

REVIEWS

Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*
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THE SURVEILLANCE BUSINESS

For almost every year since 2013, a defining feature forecast or declared in retrospect by at least one major publication—*Economist*, *Guardian*, OED, FT—has been the ‘techlash’. If we were to locate an origin-point for this discourse, it would probably be Edward Snowden’s 2013 revelations, but the tech giants really became a matter for establishment concern with the political upsets of 2016. That companies and states have at their disposal astonishing amounts of data about us is, it seems, not so troubling if they are securely under the control of people with whom one tacitly identifies. The Obama campaigns had pioneered data-intensive micro-targeting to their great advantage, but when the data scientists—sometimes the very same people—lent their skills to Trump and Vote Leave, Facebook appeared as a handmaid to the populist bogeyman. Legislation followed, with the EU’s 2016 General Data Protection Regulation (GDPR) and the 2018 California Consumer Privacy Act (CCPA). Organizations the world over had to tweak their newsletter sign-up processes, but the data overlords marched on.

One figure stands out in this discourse for the scale of her contribution and the acclaim she has received. Beginning in 2013 with a series of articles in the FAZ and culminating in the 2019 book *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, Shoshana Zuboff described a new kind of capitalism bent on turning us into a behavioural psychologist’s lab rats. Strikingly for a book that sounded somewhat *Marxish*—thematizing not only capitalism but expropriation, economic

surplus and towering asymmetries of power—*Surveillance Capitalism* won the approval of Obama, who had presided over a major expansion of mass surveillance under the NSA's PRISM programme. Zuboff also joined arch surveillance capitalist Mark Zuckerberg, Web inventor Tim Berners-Lee and aspiring surveillance capitalist Jeff Bezos to become the fourth recipient of the Axel Springer Award. How to account for a critic so immediately canonized? The continuities in Zuboff's oeuvre make it instructive to sketch her career as a whole.

Born in 1951, Zuboff's story begins in the factory of her maternal grandfather, an entrepreneur and inventor who may have inspired a taste for business and technology. At Harvard she studied with leading behaviourist B. F. Skinner and began a doctoral thesis in social psychology titled 'The Ego at Work'. But from her student years she had one foot in the management world, spending time in Venezuela as an 'organizational change consultant' to the state telecoms company, during which she studied workers making transitions from the rainforest. Soon after completing her PhD, she was examining the psychological and organizational implications of computer-mediated work, resulting in a tome widely regarded as a classic—*In the Age of the Smart Machine: The Future of Work and Power* (1988).

Centred on ethnographic studies of a handful of American companies that were introducing new computer-based technologies, *Smart Machine* gave a humanistic account of the struggles of workers and managers to adapt. As such, it may be read as a non-Marxist contribution to the labour-process debates of the time, which had unfolded since Harry Braverman's 1974 book *Labour and Monopoly Capital*. But Zuboff's emphasis was not simply on the implications of automation for workers, for the computerization of the work process didn't merely replicate something done by the human body: it produced a new flow of information that formed an 'electronic text' which would become central to the new work process.

For Zuboff, the verb *automate* thus needed supplementing with a new coinage: *informatate*. The bulk of *Smart Machine* was devoted to 'information' in this sense, looking at the ways workers grappled with the textualization of the workplace, how the premium on knowledge led to a new 'division of learning', and how managers attempted to shore up their authority. Zuboff's analyses of online cultures developing around 1980s workplace bulletin boards were uncanny harbingers of what would come in the era of mass social media. And in the final third of the book she turned to the darker implications of the electronic text as it was used to aid surveillance over workers in the realization of 'panoptic power'. If information was to be a tool of managerial 'certainty and control', Zuboff asked, would people be reduced to 'serving a smart machine'? Invoking Arendt, she imagined the behaviourist's ideal of a society controlled by surveillance and nudges becoming

realized in the computerization of the workplace. Yet Zuboff's analysis had indicated an alternative, grounded in a more horizontal embrace of the electronic text.

Smart Machine earned Zuboff tenure at Harvard, but she still had one foot outside academia, and was hired in 1987 as a consultant to Thorn EMI by CEO Jim Maxmin, who would become her co-author and partner. In the 1990s she ran a summer school for mid-life executives at which they were encouraged to reflect on such things as how much 'net worth' was enough. From a New England lakeside home Zuboff and Maxmin managed an e-commerce investment fund while working on their 2002 book *The Support Economy: Why Corporations Are Failing Individuals and the Next Episode of Capitalism*, which delved into business history to develop a periodization of 'enterprise logics'. But the central thread was a tale of the long emergence of the autonomous individual that would have made Hegel blush. The desires of this individual were always prior to whatever businesses were doing, waiting to be unleashed by the canny entrepreneur who could align themselves with the end consumer and found a new enterprise logic.

