RESEARCH ARTICLE

(Re)creating "society *in silico*": surveillance capitalism, simulations and subjectivity in the Cambridge Analytica data scandal

Vito Laterza

Associate Professor, Department of Global Development and Planning & Centre for Digital Transformation (CeDiT), University of Agder, Norway

Senior Research Associate, Centre for Education Rights and Transformation (CERT), University of Johannesburg, South Africa

ABSTRACT:

This article provides a different angle to understand the Cambridge Analytica (CA) data scandal. It focuses on the role of models and simulations in the big data campaigning tools CA allegedly used, and their epistemological and ontological potential to produce and reproduce voters' digital doubles that would first colonise and eventually replace the analogue selves they were related to. By integrating and revising Zuboff's surveillance capitalism framework with Debord's classic theory of the Spectacle, the article argues that the dystopian simulations played as real life experiments by surveillance capitalist firms such as CA have the ultimate goal of replacing analogue humanity with digital humanity – the two kinds are ontologically different albeit dialectically related. The predictive models that these simulations produce are only as good as the capacity of the digital doubles in the simulations to shape the behaviour of analogue selves in line with the simulations' parameters and goals.

KEYWORDS:

Capitalism; digital democracy; digitalisation; simulation; spectacle; subjectivity; surveillance.

CORRESPONDING AUTHOR:

Vito Laterza, vito.laterza@uia.no

1. Introduction

Since the online political campaign firm Cambridge Analytica (CA from now onwards) data scandal hit the spotlight in 2018, there has been a growing academic interest in various aspects and dimensions of the scandal, from the privacy implications for social media users (e.g. Hinds et al., 2020) to broader questions about the integrity of elections and of the democratic process (e.g. Heawood, 2018; Ward, 2018). Admittedly the peer-reviewed academic literature is still relatively small, compared for instance to the large number of media commentary and nonfiction books (some of them published by academics themselves). But the fast growing amount of academic literature on online political campaigning (e.g. Hoferer et al., 2020; Roemmele and Gibson, 2020) and the role of big data (e.g. Baldwin-Philippi, 2019; Witzleb et al., 2020) and algorithms (e.g. Ndlela, 2020; Papakyriakopoulos et al., 2018) in influencing political behaviour, gives an idea of the broader interest from various branches of the social sciences around some of the key issues that emerged from the CA data scandal.

A UK-based company, CA rose to prominence when it was hired by Donald Trump for his 2016 US presidential campaign a few months before the 2016 November election (Lapowski, 2017). What brought it notoriety in 2018 was allegations that the company had acquired vast amounts of personal data on several dozens of millions of US voters (and voters from other nations to a lesser extent) through possibly illegal and certainly unethical ways (BBC, 2018; Cadwalladr and Graham-Harrison, 2018). What came under scrutiny was the use by Cambridge Analytica and by its partners of the now notorious Facebook "Friends API" (API stands for Application Programming Interface) to collect data from millions of user profiles via a much smaller numbers of profiles that had actually consented to the collection – if you consented to your data being collected, the API would collect also the personal data of all your friends, without their consent or knowledge. The issue of personal data collected by tech firms and ethical procedures for their collection and use is one major thread that emerges in the academic literature on Cambridge Analytica (e.g. Isaak and Hanna, 2018; Richterich, 2018).

But what stimulated vibrant responses and a variety of opinions from scholars in popular publications (Kavanagh, 2018; Lynch et al., 2018; Sumpter, 2018), and increasingly in academic work (González, 2017; Laterza, 2018, 2021), was the assessment of the initial claims by CA (later retracted) that the company could deliver an election by using online personality profiling to target voters with specifically crafted messages that would persuade them to vote for the client candidate (Sumpter, 2018: 43, 57). The broader question emerging in these debates is whether big data and online personality profiling could have been decisive factors in delivering Trump's 2016 victory – and therefore whether they can be used to effectively persuade voters in elections more generally.

Many of these accounts tend to be dismissive of this possibility, and they often do so by raising doubts that online personality profiling can hold such powers to sway voters' behaviour (e.g. González, 2017; Sumpter, 2018). In a previous article (Laterza, 2021) I criticised these accounts, arguing that a narrow focus on online personality profiling is not likely to provide a comprehensive picture of what CA actually did, and of the potential efficacy of its methods. CA activities, its methods and the social, political, economic and historical context within which CA operated, need to be studied holistically so that we can gain a broader understanding of what CA was doing (Laterza, 2021) and of its effectiveness in "public relations" campaigns with the explicit aim of "behavioural change" (read in this case: influencing voters' behaviours to the client's advantage).

In that article (Laterza, 2021), I provide some of the building blocks needed for such holistic analysis, by focusing on the crucial role played by qualitative research and by human insight in making big data and algorithms effective. My main argument there is that humans and big data (and online personality profiling as one subset of that) work in tandem, which means that the dichotomy of humans vs machines is not helpful (cf.

Sumpter, 2018). Human insight informs the interpretation of the findings from big data and the decisions based on these findings. The alliance of human insight with the scaling power of big data, can indeed sway a significant number of voters (Laterza, 2021). In highly contested elections such as the 2016 US presidential contest, all one needs is to shift the voter behaviour of few dozens thousands people, rather than millions (Laterza, 2021) – hence even a modest improvement in prediction rates provided by big data and algorithms can have a decisive effect on the electorate and the final result.

