



xCoAx 2019

Conference on Computation,
Communication, Aesthetics & X

Milan, Italy

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Surveillance capitalism and the perils of augmented agency

Keywords

augmented agency
bureaucratic technologies
design
philosophy of technology
self-transformation
surveillance capitalism

Over the last decades, a new form of economic system has emerged: “surveillance capitalism”. Based on the extraction, appropriation, and commercialisation of increasingly detailed behavioural data but cloaked under the guise of personalisation, surveillance capitalism limits our privacy and our freedom of choice. This paper contends Big Tech organisations, the primary beneficiaries of the data-driven economy, are curtailing our capacity to self-transform, all the while promoting and generalising a false sense of augmented agency that perpetuates a lopsided and bureaucratic relationship with the world. This paper shows that a technologically informed philosophical reflection can help counter this state of affairs. It contends that a critical stance can help humans put themselves back on the feedback loop of technological mediation by helping us recognise our “becoming” with technologies as a design process.

INTRODUCTION

1. Some of the algorithms powering these devices, particularly those which “learn”, are surely sophisticated, to the point of being “weirdly inhuman” (Berreby 2015), and this raises issues of grave concern. Nonetheless, it is important to note that for the time being, the “smartness” of IoT artefacts still depends largely on “mining” the growing streams of data generated by ubiquitous computing.

2. In the context of industrial robotics, the term “envelop” refers to the space within which a robot can effectively function (Florida 2019, sec. 4).

3. There is no definitive consensual definition of Big Data, but it is useful to regard the term as a shorthand for the combination of (a) technical infrastructure (information processing hardware) and (b) processes/techniques for gathering, sorting, and querying vast volumes of data. The goal of Big Data is to discover previously unseen patterns, distil them into “predictive analytics” and apply that information onto new datasets (Yeung 2016).

4. In Graeber’s own words, he is referring to “the use of rational and technical means to bring wild fantasies to reality”; “fantasies” here meaning the building of pyramids, exploration of Space, and transcontinental railroads.

Early this year, an American plumbing company announced a new product: a (Amazon Alexa) voice-controlled “intelligent toilet” that promises a “fully immersive experience” thanks to ambient lighting, surround speakers, and heated toilet seat (Vincent 2019). This is another addition to the growing list of “smart” devices comprising the Internet of Things (henceforth IoT). The more formerly “dead” objects such as suitcases, toothbrushes, coffee machines, or rubbish bins become artificially enlivened and hence smarter¹ and capable of interacting with each other, the more our environment becomes *enveloped*²—and friendlier towards Big Data³ That is to say, soon, potentially every object in the built environment could become an interactive node for the Internet and serve as a sensor gathering data about every minute detail of day-to-day human lives. This data is a potentially endless stream of information that will allow machine-learning and other AI methods to make more accurate forecasts about our behaviour and thus tailor services to the exact needs of each user. From a purely optimistic standpoint, this technological trend brings clear advantages to people, since hyper-personalisation will (positively) reinvent how we experience everything in our world, from shopping to education to health to entertainment (Lee 2018). Change, so it seems, is always good. Nonetheless, such state of affairs raises several serious questions about our relationship with technology at large and with so-called “Big Tech” in particular.

The rise of Big Tech “Data Barons” (Mayer-Schönberger and Cukier 2013, ch. 9) and their increasing power signals for some sociologists (Zuboff 2015, 2019; Naughton 2019) the emergence of “surveillance capitalism”: a new economic system fuelled by data analytics guided by a radically new logic of accumulation that is curtailing human liberties and rights. Others (Graeber 2012) see the evolution of information technologies (IT) as a manifestation of the degree to which corporate bureaucratic culture has taken over society; as a deliberate effort to place “poetic technologies”⁴ entirely to the service of “total bureaucratisation”. Neither of these scholars sees ITs *per se* as being intrinsically responsible for these problems (that would imply endorsing some form of technological determinism), instead, they argue both technologies and their (mis)use have sociocultural origins. Some artificial intelligence (AI) researchers also recognise this need to focus on the human side (and responsibilities) in our relationship with technology, arguing that smart devices, even autonomous ones, are but tools that augment human capacities (Bryson 2009). Others (Edwards 2018, 23), argue that our societies have already become so deeply entangled in rapidly evolving Byzantine interacting ecologies of algorithmic feedback loops that we lack the conceptual tools to adequately describe and engage the complexity of our current sociotechnical systems.