Josiah Wedgwood was the first of these Great Men, Henry Ford the second—though as lead consumers, women were the unsung heroes of capitalist history. Drawing on Alfred D. Chandler's notion of managerial capitalism and Ulrich Beck's concept of second modernity, Zuboff and Maxmin described how, in the world birthed by Ford, a growing psychological individuality came to crash upon the rocks of bureaucratized organizations and masculinist corporate cultures: this was the central, motivating contradiction of their theory. Businesses were concerned only with 'transaction value', viewing the end consumer merely as a means. Combative relationships with consumers were the symptoms of a 'transaction crisis'. Thus, the time had come for a new seer to expose those latent desires. If businesses could only make a Copernican turn to the end consumer, they would find a world of pent-up 'relationship value'. They would need to draw on new technologies, saving costs through merging digital infrastructures and orienting to the provision of 'support' configured to the individual. The projected economic 'revolution' seemed to involve the generalization of something like the executive's personal assistant.

Zuboff spun these ideas off in articles for the business press, but their conceptual frailty became all the more apparent as dreamworld hit reality. Steve Jobs was championed as the 'epochal leader' who could right the wrongs of American capitalism in the name of 'support'; Obama was naturally recruited too. In 2008, Zuboff made a pilgrimage to Silicon Valley 'in the hopes of finding leaders who grasped the crisis', but was disgusted to find them obsessed with making money from advertising. Disillusioned by the direction of American tech, she turned to the project that would become

her next book. If *Support Economy* was a management consultant's utopia, *Surveillance Capitalism* is the dystopia that emerges when prophecy fails. In this world, what is wrong is fundamentally a *bad business model* running amok. A sprawling, undisciplined tome of almost 700 pages, its approach slides from the systematic to the essayistic. Structured around three parts, it moves from the 'foundations' to the 'advance' of surveillance capitalism, before broadening the frame to consider technology as a basis of power. We will look at these one by one.

Zuboff begins by returning to a central question of her first book: whether we would be reduced to working for machines, or vice versa—only now the problem is at the level of 'information civilization'. Yet machines as such are not at stake, for surveillance capitalism is a 'market form' with its own 'economic imperatives', and Zuboff sees technology as fundamentally shaped by the economic ends it serves. The first part also takes us back to the framework of *Support Economy*: managerial capitalism, second modernity, the individual's long emergence and the primacy of the consumer's needs in economic history. But the contradiction between the individual and managerial capitalism now finds expression in the mass take-up of the Web and the 2011 UK riots. Apple is still the anticipated saviour, the iPod championing consumer needs, but there are two Apples—human and divine—for the company never properly understood itself as Zuboff's advocacy-oriented 'support' firm. If Apple should have been the third-modernity Ford, instead it was to be Google that would truly invent a new kind of enterprise. The world thus failed to make the anticipated transition, and surveillance capitalism filled the void, becoming the 'dominant form of capitalism'.

Zuboff aims to reveal its 'laws of motion', drawing a parallel with Ellen Wood's account of the origins of capitalism proper. The early Google had involved a virtuous circle or 'behavioural value reinvestment cycle': people needed search, and search could be improved by drawing on the 'behavioural data' produced by users. Thus far Google had succeeded at being Zuboff's kind of firm, but unlike Apple it had no sustainable business model. After the dot.com crash the venture capitalists were hungry, forcing a turn to the skimming-off of a surplus for use in ad-targeting. In this shift, behavioural data became a 'surveillance asset' and the raw material for the production of 'behavioural derivatives', 'prediction products' and 'behavioural futures'—the things actually sold by Google to advertisers in order to bring in 'surveillance revenue'. This, for Zuboff, was a process of 'primitive accumulation' or 'digital dispossession', and Marx, Arendt, Polanyi and Harvey are marshalled in support. Like others before her, Zuboff adds an item to Polanyi's list of fictitious commodities—land, labour, money and behavioural data. With the online world initially a lawless frontier territory, Google was able to march in like a robber baron and claim the abundant 'human natural

resources'. If monopolies were established, this was not in the traditional sense of distorting markets by eliminating competition, but as a means of 'cornering' data supplies, herding users into surveillance pens. While *Smart Machine* had analysed the 'division of learning' in the workplace, that division now characterizes society at large, as the surveillance capitalists form a new 'priesthood' with an astonishing concentration of power.