In this article, I focus on an aspect that, to my knowledge, has been so far neglected in both the academic and public debates around CA: the role of models and simulations of targeted US voters that CA allegedly built to support its big data campaigning, and some of the deeper epistemological and ontological questions spurred by the use of these tools. The approach developed in this work is inserted in the tradition of social theory and draws also from philosophical anthropology, philosophy of technology and other interdisciplinary discussions of digitalisation and its societal implications that are taking place at the intersections of in-depth qualitative social sciences and theoretical humanities. The aim is less to prove what CA did or did not do, and more to provide speculative theoretical reflections about these issues, so that as academics, practitioners and citizens we can engage with some of the key existential questions that the rapid digitalisation of politics and society are bringing to the fore. As a social theory article, this work focuses primarily on theorisation emerging from the in-depth reading of a select number of key theoretical texts, and does not offer an exhaustive review of the available literature. It should be noted that I do not claim to provide entirely original arguments disconnected from the philosophical discussions treated in depth here. The goal is to highlight key dimensions of these debates by focusing primarily on three works: CA whistleblower Christopher Wylie's memoir of his involvement with Cambridge Analytica (2019), business studies scholar Shoshana Zuboff's empirical and theoretical treatment of surveillance capitalism (2019), and philosopher and activist Guy Debord's classic work *The Society of the Spectacle* (2005 [1967]).

One issue with the available literature is that it takes for granted the kind of humans that CA was extracting data from and was microtargeting with specific political messages. In other words, most authors on the subject do not try to define or engage explicitly with questions such as how people might shape or be shaped by the technological tools they use, and assume for the most part that people are autonomous agents whose interactions with digital tools do not fundamentally change the basic structures of thinking and feeling that characterise their lives.

This ignores the vast literature on the role of mediation in digital technology (Ihde, 1990; Kaptelinin and Nardi, 2006; Verbeek, 2005), which suggests that humans can indeed experience deep changes in their perceptions and ways of thinking and acting in the world as they interact with various digital tools and environments. Within the broader context of these works, I want to problematise the conception of the human in CA activities, as a way to discuss broader questions about humanity and its future under digital capitalism. I speculatively propose that the CA case illuminates a broader trend that characterises the current stage of digital capitalism: the digital conquest of what I refer to as "analogue humanity", and the transformation of the latter into a different life form which I name "digital humanity". The two kinds of humanity (analogue and digital) are distinct, but interact with each other, and the current process of digitalisation suggests that digital humanity might be rapidly replacing the analogue humanity it is connected to, unless radical changes in the social and economic structures of the world occur.

By drawing from the book-length narrative of CA whistleblower Christopher Wylie (2019), I first ground my analysis in Wylie's account of CA key actors' ambition to "re-create society in silico" (Wylie, 2019: 79), a virtual simulation of an entire society (in this case the US) with a digital replica of each real life member of it. I will analyse some of the aspects of this vision through Wylie's account, showing how this can provide an important angle through which we can get to a deeper understanding of the Cambridge Analytica data scandal.

There are limitations in relying on a single source for this purpose. But I have been studying the CA case for some time now (Laterza 2018, 2021) and, to my knowledge, Wylie's memoir is the only substantial account of CA that engages in depth with this vision. The fact that the idea of replicating society in a computer simulation is inserted – as I will refer to later – in a well established niche of applied social sciences and ICT studies makes Wylie's account on this issue particularly interesting and relevant, and provides some grounding to explore the philosophical implications of this important issue.

Wylie remains an important source given his role in bringing the CA case to public attention and the substantial amount of evidence he provided to various commissions of inquiry in the UK and the US. Given the public interest of the CA case, and the fact that it would be inevitably shrouded in secrecy and that we have to work with the available evidence, there is a serious case to be made to have these important academic discussions which would otherwise be off limits to scholars. It is precisely because of the importance of getting some insight, albeit partial and incomplete, into what might have been CA main actors' vision, that this section relies extensively on quotes from Wylie, which I believe reveal the urgency of these discussions.

I will then move on to discuss the epistemological and ontological implications of having models and simulations running artificial societies of the kind envisaged by Wylie. Here I will first contextualise CA activities as integral to what Shoshana Zuboff's (2019) has labelled in her latest book "surveillance capitalism". I will show that Zuboff's magisterial work offers us a solid political economy analysis of the current stage of digital capitalism, but stops short of highlighting the most far-reaching ontological implications: that states and corporations are not just rendering human experience into data for profit and security purposes (Zuboff's argument), but they might also be waging a radical programme of transforming what I call analogue humanity into digital humanity. My argument is that the "replicas" of ourselves in computer simulations – digital doubles such as those allegedly attempted by CA – are not in fact replicas, but autonomous forms of life with their own agency, interacting closely with our analogue selves and realities, and gradually swallowing our analogue lives up into a new form of life that might eventually colonise the whole world: I speculate that this might be the intention of Zuboff's (2019) surveillance capitalists. At the time of writing, we are in the middle of a pandemic that has spurred one of the greatest acceleration of digitalisation since the advent of the personal computer, which makes a discussion of these issues particularly timely. Will rapid digitalisation further lead us on a path where our digital doubles become the dominant agents at the expense of our analogue selves? What will happen to our analogue lives when the Covid-19 pandemic emergency will be over? These questions form some important background to the discussions presented here.