This paper takes the previous situation as a starting point to argue that how current IoT devices are conceived is not only consolidating surveillance capitalism and total bureaucratisation but also fostering a false sense of *augmented agency*. It also argues that by automating mundane tasks

and promising hyper-personalisation, IoT devices are generalising plutocratic, unimaginative interactions with the world, and in so doing they are curtailing our freedom of choice and our capacity to self-transform. Ultimately, this paper aims to show that philosophical reflection can be a powerful ally for developing a fruitful critique of our current sociotechnical systems. Namely, by providing conceptual design and the means for thinking about our relationships with technologies as haphazard iterative (i.e., design-like) self-transformation processes in which we have engaged since the dawn of human species.

The paper begins with an overview of surveillance capitalism and bureaucratic culture. This is followed by a summary of how contemporary philosophy of technology regards technological agency and its role in human life. Afterwards comes a brief account of the type of philosophical stance that might be best suited to provide adequate critical conceptual tools, before delving into an extended discussion of the main arguments. Given the complexity of the topics here discussed, this paper can only provide a modest initial assessment, further research and analysis are necessary to provide a more robust contribution to understand these issues.

THE AGE OF SURVEILLANCE CAPITALISM AND TOTAL BUREAUCRATISATION

Nowadays, the majority of the World's population uses ITs mainly to record and transmit data, and the economies in which they live are still dependent on industrial outputs, particularly those related to fuels and energy; these societies live "historically"⁵ (Floridi 2012b). In contrast, some regions in the world have become "hyperhistorical", because their economies now depend almost entirely on the outputs of data processing. In these societies, computers have taken over virtually every other form of technology in an almost "zoological" fashion (Peters 2015); the built environment has thus been progressively enveloped through billions of sensors embedded within IoT devices. In these hyperhistorical societies, work has become overwhelmingly "computer-mediated" (Zuboff 2013). This is a radical shift because, unlike previous forms of mechanisation and automation, computers "informate", i.e., they generate data about when they are used, for what, and by whom, and thus make even the most minute detail about their usage knowable (Zuboff 2015). In contexts where computer-mediation has become pervasive, potentially every aspect of the world can be "datafied",⁶ i.e., "rendered in a new symbolic dimension as events, objects, processes", thus making people and their behaviour "visible, knowable, and shareable" (2015, 78).

The vast amounts of data generated directly or indirectly by ITs at increasing speeds are collected, stored, abstracted, aggregated, and analysed⁷ not only by "Big Tech" but by every new organisation wanting to take part in the contemporary economy. This usage of Big Data embodies a new logic of appropriation and accumulation underpinning the radically new economic system that Foster and McChesney (2014) and Zuboff (2015) refer

5. For a full description of the differences between historical and posthistorical societies see also Floridi (2014 ch.1). Floridi's concept is roughly equivalent to Flusser's ([1985] 2011) conception of "posthistory"; for a comparison see Galanos (2016).

6. As the coiners of this neologism argue, datafication differs from digitisation, insofar the latter merely involves turning an analogue signal into bits, whereas the former has explanatory and hermeneutical prerequisites arising from a desire to quantify, record, and interpret phenomena. For a critical view on datafication see van Dijck (2014).

7. Datasets may undergo various similar cycles; hence, once processed a dataset may be re-packaged by data brokers, sold, further analysed, and sold again (Zuboff 2015).

to as “surveillance capitalism”. Under this regime, organisations rely on data—particularly by harnessing so-called “data exhaust”—to forecast and modify people’s behaviour in order to generate revenue and gain further market control (2015, 75–80). Zuboff argues that contrary to what most literature seems to imply, Big Data is not an “inevitable” or “autonomous” “technological object, effect or capability”, but rather a socially-originated (pre) “condition and expression” of surveillance capitalism (2015, 75–76). In other words, although this economic system depends on Big Data, it was not the technology that brought it to life. Rather, surveillance capitalism was deliberately *invented* in the early 2000s by Google (2015, 80).

