuboff, an influential professor who has long taught at the Harvard Business School,²³ offers not just a new conceptual tool that encapsulates public anxiety about new technologies — “surveillance capitalism” — but also detailed and persuasive accounts of how specific privacy costs, fairness concerns, and psychological harms arise. Her book graphically stages the way in which new instruments for aggregating behavioral data and generating predictions reinforce the dominant position of a coterie of market participants capable of exploiting network effects. Her rich vein of examples and theory will no doubt stoke and sustain public anxiety for some time to come. And most relevant for our purposes, Zuboff also offers a valuable opportunity to think through important questions about the roles of law and the state caught in the ceaseless currents of technological innovation.²⁴

For two reasons, we think that legal scholars in particular would do well to engage her theoretical positions and her examples. First, legal scholarship tends to be discrete in its focus and granular in its analysis when it comes to novel technological development. We myopically scrutinize a specific technology, such as social media platforms,²⁵ machine

²³ On the influence of Zuboff’s 1988 book *In the Age of the Smart Machine*, see Andrew Burton-Jones, *What Have We Learned from the Smart Machine?*, 24 INFO. & ORG. 71 (2014).

²⁴ Reviews of the book in nonacademic publications embody gratitude to Zuboff for crystallizing and confirming public terrors about technology. See Jennifer Szalai, *O.K., Google: How Much Money Have I Made for You Today?*, N.Y. TIMES (Jan. 16, 2019), <https://nyti.ms/2RRhy4m> [<https://perma.cc/NX37-852F>] (noting how the book speaks to the reviewer’s “reflexive discomfort”); see also James Bridle, *The Age of Surveillance Capitalism by Shoshana Zuboff Review — We Are the Pawns*, THE GUARDIAN (Feb. 2, 2019), <https://www.theguardian.com/books/2019/feb/02/age-of-surveillance-capitalism-shoshana-zuboff-review> [<https://perma.cc/W4ML-6ULA>].

²⁵ E.g., Kate Klonick, *The New Governors: The People, Rules, and Processes Governing Online Speech*, 131 HARV. L. REV. 1598 (2018).

learning,²⁶ or the internet of things,²⁷ and try to understand how that phenomenon relates to existing legal templates. This work is valuable, even essential. But scholars and lawyers can miss the forest for the trees when they consider only parts rather than the integrated whole of the emerging data-driven economy. System-level effects, whether positive or negative, may be missed when discrete technologies or legal changes are analyzed in isolation. Gains or losses that spill over from one domain of human activity to another may be sliced out of the analytic frame. Without a clear sense of how discrete technologies are deployed, legal scholars are left with the feeling that they know something is happening, but they don't know what it is.²⁸ In contrast to such analytic pointillism, *The Age of Surveillance Capitalism* offers a coherent and synoptic account of how and to what effect new data-driven technologies are adopted. In the course of deploying and interrogating Zuboff's perspective, legal scholars may gain leverage in considering broader-gauge questions about how technological change, business models, and social and cultural values interact with each other and the legal system.²⁹ This is so even if they disagree with many of Zuboff's claims.

Second, when an idea chimes with the zeitgeist, it has the potential to powerfully shape public perceptions. This in turn can influence legal responses to emergent economic and technological phenomena. As one review of the book put it, Zuboff has captured the broadly held sense of something gone awry.³⁰ She deftly dramatizes the public's impression that the new data-driven economy is unheimlich: it is "so grotesque, so creepy, that it is almost impossible to see how anyone who really thinks about it lives with it."³¹ Harmony with present paranoia, of course, is no warrant of acuity. So when a narrative like Zuboff's bids fair to colonize the political imagination and thereby shape the law's long-term development, we have all the greater cause for close scrutiny.

A simple, modular logic in Zuboff's argument facilitates close scrutiny. Her argument can be separated along three distinct disciplinary margins. First, she makes a historical claim about the novelty of surveillance capitalism. Second, she draws on a largely implicit, albeit

²⁶ E.g., Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. PA. L. REV. 633 (2017).

²⁷ E.g., Andrew Guthrie Ferguson, *The Internet of Things and the Fourth Amendment of Effects*, 104 CALIF. L. REV. 805 (2016).

²⁸ Cf. BOB DYLAN, *Ballad of a Thin Man*, in BOB DYLAN: THE LYRICS 1961–2012, at 174, 174 (Simon & Schuster 2016) (2004) ("Because something is happening here/But you don't know what it is.").

²⁹ Cf. David Leonhardt, Book Review, *The Forces that Are Killing the American Dream*, N.Y. TIMES (Sept. 10, 2019), <https://nyti.ms/32ApXLm> [<https://perma.cc/K8KG-6RWU>] ("[In the late 1970s,] investors and their allies dismantled the corporate and government edifices that had done so much good — high wages, company research labs, rigorous regulation and redistributive taxation. Institutions were out. Transactions were in.")

³⁰ See Bridle, *supra* note 24.

³¹ *Id.*

hardly indefensible, skepticism of the connection between indicia such as revealed preference or observed economic growth on the one hand, and underlying social welfare, capaciously understood, on the other. With this skepticism in hand, she advances a normative claim about the surveillance economy's harms. Third, she offers a prescriptive claim about the appropriate state response. If these elements of her argument are occluded at times, it is because Zuboff often drapes genuine insight in unwarranted hyperbole. Her tendencies in this regard lend the project a polemic quality. Zuboff's argumentation is tainted by what Professor Richard Hofstadter once called the "paranoid style" of American politics, characterized by "heated exaggeration, suspiciousness, and conspiratorial fantasy."³² Yet, as Hofstadter also observed: "[N]othing really prevents a sound program or demand from being advocated in the paranoid style."³³ Removing the obscuring rhetorical veils not only helps expose what is genuinely new and relevant to legal scholars in *The Age of Surveillance Capitalism*, it also facilitates critique and reconstruction.

Zuboff keenly diagnoses flaws in capitalist logic and succeeds in cataloging surveillance capitalism's manifold dangers. Yet serious problems arise along each of her three argumentative arcs. What Zuboff pervasively characterizes in Manichean terms³⁴ as the nefarious work of unseen manipulators turns out on closer scrutiny to be more complex and less amenable to facile legal intervention than she implies. Rather than embracing the zeitgeist's "paranoid style" of thinking about the surveillance imaginary, we think that scholarship about our present technological and economic conjuncture should account for factors that get little or no airing in Zuboff's text. We stress in particular the human benefits flowing from some of those new instruments;³⁵ the permeable boundary between the state's interests and corporate interests at the data-driven frontier; and the risks to individual liberty and democratic stability from expansive state control of surveillance capitalism.³⁶ By sorting through these difficulties, we hope in this Review to beat a path to a clearer and more plausible sense of law's appropriate role — and the state's place more generally — in this new era of data- and surveillance-based economies. Our analysis thus excavates flaws in Zuboff's argument with the ambition of creating more persuasive and precisely targeted remedies to the real pathologies she flags.

³² Richard Hofstadter, *The Paranoid Style in American Politics*, HARPER'S MAG., Nov. 1964, at 77, 77.

³³ *Id.*

³⁴ See J. Eric Oliver & Thomas J. Wood, *Conspiracy Theories and the Paranoid Style(s) of Mass Opinion*, 58 AM. J. POL. SCI. 952, 953 (2014) (finding that popular conspiracy theories tend to hold a "Manichean worldview" and depend on "unseen, intentional, and malevolent forces").

³⁵ See *infra* Part III, pp. 1309–25.

³⁶ See *infra* Part IV, pp. 1326–35.

Part I offers a summary of and commentary upon Zuboff's main claims. We describe portions of Zuboff's argument we find most compelling, identify unresolved questions, and also underscore continuities with deeper theoretical traditions. Part II interrogates the idea of a radical discontinuity between "surveillance capitalism" and its precursors. We explain here why we prefer the descriptive label "surveillance economies" instead of surveillance capitalism. Part III turns to the goods and harms that flow from new surveillance economies. Our accounting is hedged with more caveats than is Zuboff's regarding the final tally of these goods and harms. Finally, Part IV theorizes afresh the role of the state in creating and checking those economies and their adverse spillovers. It offers three general principles to guide analysis and critique of that role.

I. A "NEW" LOGIC OF CAPITALISM

A. *The Triplex Structure of Surveillance Capitalism*

The Age of Surveillance Capitalism concerns primarily what Max Weber termed "sociological relationships within the economy."³⁷ Its major focus is what Weber labeled "[e]conomic activity" — that is to say the "peaceful exercise of a power of disposition . . . [that is] planfully oriented to economic ends."³⁸ Although Zuboff characterizes the effects of "surveillance capitalism" in terms of violence, and economic grievances can conceivably trigger risks of violence in principle, at no point in her analysis does she suggest a causal pathway to any nonmetaphorical act of physical violence. As a result, her account more generally fits comfortably within a long Weberian tradition of economic sociology, as opposed to the sociology of violence or conflict. Situating Zuboff's work within that broad tradition, we can understand her claims to be in a dialogue of sorts with the work of social theorists like Michel Foucault and Professor James C. Scott.

One might further imagine that "surveillance capitalism" would be defined in terms of specific technologies. But there is very little in the book about particular hardware developments, killer apps, convolutional neural networks, or reinforcement learning. Eschewing a frontal encounter with specific technological instruments, Zuboff instead aims at isolating a supervening "logic in action" (p. 15). This logic governs unfolding application and uses. It channels spillover effects arising from a particular mix of economic activity and from the legitimized allocation

³⁷ MAX WEBER, *ECONOMY AND SOCIETY* 143 (Keith Tribe ed. & trans., Harvard Univ. Press 2019) (1922); see also *id.* at 155 (discussing "disposal" in terms of allocating labor and goods by contract).

³⁸ *Id.* at 143 (emphasis omitted).

of power across a broad array of social relations. This analytic approach assumes that “successful technological innovation occurs only when all the elements of the system, the social as well as the technological, have been modified so that they work together effectively.”³⁹ It further assumes that once certain social, institutional, and economic circumstances (or “affordances”⁴⁰) congeal, they will share the deployment of not merely extant but also emerging technologies. We think these assumptions are warranted and wise.

With them in hand, Zuboff’s treatment of the “logic” of surveillance capitalism aims to offer enduring insight into data-driven economic forms above and beyond the specifics of a particular technological instant. This attention to supervening logics also entails a Weberian attention to the “special kind of intended meaning . . . [that] alone constitutes the unity of the processes in question.”⁴¹

But understanding Zuboff’s own logic requires us to disaggregate and scrutinize three strands of her argument: a descriptive claim, a normative evaluation, and a prescription. Although our primary aim is descriptive, where appropriate we offer annotations meant to illuminate hidden assumptions and depths to Zuboff’s core arguments.

I. A Thing New in the World. — The conceptual point of departure for Zuboff’s argument is the notion that in the past fifteen years, “a new logic of accumulation [with] . . . its own distinctive laws of motion” (p. 67) has emerged from a cradle in Silicon Valley firms such as Google and Facebook (pp. 87–92). To be sure, this form has continuities with the Fordist model that preceded it (p. 31). These linkages include the persistence of “competitive production, profit maximization, productivity, and growth” (p. 66). But overall a new logic characterizes “surveillance capitalism” and separates it from its precursor economic forms. Previous iterations of industrial capitalism, on this account, were infused with a “systemic logic of reciprocity” (p. 31), in which manufacturing sustained living wages for workers who doubled as vital consumers. The economic model of surveillance capitalism developed first by Google and then pursued by Facebook and Amazon, by contrast, has “destroyed the reciprocities of its original social contract with users” (p. 88). Accordingly, it has not been characterized by “expansions of production and employment, higher wages, and an improved standard of living” (p. 258). We take this as a distinctive and novel claim about “surveillance capitalism”: it is a novel economic species of capitalization

³⁹ Bryan Pfaffenberger, *The Social Anthropology of Technology*, 21 ANN. REV. ANTHROPOLOGY 491, 498 (1992).

⁴⁰ See Thomas E. Horton, Arpan Chakraborty & Robert St. Amant, *Affordances for Robots: A Brief Survey*, 3 AVANT 70, 73 (2012) (discussing the use of the theory of affordances in the field of artificial intelligence in order to “develop better agents”).

⁴¹ WEBER, *supra* note 37, at 144 (emphasis omitted).

that decisively breaks from the economic and social relations established by earlier forms of industrial capitalism that dominated the twentieth century.

But what, precisely, is the core logic of this new surveillance capitalism? Zuboff provides a functional tripartite definition.⁴² It includes the acquisition of “behavioral surplus,” the creation of predictive products, and the implementation of behavioral modification (pp. 93–97). It is this entangled logic of extraction, processing, and execution that characterizes surveillance capitalism for Zuboff. It also renders it utterly distinct from historical precursors. Because of this distinctive tripartite cycle, moreover, we are told to anticipate unique and uniquely grievous harms that transcend dignity and privacy costs and that implicate the very “stuff of human nature” (p. 94).

Because it is essential to an evaluation of Zuboff’s core argument, we must set forth this notion in some detail. We also quote her own language carefully and extensively. We do so because her argument is in significant part embedded in evaluative descriptions of surveillance capitalism as a distinctive economic form. Without providing a sampling of those evaluative terms — almost all of which are freighted with pejorative import — it would be difficult to appreciate the nature and arc of her argument. With this thick description in hand, we can offer a succinct account of how Zuboff understands surveillance capitalism’s harm and the consequent task of the law.⁴³

The first step of the new surveillance economy is unambiguous: acquiring “behavioral surplus,” or the digital data generated as a by-product of human interaction with a wide variety of devices. These include (but are not limited to) cell phones, self-tracking devices, social media interfaces, and smart home devices anticipated to be a \$27 billion market by 2021.⁴⁴ As the number of devices generating digital records of usage increases, and as their records of usage track not just communications but also movement, domestic habits, sleep patterns, and even physical conditions, this behavioral surplus can yield an increasingly

⁴² There are other potential definitions. For example, one alternative perspective would train on the emergence of new “platforms” online. *See, e.g.*, GEOFFREY G. PARKER ET AL., PLATFORM REVOLUTION: HOW NETWORKED MARKETS ARE TRANSFORMING THE ECONOMY — AND HOW TO MAKE THEM WORK FOR YOU, at ix (2016). Alternatively, one might focus on the increasing importance of “intangible” goods, such as design and brands. *See, e.g.*, JONATHAN HASKEL & STIAN WESTLAKE, CAPITALISM WITHOUT CAPITAL: THE RISE OF THE INTANGIBLE ECONOMY 7–11 (2018). The value of any one of these perspectives for legal scholarship turns on its ability to bring into focus economic architectures of relevance to the law.

⁴³ We have selected what we think are the most important of Zuboff’s conceptual innovations, and ignored others — such as the notion of a “division of learning” (p. 185) — more peripheral to the central logic of surveillance capitalism.

⁴⁴ For an account of the smart home, see Surya Mattu & Kashmir Hill, *The House that Spied on Me*, GIZMODO (Feb. 7, 2018, 1:25 PM), <https://gizmodo.com/the-house-that-spied-on-me-1822429852> [<https://perma.cc/MS8P-3XCM>].

precise and detailed accounting of human behavior. With an unmistakable normative flourish, Zuboff calls this the “assertion of decision rights over the expropriation of human experience” (p. 128). All the ensuing “surplus raw material” is created out of “thin air” and at “zero marginal cost” (p. 93). “Rendition” is the transformation of experience into data (p. 233). It is said to entail “the dispossession of human experience” through “datafication” (pp. 233–34).

Perhaps the most familiar example, thanks to the U.S. Supreme Court’s recent intervention,⁴⁵ is the location-tracking component of cell phones. Cell phones transmit to service providers a rich and precise account of individuals’ movements in time and space (pp. 242–45), which in turn can be monetized. Even when location-tracking apps are switched off and SIM cards are removed from the device, some phones (such as Androids) continue to collect location material by signaling local cell towers to triangulate location (p. 244) and generate distinctive “mobility signatures” (p. 245). A statutory change in March 2017 further vested cable and phone companies with broad authority to use personal information communicated through the internet for advertising or commercial purposes,⁴⁶ allowing what Zuboff describes as “a remote and abstract but nevertheless rapacious digital strip search” (p. 172).

Other examples abound. Inside the home, digital assistants such as Siri and Alexa are capable of recording and transmitting ambient conversation (as are smartphones) and may soon use lidar sensors to map both movement and behavior.⁴⁷ An especially vivid example of such data acquisition is “My Friend Cayla,” an interactive toy that captures conversations between the doll and its minor users, and then transmits those conversations to the manufacturer for further uses (p. 266). Zuboff uses the product to illuminate the authorized acquisition and dissemination of data harvested from children. It is striking that she does not flag previous reporting that has also underscored the dolls’ vulnerability to hacks.⁴⁸ The additional vulnerability created by the unlawful seepage of behavioral surplus does not fit neatly within her normative template of knowing exploitation through commercial relations (as opposed to mere theft). Yet in our view it is an important concern, especially for law. It is an example of how the drive to fit a complex empirical reality into a parsimonious template can hide from view certain important dynamics.

⁴⁵ *Carpenter v. United States*, 138 S. Ct. 2206, 2217 (2018) (determining that acquisition of cell site location information from a third-party data provider constituted a “search”).

⁴⁶ Kimberly Kindy, *How Congress Dismantled Federal Internet Privacy Rules*, WASH. POST (May 30, 2017), <http://wapo.st/2r68t9T> [<https://perma.cc/2RRS-EFTG>].

⁴⁷ *How Creepy Is Your Smart Speaker?*, THE ECONOMIST (May 11, 2019), <https://www.economist.com/leaders/2019/05/11/how-creepy-is-your-smart-speaker> [<https://perma.cc/9ENF-JRQE>].

⁴⁸ See, e.g., *German Parents Told to Destroy Cayla Dolls over Hacking Fears*, BBC (Feb. 17, 2017), <https://www.bbc.com/news/world-europe-39002142> [<https://perma.cc/9YK4-YCDP>].

Where behavioral data does not exist, it can be generated by surveillance capitalists themselves. An example is the suite of tools that includes Google Street View, Google Maps, and Google Earth. These projects are characterized by Zuboff as ways of making “[e]verything in the world . . . known and rendered,” with the inevitable result that “[t]he world is vanquished now, on its knees, and brought to you by Google” (p. 142). To this end, Zuboff argues, companies such as Google have developed a conscious “theory of change” (p. 139) — “an intricate convergence of political, social, administrative, and technical operations that requires cunning management over a substantial period of time” and that enables “successful dispossession” (p. 138). The resulting “dispossession cycle” turns information created through public investments in the physical architecture and landscape of a location into “private assets” (pp. 138, 151). The analogy to enclosure of the agricultural commons at the beginning of the Industrial Revolution, which Zuboff doesn’t notice, is striking.