In order to grasp the autonomy of digital doubles from our analogue selves, and the political economy of representations and signs that these doubles are part of, I will draw primarily from Guy Debord's (2005) theory of the Spectacle – here updated, with a term drawn from recent literature (Briziarelli and Armano 2017), as the Digital Spectacle. The Digital Spectacle fills the productive gaps and cracks of Zuboff's (2019) political economy of the latest stage of digital capitalism.

2. CA totalising vision of "society *in silico*"

CA whistleblower Wylie's (2019) account zooms in on many of the topics that had caught the attention of investigative journalists and US and UK parliamentary representatives involved in commissions of inquiry about the CA data scandal. It extensively discusses key aspects of the rationale, scientific foundation and methodology behind personality assessment from social media data, and how, in its early days, CA went about developing models based on such assessments. It also gives an idea of the massive amount of data deployed

to develop algorithmic analysis of voter behaviours, and the segmentation of voters into groups according to their characteristics and in relation to their potential to change their voting behaviour.[1]

According to Wylie (2019), there was a bigger vision than just swaying elections in the US and other parts of the world, behind what he and other data scientists were trying to achieve under the leadership of Alexander Nix (CA director, heading the business side), Steve Bannon (US far right propagandist with international ambitions, and former Trump aide in the White House), Robert Mercer (CA investor, technologist, right-wing billionaire and major donor to the US Republican Party) and Robert's daughter Rebekah Mercer (director of the Mercer Family Foundation, and key figure representing the Mercers' interests in American politics).

According to Wylie, this vision, also shared by Bannon and Robert Mercer, was to build "the first prototype of the artificial society" (Wylie, 2019: 69). This they would do "[b]y profiling every citizen in a country, imputing their personalities and unique behaviors, and placing those profiles in an *in silico* simulation of that society (one created inside a computer)" (Wylie, 2019: 69). Wylie thought that Mercer was interested in this project as an extension of what he already did with his successful hedge fund Renaissance Technologies, which uses predictions from artificial intelligence models to invest in the stock market:

> Mercer had involved people from his company Renaissance Technologies in the original scoping of SCL [CA's parent company], and, given that Nix was so focused on money and a hedge fund was part of the early stages of this project, everyone was under the impression that this was going to become a commercial venture. To put it crudely, if we could copy everyone's data profiles and replicate society in a computer–like the game *The Sims* but with real people's data–we could simulate and forecast what would happen in society and the market. This seemed to be Mercer's goal. If we created this artificial society, we thought we would be on the threshold of creating one of the most powerful market intelligence tools in the world. We would be venturing into a new field–cultural finance and trend forecasting for hedge funds. (Wylie, 2019: 81-82)

It then turned out that this was more than a commercial project. Mercer's real goal, according to Wylie, was far more ambitious:

> Mercer, the computer engineer turned social engineer, wanted to re-factor society and optimize its people. One of his hobbies is building model train sets, and I got the feeling that he thought he could, in effect, get us to build him a model society for him to tinker with until it was perfect. By taking a leap at quantifying many of the intrinsic aspects of human behavior and cultural interaction, Mercer eventually realized that he could have at his disposal the Uber of information warfare. And, like Uber, which decimated the hundred-year-old taxi industry with a single app, his venture was about to do the same with democracy. (Wylie, 2019: 82)

Different interests and personalities seemed to be converging on the same goal. For Bannon, a far right propagandist with a "quasi-religious" (Wylie, 2019: 82) attitude and the belief that a cataclysmic event was

---

[1] Wylie's account is well complemented by another book by whistleblower Brittany Kaiser (2019) – the latter focuses more on the business aspect of CA, while Wylie's angle is that of a data scientist focusing on CA data tools. For an accessible in-depth academic account focusing specifically on the company and its activities, see Laterza (2021).

about to hit the world in a dystopian process of restoring the lost order of the cosmos, a society *in silico* performed a different function:

> For Bannon, this was a full-on culture war. As a self-anointed prophet, Bannon wanted a tool to peer into the future of our societies. And with what Bannon called *Facebook's God's-eye view* of each and every citizen, he could work to find the [cosmic purpose] for every American. In this way our research became almost spiritual for him. (Wylie, 2019: 83)

The academics involved at the time, including Wylie as an enthusiastic PhD student in fashion studies and other colleagues from the University of Cambridge and elsewhere, were also excited about this project:

> With access to enough Facebook data, it would finally be possible to take the first stab at simulating society *in silico*. The implications were astonishing: You could, in theory, simulate a future society to create problems like ethnic tension or wealth disparity and watch how they play out. You could then backtrack and change inputs, to figure out how to mitigate those problems. In other words, you could actually start to model solutions to real-world issues, but inside a computer. For me, this whole idea of *society as a game* was super epic. I was obsessed with the idea of the institute that Kogan [a data scientist running a company that partnered with CA] suggested to me, and became extremely eager to somehow make it happen. And it wasn't just our pet obsession; professors all over were getting just as enthused. After meetings at Harvard, Kogan emailed me about their feedback, saying, "The operative term is game changing and revolutionizing social science." (Wylie, 2019: 103-104).