Taking advantage of its position as the most visited site on the internet and fearing that the fee-for-service paradigm would hinder its growth, Google give birth to contemporary data-driven personalised marketing. This new “auction-style” advertising model became canonical; the default business paradigm embraced by the emerging startup culture (Zuboff 2015, 76). In the years since, it has been adopted and refined by the remaining FAANGS⁸ (Facebook, Apple, Amazon, Netflix, and Spotify) and by almost every other major technology company. Consequently, most organisations in hyperhistorical societies now deliberately design their services to extract as much data as possible from their users.

This trend highlights a fundamental difference between previous economic systems and surveillance capitalism, and which according to Zuboff, is a hallmark of the latter: the utter “formal indifference” that organisations exhibit towards the people who are both their data sources and their targets. Google, for example, could not care less “what its users say or do”, so long as they do it in a way that Google can harvest the data (2015, 76–80). Under surveillance capitalism, there are no contractual reciprocities. Being automated, data extraction is a fundamentally unidirectional process; this leaves no space for negotiation or lawful relationships built on social trust, only for rewards and punishments based on opaque conditional decisions. People are presented with a “fundamentally illegitimate” “Faustian pact” (2015), whose scope and details they thoroughly ignore, thus agreeing to a ceaseless invasion of privacy in exchange for something they presumably want⁹—e.g., signing up for a service, such as a social network. Users willingly submit themselves to continuous surveillance in return for tailored and convenient services, this consent, however, often resembles that of the compulsive gambling addict (Yeung 2016, 131–32). The problem, as Zuboff notes, is that privacy implies deciding whether one wants to keep something secret or not, this involves *choice*. By “hypernudging” (see Yeung 2016) users into surrendering their ability to keep their information, their beliefs, and their wishes, Data Barons are curtailing their fundamental rights.

The “formal indifference” characterising surveillance capitalism is symptomatic of the broader cultural shifts brought by more than four decades of gradual merging between private and public power in the name of profit—i.e., neoliberalism. Chief amongst these cultural changes is *total bureaucratisation*: “the imposition of impersonal rules and regulations [...]

8. An alternative acronym, “GAFAM” privileges Microsoft in lieu of Netflix and Spotify.

9. The problem, however, is that the “tech industry” often merely conflates “want” with “are more likely to click on” (Solon 2019).

backed up by the threat of force” (Graeber 2015, 32) over every aspect of daily life, in such a pervasive manner that people cannot imagine things could be done differently. As a result of this process, bureaucracy has become “the water in which we swim” (2015, 4) and every resource, particularly technological change (a.k.a. “innovation”) has been put to the service of management. So although in the corporate narrative decision-making in private and public organisations increasingly prioritises creativity, reality shows the exact opposite is true. Instead of investing in technologies that could bring alternative, more egalitarian futures, organisations have prioritised the development of more sophisticated systems to further increase “labor discipline and social control” (2015, 120). Instead of addressing some of the challenges identified by Keynes ([1930] 2011) almost a hundred years ago, generalising a “four-hour workweek”, building flying cars, and colonies on the Moon, we have been left with infallible ATMs, high-frequency trading, and an enthusiasm for surveillance mechanisms that would put the *Stasi* to shame. What could otherwise be “poetic technologies” have become “bureaucratic technologies” (2015, 141). Rather than fulfilling the ideals of Ted Nelson (1974) or Stewart Brand, and freeing us from administrative responsibilities, software and ubiquitous computing have “turned us all into part or full-time administrators” (Graeber 2015, 140).

Free services provided by Data Barons are not objects of value exchange but “hooks” that lure unsuspecting users into an asymmetrical and indifferent form of technological mediation (Yeung 2016; Zuboff 2015). Voluntary submission into constant surveillance not only curtails our freedom of choice but erodes our capacity to self-transform because technologies in general, and these, in particular, do have tremendous influence over how we perceive the world, as we will see in the following section.