The second step in surveillance capitalism digests this rich epistemic harvest using new computational tools — typically, forms of machine learning and related forms of artificial intelligence, although Zuboff is vague on this point. These tools then generate “prediction products designed to forecast what we will feel, think, and do: now, soon, and later” (p. 96).⁴⁹ The precise content of these predictions is not entirely clear. Zuboff suggests that early on what was sold were predictions of when Google users would click on specific ads (pp. 76–77).

Although Zuboff characterizes advertising as the “beginning” and “not the end” of prediction products (p. 96), her lengthy text contains surprisingly few instances of computational prediction products being used apart from the anticipation of “precise ways in which each customer will react to marketing efforts” (p. 277). She notes employers’ use of prediction tools to evaluate the risk that an employee will leave a firm (p. 174),⁵⁰ insurers’ reliance on prediction instruments to price risk more accurately (p. 213), and health care apps’ collection of data for third-party use (p. 249). She tucks in a fleeting reference to the Cambridge Analytica scandal, and the larger possibility that social media can be manipulated to influence the outcomes of democratic elections (pp. 278, 301). But little else is said. This paucity of detail perhaps suggests that the normative case against surveillance capitalism that Zuboff aims to develop does not turn on how the predictions generated through the analysis of extraction of behavioral surplus are used. It is enough, on

⁴⁹ Emphasis has been omitted.

⁵⁰ Prediction tools are also used at the hiring stage. Tomas Chamorro-Premuzic & Reece Akhtar, *Should Companies Use AI to Assess Job Candidates?*, HARV. BUS. REV. (May 17, 2019), <https://hbr.org/2019/05/should-companies-use-ai-to-assess-job-candidates> [<https://perma.cc/ER45-PT3P>] (noting the risks of both unstructured human interviews and biased machine processes).

her view, to see that the latter “is ripped from your life,” leaving you an “abandoned carcass” (p. 377).

Yet even reasonable observers willing to embrace some of Zuboff’s concerns would find other examples available, including ones that somewhat complicate the almost unfailingly bleak image that Zuboff paints. Imagine, for example, a bank that wishes to better target loan products. One recent study used the mobility data generated by 100,000 bank customers’ cell phones over a one-year period to predict with very high accuracy their likely demand for a given loan product.⁵¹ If this study proves capable of generalization, it would support one particular way in which geospatial data can be marketed as a prediction product. Or consider the California company Oasis Labs, which trains machine learning tools on private patient data to make predictions about the incidence of certain eye diseases.⁵² This would seem to fall within Zuboff’s definition of surveillance capitalism. It starts with the harvesting of individual data and results in a tool that enables a valuable prediction that could be brought to market. Yet it is also a predictive instrument with an immediate positive payoff to human well-being. More examples are readily to hand, but these suffice to make the point.

The final step in Zuboff’s account of surveillance capitalism extends the behavioralist theories of B.F. Skinner (p. 296)⁵³ to generate a novel commercial science of “behavioral modification” (p. 297). This involves the exploitation of the behavioral surplus so as to change the actions of human data users in profitable ways. Zuboff perceives three general strategies of behavioral modification: “tuning,” “herding,” and “conditioning” (pp. 294–96). Examples include, respectively, the experimental manipulation of the Facebook newsfeed as a means to influence users’ own posting behavior (pp. 301–02); Pokémon Go’s partnership with real-world businesses to stimulate purchasing activity (pp. 315–16); and the timing of internet-based push ads to when adolescent and young adult users are under psychological stress — and hence more impressionable (pp. 305–07).

2. *The Moral Tincture of “Surveillance Capitalism.”* — The labels Zuboff employs to characterize the three elements of surveillance capitalism are sufficiently encumbered with normativity to clearly convey her position on the matter. Further, the other two elements of her argument leave little doubt as to her position on the moral valence of sur-

⁵¹ See Cagan Urkup et al., *Customer Mobility Signatures and Financial Indicators as Predictors in Product Recommendation*, 13 PLOS ONE, July 2018, at 1, 2–5.

⁵² Will Knight, *How AI Could Save Lives Without Spilling Medical Secrets*, MIT TECH. REV. (May 14, 2019), <https://www.technologyreview.com/s/613520/how-ai-could-save-lives-without-spilling-secrets> [<https://perma.cc/Z8WF-7775>]. We should also note that Oasis “guarantees that the information cannot be leaked or misused.” *Id.*

⁵³ See generally B.F. SKINNER, BEYOND FREEDOM AND DIGNITY (1971) (laying out Skinner’s behavioral theories).

veillance capitalism: The combinatory “logic” of behavioral surplus extraction, prediction production, and behavioral modification is pernicious and predatory. It is variously characterized as “pathological” and “antidemocratic” (p. 192). It warrants comparison to the conquistadors’ assault on indigenous American civilizations (pp. 176–77). Retail harms of surveillance capitalism proliferate like some sporulating fungus in the text. They vary from the addictive effect of social media on teens’ mental health (p. 445), to the unfair terms at which data is acquired from users of cell phones and smart devices (pp. 236–38), to the anticipated loss of privacy from aggregate data collection as a consequence of reidentification technologies (p. 245). At the same time, Zuboff is repeatedly at pains to underscore that her case against surveillance capitalism “cannot be reduced to known harms” (p. 180), whether these harms sound in privacy, antitrust, or the unfairness of the implicit choice between forgoing a service and having one’s data harvested in exchange for receiving that service.

Rather than focus on retail consequences, Zuboff identifies a core, deontological offense to human dignity in the elementary logic of surveillance capitalism (p. 522). This offense is described, though, in general and diffuse terms in loci scattered around the text. Links between dignitary harms and specific elements of surveillance capitalism are not crisply articulated. Still, it seems fair to read Zuboff as identifying interlocking offenses against dignity arising from the concatenated elements of that system.

To begin with, the bare fact of extracting behavioral surplus for commercial use — and not just to benefit the discrete user (p. 247) — is perceived as an incorrigible wrong. Mimicking Kantian terminology,⁵⁴ Zuboff characterizes the acquisition of behavioral surplus as the transformation of persons into “*means to others’ ends*” (p. 94). It is ipso facto a wrong that human nature “is scraped, torn, and taken for another century’s market project” (p. 94). In the analogous words of European Commissioner for Competition Margrethe Vestager, for some data-based services you “pay with your life.”⁵⁵ And this, we are prodded to believe, is Just Wrong.

At the same time, the last two steps of surveillance capitalism (making predictions and modifying behavior) do not avoid excoriating and categorical critique. We interpret Zuboff to offer two distinct lines of critique, although the absence of systematic explanation compels us to engage in some reconstruction of her logic. First, borrowing from the German American philosopher Hannah Arendt, Zuboff conceptualizes

⁵⁴ Cf. IMMANUEL KANT, FOUNDATIONS OF THE METAPHYSICS OF MORALS 47 (Lewis White Beck trans., ITT-Bobbs-Merrill Educ. Publ’g Co. 1959) (1785) (“Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only.”).

⁵⁵ *The Power of Privacy*, THE ECONOMIST, Mar. 23, 2019, at 19.

free will as a “mental organ of our future” (p. 331) — that is, a power to make choices that are not fully determined by the causal effect of past experience or immediate material forces.⁵⁶ Surveillance capitalism eviscerates, in her words, the “will to will” and the possibility of a future by removing uncertainty from actions and outcomes (pp. 333, 331–38). On this account, “millennia of human contest and sacrifice” have been devoted to the idea that individuals’ future choices are uncertain (p. 332). Take away the uncertainty, and you deny “the freedom of the will” that is “the existential bone structure that carries the moral flesh of every promise” (p. 331).

Second, we read Zuboff to make a further and distinct claim about the need for psychological interiority that is sheltered from observation and transcription. Citing yet another midcentury humanist, this time Jean-Paul Sartre,⁵⁷ as well as midcentury social psychologist Erving Goffman, she posits the need for a domain of psychological privacy in which a secluded self unfurls and reconstitutes itself against the pressures of the social world (pp. 470–72). Working against this need for a “backstage” (p. 471), surveillance capitalism is a “one-way mirror” that erases the possibility of interiority by rendering the psychologically internal into a digital feed (p. 457). What we lose, she contends in the book’s closing pages, is “the sanctity of the individual, the ties of intimacy, the sociality that binds us together in promises, and the trust they breed” (p. 516). Surveillance capitalism, in the end, “rob[s] us of the life-sustaining inwardness, born in sanctuary, that finally distinguishes us from the machines” (p. 492).⁵⁸ It is sometimes said that the concept of human dignity is too capacious to be put to precise analytic work.⁵⁹ Zuboff’s solution to this dilemma is to stretch the term until its outer bounds lap against the far perimeter of the cognizable moral universe. As if to underscore the stakes raised by the impugning of such dignity, Zuboff repeatedly draws parallels to Arendt’s canonical 1951 work *The*

⁵⁶ Cf. HANNAH ARENDT, *THE LIFE OF THE MIND: WILLING* 13–14 (Mary McCarthy ed., 1978) [hereinafter ARENDT, *LIFE OF THE MIND: WILLING*].

⁵⁷ For further discussion of Sartre’s philosophy, see generally JEAN-PAUL SARTRE, *EXISTENTIALISM IS A HUMANISM* (John Kulka ed., Carol Macomber trans., Yale Univ. Press 2007) (1996).

⁵⁸ Are humans “conscious” in some sense that machines are not? The nature of human consciousness is not well understood. Leslie G. Valiant, *What Must a Global Theory of Cortex Explain?*, 25 *CURRENT OPINION NEUROBIOLOGY* 15, 15 (2014) (noting the lack of a “generally accepted theory of how cognitive phenomena arise”). It is commonly believed that machines lack the self-awareness characteristic of human consciousness. See Subhash Kak, *The Limits to Machine Consciousness* 1 (July 17, 2017) (unpublished manuscript), <https://arxiv.org/ftp/arxiv/papers/1707/1707.06257.pdf> [<https://perma.cc/58TM-LHQB>] (questioning “whether machines with consciousness could be designed”).

⁵⁹ See MICHAEL ROSEN, *DIGNITY: ITS HISTORY AND MEANING* 1, 6–7 (2012).

Origins of Totalitarianism (pp. 383, 518).⁶⁰ No less than the world is thus said to be at stake.

3. *The Narrow Remedial Path.* — *The Age of Surveillance Capitalism* styles itself as a frontal assault on the pieties of a new economic age. Writing against the common encomiums to new technologies as economic engines, Zuboff perceives a deracinating assault on the conditions that permit meaningful human flourishing. Although this moral claim is buttressed by specific examples showing how privacy, equity, and psychological well-being are compromised, the stakes for her are not reducible to those discrete harms. Rather, the sickness runs deeper, and entails more radical, uncompromising surgery. Given the apocalyptic tenor of its descriptive and normative claims, *The Age of Surveillance Capitalism* is surprisingly light on remedial prescriptions. After such terror, some guidance on how to respond might be nice. But Zuboff's prescriptive path is sketchily marked indeed.

Public opinion, she proposes in general terms, will have a "critical role" (p. 520), as will individual acts of resistance (p. 489).⁶¹ But the central onus seems to fall on the law. "Only law," Zuboff says, "can . . . challenge" surveillance capitalism's monopolization of behavioral surplus (p. 483). In this vein, the judicial recognition of a "right to be forgotten" in European law is characterized as an "inflection point" in surveillance capitalism's arc (p. 59). The European General Data Protection Regulation⁶² (GDPR) is also deemed a potential "catalyst for a new phase of combat that wrangles and tames an illegitimate marketplace" (p. 486). At the same time, Zuboff cautions, data laws alone "will not be enough to interrupt surveillance capitalism" (p. 486). The reader is thus left with a sense that Zuboff wants to see a seismic shift in moral attitudes toward surveillance capitalism. We are given to think that such a shift would be instantiated and in some instances perhaps catalyzed by laws such as the GDPR, but that the change in law standing

⁶⁰ We are troubled by the implicit comparison between the horrors of Nazi Germany and Stalinist Russia on the one hand and the effects of the data-driven economy today on the other. Events that involved the needless, cruel, and hateful deaths of millions do not easily find comparison. Their equation, even implicitly and subtly, to surveillance capitalism betrays a serious want of proportion and judgment.

⁶¹ For an example of an act of resistance that Zuboff misses, consider Default Filename TV, which randomly cues up YouTube videos without any curating algorithm at work. Everest Pipkin, DEFAULT FILENAME TV (2019), <http://defaultfile.name> [<https://perma.cc/5FU7-NFDR>].

⁶² Council Regulation 2016/679, 2016 O.J. (L 119) 1 (EU), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679> [<https://perma.cc/88V6-WA5N>]. For background on the implications of the GDPR, see generally Christina Tikkinen-Piri, Anna Rohunen & Jouni Markkula, *EU General Data Protection Regulation: Changes and Implications for Personal Data Collecting Companies*, 34 *COMPUTER L. & SECURITY REV.* 134 (2018) (describing enactment and intent of regulation). For a discussion of some of the GDPR's ramifications for U.S. entities, see Aziz Z. Huq, *A Right to a Human Decision*, 105 *VA. L. REV.* (forthcoming 2020) (manuscript at 9–15, 26–29, 46–48), <https://ssrn.com/abstract=3382521> [<https://perma.cc/G7F8-ZWZC>] (discussing the GDPR's right to a human decision).

alone would be plainly incommensurate to the size of the task she perceives. Law, then, is necessary but not sufficient to her emancipatory project.

B. The “Surveillance Economy” in Theoretical Context

Before we offer a critique of these arguments, it is useful to frame Zuboff’s far-reaching story about the intersection of information, economic power, and politics as an amplification of a longer theoretical tradition, one only partially overlapping with legal scholarship. This contextualization emphasizes some of her valuable contributions.

Consider the book’s implication that if humans build and routinely accept a massive new surveillance infrastructure that penetrates into the nooks of economic and intimate life, then social relations will inevitably change in important, albeit hard to predict, ways. This observation is usefully positioned in relation to other scholarship that describes human institutions evolving through efforts to gather information, and, moreover, the use of epistemic authority to secure control over others. In *Seeing like a State*, political scientist and social theorist James C. Scott offers a piercing account of nineteenth-century European governments’ growing enthusiasm, as enclosure and industrialization crept apace, not merely for gathering information about their populations, but also for using it for social engineering:

The gleam in Condorcet’s eye became, by the mid-nineteenth century, an active utopian project. Simplification and rationalization previously applied to forests, weights and measures, taxation, and factories were now applied to the design of society as a whole. Industrial-strength social engineering was born. While factories and forests might be planned by private entrepreneurs, the ambition of engineering whole societies was almost exclusively a project of the nation-state.

This new conception of the state’s role represented a fundamental transformation. . . . [T]he production of statistical knowledge about the population — its age profiles, occupations, fertility, literacy, property ownership, law-abidingness (as demonstrated by crime statistics) — allowed state officials to characterize the population in elaborate new ways [A] suicide or homicide rate, for example, came to be seen as a characteristic of a people, so that one could speak of a “budget” of homicides that would be “spent” each year, like routine debits from an account, although the particular murderers and their victims were unknown.⁶³

Scott’s account underscores the importance of “legible form[s]” in which data about individual citizens could be recorded in ways readily

⁶³ JAMES C. SCOTT, *SEEING LIKE A STATE: HOW CERTAIN SCHEMES TO IMPROVE THE HUMAN CONDITION HAVE FAILED* 91–92 (1998) (footnote omitted).

amenable to “reading, processing, and relaying.”⁶⁴ Zuboff’s work develops a shift from merely gathering data, as Scott describes the earlier practice, to the more intensive contemporary monitoring of all facets of human existence, ranging from involuntary facial movements to the *billets-doux* that are the currency of loving relationships (pp. 283–85).⁶⁵

The ensuing epistemic infrastructure, leveraging massive computing power and a diffuse social fact of acceptance (or even apathy), enables a surveillance-based economic model. Zuboff describes this model as insatiably craving more data, and, implicitly, restlessly seeking new vectors of influence and control. While there is something a touch hyperbolic in Zuboff’s invocation of Winston Smith’s encounter with the confident interrogator O’Brien in George Orwell’s *1984* (pp. 372–73), she does so to advance the fairly straightforward point that information can translate into control even when it is gathered and used for gain in the private sector. Here, her analysis echoes that of Foucault. He conjures an intimate entanglement of information and power.⁶⁶ This relationship is evocatively invoked in the image of Jeremy Bentham’s proposed carceral panopticon:

[T]he Panopticon must not be understood as a dream building: it is the diagram of a mechanism of power reduced to its ideal form; its functioning, abstracted from any obstacle, resistance or friction, must be represented as a pure architectural and optical system: it is in fact a figure of political technology that may and must be detached from any specific use.

....

In each of its applications, it makes it possible to perfect the exercise of power. It does this in several ways: because it can reduce the number of those who exercise it, while increasing the number of those on whom it is exercised. Because it is possible to intervene at any moment and because the constant pressure acts even before the offences, mistakes or crimes have been committed. Because, in these conditions, its strength is that it never intervenes, it is exercised spontaneously and without noise, it constitutes a mechanism whose effects follow from one another.⁶⁷

In a clutch of “relatively brief published comments,” Foucault subsequently developed a concept of “governmentality” that inspired studies describing “rationalities and technologies underpinning a whole

⁶⁴ COLIN KOOPMAN, HOW WE BECAME OUR DATA: A GENEALOGY OF THE INFORMATIONAL PERSON 37 (2019).

⁶⁵ Zuboff’s account also places greater weight on a plurality of expert actors, such as data scientists and chief executive officers. For a critique of Scott’s book for failing to do the same, see Tania Murray Li, *Beyond “the State” and Failed Schemes*, 107 AM. ANTHROPOLOGIST 383, 386–87 (2005).

⁶⁶ On the intimate linkage between these concepts, see MICHEL FOUCAULT, POWER/KNOWLEDGE 51–52 (Colin Gordon ed., 1980) (“The exercise of power perpetually creates knowledge and, conversely, knowledge constantly induces effects of power.” *Id.* at 52.).