The ambition was to create a replica of a real society in its entirety, with all its members cloned as virtual agents in a computer simulation. The computer simulation however would not stop its work in the virtual realm: as an intervention tool in the real world, the results, once optimised in the virtual domain, would then be replicated in the real world (Wylie 2019: 92). The background to this interest in simulating societies is the growing academic niche of social simulation (Diallo et al., 2019; Sun, 2006), which is gaining increasing attention from policy-makers who are interested in modelling specific policy outcomes to drive their decisions (Lawton, 2019; Sun, 2018). However, these academic studies are carried out on ethically cleared available datasets and do not usually have a component of real time intervention in the real world, as this is quite rightly considered problematic in terms of established ethical standards in academic research.[2]

The dystopian dimension of the project emerges most forcefully in a passage of Wylie's book where Wylie and colleagues make an impromptu test of the validity of the fine-grained personal data they had collated from tens of millions of Americans:

> Jucikas [data scientist employed by CA] made a brief presentation before turning to Bannon.
> "Give me a name."
> Bannon looked bemused and gave a name.
> "Okay. Now give me a state."
> "I don't know," he said. "Nebraska."

---

[2] I am grateful to data scientist and social simulation scholar Ivan Puga-Gonzalez for pointing out in a personal communication the policy interest and ethical issues in current academic practice in the social simulation field.

> Jucikas typed in a query, and a list of links popped up. He clicked on one of the many people who went by that name in Nebraska–and there was everything about her, right up on the screen. Here's her photo, here's where she works, here's her house. Here are her kids, this is where they go to school, this is the car she drives. She voted for Mitt Romney in 2012, she loves Katy Perry, she drives an Audi, she's a bit basic … and on and on and on. We knew everything about her–and for many records, the information was updated in real time, so if she posted to Facebook, we could see it happening.
>
> And not only did we have all her Facebook data, but we were merging it with all the commercial and state bureau data we'd bought as well. And imputations made from the U.S. Census. We had data about her mortgage applications, we knew how much money she made, whether she owned a gun. We had information from her airline mileage programs, so we knew how often she flew. We could see if she was married (she wasn't). We had a sense of her physical health. And we had a satellite photo of her house, easily obtained from Google Earth. We had re-created her life in our computer. She had no idea.
>
> "Give me another," said Jucikas. And he did it again. And again. (Wylie, 2019: 110)

They then decide to test the validity of this information by randomly calling people in their databases, under false pretences:

> "Do we have their phone numbers?" Nix asked. I told him we did. And then, in one of those moments of weird brilliance he occasionally had, he reached for the speakerphone and asked for the number. As Jucikas relayed it to him, he punched in the number.
>
> After a couple of rings, someone picked up. We heard a woman say "Hello?" and Nix, in his most posh accent, said, "Hello, ma'am. I'm terribly sorry to bother you, but I'm calling from the University of Cambridge. We are conducting a survey. Might I speak with Ms. [Jane Doe], please?" The woman confirmed she was [Jane], and Nix started asking her questions based on what we knew from her data.
>
> "Ms. [Doe], I'd like to know, what is your opinion of the television show *Game of Thrones*?" [Jane] raved about it–just as she had on Facebook. "Did you vote for Mitt Romney in the last election?" [Jane] confirmed that she had. Nix asked whether her kids went to such-and-such elementary school, and [Jane] confirmed that, too. When I looked over at Bannon, he had a huge grin on his face.
>
> After Nix hung up with [Jane], Bannon said, "Let me do one!" We went around the room, all of us taking a turn. It was surreal to think that these people were sitting in their kitchen in Iowa or Oklahoma or Indiana, talking to a bunch of guys in London who were looking at satellite pictures of where they lived, family photos, all of their personal information. (Wylie, 2019: 111)[3]

And while Wylie is aware of the disturbing implications of their actions, he does not hide the excitement he felt at that moment. This was *the* test for the vision they had been pursuing all along:

---

[3] The original name of the person called by Nix was presumably anonymised in Wylie's (2019) account, but Wylie never made that clear. For this reason, I have chosen another fictitious name.

> We had done it. We had reconstructed tens of millions of Americans *in silico*, with potentially hundreds of millions more to come. This was an epic moment. I was proud that we had created something so powerful. I felt sure it was something that people would be talking about for decades. (Wylie, 2019: 111)

The textual references from Wylie's book reported here are dense with meaning, and let transpire the main actors' excitement about this totalising vision of capturing and remoulding society through computer simulations. One immediate reaction that many might have is of outrage and shock at the kind of surveillance apparatus allegedly put up by CA, all geared up towards influencing voters without their awareness. It is hard not to cringe at the prospect that all this information about us is available out there, and that other rogue operations such as CA could be applying similar methods to influence and manipulate our behaviour. But once we move beyond the outrage, there are a number of epistemological and ontological questions which complicate the picture significantly:

- *Q1: Who is that digital double of Jane Doe captured in the CA dashboard? Is this digital double a different entity from the analogue Jane Doe?*
- *Q2: Is her digital double a replica of her physical self, in the sense that elements of the digital double stand in a one-to-one correspondence with equivalent elements of the analogue self?*
- *Q3: Does that double behave in the computer models – at least to some extent – as her analogue self would behave in a similar real life situation?*

In the rest of the article, I will try to provide some answers to these questions, also as a way to explore a different angle to assess the potential efficacy of CA data tools.