The political climate after 9/11 led to a 'surveillance exceptionalism' that facilitated Google's metamorphosis, as it discovered its elective affinities with the CIA; for their part, US security apparatuses were happy to avoid constitutional checks by handing off the task of data collection to a weakly regulated private sector. A revolving door would be established between surveillance capital and the Obama Administration, while Google would channel immense resources into lobbying. Before long, Facebook had joined the game, using its 'Like' button to track users around the Web and selling derivatives of the resulting data. Where they went, others would follow: under Satya Nadella, Microsoft moved into user-data extraction, purchasing the social network LinkedIn, launching its Cortana personal assistant and building surveillance into the Windows operating system. Abetted by Congress, Verizon too pitched in, pioneering spying at the level of the Internet Service Provider and using the resulting data for ad-targeting.

If the book's first part covers the bulk of Zuboff's theory, the focus of the second is the advance of surveillance capitalism into the 'real', as its prediction-centred business model is driven to take the step from tracking to shaping and intervening in behaviour. Technologists have long predicted a point at which computers would so saturate everyday life as to effectively vanish. As surveillance capitalists pursue perfect prediction, they are compelled to push in this direction, seeking 'economies of scope'—greater variety of data sources—and 'economies of action': shaping in order to render more predictable. They thereby develop a new 'means of behavioural modification'. A harbinger was R. Stuart Mackay, who developed telemetry in the 1960s to track wild animals, before turning to the idea of remotely shaping their behaviour. Now individuals have become the objects of constant tracking, and insurance companies may gain the ability to remotely shut down a car's engine when a payment is late. Digital infrastructure thus shifts from '*a thing that we have to a thing that has us*' (Zuboff has a fondness for chiasmus). Fitness trackers and apps; Google Home and Alexa; smart TVs; Facebook biometrics; 'smart cities'; wearable sensors in the healthcare sector; 'interactive denim'; children's toys—or just the smartphone: we are subject to constant spying and the 'rendition' of our behaviour as data, and there is little chance of opting out. On this basis, detailed 'pattern of life' analyses can be conducted on individuals, while Baidu uses location tracking to predict the movements of the Chinese economy. Metadata about

patterns of behaviour become tools for psychometric profiling, and devices are developed that can read emotional states.

Facebook crossed the line into social manipulation with its experiments in ‘emotional contagion’, while the ‘augmented reality’ game Pokémon Go drove ‘foot traffic’ to the locations of paying businesses, raising the question of whether surveillance capitalists might be venturing into the engineering of ‘choice architectures’. Cold War experiments in behaviour modification targeting prisoners and patients once led to a legislative backlash that prevented further development, but now private firms press on unhindered by democratic process in the pursuit of ‘guaranteed outcomes’. User consciousness itself becomes a threat to revenues; freedom and the ‘right to the future tense’ are put at stake. Surveillance capitalism embodies a new kind of capitalism no less momentous than the industrial, and:

The struggle for power and control in society is no longer associated with the hidden facts of class and its relationship to production but rather by [sic] the hidden facts of automated engineered behaviour modification.

The third part of *Smart Machine* was devoted to ‘technique’ as the ‘material dimension of power’. Similarly here, we now turn to the kind of power surveillance capitalism portends. Zuboff’s term is ‘instrumentarianism’: ‘the instrumentation and instrumentalization of behaviour for the purposes of modification, prediction, monetization and control’. While totalitarianism mobilized violence to take hold of the soul, instrumentarianism quietly observes and shapes behaviour. Skinner was its prophet, his book *Walden Two* the utopia. For behaviourists, freedom is a gap in explanation to be overcome through the extension of behavioural science to society, and now their vision is being realized by surveillance capitalists seeking the ‘substitution of certainty for society’ as they pursue their own ‘applied utopistics’. The ‘social physics’ of MIT professor Alex Pentland comes in for attack as an attempt to substitute a technocratic plan for politics in the name of the ‘greater good’—‘Whose greater good?’, Zuboff rightly asks.

There are now ‘credit scores’ for radicalism and ‘threat scores’ derived from social media, while start-up Geofeedia tracks protesters’ locations. The Chinese social credit system—which surveils citizens and hands out punishments and rewards accordingly—cannot be ignored, though Zuboff seems uncertain what to do with it. On the one hand a ‘logical conclusion’ of the quest for ‘certainty’ we see under surveillance capitalism—and instrumentarian rather than totalitarian—the social credit system differs in that it is aimed at social rather than market outcomes. It is also, she asserts, of doubtful relevance to her story, being formed by a non-democratic culture unconcerned with privacy; yet at the same time it ‘broadcasts the logic of surveillance capitalism and the instrumentarian power that it produces’.