⁶⁷ MICHEL FOUCAULT, DISCIPLINE AND PUNISH 205–06 (Alan Sheridan trans., Vintage Books 1979) (1975).

variety of more or less rationalized and calculated interventions that have attempted to govern the existence and experience of contemporary human beings, and to act upon human conduct to direct it to certain ends.”⁶⁸ Given Zuboff’s account, Foucault’s interventions seem prophetic. At the time, they were primarily understood to denote the use of power in a particular concrete institutional setting (the prison or the clinic or the like).⁶⁹ Today, they have gained new traction as descriptions of the effects of software used to engage in the surveillance Zuboff decries. Private aggregation of information now creates not just wealth, but also power for both private and public actors. Zuboff implies, we think, that the distinction between public and private authority is at a minimum contingent on granular factual details; indeed, that distinction may in her view be fundamentally untenable (p. 122) — a position that can be linked back to Foucault’s dissolving skepticism about the centralized locus of power.

* * *

In short, while some of the challenges described by Zuboff have novel elements, in many respects, they are a continuation of ongoing struggles going back to the days of the enclosure movement and Captain Swing. It is thus unsurprising that there is a thread of theoretical work, including those by Scott and Foucault, that grappled with earlier iterations of similar issues. As these authors have illuminated, industrial capitalism and geopolitical competition, even without a new digitized panopticon, have often been difficult to reconcile with long-term human welfare.

The puzzle of surveillance economies identified by Zuboff is hardly the only such contemporary conflict between economic progress and human well-being. Climate change is another evocative example. One can acknowledge distinctions in the nature of the bargaining dynamic, the structure of existing political arguments, and the cultural valence relative to the concerns Zuboff foregrounds. But, as we suggest below, sensibly addressing this kind of shared challenge depends on an understanding of not just the entanglement between surveillance and risks to human welfare, but also between the new surveillance economies and older, recurrent debates about how societies distribute and regulate power, wealth, and information. It is hence necessary to ask whether

⁶⁸ Nikolas Rose, *Government and Control*, 40 BRIT. J. CRIMINOLOGY 321, 322 (2000). Professor David Garland traces the idea of governmentality back to *Discipline and Punish*. See David Garland, “Governmentality” and the Problem of Crime: Foucault, Criminology, Sociology, 1 THEORETICAL CRIMINOLOGY 173, 175 (1997). We also see a continuity between the technology of control imagined by Bentham and the more subtle forms of power charted in Foucault’s later work, and in Zuboff’s.

⁶⁹ See FOUCAULT, *supra* note 67, at 228 (“Is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?”).

Zuboff's description, evaluation, and prescription are plausible — a task we take up in the balance of this Review.

II. RECONSIDERING “SURVEILLANCE CAPITALISM,” AND EMBRACING MANY “SURVEILLANCE ECONOMIES”?

This Part reconsiders Zuboff's depiction of “surveillance capitalism.” It sets out an alternative account with a number of thematic differences from Zuboff's. To begin with, where she sees a single dominant economic model, we perceive a heterogeneous family of surveillance economies. Their distinctions and divergences create distinct points of leverage for law and governance, and imply subtly different consequences for social welfare and other desiderata. Further, whereas the state is touched on only briefly in her account, we place it front and center. Indeed, in our view, the problems and possibilities of surveillance economies hinge centrally on the health and repair of the state. Understanding the state's ability to co-opt and abuse surveillance economies to the detriment of the public is fundamental to understanding the risks of those economies. Finally, where Zuboff can sound as if the marriage of information and capitalism will inevitably end in catastrophe, we see more contingency. The future, in our view, holds possibilities for human progress as well as misery.

With these aims in mind, we first turn to Zuboff's descriptive premise that a discontinuous shift occurred in the elementary logic of capitalism in the early 2000s in Silicon Valley (pp. 69–70). A phenomenon of “surveillance capitalism” emerged, she posits, qualitatively distinct from its twentieth-century precursors (pp. 85–88).

We make three points to parry this historical claim. First, although we concur that there are important changes in scale and method, we question whether “surveillance capitalism” is as distinct from earlier historical iterations of capitalism as Zuboff would have us believe. Second, we posit that these economic strategies are more entangled with the state than Zuboff suggests. Indeed, the state seeds and shapes those economic strategies in a way that hints at a greater capacity for law to influence capitalist development than Zuboff allows. Third, and most importantly, we question whether surveillance capitalism is appropriately treated as a unitary sociological phenomenon. Rather, what Zuboff paints as unitary is better characterized as plural. There is not one economic strategy but rather an underlying heterogeneity in economic strategies. It is for this reason that we prefer the less totalizing term “surveillance economies” rather than the monolithic phrase “surveillance capitalism.” These descriptive and terminological shifts provide a platform for Part III's inquiry into the harms arising from surveillance economies, as well as Part IV's analysis of surveillance economies' co-option into the state, by providing reasons to think that the ethical

and legal challenges of surveillance capitalism are not distinct from those thrown up by earlier forms of capitalism.

A. *What Is New About Surveillance Capitalism?*

To periodize capitalism, one needs more than a definition of the term. One also needs a taxonomy of parameters amenable to change — enabling the identification of heterogeneous capitalisms without exiting the form entirely. Conventionally, a capitalist economy is one characterized by property rights, markets as a central allocative mechanism, and capital for transforming present resources into future expected returns.⁷⁰ But there is no general agreement about how the universe of capitalisms, so defined, should be carved up. An influential account in economic sociology differentiates, for example, between “liberal” and “coordinated” market economies based on the quanta of dirigiste state intervention.⁷¹ But that taxonomy provides no obvious traction for efforts to distinguish recent developments in digital capitalism from their precursors.⁷²

Instead, it is striking to observe how standard taxonomies of capitalism fail to distinguish its twentieth-century and early twenty-first-century American forms. Indeed, most of the dominant features of twentieth-century capitalism are visible when one examines surveillance capitalism. The leading economic historian Professor Alfred Chandler argues that the quintessential feature of the former was the emergence of hierarchical control by non-equity-holding managers.⁷³ Zuboff observes that in contrast to this tradition, dual-class equity structures in Google and Facebook have enabled founders to maintain both ownership and control (pp. 101–02). Such a structure is not confined to the data-driven economy. Viacom pursued a similar strategy in 1990.⁷⁴ Further, this shift in capital structure is not distinctive enough to use as a

⁷⁰ JÜRGEN KOCKA, *CAPITALISM* 21 (Jeremiah Riemer trans., Princeton Univ. Press 2016) (2014); cf. JOYCE APPLEBY, *THE RELENTLESS REVOLUTION: A HISTORY OF CAPITALISM* 3 (2010) (describing capitalism as a “system based on individual investments in the production of marketable goods”).

⁷¹ See Peter A. Hall & David Soskice, *An Introduction to Varieties of Capitalism*, in *VARIETIES OF CAPITALISM* 1, 8 (Peter A. Hall & David Soskice eds., 2001); Stewart Wood, *Business, Government, and Patterns of Labor Market Policy in Britain and the Federal Republic of Germany*, in *VARIETIES OF CAPITALISM*, *supra*, at 247, 251.

⁷² Weber’s taxonomy is also not obviously helpful. See WEBER, *supra* note 37, at 281–82. None of his categories entail the acquisition of profit through prediction.

⁷³ Alfred D. Chandler, Jr., *The Emergence of Managerial Capitalism*, 58 *BUS. HIST. REV.* 473, 473 (1984).

⁷⁴ Lucian A. Bebchuk & Kobi Kastiel, *The Untenable Case for Perpetual Dual-Class Stock*, 103 *VA. L. REV.* 585, 587 (2017). In any case, the effects of dual-class stock turn out to be complex, rather than straightforward. See generally Mike Burkart & Samuel Lee, *One Share-One Vote: The Theory*, 12 *REV. FIN. I* (2008) (collecting empirical and theoretical evidence).

marker of a phase shift within capitalism. Economic sociologists working in a more Marxian tradition than does Chandler focus instead on the rise of financial capitalism and “the rise of highly sophisticated systems of financial coordination on a global scale” in twentieth-century capitalism.⁷⁵ Yet the prominence of global capital flows — such as the Japanese firm SoftBank’s large infusions of Saudi money into so-called “unicorns”⁷⁶ — make Silicon Valley the epitome of this twentieth-century financial capitalism, rather than its repudiation.⁷⁷ The aggressive enclosure of behavioral surplus that Zuboff condemns, in this light, flows in part from venture-capital pressure and “feral” spending habits of many budding tech giants (pp. 80–82, 85).

Similarly, Zuboff’s assertion that industrial capitalism was characterized by “reciprocities” that have now been unraveled is difficult to embrace (pp. 31–32, 499–504). Whatever the virtues of Fordist production from an industrial-engineering perspective, it’s quite wrong to idealize it as a workers’ utopia.⁷⁸ Nor has the agricultural sector been such a panacea, even in developed countries.⁷⁹ Indeed, that employers have often sought ever-better methods to engage in surveillance of their own employees underscores that society’s surveillance past is on some kind of continuum with its present and perhaps its future. So conditions were never as humane or as empowering as Zuboff suggests. Even advocates of mass production like Taylor seemed cautious and took pains to avoid claiming that their prescriptions for the future of the industrial economy rested on preserving a sphere for worker autonomy or

⁷⁵ GIOVANNI ARRIGHI, *THE LONG TWENTIETH CENTURY: MONEY, POWER, AND THE ORIGINS OF OUR TIMES* 3 (1994) (quoting DAVID HARVEY, *THE CONDITIONS OF POSTMODERNITY* 194 (1990)).

⁷⁶ Seth Fiegerman, *SoftBank’s Unicorn Hunter: How Billionaire Masa Son Is Shaking Up Silicon Valley*, CNN MONEY, <https://money.cnn.com/interactive/technology/masayoshi-son-profile/index.html> [<https://perma.cc/FKB7-K4L5>].

⁷⁷ See Evgeny Morozov, Opinion, *Silicon Valley Was Going to Disrupt Capitalism. Now It’s Just Enhancing It*, THE GUARDIAN (Aug. 6, 2016, 7:05 PM), <https://www.theguardian.com/commentisfree/2016/aug/07/silicon-valley-health-finance> [<https://perma.cc/P876-3BSD>] (“Once the self-serving disruption narrative bursts, Silicon Valley will wake up to an unpleasant truth . . . it may be making the kind of capitalism it claims to despise far more resilient, dynamic and — the ultimate irony — difficult to disrupt.”); *Tech’s New Stars Have It All — Except a Path to High Profits*, THE ECONOMIST (Apr. 17, 2019), <https://www.economist.com/leaders/2019/04/17/techs-new-stars-have-it-all-except-a-path-to-high-profits> [<https://perma.cc/L89N-EUQP>].

⁷⁸ See, e.g., STEPHEN MEYER III, *THE FIVE DOLLAR DAY: LABOR MANAGEMENT AND SOCIAL CONTROL IN THE FORD MOTOR COMPANY 1908–1921*, at 40–41 (1981) (documenting assembly-line frustrations).

⁷⁹ See, e.g., KATHLEEN A. CAIRNS, *THE CASE OF ROSE BIRD: GENDER, POLITICS, AND THE CALIFORNIA COURTS* 42 (2016) (describing how some growers in California during the 1970s strenuously opposed banning the short-handled hoe for agricultural labor, despite the long-term health damage to laborers, claiming that “their workers used long-handled hoes as leaning posts, making it look to onlookers as if they were working when they actually were resting”); see also Alexis Guild & Iris Figueroa, *The Neighbors Who Feed Us: Farmworkers and Government Policy — Challenges and Solutions*, 13 HARV. L. & POL’Y REV. 157 (2018).

promoting satisfying reciprocal relations among workers.⁸⁰ Henry Ford's decision to double wages in 1914 was no exercise in unfettered benevolence. It was an economically rational response to an exceedingly high turnover rate (400%) and the frustration generated by repetitive and tedious assembly-line labor.⁸¹ Any claim of mutually beneficial reciprocities between American capital and labor, moreover, must reckon with the complex racial effects of twentieth-century capitalism. As Professor Thomas Sugrue's magisterial history of postwar Detroit demonstrates, African Americans did benefit from the industrial boom.⁸² But they were also among the first to be abandoned to unemployment and concentrated poverty.⁸³ Not for the last time, Zuboff's account shows what might charitably be called a tin ear to the complex interaction of race and economic development.

Consider instead the possibility that surveillance capitalism's distinctive quality inheres in its "distinctive laws of motion" of behavioral surplus, prediction products, and behavior modification (p. 67). Yet even here, at the malignant, amoral cynosure of surveillance capitalism, there is more continuity than change.

Since the beginning of industrial capitalism, we have already seen, there were aggressive enclosures of previously common resources such as grazing land.⁸⁴ A new industrial proletariat, moreover, experienced a radical degradation of control over their own bodies, their own actions, and their own experiences of time — a process with obvious parallels to the dynamics that Zuboff describes.

As soon as industrial work began, "it was necessary to break down the impulses of the workers."⁸⁵ Richard Arkwright, inventor of the water frame, prided himself on his ability to "train his workpeople to a precision and assiduity altogether unknown before, against which their listless and restive habits rose in continued rebellion."⁸⁶ Capitalism's effort to shape its new workforce did not stop at the factory gates. Rather, employers embarked on ambitious campaigns to remold human

⁸⁰ FREDERICK WINSLOW TAYLOR, *THE PRINCIPLES OF SCIENTIFIC MANAGEMENT* 63 (1911) (describing how the principles of scientific management were "directly antagonistic to the old idea that each workman can best regulate his own way of doing the work"). Taylor, writing in 1911, assumes that all workers are men.

⁸¹ Daniel M.G. Raff & Lawrence H. Summers, *Did Henry Ford Pay Efficiency Wages?*, 5 J. LAB. ECON. S57, S68–S75 (1987) (arguing that the increase was largely about increasing productivity and efficiency of employees); see also MEYER, *supra* note 78, at 40.

⁸² THOMAS J. SUGRUE, *THE ORIGINS OF THE URBAN CRISIS: RACE AND INEQUALITY IN POSTWAR DETROIT* 25–26 (rev. ed. 2014); see also *id.* at 90–115.

⁸³ *Id.* at 3, 144–46, 150–77.

⁸⁴ See *supra* pp. 1280–81.

⁸⁵ Pollard, *supra* note 13, at 257.

⁸⁶ *Id.* at 258 (internal quotation marks omitted) (quoting ANDREW URE, *THE COTTON MANUFACTURE OF GREAT BRITAIN* 237 (London, Charles Knight 1836)); see A.E. Musson & E. Robinson, *The Origins of Engineering in Lancashire*, 20 J. ECON. HIST. 209, 216 n.26 (1960).

character.⁸⁷ The “existing village culture,” including the behavior of women and children, “came under attack” through campaigns against “immoral idleness,”⁸⁸ “bad language,”⁸⁹ and alcohol.⁹⁰

These efforts did not abate in the twentieth century. To the contrary, the managerial revolution precipitated by Taylor aimed at, and secured, “breath-taking” new domains of control over workers by owners and their agents.⁹¹ At its very dawn some two centuries ago, and also since then, capitalism has been an economic system characterized by an effort to transform larger social life to capture the behavioral surplus leftover from a slack work effort.⁹² The “prediction products” of yesteryear comprised the templates of a respectable worker.⁹³ Industrial capitalism’s aim was a kind of “behavioral modification” no less sinister and no less exploitative than those documented by Zuboff. Given her technological agnosticism, and her attention instead to basic socioeconomic “logics” (p. 15), it seems more appropriate to rank surveillance capitalism as a modulation or evolution, rather than some categorical change in capitalist type. It is nothing new under the sun, but rather a variation in themes manifest since the enclosures and factory discipline first sparked protest across the British Isles.

B. *The State and the Origins of Surveillance Capitalism*

There is, moreover, one important historical continuity to which Zuboff doesn’t attend, but which has major ramifications for her argument. This concerns the role of law and the state. Law, and the state’s fashioning and implementation of it, was central to the emergence of industrial capitalism. It remains central to the pathways of surveillance economies. These economies would not have taken their present form without law and the state. To ignore the state’s role, as Zuboff does, is

⁸⁷ Pollard, *supra* note 13, at 270 (“Employers . . . used not only industrial means but a whole battery of extra-mural powers, including their control over the courts, their powers as landlords, and their own ideology, to impose the control they required.”).

⁸⁸ *Id.* at 268.

⁸⁹ *Id.* at 269.

⁹⁰ *Id.* at 268. For instance, workers lost the custom of a “Saint Monday” devoted to the “[g]in-shop” or “[p]url-house” (that is, pub), due to related campaigns. Douglas A. Reid, *The Decline of Saint Monday 1766–1876*, 71 PAST & PRESENT 76, 78, 86–89 (1976) (quoting GEORGE DAVIS, SAINT MONDAY 7 (Birmingham, Eng. 1790)).

⁹¹ John Fabian Witt, *Speedy Fred Taylor and the Ironies of Enterprise Liability*, 103 COLUM. L. REV. 1, 3 (2003).

⁹² On one account, such coercion was required because workers “were not able to discipline themselves in response to financial incentives.” Gregory Clark, *Factory Discipline*, 54 J. ECON. HIST. 128, 131 (1994).

⁹³ In the United States, Ford also sought to inculcate in his immigrant laborers “the American ways, the English language, and the right way to live.” Stephen Meyer, *Adapting the Immigrant to the Line: Americanization in the Ford Factory, 1914–1921*, 14 J. SOC. HIST. 67, 70 (1980) (quoting Henry Ford); see also *id.* at 70–72 (describing the Ford Motor Company’s program to teach workers how to live and make them more productive).

to overlook a major determining factor in capitalism's present effects and immanent potentialities.

Scholars since Weber have recognized the central role that law plays in enabling capitalist development.⁹⁴ The state's stable provision of law facilitates capitalist transactions by contributing to the predictability of social action.⁹⁵ Such a legal system, Weber thought, emerged as a consequence of pressures from the bourgeoisie.⁹⁶ A Weberian account of law's relation to economic growth emerged in the American legal academy in the mid-1960s, in the form of a law and development movement.⁹⁷ Central to this movement was a "liberal"⁹⁸ and instrumental account of law as an "integrated purposive entity."⁹⁹ By "curbing arbitrary government action," law enabled human liberty and facilitated the conscious pursuit of social welfare.¹⁰⁰ Law, in short, has long stood at the foundation of capitalist economic development.¹⁰¹

Surveillance capitalism, as Zuboff describes it, is no less entangled with the state. Most obviously, TCP/IP, which enabled the very first springs of behavioral surplus data, emerged from government-funded work on ARPANET.¹⁰² The algorithm employed by Google's search engine was initially developed with government funds supplied by the National Science Foundation.¹⁰³ Government policies such as tax credits and procurement support programs also "laid the foundation" for Apple "to become a major industry player."¹⁰⁴ Government coordination and regulation continue to play a central role in facilitating the internet in its present form.¹⁰⁵ And the government's failure to regulate effectively

⁹⁴ See David M. Trubek, *Max Weber on Law and the Rise of Capitalism*, 1972 WIS. L. REV. 720, 723 ("[Weber's] analysis suggested very strongly that European law played an important role in the emergence of the capitalist economic system.").