3. Datafication of the self and the political economy of surveillance capitalism

As experts who have criticised a certain sensationalism in media reports about the CA data scandal have already noted (Levine, 2018), multiple versions of our digital doubles are already out there, constantly created and remoulded by myriads of algorithms developed by big and small tech companies, from Facebook and Google to insurance companies and banks and various state policing and security agencies. The extent to which this is the case, and the quality of the data extraction and of the algorithms, vary significantly from company to company, from agency to agency, and laws and regulations can do a lot to curb some of the potential abuses of big data and algorithms. Wylie (2019) is trying to articulate something that is already happening in our daily lives – as long as we are connected to the internet, it is enough to be using a major search engine, even without any social media account, and regularly browse news and other websites, to be entangled in this unbounded ever expanding ecosystem of personal data extraction.

This apparatus of data collection, prediction and manipulation of user behaviour is at the centre of the latest book written by organisational scholar Shoshana Zuboff (2019), who provides a comprehensive, empirically grounded and theoretically astute conceptual framework to understand the latest stage of digital capitalism, which she labels "surveillance capitalism".

With an impressive range of cases and an in-depth focus on the activities of Facebook and Google and their acquisitions, Zuboff (2019) indeed shows that personal data is continuously extracted from our online (and increasingly offline) activities, and channelled in a monumental decentralised collective nervous system of sorts that constantly transforms our human experience into data. There are no epistemological boundaries for what can count as data, only increasingly more powerful algorithms that look for hidden patterns in anything

that leaves an electronic trace, from our social media usage and internet searches to images, sounds, text and other types of data captured by sensors that are in our "smart" homes, shopping malls, public spaces, airports, train stations and so on. Even when we are not directly and consciously connected to our devices, such as smartphones and laptops, the pervasiveness of these sensors enables all kinds of human and environmental data being fed back into this giant unmappable invisible machine.

Zuboff (2019) cogently notes that this massive infrastructure of data extraction does not stop at extracting and rerouting data from our lives: it feeds into a behavioural engineering cycle (Zuboff, 2019: 203) that produces predictions about our behaviours and interventions related to these predictions, with the overall aim to ensure what she calls "guaranteed outcomes" (Zuboff, 2019: 208-217) – that is, 100% predictive accuracy. The implications are far reaching: the goal of surveillance capitalists, according to Zuboff (2019), is to create a society where everybody and everything behaves according to the predictions of models and simulations run in real time on humans and their environment. It is a society where, for instance, insurance companies can adjust premiums instantaneously according to past and present user behaviour, and where software can disable a car remotely when drivers default on loan repayments (Zuboff 2019: 212-215). The society envisioned by surveillance capitalists is driven by algorithms and by the corporations and data scientists that sit in the control room, while the process of "behavioural modification" (2019: 201, 319-327) – with people being steered towards or prohibited from performing certain actions – takes place without the awareness of the individuals whose lives are datafied (2019: 186).

4. The autonomous life of an avatar

Zuboff claims that this lack of awareness is an essential aspect that enables the system's reproduction (Zuboff 2019: 306-308).

This part of the argument is key to Zuboff's view of human agency: surveillance capitalism is at its essence a deception, it manipulates people into doing things for purposes other than those they consciously intend to pursue. Users become "the means to others' ends" (Zuboff, 2019: 88) – the ends of surveillance capitalists. This fits well with Zuboff's portrait of behaviourist social engineering under surveillance capitalism – explicitly modelled on 1950s dystopian behaviourism (Zuboff, 2019: 361-375) – which conceives human agency as a captured, captive agency, devoid of privacy, freedom and ultimately dignity, colonised and subjugated by big data and algorithms directly intervening in our offline realities to open or close paths, enable or disable action, and so on.

But the captured human agent in Zuboff's characterisation remains somewhat authentic and faithful to its analogue original – it is an analogue human held captive by a digital system that is experienced as something external to the agent, that can constrain and direct their material actions, and confuse their consciousness, but cannot ultimately change their analogue constitution.

This is aligned with Zuboff's fundamentally "liberal humanist" (Hayles, 1999) view of society: Zuboff does not criticise capitalism or technology *per se*, but just how they have been perverted by a powerful group of actors (the big tech companies) and ultimately turned into tools of oppression that diminish and constrain people's individual freedoms (Zuboff, 2019: 14-17, 220-226). Once these actors have been confronted and put in check, capitalism and technology can be once again repurposed for the good of society, and for the nurturing of human freedoms (Zuboff, 2019: 520-525). In line with thinking in the liberal tradition Zuboff repeatedly positions herself in (e.g. Zuboff, 2019: 358-359, 513, 522), the unity of the self implied in her writing is key to maintain the ultimate inalienability of the individual freedom to exist. The system can deceive us into doing things we do not want to do, can reach levels of oppression that make us effectively into caged birds, but it

cannot take away from us that inalienable freedom to think and imagine ourselves as free and autonomous individuals.

For Zuboff, the answer to Q1 (*Who is that digital double of Jane Doe captured in the CA dashboard? Is this digital double a different entity from the analogue Jane Doe?*) is simple: there is only one analogue Jane Doe, and what CA does is capture her and make her captive, without her awareness. CA is one of the many surveillance capitalist firms that extracts data from millions of Jane Does, and its specific purpose is to modify their electoral behaviour in order to deliver Trump's victory in the ballot box.