HUMAN “BECOMING” AND TECHNOLOGY

Traditionally, humanistic analyses concerning technological agency, including Critical Theory (in the “narrow” and “wide” senses (see Bohman 2016)) and early philosophy of technology (e.g., see Mumford 1967; Heidegger [1954] 1977), tended to regard technologies in pessimistic terms. They usually establish a sharp division between human nature and technics; portraying technology as a limiting, tyrannical, and overwhelming force constantly threatening to overwhelm human agency. In the last decades, however, there have been two important shifts in the way philosophy of technology conceives “being human”. First, there is a growing acceptance of the artificiality of human nature; the realisation that, unlike other tool-wielding creatures, human beings actually “become constituted through making and using technologies” because tools shape our minds and augment our capacities (Ihde and Malafouris 2018). Secondly, there are increasingly more attempts to re-think our place in the world; to “re-place” human agency (Galanos 2017) and develop frameworks that account for the agency of non-human agents in our environment. Most con-

temporary posthumanist currents endorse, in varying degrees of strength both stances, including Actor-Network Theory (ANT), postphenomenology, speculative realism, new materialism, and informational structural realism, to name a few.

In light of the above, human evolution has been usually characterised in terms of adaptation, but our relationship with our surroundings is better described in dialectic terms, as a technically mediated “becoming”. This means that as we actively transform our environment (for good and bad), our environment shapes us back. According to this “relational ontology”, people and things are intrinsically linked (Ihde and Malafouris 2018). Hence, whereas other animals (e.g., great apes or ravens) are known to craft and use tools, arguably only the human *Lebenswelt* (lifeworld) is defined by a constantly evolving relationship with artificial objects (2018).¹⁰ Fabrication, not only of tools but also of circumstances—to borrow Ortega y Gasset’s ([1939] 1964) formulation—plays a central role in defining our species. Paraphrasing Flusser, thanks to technology we have gone from being mere mammals conditioned by nature to “free artists” ([1993] 2012, 19). In other words, it is not just that humans are outstanding makers but that such ability does not only involve designing and manipulating things but also determines when and how we change; how we self-consciously “become” (Ihde 2009). We humans, as Ortega y Gasset notes, are defined by our constant struggle to realise, to *make our existence*:

10. As Ihde and Malafouris (2018) further note, “the kind of minds we have depend on the kind of tools we make and use”. This echoes Nietzsche’s alleged claim that “our tools are also working on our thoughts” (in Kittler 1999).

“ Man [sic], whether he wants it or not, has to create himself, to self-fabricate. This last expression is not entirely inappropriate. It highlights that man, at the very root of his essence, finds himself, first and foremost, in the situation of the technician. For man, living is, clearly and before anything else, the effort to bring into existence what there is yet to be.¹¹ ([1939] 1964, 341)

11. Author’s translation; the original text is as follows: “El hombre, quiera o no, tiene que hacerse a sí mismo, autofabricarse. Esta última expresión no es del todo inoportuna. Ella subraya que el hombre, en la raíz misma de su esencia, se encuentra, antes que en ninguna otra, en la situación del técnico. Para el hombre, vivir es, desde luego, y antes que otra cosa, esforzarse en que haya lo que aún no hay”.

Technically mediated human becoming has arguably been going on for a long time, perhaps as far back as the time of Acheulean axes (roughly 1.7 Myr ago). However, in the last decades, our world has become friendlier towards technologies that have increasingly more agency, autonomy and, therefore, can have a stronger influence over human actions and decisions. As Floridi notes, these artefacts are “inflexible, stubborn, intolerant of mistakes, and unlikely to change”; whereas humans tend to be exactly the opposite, and yet we are becoming more dependent on them. The problem is that as our dependency increases so does the possibility that our technologies end up calling the shots; distorting and constraining our behaviour and “our physical and conceptual environments” to further accommodate us to them instead of the other way around. The danger is that instead of establishing healthy dialectic relationships we end up adapting to *their* “needs” simply “because that is the best, or sometimes the only, way to make things work” (2012a, 252–53). Examples abound where things have to be done in cumbersome ways to accommodate the use of a given technology, even if we no longer notice it—we only need to

think about how the adoption of motor vehicles has conditioned human movement and urban planning at large.

Choosing which technologies we incorporate in our lives is a crucial matter since they play a crucial role in our self-design (Pitt 2011). The problem, however, is that we lack a method or framework to do so beyond simple heuristics because we cannot know in advance (only speculate) how a given technology will affect our lives in the long term. The problem is made worse because we are being surrounded by an increasing number of sophisticated systems that are specifically designed to influence our behaviour. As noted at the beginning of this paper, philosophical reflection, particularly one that is grounded on action and informed by a broad understanding of technological agency can help us tackle these issues. It can provide an approach for understanding how to deal with our technologies and the world they help us make, and hopefully, provide a basis to steer things into a better direction.