The individual is now under siege, hooked on pathological modes of sociality through techniques derived from the gaming industry, left unable to forge a proper sense of selfhood. ‘Chilling effects’ reach into everyday life as people shape their behaviour for online presentation. There are shades of Sherry Turkle and Nick Carr in Zuboff’s laments for the home as a meditative space for the cultivation of the self. ‘Synthetic declarations’ are needed—which seems to mean legal measures like the EU’s ‘right to be forgotten’ and the GDPR, backed by collective action.

In conclusion we turn to the relation of markets, knowledge and democracy. In the reasoning of both Hayek and the behaviourists, the freedom of market actors was associated with ignorance. With ever-more complete information, surveillance capitalists threaten this dyad. According to Zuboff’s rosy vision, capitalism was once grounded in ‘organic reciprocities’ between companies and people. Equitable market exchange formed the impetus for the American Revolution, and British industrialists were compelled to make democratic concessions due to their dependence on the ‘masses’. With the turn to shareholder value these reciprocities were eroded; now surveillance capitalists have supercharged these dynamics, producing ‘hyperscale’ organizations with gargantuan market valuations, tiny employee bases, and diminished reliance on society. There has been no Polanyian ‘double movement’ to impose social limits on the exploitation of behavioural data, and we now face a ‘democratic recession’ as the vital association of markets and democracy is lost. She finishes with a pot-pourri of references that would please any liberal Atlanticist: Arendt on totalitarianism, Orwell’s disgust at James Burnham, and the fall of the Berlin Wall.

If often overwrought, *Surveillance Capitalism* paints a compelling picture of the hellscape of current capitalist technology. Zuboff is right to assert the need for new names to grapple with the transformations being visited upon us by the tech giants. The term ‘surveillance capitalism’ identifies something real, and though she was not the first to coin it, to her credit it now seems likely to enter general usage. There is also something striking about her longstanding project of linking technological power and behaviourist psychology. Zuboff has devoted much of her intellectual life to forging an *Anti-Skinner* that would give the psychological individual centre-stage, waging war on its positivistic reductions at the hands of scientists, managers and surveillance capitalists. It is probably here that she is at her strongest.

But the central claims of *Surveillance Capitalism* are political-economic and should be assessed as such. What then of her concepts of expropriation and digital dispossession? As defenders of intellectual property have long found, there is something particularly awkward about the notion of data as the sort of thing that can be stolen, since it is non-scarce—as Evgeny Morozov has noted in a *Baffler* review. My possession of a given data construct doesn’t

prevent anyone else from having it. Behavioural data may also be viewed as *representations*, and it takes magical thinking to equate representation with possession. If someone spies on me and notes what I do, my behaviour is still no less mine. It has, of course, left its imprint in something I do not possess, but then I didn't possess that in the first place.

The idea that such data could be 'used up' also makes little sense, and since there is no such point there is no identifiable span in excess of it. It thus becomes impossible to draw the line between the early Google's benign behavioural data 'reinvestment cycle' and the skimming off of a 'behavioural surplus'. The quantitative concepts of political economy are misleading here, since what we are really talking about are not continuous magnitudes, but different *uses* of data: to improve a search engine, and to improve ad-targeting and thereby make money. We might be tempted to term the latter a 'surplus' in relation to the former, but what if the same data is used for both? Or, if it is the commercial use that makes it surplus, rather than any nominal quantity of behaviour, what should we make of the fact that Zuboff sees the Chinese social credit system—aimed at social control rather than marketing—as a leech of behavioural surplus? And again: surplus to what? Is part of the social credit system benign like the early Google?

This substantialist notion of behaviour recalls the worldview of Ricardian socialism, where labour was thought of as something agglomerated in the artefacts of the capitalist economy. This helped underwrite a certain moral standpoint: it's our labour; it should be ours. And there is an intuitiveness to the idea that a given thing directly embodies so much labour, as long as we are thinking about individual companies (as the business historian is prone to) or goods, rather than the economy as a whole. The afterlife of those ideas has been long, and we still find traces in such things as the muddled notion that if posting on Facebook enables Zuckerberg to make money, it must be productive labour—a semi-humorous consequence of which is the demand Wages for Facebook. Zuboff distinguishes her position through the focus on behaviour rather than labour, but the substantialism and moral standpoint are much the same, though these make even less sense with data.