For Zuboff, there are no ontologically different digital doubles to speak of. I argue that such unitary view of human agency stops short of considering the implications of Zuboff's own argument. She does not consider the insights of social scientific and humanistic studies of human-technology interactions which focus on the important role that mediation plays in shaping such relations – see for instance postphenomenological approaches by Ihde (1990) and Verbeek (2005), the posthumanist paradigm by Hayles (1999, 2012) and activity theory approaches by Kaptelinin and Nardi (2006) – and the deep changes to self and identity that our relationships with digital technologies produce (Turkle, 1984, 2011).

Zuboff does not take stock of the ontological and epistemological implications of the growing body of research that focuses on the complex relationships we develop with our digital doubles. From Nusselder's (2009) philosophical account of the influence of fantasy on our relationship with our digital doubles, to Sherry Turkle's (2011) ethnographic narrations of how teenagers curate their digital avatars and enter into conflict and tense exchanges with them, and run-of-the-mill experiments that show how virtual reality doubles in simulation games influence physical behaviour in the offline world (Laha and Bailenson, 2017), there is significant empirical evidence to support the thesis that the mediations at work in the complex interactions the analogue Jane Doe has with digital devices produces a digital Jane Doe that has different – albeit in some way related – characteristics from the analogue original.[4]

But if the digital double of Jane Doe is not the same person as the analogue Jane Doe, what kind of relationships holds between the two?

5. The dissolving link between analogue reality and digital representation

To answer Q2 (*Is Jane Doe's digital double a replica of her physical self, in the sense that elements of the digital double stand in a one-to-one correspondence with equivalent elements of the analogue self?*), we need to move away from Zuboff, and revise her theoretical framework in a different direction. I propose what I believe to be a strong candidate for this repurposing work, which sits well with the broader context of the literature on mediation and digital doubles that I mentioned above: philosopher and activist Guy Debord's (2005 [1967]) theory of the Spectacle, first published in the late 1960s.

The main reason for choosing Debord vis-à-vis more recent approaches cited before such as postphenomenology, posthumanism and activity theory, is that, while these approaches provide important critiques and counterpoints to the fiction of the free individual, they tend to offer paradigms of integration between humans and machines that still maintain a certain idea of a unified, albeit significantly expanded and systemically interconnected human self.[5] Debord, on the other hand, provides an interpretation of subjectivity

---

[4] For a recent review of related literature subsumed under the topic of virtual identities, see Dinnen (2020).

[5] There is important recent work in the posthumanist paradigm (Goriunova, 2019; Wark, 2019) that takes seriously the possibility of distinct digital subjects that are not easily subsumed under a unitary conception of the self. These works however seem to gloss over the potentially negative implications of these kinds of social engineering pursued by technology platforms and

that opens the way for the conceptualisation of two related but ontologically distinct selves emerging from evolving material relations of production within capitalism, as I will show in this section.

Another social theorist that comes to mind when talking about simulations is of course Jean Baudrillard, but here too there are reasons for preferring Debord. Baudrillard's theory of simulation seems to locate the subject (or whatever is left of it in his theorisation, if anything at all) firmly and fully in the simulation, with no dialectics between an inside and an outside – hence no real movement, struggle or conflict can take place, only endless repetition regulated by "the structural law of value" (Baudrillard, 2017 [1976]: 71). Baudrillard sees the totalising reality of simulation as one where all kinds of mirroring, doubles and reflections are gone, and where "the real is no longer reflected, but folds in on itself to the point of exhaustion" (Baudrillard, 2017: 93). This makes Baudrillard's theory less dynamic than Debord's, and more useful to hint at what might happen if simulation becomes a total reality with nothing else outside it – which is something that I will touch upon towards the end of this article, but I consider at this stage more a potential of the current stage of digital capitalism, than a widespread reality. In addition, Baudrillard's scathing rejection of Marxism and of the production paradigm, and his resolute call for the end of political economy (e.g. Baudrillard, 1975 [1973], 2017) make his work less suitable for a productive integration and comparison with Zuboff's (2019) political economy analysis.[6]

Debord's (2005) provocative theoretical pamphlet *The Society of the Spectacle* continues to inspire many thinkers of contemporary society. While it is far from mainstream in social theory, academic debates and contributions are constantly produced (see for instance Briziarelli and Armano, 2017; Bunyard, 2018; Kellner, 2003; McDonough, 2002). Debord's theory was developed with the screens of TV and cinema in mind, rather than those of laptops and smartphones, but a niche of scholars who continue to be inspired by Debord's work have revised his theories, showing their relevance to the era of the internet and social media. Best and Kellner (1999) have revised the notion of the Spectacle into the "interactive spectacle", updating Debord to the early years of the internet, while Briziarelli and Armano (2017) have developed the notion of the Spectacle 2.0 – they also use the word "digital spectacle" for the same concept, which is what I borrow from them in this section.