PHILOSOPHY IN ACTION

Philosophy is at worst regarded as a discipline concerned with Byzantine discussions, and philosophers as people who endlessly argue about things that matter only to a reduced group of specialists—hence the constant calls by the managerial class¹² to stop wasting resources on philosophy. At best, philosophy is regarded (in the West) as a discipline concerned with teaching the history of ideas that emerged some 2,500 years ago and formulating responses to them following a rigorous method of thinking. Both views assume that “the landscape” (Pitt 2011) of philosophical practice has not changed in over two millennia, and it would be easy to dismiss them as little more than caricatures. Nonetheless, there is at least some truth behind such views, philosophy, like any other discipline, can certainly become “scholastic” (Floridi 2011).

Scholastic philosophy is conservative, institutionalised in the worst sense, and bureaucratic in its blind and inflexible imposition of form, goals, and procedures. Scholastic philosophy “manifests itself as a pedantic and often intolerant adherence to some discourse” (Floridi 2011, 9) established and perpetuated by a given group of specialists. These specialists tend to be “metatheoretically acritical” (2011, 9); they only care for the ideas of their community. A philosophy like this is a closed system; it ignores other disciplines, and it is unconcerned with reality and the events and developments outside of its domains. Scholastic philosophy is merely concerned with “perennial questions”, issues that, it assumes, remain unchanged and unaffected by history. Luckily, such is not the kind of philosophy that interests us here. The kind of philosophy or at least the approach to philosophy that concerns this paper is one moved by a deep interest in how human contexts, practices, ideas, and relations have changed in the last decades due to technological shifts. Such is a philosophy concerned with consequences and actions; it is a philosophy that, to use a borrowed

12. To be fair, bureaucrats are not the only ones debasing philosophy, demagogues and even scientists often assume similar stances. Stephen Hawking’s (2010) infamous claim stating that “philosophy is dead” because it is outdated is an excellent example of the disdain that some otherwise brilliant people have for this field.

formulation, responds or reacts to social change, not one that regards the self as a motivating force in and of itself (Pitt 2011, 3:46)

The philosophical approach that interests this paper is one that concerns itself with “how best to make it through the muddle that is life” (Pitt 2011, viii), and this involves understanding what is “out there”. The ultimate goal of this enterprise is normative, but it proceeds by creating “dangerous ideas”, ideas that “threaten the status quo” by instilling doubt, “ideas that motivate people to do something” (2011, ix). This philosophy assumes technologies are deeply transformative and therefore seeks to understand how by being exposed to them we humans change the world and ourselves in the process. Doing this kind of philosophy means something like the following:

“ seeking wisdom with respect to the world we have built, by seeking out all the accompanying epistemological, normative and metaphysical questions that world and what we do to create it and act in it raises. (Pitt 2011, xii)

In other words, this philosophical approach aims to understand how to best live in the built environment, but also to trigger some form of change within it; it is pragmatic: it insists there should be some “difference in conduct resulting from philosophical ruminations” (2011, xiii).

A philosophy that rejects scholasticism and perennial (ahistorical) questions is “not in the business of discovering solutions but in that of *designing them* [emphasis added]” (Floridi 2013b, 211). It is a philosophy that deals necessarily with open questions; that is, questions that are by their very nature susceptible “to reasonable disagreement” (2013b, 216). Moreover, it does so iteratively. It can begin by looking at the world and formulating new open questions and design new answers for them or, in the light of new developments and information provided by other disciplines, it can revise old questions that remain open and design new answers. It is a timely enterprise that relies on a feedback loop with the world around it: “[l]ike a living heart, philosophy goes through a cycle of systole and diastole, contraction and dilation, outsourcing and insourcing of problems and solutions” (2013a, 215). It is a constructive enterprise that begins by analysing open questions as a preliminary stage before designing satisfactory answers for them (2013a, 2018). “Satisfactory” meaning, the point after which any further discussion is superfluous (Flusser [1991] 2014).

A philosophy like this can help us understand technologies as ontological tinkering devices, but it also can help us to build a well-grounded criticism of surveillance capitalism and the way it is affecting human life.