Zuboff claims that surveillance capitalism is the dominant form of capitalism, with Google and Facebook the leading edge of a dynamic playing out through the whole economy. These companies are certainly very powerful, and have extraordinary market capitalizations, but almost the entirety of their revenue is derived from advertising. Even when we venture into ubiquitous computing, smart cities and the like, advertising revenues remain the standard reason for private companies to hoard data on users. Who is it that purchases those ads? Largely other companies—meaning that advertising in general is a *cost* to firms, and thus a deduction from their overall profits: in the terms of classical political economy, it is one of the *faux frais*

of production. The profitability of advertisers is constrained by that of firms in other sectors, since it is on them that they depend for revenue. No matter how radically surveillance capitalists transform advertising, as long as that represents their core business, their capacity to drive capitalism as a whole will be limited.

Surveillance capitalists, for Zuboff, pursue ‘total certainty’ and actual control of all user behaviour with their prediction products. While an advantage in prediction may translate into an advantage in placing ads, and thus bring in more revenue, there are logical limits to this. Even if certainty or control was possible in principle, advertisers would still not be able to guarantee sales for other companies at will, for if the disposable income of consumers is finite, every certain transaction would diminish the scope for others, making ‘certainty’ self-undermining. It makes more sense to track, direct and predict user behaviour just accurately enough for it to be worthwhile for multiple paying companies to participate in a chase for the same consumers. Beyond that, pursuing ever more perfect prediction would be throwing money in a hole. Moreover, the behaviour it makes sense to predict remains almost entirely within the realm of market activity, raising the question of whether—whatever their rhetoric—it can really be that ‘totality’ is what surveillance capitalists are driving towards. Perhaps attention economics—according to which user attention is a scarce good pursued by companies—is a more useful approach here.

While it is commendable to attempt social explanations for technological developments, Zuboff has perhaps been led astray by her inclination to think in terms of ‘market forms’, and to reduce technology to economic ends. Symptomatic is her vacillation over the Chinese social credit system. And while she acknowledges the state’s contribution in nurturing surveillance capitalism, she has strikingly little to say about the positive details of its role—PRISM, Snooper’s Charter, Five Eyes . . . It appears essentially as a neutral, passive realm that sometimes follows where business leads, that has some bad laws and needs more good ones. But any history of American technology will find that the state has been anything but neutral or passive. Typically it has taken the lead in driving major technological change, coordinating business or pulling it along in its wake—as we find in computing, networking, weapons, machine tools and so on. If fundamental change comes through the acts of great entrepreneurs, such things must remain obscure.

From its outset the modern state was an information-gathering apparatus. Once mechanical and then electronic means of data storage and processing became available, they merely facilitated what had already long been happening. The Hollerith punch card and its descendants enabled the automation of data processing, including famously for Nazi concentration

camps and the internment of Japanese-Americans during WWII. Computer-based surveillance per se has roots in this *longue durée* history, which it is helpful to keep in view when attempting to periodize developments closer to the present. Through the 1970s, TRW—a corporation with interests in aerospace, automotives, electronics, computation and data processing—gathered masses of data on tens of millions of US consumers, for sale to potential creditors. And unsurprisingly given its range of operations, TRW was intimately entwined with the CIA. Though Zuboff's attempt to read the founding of surveillance capitalism *politically*—as the act of specific people in a specific conjuncture—is admirable, it obscures this longer history of computation in state surveillance and its crossovers with the private sector. It is here that we find the most compelling reasons to worry.

After all, what should it matter that Facebook shows me creepy ads and maybe even persuades me to buy something, if that is the only implication of the gigantic data hoard it has on me? It is once we move beyond simple market exchange—where I am formally free to walk away—and thus beyond the main focus of surveillance capital proper, that such knowledge asymmetry really becomes troubling. Are we to be subjected to digital gerrymandering, paid for by the highest bidder? Are those of us who would mobilize beyond the usual rituals of democratic participation to be tracked, herded and neutralized before we can pose any real threat? Are social inequities to be silently reinforced by rankings imposed on us by those in a position to surveil? Answering these questions seriously will involve a grasp of the state as an active force in technological development, as a differentiated terrain, and as far from neutral. In itself, legislative regulation of surveillance capital will not be enough—even backed by social movements—for any serious challenge would also be a challenge to the surveillance state.