While Debord's own work and that of older and more recent followers assign a crucial role to the subjectivities before, within and outside the Spectacle, fine-grained ontological and epistemological discussions of the subjective aspects of Spectacle are often confined to geographic concerns (e.g. Szaniecki, 2017). These accounts are inspired by the urban techniques of Debord and his colleagues of the Situationist International developed, where walking around and reflecting about the experience, and deconstructing Cartesian cartographies of production and consumption, were used as subversive tactics to decentre capitalist hegemony (Bassett, 2004). What I offer here is not a wholly original interpretation of Debord, but one that tries to translate aspects of his work into a more explicit way than most scholars using Debord usually do, with a specific focus on the ontological status of subjectivities in and outside the Digital Spectacle, which is often

surveillance capitalists, and thus provide little in the form of the social and political critique needed to reflect on the advance of technology giants in all spheres of contemporary life.

[6] It is beyond the scope of this article to provide a systematic comparison of the similarities and differences between Debord's theory of the Spectacle, and Baudrillard's work on simulacra and simulation (see also Best and Kellner, n.d.; Shapiro, 2018). It should be noted though that Baudrillard was influenced by the ideas of Debord and other members of the Situationist International that Debord was part of (Best and Kellner, n.d.). One major difference between the two is that Debord's work is grounded in a political engagement that aims at resisting the growing spectacularisation of reality, while one struggles to find a similar political commitment in Baudrillard's work (see also Shukaitis and Graeber, 2007: 22).

underexplored, or left implicit, in much of this literature. My treatment provides a bridge between the literature on digital subjectivities more broadly on one hand, and Debord's ideas on the other.

The key idea behind Debord's work can be summarised as follows: at the time of Debord's writing, the system of production, consumption and exchange had moved to a new stage, where the main commodities were images (broadly defined) and immaterial things (such as images embodying certain identities, aspirations, values and so on), and the material world of production was now driven by this ever expanding market of images. A direct effect of this was that relationships between humans were primarily mediated by images (the Spectacle in its various manifestations; Debord, 2005: 7), rather than physical relations of production. These mediated relations were expanding in all spheres of life, irreversibly replacing previously unmediated relationships (Debord, 2005: 7).

Building on Marxist theories of alienation, Debord ties together this evolution of production of images with workers' alienation from their own authentic selves and relations, via the exploitative system of image production, consumption and exchange. It is not just workers' physical labour that was alienated from workers, but also other aspects of their unmediated life, which were replaced by mediated life. Identities, desires and aspirations were bought and sold through spectacularised commodities (e.g. TV programmes or music expressing some of these commodified immaterial elements): workers provided their physical and emotional labour in the service of the Spectacle, to then buy the spectacularised decayed version of the authentic relations that they had lost in the process (Debord, 2005: 15, 21-22).

Debord sets spectacular reality almost as a kind of virus that gradually eats up the "unity" of directly experienced reality. He sees the move from physical commodities to spectacular commodities as a fundamental change in human experience, where direct experience of reality is negated and what he somewhat cryptically terms "the unity of life" is gone. Resonant with parallel developments in postmodern theory (e.g. Baudrillard, 1994, 2017), the Spectacle is characterised by the autonomisation of representation (Debord, 2005: 11). The implication is that the link between representation and objective reality is broken, so that representation becomes a world unto itself, and the Spectacle becomes a self-referential system of production: its only evident, dominant goal is to reproduce itself. Inspired by Lukács' (1971) notion of reification (an influential reinterpretation and expansion of Marx's original formulation of commodity fetishism), Debord shows that once capital is "accumulated to the point that it becomes images" (Debord, 2005: 17), the fetishisation of commodities enters a new, ontologically different stage, where images are no more mere illusions that deflect from material relations of production (e.g. the exploitation of labour by ruling classes mystified through religion; Debord, 2005: 13-14), but become the protagonists of the system of production: images are produced and consumed (Debord, 2005: 14-15), they totalise reality, and replace directly experienced reality with spectacular reality. Anything material that is left in this system is subsumed under the imperative of the production and consumption of images.

Debord also makes it clear that spectacular reality and directly experienced reality are not structurally analogous or comparable:

> The spectacle cannot be abstractly contrasted to concrete social activity. Each side of such a duality is itself divided. The spectacle that falsifies reality is nevertheless a real product of that reality. Conversely, real life is materially invaded by the contemplation of the spectacle, and ends up absorbing it and aligning itself with it. Objective reality is present on both sides. Each of these seemingly fixed concepts has no other basis than its transformation into its opposite: reality emerges within the spectacle, and the spectacle is real. This reciprocal alienation is the essence and support of the existing society. (Debord, 2005: 8-9)

This extract is particularly telling. Its dense multitude of concepts and linkages is characteristic of Debord's style, often making his work more of a prophetic oracular set of statements, than a clearly developed argument. But unpacking some of these aphorisms can help us understand some of the aspects of the CA project of (re)creating "society *in silico*". Here we have the two realities (spectacular and directly experienced) dialectically opposed to each other, and distinguished by ontologically different constitutions. There is also a more fluid process of penetration and replacement, whereas directly experienced reality is "materially invaded" by spectacular reality, until eventually the latter replaces the former:

> The images detached from every aspect of life merge into a common stream in which the unity of that life can no longer be recovered. *Fragmented* views of reality regroup themselves into a new unity as a *separate pseudo-world* that can only be looked at. The specialization of images of the world evolves into a world of autonomised images where even the deceivers are deceived. The spectacle is a concrete inversion of life, an autonomous movement of the nonliving. (Debord, 2005: 7)

The important insight to bear in mind here is the ontological difference – and thus the difference in human experience and sociality – that Debord posits between these two analytically distinct, but effectively interpenetrating, realities: on one hand direct experience, the unity of life, and on the other hand separation, alienation and abstraction. The Spectacle is the culmination of that process of workers' alienation from their own labour, the ultimate alienation, where all that workers produce become images which they then consume under the illusory guise of "leisure time" (Debord, 2005: 89).