DISCUSSION

The illusion of augmented agency

Surveillance capitalism and the type of technologies it is fostering are fundamentally bureaucratic. Bureaucracy is, by definition, arbitrary, inflexible,

alienating, inefficient, and taxing (in the broad meaning of the word); and it is also underpinned by the threat of violence (Graeber 2015). Nonetheless, bureaucratic procedures are often justified by claiming they will achieve precisely the contrary: that they will make processes cheaper, expedite, meritocratic, and transparent. Bureaucratic procedures replace organic tête-à-tête negotiation and bargaining (which presupposes some form of symmetrical relationship) with reductive, generalised, imperatives (grounded on hierarchies and asymmetries) that follow the simple formulation “if, then, else”. Bureaucracy is, above all, unimaginative.

To the best of our knowledge, humans have the unique capacity to picture things in their mind’s eye; consequently, we can project our ideas and ourselves into hypothetical past and future scenarios. This means that unless we have some damage in our frontal lobes, we can put ourselves in other people’s shoes and imagine what it would be like to stand in their position. This requires interpreting, understanding, and (to varying degrees) caring for other people, their circumstances, and needs. Bureaucracy, on the other hand, is imposed as a remedy against the above; as a substitute for the myriad exchanges people are required to carry out every day when interacting with other people and institutions.

Bureaucratic procedures are imposed to manage relationships that are already extremely unequal in terms of interpretative (empathic) labour. Bureaucracy embodies and institutionalises “lopsided structures of the imagination”. Thus, bureaucracy is not so much an embodiment of stupidity but a way to manage circumstances that are stupid *because* there are preexisting inequalities underpinned by structural violence (Graeber 2015). As everyone knows, power allows people to behave crassly towards other people. As Graeber (2015) notes, “[p]ower makes you lazy”; people in a situation of power and privilege often unabashedly avoid engaging in imaginative identification, particularly towards those whom they regard as their inferiors. Attempting to imagine how their subordinates feel is nothing short of a burden, after all, “in most ways, most of the time, power is all about what you don’t have to worry about, don’t have to know about, and don’t have to do” (2015, 101). Imaginative, emphatic, and caring labour is usually the responsibility of people serving those in the upper echelons of society. After all, servants are people who have to anticipate the needs, desires, whims, and moods of those in power, whereas these, in turn “can wander about largely oblivious to much of what is going on around them” (2015, 81).

The current trends in IoT consumer technologies seem focused on generalising precisely such bureaucratic/lopsided attitude towards the world. Only this time the interpreting labour is carried out by smart devices. The emergence of various AI personal assistants (Alexa, Google Assistant, Siri, and Cortana) and smart environments (e.g., Kohler’s Numi 2.0 or Whirlpool’s smart kitchens) exemplify such trend. Smart, voice-controlled systems that unlock doors, regulate temperature and lights, play music or do our laundry simulate the kind of relationship plutocrats have with those around them. As Zuboff (2015, 84) notes while discussing Google’s strategies, tech companies seem poised in transforming the luxuries of the priv-

13. Here, agency is broadly understood as the capacity of an agent to bring about specific changes in the world; which implies the agent can decide to act (or not), choose to do it in a certain way, and execute the action (see Bunnin and Yu 2009).

ileged into affordable necessities for the population in the lower strata of society. This privileged augmented agency¹³ (having one's whims satisfied by an artificial agent at the sleight of one's hand), however, comes at a cost that far exceeds the benefits.

These systems can potentially realise such (distorted) utopia not because they are as prescient as the Ferrero Rocher chauffeur but, as was earlier discussed, due to the massive amounts of data they can access. For the plutocrat the underling is disposable and easily replaceable; regardless of how intimate or longstanding their relationship might have been, there is no doubt who holds the power. Conversely, the power (and liberty of choice) the average Joe has over his growing network of Alexa-controlled devices is, at best, illusory. What might seem as an innocuous indulgence is, in reality, based on a "Faustian pact" (Zuboff 2015). Using an Alexa-controlled musical toilet that lifts its cover and washes and dries one's rear end grants Amazon the possibility of, say, creating a schedule of one's bowel movements and selling it to data brokers for whatever purpose. This is no Jedi telekinesis but a false consciousness sense of augmented agency. It is not personalisation but encroachment, the kind that only an extremely efficient bureaucrat can carry out.