⁹⁵ See *id.* at 743.

⁹⁶ See *id.* at 723–24.

⁹⁷ See *id.* at 720–21.

⁹⁸ David M. Trubek & Marc Galanter, *Scholars in Self-Estrangement: Some Reflections on the Crisis in Law and Development Studies in the United States*, 1974 WIS. L. REV. 1062, 1073.

⁹⁹ *Id.* at 1072.

¹⁰⁰ *Id.* at 1074. This account was not universally praised. *Id.* at 1080 (describing it as "ethnocentric" and "naive").

¹⁰¹ The Weberian claim is more general than the contested "legal origins" thesis, which aims to predict the development of financial markets based on a jurisdiction's civil or common law origins. For a powerful critique of the legal origins theory, see Mark J. Roe, *Legal Origins, Politics, and Modern Stock Markets*, 120 HARV. L. REV. 460 (2006).

¹⁰² Barry M. Leiner et al., *A Brief History of the Internet*, 39 ACM SIGCOMM COMPUTER COMM. REV. 22, 24–25, 27, 29 (2009). For a more extended account, see KATIE HAFNER & MATTHEW LYON, *WHERE WIZARDS STAY UP LATE: THE ORIGINS OF THE INTERNET* (2d ed. 1998).

¹⁰³ MARIANA MAZZUCATO, *THE ENTREPRENEURIAL STATE: DEBUNKING PUBLIC VS. PRIVATE SECTOR MYTHS* 27 (rev. ed. 2015).

¹⁰⁴ *Id.* at 118; see *id.* at 117.

¹⁰⁵ See generally PAUL E. CERUZZI, *COMPUTING: A CONCISE HISTORY* 154 (2012) ("As with the invention of the personal computer itself, [social] forces drove networking from the bottom up,

can create opportunities for aggressive and even illegal efforts by digital companies to penetrate, and even dominate, markets.¹⁰⁶ There is every reason to believe that governmental policy decisions about whether and how to support new technologies, such as artificial intelligence, will shape the pace and trajectory of those tools' development.¹⁰⁷ Without continued government support, moreover, the specific forms of technology and the array of likely uses will increasingly be shaped by developments overseas.¹⁰⁸ China, which merits only a fleeting mention in *The Age of Surveillance Capitalism* (pp. 246, 388–94), is likely to outpace the United States with particular respect to cutting-edge technologies such as quantum computing¹⁰⁹ and encryption tools.¹¹⁰

The role of the state and law in shaping surveillance capitalism, in short, is not merely historical. Rather, whether and how the state decides to acquire, discourage, or promote different technologies critically shapes the array of affordances in which those technologies might flourish.¹¹¹ An economic sociology of this era that lacks a role for the state is a bit like *Hamlet* without the prince — or at least without the ghost.

C. *The Pluralism of Surveillance Economies*

There is also more than one script worth reading to understand properly how surveillance is reshaping modern political economy. Although Zuboff is right to discern the importance of certain recurring themes running through the growing conflict over information and concentrated power, certain distinctions in economic practices and political circumstances are also important to any accurate description of current conditions.

while privileged military and academic agencies drove networking from the top down. Today's world of networked computing represents a collision of the two."); LAURA DENARDIS, *THE GLOBAL WAR FOR INTERNET GOVERNANCE* (2014) (discussing the frameworks of internet governance in both private and sovereign spheres).

¹⁰⁶ See, e.g., Mike Isaac, *How Uber Deceives the Authorities Worldwide*, N.Y. TIMES (Mar. 3, 2017), <https://nyti.ms/2lnl5b8> [<https://perma.cc/BUX8-SZU5>].

¹⁰⁷ See, e.g., Exec. Order No. 13,859, 84 Fed. Reg. 3967 (Feb. 11, 2019) (announcing prioritization of artificial-intelligence research and development through federal investment).

¹⁰⁸ For an analysis of this political economy nested in a geopolitical context, see Mariano-Florentino Cuéllar & Aziz Z. Huq, *Privacy's Political Economy and the State of Machine Learning: An Essay in Honor of Stephen J. Schulhofer*, 74 N.Y.U. ANN. SURV. AM. L. (forthcoming summer 2020).

¹⁰⁹ See ELSA B. KANIA & JOHN K. COSTELLO, CTR. FOR A NEW AM. SEC., *QUANTUM HEGEMONY? CHINA'S AMBITIONS AND THE CHALLENGE TO U.S. INNOVATION LEADERSHIP* 16–18 (2018).

¹¹⁰ See Ben Buchanan, *Nobody but Us: The Rise and Fall of the Golden Age of Signals Intelligence* 12–13 (Hoover Working Grp. on Nat'l Sec., Tech. & Law, Aegis Series Paper No. 1708, 2017), <https://www.hoover.org/research/nobody-us> [<https://perma.cc/5DLU-U674>].

¹¹¹ Cf. Kate Conger et al., *San Francisco Bans Facial Recognition Technology*, N.Y. TIMES (May 14, 2019), <https://nyti.ms/2VG3Zr9> [<https://perma.cc/VV4L-96JD>] (discussing the San Francisco ban and its implications for the development of facial-recognition technology).

The monolithic label “surveillance capitalism” conveys a certain unity of functionality or purpose. And indeed, Zuboff makes a plausible case that the modern internet and its associated economic model contribute to the distinctive, early twenty-first-century conjunction of economic anxiety, social ennui, and civic disengagement afflicting large chunks of the public across advanced industrialized and middle-income countries (pp. 5, 403, 465). Indeed, firms glean such enormous value from the data generated by their customers that one might wonder whether terms like “employee” and “customer” are beginning to overlap in ways likely to make the distinction between these concepts less analytically useful in the future.¹¹² Such an extent of unity in economic logic is congruent with the tenor of Zuboff’s general moral condemnation of the phenomenon.

Nonetheless, Zuboff may be relying excessively on an empirical assumption that there is a cohesive entity amenable to a singular label when she deploys the term “surveillance capitalism.” In practice, the firms she discusses make up a small fraction of the U.S. economy. Their future growth is constrained by the limited availability of advertising revenues, at least absent some dramatic change in their business model.¹¹³ Either “surveillance capitalism” is a term condemned to capture only a minority fraction of economic activity in the United States, or it must be understood to capture a wide range of economic activities that rely upon diverse forms of personal data in varied ways. If this

¹¹² Zuboff doesn’t explore the legal implications of this idea. The companies she treats as exemplars of “surveillance capitalism” admittedly generate value by leveraging algorithms, contractual arrangements and infrastructure, their brand reputations, and, crucially, data from their users. Their ostensible “workforces” are quite small relative to their market capitalization or their economic reach. Cf. Lowell L. Bryan, *The New Metrics of Corporate Performance: Profit per Employee*, MCKINSEY Q. (Feb. 2007), <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-new-metrics-of-corporate-performance-profit-per-employee> [https://perma.cc/8DPA-KTTV]. Meanwhile, transportation platforms suggest their role is to offer a service to people on both sides of a transportation transaction, rather than to employ certain providers of a service that customers purchase. See Le Chen et al., *Peeking Beneath the Hood of Uber*, PROC. 2015 INTERNET MEASUREMENT CONF., Oct. 2015, at 495, 495. Some have cast doubt on this claim. See *id.* at 507 (identifying discontinuities and bugs in Uber’s surge-pricing models). To the extent distinctions between customer and employee indeed blur further over time, such a development will pose a variety of challenges to existing legal arrangements that depend heavily on that distinction. Such blurring may also open the door to further discussion and analysis of whether employee-like rights reminiscent of collective bargaining, or protections familiar from workplace safety, have a role in consumer protection — and whether the focus on unfair or deceptive practices and disclosure familiar from consumer protection might merit a more prominent role in the law governing “employees.” But even if one recognizes the potential for a blurring of the distinction between employees and consumers, there’s good reason to expect — as we discuss below — that this will play out in different ways across different companies, industries, and geographic jurisdictions.

¹¹³ Edward Logan, *Tech Tired: Does Advertising Constrain Tech Stock Growth?*, GAILFOSLER GROUP (Dec. 6, 2017), <https://www.gailfosler.com/tech-tired-advertising-constrain-tech-stock-growth> [https://perma.cc/HL93-D695].

more capacious definition is accepted, however, the monolithic character of “surveillance capitalism” dissolves. We are instead left with a heterogeneous array of “surveillance economies” pursuing different business models and with quite varied interests in the management and regulation of data.¹¹⁴

To unpack this point, it is helpful to begin by looking at how Zuboff uses the term “surveillance capitalism.” In an unpaginated definitional preface, she characterizes the term seriatim as an “economic order,” an “economic logic,” a “rogue mutation of capitalism,” and a “foundational framework.” All these terms imply a certain scale. So too do her repeated comparisons to industrial capitalism. Readers repeatedly are led to believe we are discussing a phenomenon with the same scale and effect as the early Industrial Revolution. But this implication is in tension with other elements of her account. Specifically, Zuboff describes surveillance capitalism in terms of a very small number of companies — Google and Facebook play leading roles — located in one American jurisdiction, Silicon Valley (pp. 63, 91–92). These companies may occupy an outsized role in the public imagination, but they do not dominate the actual economy. A recent government study found that the “digital economy” made up a smaller fraction of the overall economy than do health care, finance and insurance, or real estate.¹¹⁵ Nor is its growth illimitable. Recall that the majority of Zuboff’s examples of prediction products concern product or service advertising.¹¹⁶ In consequence, the extent of the digital economy’s potential for growth is constrained by the availability of advertising revenues. These have tended to hover around three percent of the U.S. economy.¹¹⁷ The sense of these firms’ importance stems, therefore, not so much from their material macroeconomic importance. Rather, it stems from the fact that for an astonishingly large share of the population, social media and other digital platforms are an immediate and salient part of their daily lives. Facebook, for example, has some 2.4 billion active users worldwide in

¹¹⁴ Cf. Sarah Myers West, *Data Capitalism: Redefining the Logics of Surveillance and Privacy*, 58 BUS. & SOC’Y 20, 23–28 (2017) (emphasizing experimental quality of business models in this space).

¹¹⁵ Kevin Barefoot et al., *Defining and Measuring the Digital Economy 4* (Bureau of Econ. Analysis, Working Paper, Mar. 15, 2018), <https://www.bea.gov/system/files/papers/WP2018-4.pdf> [<https://perma.cc/5WZZ-DSP2>]. According to the Bureau of Economic Analysis, the “digital economy” comprised 6.5% of current-dollar gross domestic product, 3.9% of employment, and 6.7% of employee compensation. *Id.* at 2. The Bureau defined the “digital economy” in terms of the “[i]nternet and related information and communications technologies.” *Id.* at 6.

¹¹⁶ See *supra* p. 1290.

¹¹⁷ Derek Thompson, *The Attention Economy Is a Malthusian Trap*, THE ATLANTIC (Jan. 16, 2019), <https://www.theatlantic.com/ideas/archive/2019/01/is-the-age-of-tech-over/580504> [<https://perma.cc/KLM2-KFPY>].

2019.¹¹⁸ Companies' penetration into individual lives, moreover, may vary with the physical location of their technology.¹¹⁹ This is, no doubt, impressive. But it does not mean that the economic system as a whole has been radically transformed.

Perhaps then it is better to understand Zuboff's use of the term "surveillance capitalism" to include all the companies that draw upon the personal data making up behavioral surplus regardless of industry. On this reading, "surveillance capitalism" sweeps up insurance companies (p. 213), workplace management (p. 409), and health care companies (p. 249). As more industries find ways to incorporate behavioral surplus into their business models, the share of the economy that falls under this term will increase, potentially dramatically. This more ambitious reading of the term "surveillance capitalism" resonates with Zuboff's initial definition and her extended discussion. But it invites a different objection. Diverse industries will use behavioral surplus in distinct ways. Human relations, health care, and advertising are subject to different regulatory frameworks. Some market participants, for example, will be prohibited by law from relying on certain traits (such as gender, disability, or age). Distinct privacy regimes also apply to the workplace, the clinic, and the university, constraining the way that data can be generated and deployed.

Nor is it clear that all these economic actors have the same interests in maximizing behavioral surplus. It is not quite the case that Google and (more recently) Facebook have eviscerated the privacy of personal data.¹²⁰ Rather, such privacy has come to be a "luxury good" that can be acquired for thousands of dollars and a not inconsiderable expenditure of time.¹²¹ The monetization of behavioral surplus has also stimulated the creation of "social networks where users join for a fee and the rise of reputation vendors that protect users' privacy online."¹²² These entities — accessible only to the wealthy — have different interests in behavior surplus's regulation than do firms that harvest behavioral surplus and sell prediction products. Their interests also diverge from those

¹¹⁸ Mariel Soto Reyes, *Scandals and Teen Dropoff Weren't Enough to Stop Facebook's Growth*, BUS. INSIDER (Apr. 26, 2019, 10:20 AM), <https://www.businessinsider.com/facebook-grew-monthly-average-users-in-q1-2019-4> [<https://perma.cc/CQU3-TW9X>].

¹¹⁹ For instance, Amazon's access to domestic spaces via Alexa creates a portal for intimate recommendations based on detailed analysis of in-home conduct. Khari Johnson, *AI Weekly: Recommendation Engines Are Driving Alexa's Hardware Strategy*, VENTURE BEAT (Sept. 27, 2019, 1:59 PM), <https://venturebeat.com/2019/09/27/ai-weekly-recommendation-engines-are-driving-amazons-alexa-hardware-strategy> [<https://perma.cc/K83R-H9UE>].

¹²⁰ Julia Angwin, Opinion, *Has Privacy Become a Luxury Good?*, N.Y. TIMES (Mar. 3, 2014), <https://nyti.ms/1dVo8rW> [<https://perma.cc/MB7U-2RLM>].

¹²¹ *Id.*

¹²² Joseph W. Jerome, *Buying and Selling Privacy: Big Data's Different Burdens and Benefits*, 66 STAN. L. REV. ONLINE 47, 48 (2013), https://review.law.stanford.edu/wp-content/uploads/sites/3/2016/08/66_StanLRevOnline_47_Jerome.pdf [<https://perma.cc/D5D3-3UCD>].

of the roughly \$200 billion industry that sells and exchanges personal data, and is made up of companies such as Experian, Acxiom, Rappleaf, and Datalogix.¹²³ Yet another set of interests motivates the \$250 billion real-estate industry that owns and manages a “digital hinterland of warehouses, data centres and telecommunications towers.”¹²⁴ Even within the core of Zuboff’s surveillance capitalism, firms already seek to differentiate themselves by staking out divergent positions on behavioral surplus.¹²⁵ Yet another dividing line may be antitrust law, which is implicated by “the accumulation of data, including personal data, by dominant firms [in ways that] entrench[] their dominant positions.”¹²⁶ In February 2019, for instance, the Bundeskartellamt — Germany’s competition authority — prohibited Facebook from combining users’ WhatsApp, Instagram, and Facebook data streams without their consent.¹²⁷ The Bundeskartellamt’s decision may well have sharply different implications for Facebook than it does for other competitor services. It stimulates distinct interests among firms that rely on behavioral surplus in ways that belie the notion of a unitary surveillance capitalism with a uniform array of incentives and faults.¹²⁸

Markets, and the regulatory response to market effects, will thus generate a range of divergent firm orientations toward the acquisition and exchange of behavioral surplus.¹²⁹ So what Zuboff characterizes as

¹²³ Matthew Crain, *The Limits of Transparency: Data Brokers and Commodification*, 20 NEW MEDIA & SOC’Y 88, 90 (2018).

¹²⁴ *The REIT Stuff*, THE ECONOMIST, May 11, 2019, at 61, 61.

¹²⁵ See, e.g., Sundar Pichai, Opinion, *Google’s Sundar Pichai: Privacy Should Not Be a Luxury Good*, N.Y. TIMES (May 7, 2019), <https://nyti.ms/2POJzWI> [<https://perma.cc/4PMF-BWJK>] (“For [Google] . . . privacy cannot be a luxury good offered only to people who can afford to buy premium products and services. Privacy must be equally available to everyone in the world.”); Kara Swisher, Opinion, *Apple Stands Up for Privacy. Does It Matter?*, N.Y. TIMES (Feb. 1, 2019), <https://nyti.ms/2Uy1Fxx> [<https://perma.cc/MWT8-3KFG>] (documenting Apple’s desire to protect user privacy and the resulting clashes with Facebook).

¹²⁶ Giuseppe Colangelo & Mariateresa Maggolino, *Data Accumulation and the Privacy-Antitrust Interface: Insights from the Facebook Case*, 8 INT’L DATA PRIVACY L. 224, 225 (2018).

¹²⁷ Press Release, Bundeskartellamt, Bundeskartellamt Prohibits Facebook from Combining User Data from Different Sources: Background Information on the Bundeskartellamt’s Facebook Proceeding (Feb. 7, 2019), https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Pressemitteilungen/2019/07_02_2019_Facebook_FAQs.pdf;jsessionid=FF787369E836EC0D8273A45E47018C13.2_cid387?__blob=publicationFile [<https://perma.cc/CQ6Z-BAQU>].

¹²⁸ Other points of division concern exceptional access to electronic communication standards, see SUSAN LANDAU, LISTENING IN: CYBERSECURITY IN AN INSECURE AGE 11–12 (2017), and the “arms race” between advertisers and web browsers respecting the use of cookies, see West, *supra* note 114, at 30 (quoting BRUCE SCHNEIER, DATA AND GOLIATH: THE HIDDEN BATTLES TO COLLECT YOUR DATA AND CONTROL YOUR WORLD (2015)) (describing how advertisers have sought to expand technologies to track users’ behavior while web browsers have fought back with new privacy protections to prevent such tracking).

¹²⁹ Professor Ryan Calo has argued that certain markets will unravel as a consequence of a “lemons” problem in the absence of a certain amount of user privacy. See Ryan Calo, *Privacy and Markets: A Love Story*, 91 NOTRE DAME L. REV. 649, 671–73 (2015).

the unitary phenomenon of “surveillance capitalism” is better described as plural surveillance economies. Not all its participants have the same interests. Not all use behavioral surplus in the same way. Overlooking the consequent conflicts creates the risk that one misses important limits on datafication, distributive effects along gender and race lines,¹³⁰ and even opportunities for reform.¹³¹ We therefore think it is better to talk of surveillance economies in the plural, rather than relying on the deceptively totalizing term “surveillance capitalism.”

* * *

The concept of a new form of economic organization denominated “surveillance capitalism” has abiding allure. It crystallizes the inchoate sense of many that “something is happening,” even if they cannot quite name the event. Yet, when the concept is closely scrutinized, its coherence quickly dissipates. Much as we would like to believe our travails wholly disparate from those of previous generations, the effect of surveillance capitalism on our norms and practices has commonalities with its industrial precursors. *Pace* Zuboff, the state’s facilitative role shapes the data-driven economy much as it shaped the industrial economy. And the resulting ecosystem of firms relying on behavioral surplus is far more diverse, and far more conflictive, than she allows. None of this is to detract from the possibility that our surveillance economies may pose grave moral and regulatory challenges. It is rather to suggest that those challenges are not well met unless one has in hand an apt and accurate sense of the economic terrain.

III. THE MORAL MEASURE OF OUR SURVEILLANCE ECONOMIES

A pluralism of our surveillance economies is compatible with much of Zuboff’s normative critique of rendition, prediction, and behavioral management. But awareness of such pluralism also makes it easier to understand both the possibility of reforms and the relevant stakes. Multiple companies, that is, may be extracting behavioral surplus, generating prediction products, and manipulating behavior. Their combined action may inflict the same damage to “human nature” (p. 94) as a more monolithic economic formation. The harms to human nature Zuboff adumbrates — the tearing away of intimate data, the evisceration of the “future tense” (p. 332),¹³² and the desecration of the interior psychological “sanctuary” needful to a meaningful life (p. 492) — might emerge as system-level effects from a swarm of like firms exploiting the landscape of affordances in similar ways.

¹³⁰ See *infra* pp. 1323–24.

¹³¹ See *infra* section IV.C, pp. 1331–35.

¹³² Emphasis has been omitted.

Although Zuboff makes progress in mapping the connections between information, economic power, and the psychology of human well-being, we are skeptical of Zuboff's characterization of surveillance economies' toll, much as we are skeptical of her characterization of the underlying economic reality. Rather than seeing surveillance economies as inflicting a singular harm, we think they are best framed as akin to their precursors during the era of industrial capitalism. The firms making up surveillance economies generate many important negative spillovers just as more familiar industries generated pollution, monopolies, and other externalities. Zuboff vividly illustrates many of these, such as the psychological effects of social media on teenagers (p. 445), the risks to informational and dignitary privacy (p. 58), and the market distortions that come from monopoly control (pp. 132–33). The harmful spillovers from surveillance economies warrant legal responses, such as prohibitory regulation or Pigovian taxes.

But we think Zuboff may go astray when she sets aside these particularized harms to instead warn of the dire peril to “human nature [that] threatens to cost us our humanity” (p. 347).¹³³ This last claim is not founded on a sufficiently theorized, and therefore not on a clearly defensible, view of human nature, freedom, and agency. Without further development or justification, that view appears to rely on an implausible account of human agency and free will finding scant support in the sophisticated philosophical literature on the topic. It also blinks the deep difficulty of distinguishing the harms of surveillance economies from those of other well-entrenched and broadly accepted economic and noneconomic institutions. Finally, it is a tactical mistake. By casting reform's goals in transcendental, wholly unrealistic, and abstract terms, Zuboff slights and demeans tractable legal and regulatory changes that would have a meaningful impact on individual lives. Her proposal is thus politically unwise as well as conceptually flawed.

A. *A Grievous Blow to Human Nature?*

Any critique of Zuboff's indictment of “surveillance capitalism” is handicapped at the starting line by the sheer breadth and gelatinous fluidity of her normative claims. Zuboff uses terms such as “human nature” and “humanity” as if they have a simple and singular meaning. Of course they don't. Precisely because those terms are so capacious, and so absorbent of moral concerns of different qualities, their usage

¹³³ Emphasis has been omitted. Some privacy-oriented critics of surveillance economies focus on the way in which “rapid” technological change “has magnified the invasiveness of surveillance activities.” Ifeoma Ajunwa et al., *Limitless Worker Surveillance*, 105 CALIF. L. REV. 735, 743 (2017). We do not read Zuboff to be making this sort of argument. Even arguments of this form must explain why a step change in, say, the technological ease of surveillance creates a distinctive reason for concern.

fluctuates wildly between different times and places.¹³⁴ Thinkers such as Arendt, upon whom Zuboff ostensibly relies, have described the “problem of human nature” as “unanswerable.”¹³⁵

As a result, there is a nonfalsifiable quality to Zuboff’s core argument. If the critic says: “But this kind of human nature is not impugned by surveillance capitalism,” it may always be open to Zuboff to say: “Ah! But that is not the sort of human nature I meant!”¹³⁶ The presence of such elusiveness in the terms of an argument is not a virtue. It is a disabling vice.

Worse, the inchoate and pregnant ambiguity of Zuboff’s charges is not an innocuous accoutrement to an otherwise sound argument. It rather allows Zuboff to dispense with a difficult set of counterarguments for which she otherwise offers no response. A reader of *The Age of Surveillance Capitalism* might be forgiven for assuming that the economic form under analysis had almost no redeeming quality, that it resulted in no meaningful improvements in human well-being, and that it won’t contribute in any significant ways to the public good. This position, though, is not really plausible.¹³⁷

Consider first the quite ordinary returns from using devices that both extract and rely upon behavioral surplus. Both of us live in large metropolitan areas with not inconsiderable traffic problems. We both use traffic apps that rely on aggregates of user data, including our own, to minimize the time we spend in traffic. Our lives are measurably better for consequently spending less time on the road. Both of us have relations who live far and wide, with whom we communicate using “free” apps such as WhatsApp and FaceTime. And both of us benefit in our respective work from the acuity of search engines in the production of academic and other work. And, like you, we gain in our private lives from recommender algorithms used by entertainment platforms. We think that nary a day goes by when we do not gain in some material way from the extraction and deployment of behavior surplus. Our experience is hardly unique (although precisely how much so is hard to say). Move down the socioeconomic scale and one would observe many

¹³⁴ Cf. MERLE CURTI, *HUMAN NATURE IN AMERICAN THOUGHT* (1980) (exploring evolving ideas of human nature in the American context since 1700).

¹³⁵ HANNAH ARENDT, *THE HUMAN CONDITION* 10 (2d ed. 1998) [hereinafter ARENDT, *HUMAN CONDITION*] (“It is highly unlikely that we . . . should ever be able to [define human nature] — this would be like jumping over our own shadows.”). Zuboff quotes both *The Human Condition* and *Life of the Mind* (pp. 382, 330–31). The quoted discussion in the latter, though, focuses on Aristotle’s thought, not Arendt’s, and is not plainly pertinent to the questions raised by Zuboff. See ARENDT, *LIFE OF THE MIND: WILLING*, *supra* note 56, at 13–14.

¹³⁶ Note that this concern about falsification does not run up to the objection entailed by the Duhem-Quine thesis. See generally CAN THEORIES BE REFUTED? *ESSAYS ON THE DUHEM-QUINE THESIS* (Sandra G. Harding ed., 1976).

¹³⁷ To be sure, Zuboff mentions some good consequences of surveillance economies (p. 247). But blink and you miss them.

of the same benefits being enjoyed, even if one also saw more encounters with the state — that is, welfare agencies and police departments¹³⁸ — being mediated through predictive tools. Although the aggregate distributive effects of these countervailing forces are hard to estimate, the tally is not lopsided.

Still more awkwardly, Zuboff simply does not account for the unrealized gains in human well-being that can sometimes be realized by deeper commercialization of data. Consider here the case of health-related data. American health providers presently lack a common standard for electronic records, hindering interoperability and “making it effectively impossible to pool data and achieve the scale” necessary for many sophisticated forms of data analysis.¹³⁹ Medical facilities instead quarantine their data, using them to “generate very detailed bills, but almost never to help people require fewer expensive hospital services in the first place.”¹⁴⁰ Arguably, such usages fall within the range of data “reciprocities” that Zuboff praises (p. 88). But it is striking that her analysis does not grapple with practical instances of potential gains from surveillance tools.

Zoom out from these retail instances of the benefits of surveillance economies to the macroeconomic scale, and the same observation holds. In the past decade, investments in digital technologies “have significantly boosted labor productivity” across industries.¹⁴¹ They have likely contributed to a greater part of the growth in domestic production than conventional measures allow.¹⁴² It’s likely that a considerable chunk of the economic value of social networks such as Facebook is never captured through extrinsic measures of productivity. Yet that value is far from trivial. A 2018 study, for example, used a series of experimental auctions to calculate that a representative individual would have to be

¹³⁸ See VIRGINIA EUBANKS, *AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE, AND PUNISH THE POOR* (2018) (criticizing in broad and categorical terms the use of predictive technologies in welfare context); Aziz Z. Huq, *Racial Equity in Algorithmic Criminal Justice*, 68 *DUKE L.J.* 1043, 1062–76 (2019) (describing uses of predictive technologies in criminal justice).

¹³⁹ NICK POLSON & JAMES SCOTT, *AIQ: HOW ARTIFICIAL INTELLIGENCE WORKS AND HOW WE CAN HARNESS ITS POWER FOR A BETTER WORLD 204–05* (2018). Despite its too-clever title, Professors Nick Polson and Scott’s book is one of the best available on the mechanics, rewards, and risks of machine learning.

¹⁴⁰ *Id.* at 205.

¹⁴¹ Makada Henry-Nickie et al., *Trends in the Information Technology Sector*, BROOKINGS INSTITUTION (Mar. 29, 2019), <https://www.brookings.edu/research/trends-in-the-information-technology-sector/> [https://perma.cc/3SWA-D3V8].

¹⁴² See Erik Brynjolfsson & Adam Saunders, *What the GDP Gets Wrong (Why Managers Should Care)*, 51 *MIT SLOAN MGMT. REV.* 95, 95–96 (2009) (suggesting that standard measures of GDP undercount productivity gains due to the digital economy).

paid in excess of \$1000 to switch off their Facebook account for a calendar year.¹⁴³ By comparing Facebook's market capitalization to this average expected value to users, the study could infer that the "vast majority of [the social network's] benefits" flow to its users.¹⁴⁴

Perhaps Zuboff might resist the significance of these benefits by gesturing to the addictive quality of the Facebook interface or the impact of user-interface features such as infinite scroll (p. 451). While there's little doubt that pivotal actors in the surveillance economy depend on enthralling users and dampening their desire to stop using the technology in question, it's also far from clear that "addiction" is the right frame to capture all or even most of what's at work in the relationship between users and social media enterprises. Facebook, recall, has 2.4 billion monthly active users. How to describe the mix of desires, compulsion, satisficing, manipulation, and self-definition involved in their use is a complicated question worth careful attention to theory and data.¹⁴⁵ Some of these facts are in at least some tension with Zuboff's claim that the problem with "surveillance capitalism" is that behavioral data are not "reinvested in service to the human being who is the subject of these arrangements" (p. 247).¹⁴⁶ If at least some Facebook users are extracting multiples of the benefit that accrues to Facebook equity holders, one would need a more elaborate theory or further explanation to see why the former should be understood to experience unjust terms of trade. The benefits of surveillance economies, moreover, cannot be disentangled from the functioning of predictive products. A world with sufficient locational privacy, that is, is a world in which traffic apps cease to have value. A recommender system for books, video, or other media that operates at random is a neat art project. It is unlikely to facilitate meaningful aesthetic choice or yield pleasurable viewing experiences.¹⁴⁷

This is not to say that people heavily or even intermittently using the technologies underlying surveillance economies should be assumed to act in a manner consistent with their own well-being. Economists, legal scholars, and social theorists have long had good reason to question overreliance on revealed preference as a guide to individual welfare.¹⁴⁸ Indeed, part of what gives Zuboff's argument analytical texture is its implicit premise that no one lives by bread alone, and no amount of "voluntary" use of a commercial product by itself resolves whether a

¹⁴³ Jay R. Corrigan et al., *How Much Is Social Media Worth? Estimating the Value of Facebook by Paying Users to Stop Using It*, 13 PLOS ONE, Dec. 2018, at 1, 1–2, 7.

¹⁴⁴ *Id.* at 7.

¹⁴⁵ See *id.* at 1–2. The Corrigan et al. study relied on samples of both college students and participants from Amazon's Mechanical Turk, a crowdsourcing and web-based survey instrument that is not without its critics.

¹⁴⁶ Zuboff offers a number of formulations of this point. At one juncture, she suggests that the problem is that individuals do not have "exclusive rights to the knowledge garnered from such data" (p. 7).

¹⁴⁷ For an example, see *supra* note 61.

¹⁴⁸ See, e.g., MARK KELMAN, A GUIDE TO CRITICAL LEGAL STUDIES 64–85 (1987).

person is best off having made that choice. But such insights cut both ways: if individual (let alone social) welfare is complicated — and if we know from social psychology, political theory, and history that its relationship to behavior is rarely straightforward — then it’s a tall order to accept that all or even most of the value people assign to social media is chimerical. In a sense, the absence of much serious consideration of the immediate benefits or positive spillovers from surveillance economies flows inexorably from Zuboff’s decision to conceptualize the relevant harms in an abstract and high-level fashion (by talking of “human nature” and “humanity”).

But the decision to airbrush out of the picture even the possibility of those benefits, let alone to avoid much effort to compare them to costs, does not erase them. The most challenging problems in law and policy are also often the most consequential — and they arise not where a particular activity or natural development is uniformly calamitous, but because what’s convenient, fertile, or desirable can also be toxic.¹⁴⁹ Because Zuboff fails to account for such benefits in her argument, she runs a risk of seriously understating the importance and complexity of the problem at hand.

Zuboff might reply that the quality of surveillance economies’ harm to human nature and humanity is categorically different, obviating the need to consider mere trivialities such as the immediate value that a user secures from Google or Facebook. Yet, for reasons we develop next, we question the premise of this position.

B. Human Agency and Surveillance Economies

Let us now turn to the more specific account of harms Zuboff offers. These are the claims that surveillance economies illicitly take intimate and private information, undermine the exercise of free will, and compromise the psychological interiority necessary to healthy personhood.¹⁵⁰ Again, we are not persuaded. We first reject Zuboff’s implicit account of human agency. We then suggest that if her account is taken seriously, then not just surveillance economies, but also a substantial tranche of present social and economic arrangements, would need to be recalibrated. Her argument would then not run against surveillance economies as such, but rather target contemporary capitalism at large.

Zuboff’s analysis starts from an idea of a free agency incompatible with the logics of behavior surplus extraction, prediction products, and behavioral modification (pp. 329–32). The standard account of human

¹⁴⁹ See Mariano-Florentino Cuéllar, *A State Supreme Court Justice’s Open Letter to AI*, QUARTZ (Nov. 17, 2017), <https://qz.com/1132418/california-supreme-court-justice-mariano-florentino-cuellars-open-letter-to-ai> [<https://perma.cc/UMS4-XR48>] (“The embrace of reassuring assumptions may prove unwise: not because smarter machines have little or no prospect of helping us build a more contented world, but because — as Aldous Huxley would appreciate — they do.”).

¹⁵⁰ See *supra* pp. 1292–93.

agency in the philosophical literature, however, does not support this diagnosis. Nor does the account offered by Arendt, upon which Zuboff expressly leans (pp. 330–31), elucidate her claims. In the end, we see little reason to accept the bold claim that a loss of control over one's data exhaust, or the accurate targeting of advertisements based on one's traits, degrades human agency — or, for that matter, human nature.

We can usefully start with the leading accounts of agency in the philosophy literature. A standard view of agency, associated with Professor G.E.M. Anscombe, is framed in terms of the capacity to act intentionally, which is to act for a reason.¹⁵¹ A more complex account, associated with Professor Michael Bratman, identifies “reflectiveness,” “planfulness,” and a “conception of our agency as temporally extended” as “core features of human agency.”¹⁵² This definition places stress — persuasively, in our view — upon a class of motivations that Professor Harry Frankfurt calls “second-order desires.”¹⁵³ These entail being “capable of wanting to be different, in their preferences and purposes, from what they are.”¹⁵⁴ Frankfurt's account suggests that individuals' second-order attitudes toward their own desires and their motivational efficacy are essential to human agency.¹⁵⁵ In the absence of any capacity to “call . . . beliefs and motives into question”¹⁵⁶ in this way, he suggests, it is hard to see how any sort of normative reflection, or moral agency, could get off the ground.¹⁵⁷

Yet nothing in the operation of surveillance economies obviously vitiates the possibility of intentional action or second-order reasons.¹⁵⁸ *Pace* Zuboff, it is not uncommon for people to be able to accurately predict their own behavior. Some of us even seek external aid on the basis of such predictions in order to avoid self-destructive or wasteful

¹⁵¹ See G.E.M. ANSCOMBE, *INTENTION* 9 (2d ed. 1963).

¹⁵² Michael E. Bratman, *Reflection, Planning, and Temporally Extended Agency*, 109 *PHIL. REV.* 35, 35 (2000) (emphasis omitted).

¹⁵³ Harry G. Frankfurt, *Freedom of the Will and the Concept of a Person*, 68 *J. PHIL.* 5, 6 (1971); see Bratman, *supra* note 152, at 36–40.

¹⁵⁴ Frankfurt, *supra* note 153, at 7.

¹⁵⁵ See *id.* In an influential article, Professor J. David Velleman presses this point further by arguing that agency entails a mental attitude that the agent cannot disown — that is, the “desire to act in accordance with reasons.” See J. David Velleman, *What Happens When Someone Acts?*, 101 *MIND* 461, 478 (1992).

¹⁵⁶ CHRISTINE M. KORSGAARD, *THE SOURCES OF NORMATIVITY* 49 (1996).

¹⁵⁷ See Frankfurt, *supra* note 153, at 7; see also KORSGAARD, *supra* note 156, at 49.

¹⁵⁸ A recent taxonomy of philosophical treatments of freedom identifies: (i) doing “things we fully prefer to do,” (ii) doing something but being free to do otherwise, and (iii) doing something “autonomously.” Keith Lehrer, *Freedom, Preference and Autonomy*, 1 *J. ETHICS* 3, 3 (1997). Again, it is hard to see the conflict with surveillance economies.

forms of behavior.¹⁵⁹ And for at least a subset of us, the thought that an algorithm has predicted that we will do *x* or like *y* may well be a stimulus toward a second-order reason to do or like the opposite. Prediction, these examples suggest, does not impinge on an individual's ability to form second-order attitudes, including those that pertain to future plans.