Bureaucratic technologies are hindering human self-transformation

Surveillance capitalism and bureaucratic technologies are not only generalising a false sense of augmented agency; they are hampering human self-transformation. Previously, we saw that from the perspective of philosophy of technology, a defining feature of human beings is that we self-fabricate our lives, that we can regard our existence as a technical enterprise or rather, as a design process. Designing is an activity concerned with problem-solving, planning and projection, but its defining feature is *iteration*, its reliance on feedback loops. Machines and tools are objects conceived "to defeat the world's resistance" (Flusser [1991] 2014, 14), to overcome our "natural" limitations by augmenting or enhancing our physical or cognitive capacities. As intrinsically artificial creatures, we are the sum of the technological enhancements we choose to incorporate in our lives (Pitt 2011), and these include everything from our means of transportation to our clothing and entertainment. We are our technologies. As we progress in life, we experiment, we tinker with myriads of such choices, we test and see whether they fit in our lives and contribute or not to what we wish to become. Ideally, throughout this process we make adjustments and corrections, we engage in a feedback loop, not unlike those characterising every design project. This formulation assumes that we have not only the capacity to choose but the means to evaluate our choices. However, in this age, this situation is becoming the exception rather than the rule.

Under the guise of customisation/personalisation, bureaucratic technologies are curtailing human freedom of choice—all the while instilling the sense that we have too many choices, as the "FOBO" phenomenon sug-

gests (Reagle 2015). Through the appropriation of user's behavioural data, which companies regard as a free-range resource "for the taking", to create tradable "prediction products" (Zuboff 2019), most tech companies relying on Big Data aim to manipulate user's decisions. As noted earlier, the economic model pioneered by Google has been adopted not only by FAANGS, but by virtually every other company selling insurance, healthcare, retail, entertainment, education, finance, and other services (2019). As Zuboff suggests, any IoT product currently labelled as "smart" is either already playing a role in the behavioural data supply-chain or is capable of doing so. Major companies and data brokers are constantly working their way to circumvent obstacles against data collection, including users' explicit rejection; for example, by gathering inference data from public sources and users' unrelated activities—particularly from so-called "data exhaust". Under such conditions, users do not have access nor control over their behavioural data and how it is being interpreted and for which ends. As Zuboff points out, we are not only being "exiled" from our own behaviour but from the "knowledge" it yields (Naughton 2019). This circumstance highlights yet another divide characterising surveillance capitalism: an asymmetric relationship between those who know (but hide behind inscrutable and often dangerously biased "algorithms") and those who are known and for whom privacy is a luxury, not a right.

Resembling "the social relations of a pre-modern absolutist authority" the logic of surveillance capitalism deprives populations of their capacity to choose which information about their lives remains undisclosed. It follows that "[w]hat is accumulated is not only surveillance assets [data and the technical means to handle it] and capital, but also *rights* [emphasis added]" (Naughton 2019). Zuboff's characterisation of surveillance capitalism's appropriation and exploitation of informational resources draws heavily on geographic metaphors that echo the plundering of the so-called New World.¹⁴ Nowadays, however, the territory being claimed is what Floridi (2007) calls the "Infosphere": the expanding environment inhabited by humans and other informational agents resulting from the merger of our physical world and our "onlife".

For companies driving the new economic system, it is no longer enough to automate information flows about their users but to automate their behaviour. They meticulously design these processes to guarantee the users' ignorance, to hamper their awareness, their decision-making and hence, their self-determination. Organisations go to great lengths to "engineer the context around a particular behaviour and force [the user to] change that way" (Naughton 2019). As the world becomes more enveloped, we find ourselves ambushed continuously by nudges;¹⁵ our decisions micromanaged, our choices engineered. When the circumstances are so lopsided, it is evident that it is no longer us who hold the power to design ourselves, to tinker with and explore other possibilities of being-with-technologies, we are being denied access to the feedback loop.

Neither bureaucratic technologies nor surveillance capitalism could have existed without ITs. However, whereas surveillance capitalism

14. As Zuboff notes, as surveillance capitalism becomes more visible, the term "digital native" acquires a somewhat ironic overtone.