Ultimately, human agency is never entirely pure or purloined. The lack of any complete impingement upon human agency from surveillance economies holds, we think, even if the person has been exposed to stimuli (for example, advertisements) that aim to, and are likely to, elicit a certain reaction. As we discuss below, the fact that a person's beliefs or desires are swayed, even powerfully, by an extrinsic force does not necessarily vitiate his or her agency. What's more, some discussion of the outcome, including not only change in a person's short-term subjective welfare but also broader societal effects, deserves a critical place in evaluating the merits of the policy producing the stimulus. To be sure, there may be a subset of cases in which the "attitudinal conditions of a person's action may . . . be alien to him"¹⁶⁰ as a consequence of surveillance economies. For example, successfully addictive user interfaces for social media (p. 451) may determine desires and beliefs in ways that subtly corrode agency. But this is one strand — perhaps a deviant one, and not necessarily the most common scenario.¹⁶¹ To impute agency-corroding power to all surveillance economies is to mistake a part for the whole.

Nor are we convinced that Arendt's ideas support the broad account of human agency that underlies Zuboff's indictment. Arendt discusses agency and freedom in terms that are incompatible with Zuboff's diagnosis by insisting on agency as flowing from engagement in a political realm.¹⁶² More specifically, Arendt posits that individuals "reveal" themselves as "unique" only through speech and action.¹⁶³ "A life without

¹⁵⁹ For a discussion of self-imposed precommitment mechanisms and their effectiveness, see Dan Ariely & Klaus Wertenbroch, *Procrastination, Deadlines, and Performance: Self-Control by Precommitment*, 13 PSYCHOL. SCI. 219, 223–24 (2002). For an analysis of external precommitment devices, see Michael Abramowicz & Ian Ayres, *Commitment Bonds*, 100 GEO. L.J. 605 (2012).

¹⁶⁰ Harry G. Frankfurt, *The Problem of Action*, 15 AM. PHIL. Q. 157, 161 (1978).

¹⁶¹ For an insightful study of the way interface design in websites can be manipulative, see Jamie Luguri & Lior Jacob Strahilevitz, *Shining a Light on Dark Patterns* (Univ. of Chi., Pub. Law Working Paper No. 719, 2019), <https://ssrn.com/abstract=3431205> [<https://perma.cc/76HF-FCUA>].

¹⁶² For a recently recovered statement of this position, arguing that "the freedom of a political way of life . . . demanded the constitution of a republic," see Hannah Arendt, *The Freedom to Be Free*, 38 NEW ENG. REV., no. 2, 2017, at 56, 60 [hereinafter Arendt, *Freedom to Be Free*]. Accord HANNAH ARENDT, *What Is Freedom?*, in BETWEEN PAST AND FUTURE 143, 149 (Penguin Books ed., 1977) (1961) ("Freedom as a demonstrable fact and politics coincide and are related to each other like two sides of the same matter."); *id.* at 146 ("The field where freedom has always been known . . . is the political realm.").

¹⁶³ ARENDT, HUMAN CONDITION, *supra* note 135, at 176.

speech and without action,” by contrast, is “dead to the world,” and has “ceased to be a human life because it is no longer lived among men.”¹⁶⁴ Further, the “truest and most radical form” of political freedom is “freedom to participate in public affairs.”¹⁶⁵ For it is only through action, especially insofar as it “engages in founding and preserving political bodies,” that “remembrance” and “history” become possible.¹⁶⁶ Arendt also stresses that action “always fall[s] into an already existing web [of human relations].”¹⁶⁷ In this regard, she seems conscious of her erstwhile mentor Martin Heidegger’s famous observation that human beings were always and necessarily exercising freedom against the obdurate background of a world into which we are thrown (what Heidegger called *Geworfenheit*, or thrownness).¹⁶⁸ This Arendtian understanding of *zoon politikon* as the quintessence of agency has (almost) no bearing upon the functioning of surveillance economies. Certainly, it does little to support or illuminate Zuboff’s sweeping assertions about how one’s data is acquired and used. To the contrary, Arendt’s recognition of the necessarily situated quality of human action cuts against those assertions insofar as it picks out elements of the human condition that are left untouched by the harvesting of our data. Arendt’s version of freedom can be pursued, that is, even if one’s data has been harvested, and even if one is subjected to predictive advertising.

Zuboff’s invocation of the threat to “human nature” (p. 94) from either behavioral surplus extraction or the proffer of prediction products is therefore hard to gloss in terms of either standard accounts of human agency or the distinctively political conception offered by Arendt. We think a better way to understand her claim, however, is by situating it in a different intellectual tradition. A central thrust of Zuboff’s critique is a concern about the “instrumentalization of behavior for the purposes of modification, prediction, monetization, and control” (p. 352).¹⁶⁹ Infusing this almost Kantian concern about the transposition of means and ends (pp. 69–70) is a distinctively Marxian concern with exploitation as “our lives are scraped and sold to fund their freedom and our subjugation” (p. 498).¹⁷⁰ One way of reading Zuboff’s concerns with the

¹⁶⁴ *Id.*

¹⁶⁵ Arendt, *Freedom to Be Free*, *supra* note 162, at 69.

¹⁶⁶ ARENDT, HUMAN CONDITION, *supra* note 135, at 8–9; *see id.* at 179 (“In acting and speaking, men show who they are, reveal actively their unique personal identities and thus make their appearance in the human world . . .”).

¹⁶⁷ *Id.* at 184; *see id.* at 183–84, 188 (“Action and speech need the surrounding presence of others . . .” *Id.* at 188.).

¹⁶⁸ *See* MARTIN HEIDEGGER, BEING AND TIME 127–28 (Dennis J. Schmidt ed., Joan Stambaugh trans., State Univ. of N.Y. Press 1996) (1927). For a lucid discussion on which we draw, *see* PETER ELI GORDON, CONTINENTAL DIVIDE: HEIDEGGER, CASSIRER, DAVOS 33–34 (2010).

¹⁶⁹ Emphasis has been omitted.

¹⁷⁰ Emphasis has been omitted.

scraping of behavioral surplus is in terms of the Marxian concepts of exploitation and alienation. Under Marx's theory, people are exploited if they perform more labor than necessary to produce the goods they consume.¹⁷¹ In surveillance economies, Zuboff thinks, we are exploited because we are producing behavioral surplus for another's (Google's, Facebook's, and others') use. Alienation, most broadly, entails for Marx a "lack of a sense of meaning,"¹⁷² but more specifically "the formation of . . . desires . . . through a process the individual does not understand and with which he does not identify."¹⁷³ Marx, however, located alienation in the domain of labor, where a person could come "under the domination, compulsion and yoke of another man."¹⁷⁴

The problem with this reading, however, is that Zuboff has not explained why the collection of a behavioral surplus is exploitative. As we noted, it is at least possible that social media users gain more than the firm from their use of a network such as Facebook.¹⁷⁵ Zuboff does not prove otherwise. She also does not explain what entitles a person to keep all the digital surplus from his or her interactions with a device such as a phone. The person has not intended to create that behavioral surplus.¹⁷⁶ They have not engaged in any marginal increment of extra effort beyond exertions needful to achieve their own selfish goal. And they have no proximate use for the data. Even if Zuboff had supplied this detail, her argument would still be wanting. There is no obvious or mechanical way of deriving a right to ownership even from the fact of having labored to help create a certain good.¹⁷⁷ The more ambitious claim that ownership derives not from labor but from unintended data production at zero marginal cost is even more difficult to defend. Data surplus is valuable only once aggregated and evaluated using powerful computational tools to which the individual has no access. Unlike more familiar forms of labor, it has no obvious alternative use. Reformulated

¹⁷¹ JON ELSTER, AN INTRODUCTION TO KARL MARX 80 (1986); *see id.* at 79–80.

¹⁷² *Id.* at 41.

¹⁷³ *Id.* at 49. Hegel had previously used the idea of alienation to describe an "estrangement of consciousness . . . [that] emanates from consciousness's failure to fully understand its ontological structure." Gavin Rae, *Hegel, Alienation, and the Phenomenological Development of Consciousness*, 20 INT'L J. PHIL. STUD. 23, 31 (2012). Traces of this phenomenological sense also persist in Zuboff's account.

¹⁷⁴ Daniel Bell, *The "Rediscovery" of Alienation: Some Notes Along the Quest for the Historical Marx*, 56 J. PHIL. 933, 938 (1959) (quoting KARL MARX, ECONOMIC AND PHILOSOPHIC MANUSCRIPTS OF 1844, at 76 (Progress Publishers ed. and trans., 1977) (1932)).

¹⁷⁵ *See supra* pp. 1311–12.

¹⁷⁶ Indeed, many users do not even realize that they are contributing to this surplus. *See, e.g.*, Natasha Singer, *What You Don't Know About How Facebook Uses Your Data*, N.Y. TIMES (Apr. 11, 2018), <https://nyti.ms/2Hso4Uq> [<https://perma.cc/D3TK-VFD2>].

¹⁷⁷ For a useful treatment of this general problem, *see* Barbara Fried, *Will Chamberlain Revisited: Nozick's "Justice in Transfer" and the Problem of Market-Based Distribution*, 24 PHIL. & PUB. AFF. 226 (1995).

in terms of Marxian conceptions of exploitation and alienation, Zuboff's critique is thus more legible. But it is no more persuasive.

C. Historicizing the Right to a Future

What of the other strand in her argument? This one is braided around behavioral modification tools' capacity to compromise "the right to the future tense as a condition of a fully human life" (p. 332).¹⁷⁸ This line of reasoning underscores the insidious and pervasive effect of prediction products in shaping preferences, and so channeling behavior. It finds in that diffuse effect a subtle corrosion of the human will.

Here, we think, Zuboff's analysis helps itself to an unearned "distinction between compulsion and autonomy" that "does not do justice to the complexities of human motivation."¹⁷⁹ We think that there is no categorical difference between the form of compulsion embodied in surveillance economies and the compulsions generated by earlier iterations of capitalism. If anything, surveillance economies exercise a less normatively troubling form of influence than their precursors.

Notice first that it is consistent with Arendt's account of agency to recognize that human beings exercise agency and free will in the context of pervasively shaping social institutions such as the family, religious orders, class structures, and ideologies of political and national identity.¹⁸⁰ To identify a unique and new threat to "the right to the future tense," we must find some margin along which the shaping influence of surveillance economies is distinct from, and distinctively worse than, the force of earlier modalities of capitalism and their precursors. We think this cannot be done. As an initial matter, we have already intimated the extent to which early industrial capitalism involved considerable efforts to shape workers' behavior and their morals within and beyond the factory gate.¹⁸¹ Its violence often took a cruder form. E.P. Thompson memorably describes a time of "irascible market[s] which might at any time dissolve into marauding bands, who scoured the countryside with bludgeons."¹⁸² Violent responses to working-class mobilizations culminated in the Peterloo massacre of August 1819, in which seventeen people were killed and some 650 injured.¹⁸³ It is a beguiling nostalgia to think that struggles over the terms of capitalism are less coercive today than in the past.

¹⁷⁸ Emphasis has been omitted.

¹⁷⁹ ELSTER, *supra* note 171, at 51.

¹⁸⁰ See *supra* pp. 1316–17.

¹⁸¹ See *supra* pp. 1281.

¹⁸² Edward P. Thompson, *The Moral Economy of the English Crowd in the Eighteenth Century*, 50 PAST & PRESENT 76, 79 (1971).

¹⁸³ Robert Poole, *The March to Peterloo: Politics and Festivity in Late Georgian England*, 192 PAST & PRESENT 109, 111–12 (2006).

More profoundly, worries about the coerciveness of surveillance economies today must account for the pervasiveness of influencing efforts first in industrial capitalism and second in the larger liberal democratic societies that emerged alongside that form of capitalism. At the beginning of the twentieth century, just as mass media such as radio and movies were gaining reach and cultural sway, the critic Walter Lippmann observed that “a representation of the environment which is in lesser or greater degree made by man himself” always intervenes between a person and her environment.¹⁸⁴

The most important of these screens was advertising. Like today’s surveillance economies, advertisers aimed to shape behavior by influencing desires and beliefs. Through the twentieth century, their efforts generated concerns that parallel Zuboff’s worry about surveillance capitalism. The influential midcentury cultural theorist Raymond Williams, for example, described the advertising industry as a “highly organized and professional system of magical inducements . . . functionally very similar to magical systems in simpler societies.”¹⁸⁵ In a bestselling 1958 book entitled *The Hidden Persuaders*, Vance Packard worried about advertisers “manipulating the customer’s subconscious.”¹⁸⁶ In response, one of advertising’s defenders observed that almost all forms of communication aim to “modify, transform, embellish, enrich, and reconstruct the world,”¹⁸⁷ rejecting the idea that advertising was qualitatively distinct. Another also noted that advertising does not “intrinsically” or “necessarily” abrogate the volitional exercise of judgment.¹⁸⁸

Zuboff does not notice the continuity between advertising and surveillance economies. She implicitly assumes that the effect of surveillance capitalism on human judgment is categorically distinct from that of advertising, and that today’s targeting is so much more granular that it is qualitatively distinct. But this assumption is neither owned nor defended — as it must be given the pervasive historical effect of advertising on preferences and dispositions.

And once again, we should not simply assume that all efforts to shape desires and beliefs through advertising or its ilk are necessarily malign. Political campaign speech, for instance, is advertising of a sort and yet lies in the heartland of the First Amendment. And in politics, some

¹⁸⁴ WALTER LIPPMANN, PUBLIC OPINION 15 (1922).

¹⁸⁵ RAYMOND WILLIAMS, *Advertising: The Magic System*, in PROBLEMS IN MATERIALISM AND CULTURE 170, 185 (1980); accord JUDITH WILLIAMSON, DECODING ADVERTISEMENTS: IDEOLOGY AND MEANING IN ADVERTISING 11 (1978) (stressing the strength of advertising’s influence).

¹⁸⁶ VANCE PACKARD, THE HIDDEN PERSUADERS 27 (1958).

¹⁸⁷ Theodore Levitt, *The Morality (?) of Advertising*, HARV. BUS. REV., July–Aug. 1970, at 84, 87.

¹⁸⁸ Robert L. Arrington, *Advertising and Behavior Control*, 1 J. BUS. ETHICS 3, 11 (1982).

measure of “haranguing, cajoling, threatening, or supplicating” may well be a “necessity in treating failures of liberal democracy” given the likely incidence of voter ignorance or cognitive failure.¹⁸⁹ There is no reason why such beneficial influence cannot originate in the private sector, and even among the surveillance economies that Zuboff so derides.¹⁹⁰ As a correlative, we should not assume that increasing centralization in surveillance economies translates necessarily into more worrying outcomes. On this score, Professor Yochai Benkler usefully notes with respect to internet-based economies that it is simply a mistake to assume that any “centralized power is extractive and authoritarian” while “all decentralized power is participatory.”¹⁹¹ We should not rule out the possibility that surveillance capitalism might under the right conditions broaden our horizons, even if that prospect seems a distant one given the behavior of social media firms today.¹⁹²

The difficulty in Zuboff’s efforts to isolate a distinctively problematic form of coercion or compulsion in surveillance economies, however, runs deeper still. We perceive that deeper difficulty in crispest detail by returning to the influential work of Michel Foucault on power. In a lecture delivered at the Collège de France in January 1979, Foucault recharacterized his published work on knowledge and power as forays into “the history of regimes of veridiction.”¹⁹³ This he defined as “the discourse in which law is formulated and in which what be true or false is formulated.”¹⁹⁴ Foucault’s notion of power here can most clearly be discerned in the context of regimes of veridiction, including “the market, the confessional, the psychiatric institution, [and] the prison.”¹⁹⁵ It is in these institutional contexts, Foucault posited, that a “human being turns himself into a subject.”¹⁹⁶ Power “marks him by his own individuality, attaches him to his own identity, imposes a law of truth on him which he must recognize and which others have to recognize in him.”¹⁹⁷ The

¹⁸⁹ JASON STANLEY, *HOW PROPAGANDA WORKS* 114 (2015).

¹⁹⁰ Consider, for example, a famous Coke ad from the 1970s that stressed racial coexistence. JEFF CHANG, *WHO WE BE: THE COLORIZATION OF AMERICA* 62–64 (2014). We stress that we mean here to suggest no positive judgment on the specific actions of tech firms such as Google or Facebook. We simply want to disentangle contingent judgments about specific entities and their actions from the evaluation of technological potentialities.

¹⁹¹ Yochai Benkler, *Degrees of Freedom, Dimensions of Power*, 145 *DAEDALUS*, no. 1, Winter 2016, at 18, 20.

¹⁹² Zuboff briefly alludes to surveillance capitalism’s “antidemocratic” nature (pp. 192, 278). But the most extensive analysis of social media disinformation campaigns in the 2016 presidential race doubts their effect, while placing more blame on media figures who amplified and confirmed misinformation. See YOCHAI BENKLER ET AL., *NETWORK PROPAGANDA: MANIPULATION, DISINFORMATION, AND RADICALIZATION IN AMERICAN POLITICS* 233, 384–87 (2018).

¹⁹³ Michel Foucault, Lecture of 17 January 1979, in *THE BIRTH OF BIOPOLITICS* 27, 35 (Michel Senellart ed., Graham Burchell trans., 2008).

¹⁹⁴ *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ Michel Foucault, *The Subject and Power*, 8 *CRITICAL INQUIRY* 777, 778 (1982).

¹⁹⁷ *Id.* at 781.

formative effect of institutional context on preferences and identity, therefore, is not isolated but pervasive across the institutional *topoi* of the modern state. Given this pervasiveness, it is once more question-begging to condemn digital capitalism for coercively crafting preferences and beliefs: such coercion is pervasive, and often orders of magnitude more violent and immediate, than anything surveillance economies have to offer.

Of course, Foucault's theory of power is not universally accepted. We invoke it here for its powerful continuities with Zuboff's arguments, and because it draws attention to the possibility that an important — perhaps the most important — form of social power operates in diffuse and circuitous ways rather than by interventions targeted quite directly at fashioning preferences and beliefs. The strong claim on behalf of surveillance economies' distinctness requires some argument either for why the Foucauldian notion of power is wrong, or why it would be erroneous to suggest that veridiction — the power “to structure the possible field of action of others” — is more important than behavioral modification through surveillance economies.¹⁹⁸ Yet in this regard at least, *The Age of Surveillance Capitalism* is beholden to an older era of humanist thinkers, such as Arendt and Sartre. It lacks a single reference to poststructuralists such as Foucault. For our purposes, the lacuna is salient because it undermines the proposition that behavioral modification through prediction products has been shown to be a distinctive sort of harm to human agency and freedom. Absent some serious effort to grapple with alternative conceptions of power, such as Foucault's, Zuboff is simply not warranted in making so bold an assertion.

D. *The Gaps in Surveillance Economies*

Arguments against surveillance economies on the ground of their harm to human nature may be unavailing. Yet there may still be powerful reasons for normative objection to specific surveillance economies that do not apply to their aggregate. We have noted that Zuboff richly details several of these retail harms to privacy, status, and some form of dignity.¹⁹⁹ But the core of her indictment trains on the “unprecedented and unimaginable” system of “surveillance capitalism” (p. 499), and she is insistent that legal change “will not be enough to interrupt surveillance capitalism” (p. 486). The force of her argument is thus to minimize the case for retail reform and to press for a sea change in public attitudes toward the digital economy more generally.

¹⁹⁸ *Id.* at 790. Contrast Foucault's suggestion that during the eighteenth century, “the body . . . bec[a]me the object of . . . imperious and pressing investments; in every society, the body was in the grip of very strict powers, which imposed on it constraints, prohibitions or obligations.” FOUCAULT, *supra* note 67, at 136. In a discussion that strikingly echoes the literature on industrial discipline, *see supra* notes 6–19, Foucault describes “a disciplinary polyphony of exercises” used by militaries in this era. FOUCAULT, *supra* note 67, at 159.

¹⁹⁹ *See supra* pp. 1292–93.

This a grave mistake. The central normative indictment of surveillance economies, as we have seen, is an unpersuasive one. Even if it were convincing, framing the case for reform in categorical terms is hazardous. It undermines the case for more retail, and more politically plausible, reform steps. The lack of political wisdom would be worrying enough if Zuboff had comprehensively taxonomized the retail normative concerns surveillance economies' workings create. Her account of those concerns, though, is incomplete. In particular, concerns about regressive distributions of wealth and social capital, as well as stratification along racial and gender lines, are almost entirely absent from her account. It also fails to account for the possibility that surveillance economies can ameliorate pernicious forms of stratification, albeit only if deployed in careful, context-sensitive ways.

Certain strands of surveillance economies appear to have material stratifying effects, particularly along gender and race lines. The leading examples can be briefly recapitulated. To begin, a 2015 study found that changing Google's Ad Settings parameters from male to female resulted in fewer instances of advertisements for high-paying positions.²⁰⁰ The researchers caution that "the discrimination might have resulted unintentionally from algorithms optimizing click-through rates or other metrics free of bigotry."²⁰¹ In a similar vein, Google searches for "racially associated names" — that is, names that are colloquially associated with African Americans — were also shown to be roughly twenty-five percent more likely to yield advertisements for arrest records.²⁰² Such disparities, which track historically durable patterns of stratification, are reasonably likely to arise whenever broad pools of public behavioral surplus are employed. Indeed, it appears that any machine learning instrument trained on large public text corpora, such as the internet, will "acquire stereotyped biases from textual data that reflect everyday human culture."²⁰³

Not all stratification effects, however, are unintentional. In 2016, it was shown that Facebook knowingly inferred users' "ethnicity" from behavioral surplus, and then permitted advertisers to select viewers

²⁰⁰ Amit Datta et al., *Automated Experiments on Ad Privacy Settings*, 2015 PROC. ON PRIVACY ENHANCING TECHNOLOGIES, Apr. 2015, at 92, 92.

²⁰¹ *Id.* at 105. Google, among other companies, has also been accused of workplace sexual discrimination. See Daisuke Wakabayashi et al., *Google Walkout: Employees Stage Protest over Handling of Sexual Harassment*, N.Y. TIMES (Nov. 1, 2018), <https://nyti.ms/2yJulez> [<https://perma.cc/W2UQ-8GS4>]. The connection between discriminatory workplace practices and discriminatory products merits careful analysis.

²⁰² Latanya Sweeney, *Discrimination in Online Ad Delivery*, 56 COMM. ACM, no. 5, May 2013, at 44, 49, 51. For more extensive discussions, see generally RUHA BENJAMIN, RACE AFTER TECHNOLOGY (2019); and SAFIYA UMOJA NOBLE, ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM (2018).

²⁰³ Aylin Caliskan et al., *Semantics Derived Automatically from Language Corpora Contain Human-Like Biases*, SCIENCE, Apr. 14, 2017, at 183, 183.

based on this imputed ethnicity.²⁰⁴ In the same year, social media platforms played host to a sophisticated series of “targeted voter suppression campaigns.”²⁰⁵ Finally, there is evidence that the market concentration is conducive to overall inequality, although this dynamic is not confined to the United States or to surveillance economies.²⁰⁶

We think it is vital, given these dynamics, to understand the complex ways in which predictive technologies used in surveillance economies interact with historical patterns of disadvantage and subordination by race, gender, and class. It is worth understanding how biased training data can perpetuate troubling assumptions about women and minorities. It is worth exploring the different ways in which prediction tools can be modified to avoid those biasing effects. And most certainly, it seems a bad idea to ignore these dynamics and to assume that the only kind of change worth making to surveillance economies would be sweeping and categorical in nature.

That sweeping, categorical change ignores how surveillance economies can be leveraged to ameliorate existing social problems. Consider the question of legal access, a matter that is of specific professional concern to one of us. A range of internet-based software applications facilitate access to the legal system by automating processes of record expungement or disseminating information about legal rights.²⁰⁷ At the same time, we recognize that ambient unwillingness to resort to the civil justice system based on past negative experiences (especially among racial and ethnic minorities), a lack of familiarity with potential legal claims, or even simple illiteracy (whether legal or more ordinary in type) may prevent these instruments from having their intended effect.²⁰⁸

Or consider the use of wearable devices with wireless connectivity to gather somatic data. To Zuboff, this is simply a matter of surveillance capitalism reimagining the body as “a behaving object to be tracked and calculated for indexing and search[ing]” (p. 242). She disregards entirely the possibility that such tools could be used for public-health interventions that are “particularly beneficial for underserved

²⁰⁴ See Julia Angwin & Terry Parris, Jr., *Facebook Lets Advertisers Exclude Users by Race*, PROPUBLICA (Oct. 28, 2016, 1:00 PM), <http://www.propublica.org/article/facebook-lets-advertisers-exclude-users-by-race> [<https://perma.cc/UFX2-DH6P>].

²⁰⁵ BENKLER ET AL., *supra* note 192, at 270. *But see id.* at 277 (finding that Cambridge Analytica’s efforts to influence the 2016 election through data analysis likely had small effects).

²⁰⁶ See David Autor et al., *Concentrating on the Fall of the Labor Share*, 107 AM. ECON. REV. (PAPERS & PROC.) 180, 180–81 (2017). These results suggest that increased market concentration has important (and in our view problematic) regressive effects, but these are not unique to the technology sector.

²⁰⁷ See, e.g., Tanina Rostain, *Techno-Optimism & Access to the Legal System*, 148 DAEDALUS, no. 1, Winter 2019, at 93, 93.

²⁰⁸ See *id.* at 94–95.

communities.”²⁰⁹ Her remedies would presumptively foreclose minority communities’ ability to leverage computational technologies to improve their health and economic outcomes. It is hard to see why this is normatively attractive.

It seems premature and unduly cynical to assume that pernicious profit motives will necessarily crowd out or compromise such efforts. Yet the form of Zuboff’s argument would seem to wholly preclude their consideration. Incrementalism of all sorts is a fool’s game in her view. In contrast, we think it would be deeply unwise to overlook the opportunities for immediate improvement to the human condition created by surveillance economies. Where she says we cannot do better, then, we insist that we must.

* * *

Ultimately, however consequential the economic models and surveillance capacities made possible by the internet, “human nature” as we know it did not expire in Mountain View in late 2000 (p. 74), any more than it keeled over in Bloomsbury “in or about” December 1910.²¹⁰ No doubt the particular economic strategies seeded by venture capital excesses, watered by dual-class stock, and nurtured by a deficiency of regulatory and imaginative resources pose clear and distinct risks to human well-being and the goal of a just society. It’s just that Zuboff focuses on the wrong risks. Wholesale condemnation, at least of the kind she offers, does more to succor demotic paranoias about new technology than to elucidate the terms of moral contestation today.

We have offered some modest correctives to both her descriptive and her normative claims. It is more accurate and more perspicacious to speak of surveillance economies than to talk of surveillance capitalism. The former term shows greater fidelity to the historical continuities with industrial capitalism of the twentieth century and to the internal heterogeneity of data-driven firms. In a similar vein, we would not, like Zuboff, treat the retail harms of those economies as sideshows. And finally, we have argued that her worries about agency and freedom are at best misplaced and at worst profoundly misleading. There are, we have suggested, more pressing and substantial worries at hand above and beyond those she adumbrates. Here is where we should start.

²⁰⁹ Kathryn Montgomery et al., *Health Wearables: Ensuring Fairness, Preventing Discrimination, and Promoting Equity in an Emerging Internet-of-Things Environment*, 8 J. INFO. POL’Y 34, 36 (2018). The authors note that while these technologies may indeed benefit underserved communities, this outcome can be achieved only if public policies and industry practices are enacted to “guarantee fair and equitable treatment.” *Id.* at 63.

²¹⁰ WOOLF, *supra* note 1, at 320.

IV. THE STATE IN AN AGE OF SURVEILLANCE ECONOMIES

The Age of Surveillance Capitalism makes the case for urgently reconsidering the role of the state in light of new data-driven economies and their unanticipated spillovers. But then it fails to pursue this project on the ground that “[surveillance capitalism] does not easily yield to known forms of combat” (p. 180). Yet we have shown that surveillance economies are more contiguous with their precursors than Zuboff permits, and that their harms are better conceptualized as a varied array of negative spillovers on privacy, competition, and a just social order free of invidious class, race, and gender stratification. Much more can be said about how the state and surveillance economies are likely to interact, and which species of interactions ought to be elicited. And there is much to say about how a complex mix of organized interests, institutions, and the public assumes responsibility for the vindication of important moral values at moments of economic flux and technological possibility.²¹¹

In this Part, therefore, we depart from Zuboff’s modest agenda for legal reform and set aside her culpable neglect of the state. Instead, we ask how the state goes about creating, checking, and (critically) exploiting surveillance economies. We stress both the peril and the promise of a “surveillance state” as both aspiring political monopolist and potential regulator. In our view, the state is not merely a necessary catalyst for surveillance economies or a convenient *deus ex machina* to cure their ills. We resist the idea that any one equilibrium will necessarily emerge from interactions between surveillance-economy firms and the state. Theorizing the state’s functionality in the context of surveillance economies, we hence conclude, is no simple matter. So what we offer here is only a beginning of that complex task.

A. *The Entanglement of the State and Surveillance Economies*

If it is impossible to imagine surveillance economies arising or persisting without the state, so too is it impossible to think about the state without accounting for surveillance economies. Between the two abides a persisting codependence. Mutuality, though, does not mean predictability. Many pathways of entwined development of the state and surveillance economies are plausible. How those multiple equilibria resolve into specific outcomes depends on a host of factors. Different regulatory and economic strategies will yield varying results. As both a practical and a conceptual matter, the role of the state in an era of surveillance economies merits far more attention than Zuboff allocates.

²¹¹ Cf. Mariano-Florentino Cuéllar, *From Doctrine to Safeguards in American Constitutional Democracy*, 65 UCLA L. REV. 1398, 1402 (2018).

The reciprocities of the state and surveillance economies start with the state's role in innovation but hardly end there. Nation-states determine much of the physical and almost all of the regulatory environments in which surveillance economies operate. The United States, for instance, maintains control over the internet's domain name system through its control of the Internet Corporation for Assigned Names and Numbers.²¹² It manages "computer emergency response teams" that respond to serious threats to internet integrity and security.²¹³ It influences the volume and content of information flowing from digital devices through legal regulation. And it provides online platforms with broad immunity from tort damages based on user-generated content.²¹⁴ By absolving the entity "in the best position to minimize potential harm" from responsibility for images and data that violate privacy norms,²¹⁵ Congress in effect creates an incentive for private persons to acquire and then disseminate private information by transgressing those norms. Outside the United States, other nations use different strategies to shape surveillance economies. For example, while the American state has ceded to private entities ownership of the cable infrastructure that is the internet's backbone, in the international context, U.S. companies are increasingly "subordinate players" within ownership "consortia" that are often led by state-owned firms.²¹⁶ The result is that the physical infrastructure upon which surveillance economies necessarily depend is directly under a state's thumb.

Conversely, the government's ability to acquire information about private individuals often depends on the "incentives and means" of firms from surveillance economies.²¹⁷ States have long sought to acquire information about their subjects as part of their efforts to exert control. Recall Scott's observation that the "legibility" of social life has been "a mind-boggling problem for statecraft" for the whole modern era.²¹⁸ In the absence of legibility, large-scale social engineering is impossible.²¹⁹ Firms within surveillance economies often have access to information that the state needs or wants for regulatory and criminal investigations. By entering into contractual arrangements with private actors, the state

²¹² See DENARDIS, *supra* note 105, at 41–49.

²¹³ *Id.* at 91.

²¹⁴ 47 U.S.C. § 230(c) (2012).

²¹⁵ Danielle Keats Citron, *Sexual Privacy*, 128 YALE L.J. 1870, 1931 (2019).

²¹⁶ Dwayne Winseck, *The Geopolitical Economy of the Global Internet Infrastructure*, 7 J. INFO. POL'Y 228, 255 (2017).

²¹⁷ Alan Z. Rozenshtein, *Surveillance Intermediaries*, 70 STAN. L. REV. 99, 105 (2018). See generally *Developments in the Law — More Data, More Problems*, 131 HARV. L. REV. 1714, 1722–41 (2018) (discussing two opposing views of large technology companies acting as surveillance intermediaries: that they either assist or resist government efforts to collect data).

²¹⁸ SCOTT, *supra* note 63, at 25, 29.

²¹⁹ See *id.* at 23–24.

can acquire information “without having to seek ex ante authorization or submit to meaningful oversight.”²²⁰ Indeed, it is already the case that “intelligence agencies depend greatly on private actors for information gathering.”²²¹ More generally, Scott’s logic suggests that the state will over time depend increasingly on the cartographic potential of behavioral surplus in planning infrastructure, allocating resources, and determining where in the social fabric to intervene. This dependency is likely to be abetted by agency or legislative capture. That is, the sheer scale of surveillance economies creates vulnerabilities on the government’s part. Congress and federal agencies are subject to intense and bipartisan lobbying by participants in the surveillance economies.²²² This creates an unavoidable risk of state capture. This risk is sharpened by the asymmetries of information and expertise between the government and those firms within surveillance economies.²²³ At the same time, those firms may well become over time “national champions, upon whom the country’s economic success rides.”²²⁴ Not every strategic decision will be made with their interests in mind.²²⁵ But over the long term, we think it likely that those interests will have a formative impact.

At a more profound level, the state plays an axial role in shaping the ways in which the risks of a surveillance economy are perceived. First, the state plays an important function in titrating the risks to private individuals that flow from the nonstate economy. By acting as an entrepreneur in either the market or the geopolitical sphere, the state exacerbates those risks. But by providing social and legal insurance in the form of welfare and other safety nets, the state buffers against new private risk. Second, the state’s investments in categorizing and quantifying risk have a shaping influence on policy choice.²²⁶ That is, the state tends to determine policy around metrics that can be quantified.²²⁷

²²⁰ Jon D. Michaels, *All the President’s Spies: Private-Public Intelligence Partnerships in the War on Terror*, 96 CALIF. L. REV. 901, 904 (2008) (discussing information gathering in the national security context).

²²¹ *Id.* at 907.

²²² See Kiran Stacey, *Tech Companies Spent Record Sum on U.S. Lobbying in 2018*, FIN. TIMES (Jan. 23, 2019), <https://www.ft.com/content/7147935c-1f34-11e9-b126-46fc3ad87c65> [<https://perma.cc/LHH6-3C4X>].

²²³ Cuéllar & Huq, *supra* note 108 (manuscript at 10).

²²⁴ *Id.* (manuscript at 15).

²²⁵ See, e.g., Adam Satariano et al., *U.S. Tech Suppliers, Including Google, Restrict Dealings with Huawei After Trump Order*, N.Y. TIMES (May 20, 2019), <https://nyti.ms/2JAaEgn> [<https://perma.cc/JJW7-2VXJ>].

²²⁶ For a fascinating history of this process from the nineteenth century onward, see KOOPMAN, *supra* note 64, at 6, where the author describes how “[i]t became possible for information to draw up persons as if out of nowhere.”

²²⁷ For the general point about quantification’s effects, see JERRY Z. MULLER, *THE TYRANNY OF METRICS* 17 (2018). See also *id.* (“Performance is . . . equated with what can be reduced to standardized measurements.”).

The extent to which risk is an object of state policy and state investments will hence turn in part on whether the risk has been quantified. State prioritization about what risks count will not only influence, but also be influenced by, diffuse public attitudes about risk (which, no doubt, Zuboff aspires to mold). This bilateral dynamic generates a complex field in which interest groups, ideas, and norms interact to precipitate not only new forms of social activity, but also new criteria for evaluating such activity.

It is a mistake, then, to view the state and surveillance economies through separate and distinct lenses. Seemingly antipodal, these institutional formations are in practice deeply entangled. The incentives and dispositions of one will influence the other, and vice versa.²²⁸ This bilateral relationship not only makes isolated analysis of state or surveillance capitalism necessarily partial and misleading, but also ironically complicates analysts' efforts to predict government policy. State-industry interactions in this domain, we have elsewhere suggested, are complex and implicate a long-term trajectory that will necessarily be impacted by fluid geopolitical dynamics.²²⁹ Accordingly, an analysis of surveillance economies must be alive to entanglement with the state in a way that Zuboff's is not.

B. The Risks of a Robust Surveillance State

Oddly, one point on which Zuboff does not evince concern is the risk associated with the state's use of predictive technologies. She draws a contrast between Orwell's famous Big Brother and what she sees today as "Big Other," "the sensate, computational, connected puppet that renders, monitors, computes, and modifies human behavior" (p. 376). She juxtaposes the threat of midcentury "totalitarianism" with the "instrumentarian" quality of surveillance capitalism (pp. 354, 354–61, 375). The threat of "tyranny" today, she suggests, emerges from "Big Other" — and by implication not from the state (pp. 513–14). Perhaps the only extended consideration of the surveillance state as a threat comes in a brief treatment of the Chinese state's "social credit" system, which she explicitly "discount[s]" on the ground that its goals are "difficult if not impossible to achieve" (p. 392).²³⁰

²²⁸ Cuéllar & Huq, *supra* note 108 (manuscript at 18) (noting that government and surveillance capitalists are in an "entangled relationship of mutual dependency").

²²⁹ See *id.* (manuscript at 18–20). The Huawei/Google interaction exemplifies this possibility.