15. As Yeung (2016) argues, because Big Data analytics can be updated continuously and tweaked they are a far more powerful means for nudging (i.e., "hypernudging") than the one initially advocated by Thaler and Sunstein (2008).

and respect for privacy are fundamentally incompatible the emergence of services designed with privacy in mind is proof there is an economic alternative to Google's "free" surveillance assets. In these days and age, *we are* our information and what becomes of it (Floridi 2014). Since technologies hold such power over what we are it is vital to imagine ways in which we can establish a healthier, freer relationship with them. But first of all, we ought to question and challenge the inevitability that surveillance capitalism has attached to ITs. Philosophical enquiry can play a decisive role in this respect.

Philosophical thinking as conceptual design

Bureaucratic thinking (purely concerned with procedures) has taken over our relationship with technologies, and hence over our capacity to change according to our own designs. Our bureaucratic technologies are hyper-nudging us; they attempt to program us, to micromanage us, to steer us, to predict us, to construct us. Hence, in our daily struggle to change the world (to work) we now hardly ever question the "what's" and "why's" of our activities and focus merely on the how's, to borrow Flusser's ([1991] 2014) formulation. As it is currently being developed, the promise of automation is not one that brings more leisure time, a healthier, safer, environmentally sound, and egalitarian society where human autonomy is nurtured for good. Instead, the reality that surveillance capitalism is achieving involves the expansion and perpetuation of the lopsided, unimaginative relationship of the plutocracy with the world around them, with few if any of the "benefits". Arguably, then, we need some way to challenge this status quo. To reclaim the role of our technologies from bureaucracy and turn them once again into poetic tools. That is to say, to use bureaucracy and technologies "to bring wild, impossible fantasies to life" (Graeber 2015, 141).

What we are missing is ways to imagine different relationships with our technologies but also the means (concepts) to talk about our shifting circumstances. As Zuboff herself notes, whenever we confront the unknown, the first task one needs to carry out is naming, for "naming is the first step toward taming" (Naughton 2019), we need insights about the true nature of the phenomena that is changing our world in such radical ways. Criticism such as Zuboff's and Graeber's provide a sociological framework for contextualising our critique, but something else is also missing: the capacity to imagine how things could be different. Technologically informed philosophical reflection understood as conceptual design, might take us a long way into that objective.

Philosophical thinking, as we saw earlier, is precisely in the business of doing the above, of creating "dangerous ideas" by instilling doubt. Doubt presupposes that things could be different than they are, that it is reasonable to think we could change our circumstances. Philosophical reflection can take us back to the feedback loop, by looking at technologies critically, by asking questions about their reason to be and our reasons for adopting them. Philosophical reflection can also help us frame our own echnologically aided becoming as an iterative process and thus to reclaim our

responsibility by helping us see that technologies are not just things that happen to us, but things that we ought to decide whether or not to incorporate in our lives. Practising philosophy does not mean questioning out of mere idleness, but (ideally) to trigger some form of change. To put it in Floridi's terms, "philosophy is not a conceptual aspirin, a superscience, or the manicure of language. Its method is conceptual design, that is, the art of identifying and clarifying open questions and of designing, proposing, and evaluating explanatory answers." (2016, 218).

CONCLUSIONS

Surveillance capitalism and the type of technologies that is fostering are fundamentally bureaucratic. Current trends in IoT consumer services are generalising a false sense of augmented agency that mimics the lopsided, unimaginative and careless relationship plutocracies establish with the world around them. Promising to transform the seemingly innocuous laziness of the powerful into an accessible necessity, bureaucratic technologies are forcing people into nothing short than Faustian pacts. By incorporating systems designed to extract as much behavioural data from them to predict and influence their behaviour, users of bureaucratic technologies are surrendering their capacity to self-transform; to develop as individuals. Bureaucratic technologies are alienating users from their own experiences, from the uncertainties that help nurture feedback loops. However, this is not the only way in which ITs can or should operate.

Throughout this paper, the goal has been to argue that philosophical thinking and questioning can serve as a valuable tool against the bleak future that expects us should we allow surveillance capitalism to go unchecked. Philosophical thinking instils doubts, but it also contributes to the design of conceptual tools to address current technological changes. Philosophy of technology provides a critical framework, one that is not marred by a sterile Luddism, that recognises that technologies are multistable, not intrinsically good or bad (with certain exceptions), but a fundamental component of human nature. The analysis here offered is currently at an initial stage. There is much work to do, but recognising the power of technology and the role of design in our lives is just a small initial step.

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