²³⁰ That system is in fact a complex ecology of at least forty credit scoring systems, with varying mixes of public and private involvement; overall, there is also some evidence that such systems are a popular means for sustaining perceived moral standards. See, e.g., Adam Minter, Opinion, *Why Big Brother Doesn't Bother Most Chinese*, BLOOMBERG (Jan. 24, 2019, 5:00 PM), <https://www.bloomberg.com/opinion/articles/2019-01-24/why-china-s-social-credit-systems-are-surprisingly-popular> [https://perma.cc/DF4-TT2E].

We disagree. The state is an object of concern here not merely because it may be captured and thus fail to regulate. When the state acts, it does so often with the force of law, trailing miasmatic clouds of coercion. As Professor Judith Shklar wrote some thirty years ago in a justifiably influential essay, “the inevitability of that inequality of military, police, and persuasive power which is called government” means that there is “evidently always much to be afraid of” in state power.²³¹ Unlike most private firms (including Google and Facebook), that is, the state has at its disposal tremendous coercive capacity.²³² The state also is positioned to determine the shape of an individual’s life in a range of critical ways. Consider the manifold distinctive acts of recognition that the state must engage in. These range from the decision to recognize one as a legitimate citizen; to the imposition upon individuals of public obligations such as taxation and conscription; to the conferral of benefits such as the recognition of marriages and parental status. No other entity has the same privileged influence over the shape of an individual’s life that the state has. The state is also a privileged locus of public conflicts about policy. Where the state ceases to be responsive to public demands articulated through democratic, nonviolent means, it ceases to have the distinctive and unique claim to democratic legitimacy upon which its monopoly on violence depends.²³³

Surveillance economies’ rise changes not a single whit of this. Rather, we think that the state still presents a distinctive kind of risk to human agency and well-being in a surveillance economy, regardless of the latter’s size and influences.²³⁴ This is true even if you think that private digital platforms also present a risk to democratic legitimacy. Examples abound of the state’s perilous shadow. The most vivid come from China’s use of surveillance tools above and beyond the credit system. Zuboff, rather remarkably, glosses over these facts. Pervasive digital surveillance in Xinjiang is now used to identify “the digital footprint of unauthorised Islamic practice,” which can result in detention in a reeducation camp.²³⁵ A blend of facial recognition and artificial intelligence enables “a vast and unprecedented national surveillance

²³¹ Judith N. Shklar, *The Liberalism of Fear*, in *LIBERALISM AND THE MORAL LIFE* 21, 27 (Nancy L. Rosenblum ed., 1989).

²³² Cf. Cuéllar, *supra* note 211, at 1415 (noting that Shklar writes “[w]ithout ignoring the kind of pain that can be readily imposed by private coercion”).

²³³ Nondemocratic states, of course, make other claims to legitimacy.

²³⁴ We thus reject the idea that there is *no* distinction between the state and surveillance economies. See BERNARD E. HARCOURT, *EXPOSED: DESIRE AND DISOBEDIENCE IN THE DIGITAL AGE* 79 (2015). Despite their entanglements, it remains meaningful to distinguish private from public action on the basis of incentives and resources.

²³⁵ Darren Byler, *China’s Hi-Tech War on Its Muslim Minority*, *THE GUARDIAN* (Apr. 11, 2019, 1:00 PM), <https://www.theguardian.com/news/2019/apr/11/china-hi-tech-war-on-muslim-minority-xinjiang-uighurs-surveillance-face-recognition> [https://perma.cc/D9PL-PNJR].

system” beyond Xinjiang.²³⁶ Among its functions is a classification tool that flags the facial features of ethnic Uighurs,²³⁷ a tool with especially worrying implications given the archipelago of internment camps used to detain members of that group for “de-extremification” and “transformation through education.”²³⁸ As China aggressively markets these tools and strategies beyond its borders, there is increasing cause for concern that digitally driven totalitarianism will be the norm and not the exception.²³⁹ With the China example properly in hand, it is difficult to see how someone concerned with human agency, flourishing, and freedom could be unconcerned with the state’s digital power.

We think that if the United States appropriates elements of China’s emerging system of internal surveillance, it will more likely be through “stumbling dumbly” than through nefarious design.²⁴⁰ Whether that arises will depend in important part on the relationship between the state and surveillance economies — and on whether sufficient public attention is focused on that relationship to ensure it develops along a beneficial rather than a deleterious path.

C. *The Untapped Potential of Regulatory Reform*

Even as she gestures toward the need for state intervention, Zuboff fails to cultivate a clear understanding of the forms and limits of legal reform under these conditions. We should not follow her example. Developing effective legal reforms demands technical sophistication, a clear view of surveillance economies’ negative spillovers, and a sound understanding of how private and public actors will dynamically respond — either through adaption or through efforts at circumvention — to various regulatory strategies. Rather than offering detailed policy prescriptions here, we develop three general principles. These cannot be cashed out as a comprehensive framework for analysis

²³⁶ Paul Mozur, *Inside China’s Dystopian Dreams: A.I., Shame and Lots of Cameras*, N.Y. TIMES (July 8, 2018), <https://nyti.ms/2NAbGaP> [<https://perma.cc/TY3S-3WHU>].

²³⁷ Paul Mozur, *One Month, 500,000 Face Scans: How China Is Using A.I. to Profile a Minority*, N.Y. TIMES (Apr. 14, 2019), <https://nyti.ms/2UjDUJo> [<https://perma.cc/DS96-UNCD>].

²³⁸ James Millward, “Reeducating” Xinjiang’s Muslims, N.Y. REV. BOOKS (Feb. 7, 2019), <https://www.nybooks.com/articles/2019/02/07/reeducating-xinjiangs-muslims> [<https://perma.cc/H7XS-KGGG>].

²³⁹ See Paul Mozur et al., *Made in China, Exported to the World: The Surveillance State*, N.Y. TIMES (Apr. 24, 2019), <https://www.nytimes.com/2019/04/24/technology/ecuador-surveillance-cameras-police-government.html> [<https://perma.cc/7585-P7WU>] (“Today, 18 countries — including Zimbabwe, Uzbekistan, Pakistan, Kenya, the United Arab Emirates and Germany — are using Chinese-made intelligent monitoring systems, and 36 have received training in topics like ‘public opinion guidance,’ which is typically a euphemism for censorship, according to an October report from Freedom House, a pro-democracy research group.”)

²⁴⁰ Farhad Manjoo, Opinion, *San Francisco Is Right: Facial Recognition Must Be Put on Hold*, N.Y. TIMES (May 16, 2019), <https://www.nytimes.com/2019/05/16/opinion/columnists/facial-recognition-ban-privacy.html> [<https://perma.cc/J7FM-EF24>].

without a good deal more analytic work.²⁴¹ We state them here to illuminate the general principles that might be relied upon in the articulation of legal frameworks that facilitate more informed decisionmaking, enable informational and personal privacy, and minimize a range of other adverse spillovers.

To begin with, even if surveillance economies do not wholly compromise human agency, they can nonetheless create circumstances in which individuals' decisions are manipulated in ways that have specific socially undesirable consequences. The law should not necessarily target manipulation as such, although there may be times this is appropriate. Rather, it can "help individuals understand how they are being swayed and affected by their interactions, and when particular representations or standards of reasonable care are being violated."²⁴² Rather than abandoning the prospect of meaningful human agency in the context of surveillance economies, that is, the law should seek to facilitate conditions in which more meaningful decisionmaking is feasible.

One important respect in which externalities arise pertains to the intertemporal inconsistency of preferences regarding the disclosure of private information.²⁴³ It is by now common knowledge that individuals "might . . . deviate from the rational strategy" when it comes to privacy decisionmaking.²⁴⁴ Consumers "remain largely ignorant of the specific details" of privacy disclosures.²⁴⁵ Specifically, people appear to be willing to accept paltry and trivial rewards now in exchange for a "possibly permanent negative annuity in the future."²⁴⁶ This is hardly the only instance in which individual preferences turn out to be inconsistent over time. To be responsive to this troubling intertemporal dynamic, regulators might seek ways to allow people to evolve in their economic and social attitudes toward participation in surveillance economies, or, alternatively, to offer them mechanisms for influencing the manner in which

²⁴¹ For a complementary analysis to some pathways considered here, see Mariano-Florentino Cuéllar, Keynote, *A Common Law for the Age of Artificial Intelligence: Incremental Adjudication, Institutions, and Relational Non-arbitrariness*, 119 COLUM. L. REV. 1773 (2019).

²⁴² Mariano-Florentino Cuéllar, *A Simpler World? On Pruning Risks and Harvesting Fruits in an Orchard of Whispering Algorithms*, 51 U.C. DAVIS L. REV. 27, 43 (2017) (citing Jon Hanson & Douglas Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 634 (1999)).

²⁴³ *Id.* at 49 (citing "time-inconsistent preferences" and "the extent of malleability in human values and goals" as important considerations in this domain).

²⁴⁴ Alessandro Acquisti & Jens Grossklags, *Privacy and Rationality in Individual Decision Making*, 3 IEEE SECURITY & PRIVACY 26, 27 (2005).

²⁴⁵ Omri Ben-Shahar & Adam Chilton, *Simplification of Privacy Disclosures: An Experimental Test*, 45 J. LEGAL STUD. S41, S42 (2016).

²⁴⁶ Acquisti & Grossklags, *supra* note 244, at 34. An example: One of us (Huq) has a small child. A certain app offers twee lullabies sung with a British accent that successfully induce the child to sleep in minutes, rather than the usual hour-plus farrago. The privacy terms of said app are appalling. Said author and his spouse, usually privacy mavens, care not one jot.

their data is used. To paraphrase the now-canonical analytic framework offered by Professor Albert O. Hirschman, law might create opportunities for both exit and voice as responses to the ever-present force of decayed mutuality that Zuboff decries.²⁴⁷ As Hirschman notes, “[t]here are probably no organizations that are wholly immune to either exit or voice,”²⁴⁸ even if the “optimal mix” is sometimes hard to nail down.

Second, Zuboff intermittently recognizes that data is an asset, the extraction and use of which can create negative spillovers. Oddly, she does not follow through on this intuition. As a “new asset class,” data is bereft of the default rules of “possession, use, and disposal” that otherwise apply to property.²⁴⁹ Rather than throwing up one’s hands at the extent of the surveillance economies, one might ask whether the very inchoateness of property rules that enabled the “dispossession cycle” that Zuboff describes might also create new opportunities (p. 138). This need not entail a model of individual ownership, although it can.²⁵⁰ The path-marking California Consumer Privacy Act of 2018,²⁵¹ for example, creates a set of individualized entitlements to control, to opting out, and to nondiscrimination in relation to data usage.²⁵² Other alternatives are available. Rather than relying on the individual exercise of rights to enable equitable terms of trade, states might treat data as a collectively held form of property. Indeed, it may be more sensible in the long term to use aggregative property mechanisms, rather than individualized slices of property, as a property framework for data given the important role that aggregations of data play in surveillance economies.²⁵³ Working in this vein, states might thus impose tariffs on the harvesting of data from individuals within their jurisdictions as a means to create “sovereign data funds” devoted to facilitating those individuals’ development.²⁵⁴ A state or federal tax might also target revenues gained through the auction-based sale of personalized advertising on the

²⁴⁷ See ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES 15 (1970).

²⁴⁸ *Id.* at 121.

²⁴⁹ Daniel Greenwood et al., *The New Deal on Data: A Framework for Institutional Controls, in* PRIVACY, BIG DATA, AND THE PUBLIC GOOD 192, 195 (Julia Lane et al. eds., 2014).

²⁵⁰ *Id.* at 195–96 (offering an individual ownership model).

²⁵¹ CAL. CIV. CODE §§ 1798.100–.199 (West 2018).

²⁵² See *id.* §§ 1798.100, .105, .120, .125.

²⁵³ Cf. Lee Anne Fennell, *Lumpy Property*, 160 U. PA. L. REV. 1955, 1956–57 (2012) (recognizing the salience of “underlying discontinuities in the production or consumption of property” for the definition thereof, *id.* at 1957).

²⁵⁴ For a description of a proposal along these lines, see Kartikay Mehrotra, *California Governor Proposes Digital Dividend Aimed at Big Tech*, BLOOMBERG (Feb. 12, 2019, 4:30 PM), <https://www.bloomberg.com/news/articles/2019-02-12/california-governor-proposes-digital-dividend-targeting-big-tech> [<https://perma.cc/D63S-JHU6>].

web.²⁵⁵ This would impose a friction on firms' incentive to harvest behavioral surplus by making the underlying enterprise simply less profitable. The sheer range of available taxation and regulatory options belies Zuboff's skepticism about the possibility of legal intervention that is effectively constraining (pp. 49, 486). Her analysis may have more bite, though, in regard to the enactment-related political dynamics attending such interventions. Without the kind of general shift in mindset that she seeks to conjure, it may be that interest-group mobilization by surveillance-economy firms would create imposing hurdles to regulation.

Finally, we think that there is a far greater need than Zuboff recognizes to think closely about the state's synergistic interaction with surveillance economies and the means to regulate the state's exploitation of surveillance economies' epistemic opportunities. A useful starting point for such reflection is the observation that the Fourth Amendment to the United States Constitution, which is commonly viewed as the anchor for such analysis, is a singularly ill-fitting tool for grappling with surveillance economies. The Fourth Amendment's paradigmatic application is to physical "persons, houses, papers, and effects."²⁵⁶ Fourth Amendment protection is usually keyed to ownership or possession; where a search is made of property that does not belong to the criminal suspect, it is often the case that no constitutional shelter extends.²⁵⁷ As Zuboff shows, surveillance economies operate through the aggregation of data that in isolation is epistemically barren, followed by the development of predictions by applying predictive tools to large bodies of data. In the most common case, inferences about a specific individual will require minimal information about him or her, and will instead be powered by other people's data.

Accounting for all this will require a substantial reorientation in the constitutional law of informational privacy away from the text and jurisprudence of the Fourth Amendment or its state constitutional analogs. It will require first a decentering recognition of the importance of other people's data to one's own informational and personal privacy. The mutuality of epistemic learning and privacy compromises the integrity of individuated solutions. Second, it will require a recognition that the person-specific information employed for the purpose of matching or predicting will often have had trivial privacy implications in the absence of surveillance economies. Finally, new regulation will need to recognize

²⁵⁵ See, e.g., Paul Romer, Opinion, *A Tax that Could Fix Big Tech*, N.Y. TIMES (May 6, 2019), <https://nyti.ms/2VhRWA9> [<https://perma.cc/3T37-HKF3>]. A state tax would be more legally constrained than a federal tax. Cf. *South Dakota v. Wayfair, Inc.*, 138 S. Ct. 2080, 2099 (2018) (assessing the constitutionality of a state tax on out-of-state activity based in part on whether "the tax applies to an activity with a substantial nexus with the taxing State" (citing *Complete Auto Transit, Inc. v. Brady*, 430 U.S. 274, 279 (1977))).

²⁵⁶ U.S. CONST. amend. IV.

²⁵⁷ See, e.g., *Minnesota v. Carter*, 525 U.S. 83, 89–91 (1998). *But see* *Carpenter v. United States*, 138 S. Ct. 2206, 2217 (2018).

the intricate codependency of the state with surveillance economies. Regulatory frameworks that allow for simple substitution of private for public action — as current Fourth Amendment jurisprudence in tandem with the state action doctrine invites — may be of limited efficacy.

CONCLUSION: THE STATE OF CONVERSATION
ON SURVEILLANCE ECONOMIES

Things done for the first time cannot be undone. Their echoes cast a path-shaping shadow well into the future. They hence create pathways for subsequent action while making other futures less likely. So it was when the first pastures were enclosed. So it is today.

Surveillance economies have permanently changed the possibilities for economic growth, social organization, and the state's role in society. As well as enabling much fruitful human activity, those economies create many new concerns. If *The Age of Surveillance Capitalism* sometimes ventures too far in its description of these concerns, it still captures much that is novel and noteworthy. Hence its grip on the public imagination. Readers would do well, though, to focus on the specific externalities Zuboff adduces, rather than be swept up by her more ambitious rhetoric. At this more mundane, retail level, the book's taxonomical contributions — such as the dynamics of behavioral surplus acquisition, prediction, and behavioral modification — acutely crystallize new economic processes in ways that facilitate future analysis.

At the same time, we think that the book discounts the important fact that paths opened by surveillance economies can also be — and have been — pursued by the state. The use of surveillance economies by the state brings to bear a fearsome coercive apparatus and a large potential to interfere in a wider spectrum of pivotal life incidents. We think those risks are graver than the risks presented by the private sector's deployments of surveillance and prediction, even if they lie further into the future. A "liberalism of fear" that accounts for these risks, as well as the spillovers from private action, is well warranted.²⁵⁸ A legal reckoning with the emergence of surveillance economies must grapple, therefore, with a thicker, more complex understanding of their plural logics, their entanglements with the state, and the complex ways in which they produce both goods and bads. *The Age of Surveillance Capitalism* furthers that conversation in important ways. Yet because surveillance economies tend to be part starkly lit panopticons, and part appetizing buffets offering appealing (if not uniformly nourishing) morsels to satisfy a vast range of human concerns, the burden of that conversation and the tensions implicit in the choices encompassed by that conversation will persist. Zuboff persuasively argues that some of the burdens and risks arising from a pervasive surveillance infrastructure,

²⁵⁸ Shklar, *supra* note 231, at 27.

concentrated economic power, and the resulting capacity to shape human behavior are in some respects unfamiliar; perhaps it's equally important to remember what's familiar. Indeed, blended forms of computing power, data, and bureaucratic organization can be far more precise — at a lower cost — in tracking, assessing, and even modifying behavior. These resources can make the social world “legible” in ways that, as the work of Scott shows, previously required massive national investments and worked only imperfectly.²⁵⁹ Not only can the process be automated with varying degrees of success, but it can also lead to complex and unexpected recursive responses of populations and surveillance organizations to each other.

Yet in other respects, we can follow both the “surveillance” and “capitalism” portions of surveillance capitalism to a more familiar destination. Casting a shadow over these new economies is the most recent iteration of a stubbornly persistent problem: how to maintain a state powerful and supple enough to respond forcefully when the public's well-being diverges from that of influential private actors, but constrained enough to mitigate the risks arising from combining a near-monopoly on legitimized use of force with the predictive ability to harvest untold secrets in a fraction of a second. Audible in the background is the loud, scraping noise of change and continuity grating on each other: not only in the marketplace, but also in the institutions, social interactions, and cultural settings that so heavily influence how people decide on and negotiate among competing values. The residents of Elham Valley two centuries ago and their countrymen who labored in Smethwick's dark, satanic mills knew just the sound.

²⁵⁹ See SCOTT, *supra* note 63, at 11–52.