It is also important to remember that Debord's focus on "directly experienced reality" is not rooted in a transcendental concept of authenticity, but in Marxist theories of action and production. Debord refers to "concrete social activity" (2005: 8, 14) as such basis. The Spectacle is rooted in a theory of the commodity. According to Debord, "[t]he spectacle is the stage at which the commodity has succeeded in totally colonizing social life" (Debord, 2005: 21). Once the "quantitative development" of the commodity leads to an endless "abundance" (Debord, 2005: 19-20), and to the constant need for the system to reproduce itself, thus emerges the Spectacle as the culmination of this stage of total commodification of social life. It is at this point that various dialectical inversions occur. Once use value is totally subsumed under exchange value, it becomes "pseudo-use" value (Debord, 2005: 23-24). Once all workers' labour is commodified, a "new poverty" (Debord, 2005: 23) emerges, and survival becomes "augmented survival" (Debord, 2005: 23, 87). "Primary human needs" are replaced by "pseudoneeds":

> Replacing [economic] necessity with a necessity for boundless economic development can only mean replacing the satisfaction of primary human needs (now scarcely met) with an incessant fabrication of pseudoneeds, all of which ultimately come down to the single pseudoneed of maintaining the reign of the autonomous economy. (Debord, 2005: 24)

The Marxist economic foundations of the Spectacle are key to understand what the Spectacle is and how it operates. Debord is trying to show the Spectacle as a "total social fact" in the Maussian sense, to reveal its totalising nature, its systemic properties, as a way to pierce through the illusions and deceptions the Spectacle creates. The principle of replacement of directly experienced reality with spectacular reality is then rooted in a political economic process of commodification of all aspects of social life, coupled with automation and the spread of a technological rationality (Debord, 2005: 21-22) that leads to the dialectics between spectacular

reality gradually replacing the unity of life under pre-spectacular production. Here technology needs to be understood as indissolubly entangled with the production system.

If we revise and extend Debord's insight and apply it to CA vision of a "society *in silico*" and to Zuboff's treatment of surveillance capitalism, we can come up with comprehensive framework that begins to explain how digital reality (in Debord's terms, spectacular reality) is increasingly colonising and replacing analogue reality (in Debord's terms, directly experienced reality) – or in terms of this article's analytical language, how digital humanity is replacing analogue humanity. What Debord might be describing is the autonomous life of Jane Doe's digital double and how such life follows its own rules and processes that are distinct, albeit in constant interaction with, the analogue self.

6. The Digital Spectacle and social media

To come back to Q2, from the treatment of Debord in the previous section, it becomes clear that there is no one-to-one correspondence between the digital double of Jane Doe and her analogue self. Rather the two interact in dialectical relations, both are real in their own terms, and embedded in their own wider social and economic fabrics, yet with the digital double operating as a Spectacle of the analogue self – in this sense, a more abstract working definition of Digital Spectacle is "the inversion of the analogue reality the Digital Spectacle purportedly refers to". Strictly speaking, not all references between the two selves are severed, but the replacement of the analogue self with the digital double operates through a deception: it gives the illusion that the digital double is in fact just a replica of the analogue self, but in practice the digital double insidiously replaces the analogue self, in a process of conquest and cannibalisation of sorts.

If we think about the world of social media, we end up with: Facebook friends, rather than real friends; digital democracy, rather than real participation; online communities rather than really lived community life; and so on. The semblance of analogue reality that spectacular reality portrays and performs is key in the process of replacement: after all, tech companies and techno-enthusiasts are allegedly just asking us to do the same thing, but better and "smarter". Rather than revealing its surveillance capitalist machinery geared towards advertising revenues, Facebook tells us that it is just about keeping in touch with old friends and classmates, or communicating one's message for a better world to a wider audience.

This "same, same, but different" principle is a crucial communicative tactic to lure analogue selves in digital life, until it is often too late to reverse the trend: most of our social contacts might now be on Facebook, and we struggle to keep physical contact with old friends in the real world, as was the norm before the rise of the Digital Spectacle.

The process of online curation is one example of how our digital doubles take up a life of their own, all the while we might still be deceived that they are nothing more than extensions, replicas or mirrors of our analogue selves (see also Turkle, 2011). First, the fact that we effectively "curate" and "edit" this digital version of ourselves already shows a certain separation, a distance between our analogue self and our digital creation. Secondly, the digital double develops its own autonomous relations with other digital doubles that are not entirely or even primarily under our control: think for instance when some of our social media posts or videos go viral, producing all kinds of emotional reactions and interpretations online well beyond what we could predict and control at the time of producing that content. Other people interact with our digital doubles in ways that are primarily determined by the mediated interactions in the digital world, projecting their own meanings, fantasies and desires onto our digital doubles in ways that establish specific relations to the curated content (often further edited and curated by others, and not just our analogue selves) that are quite different from what such interactions would have been in physical life without the mediation of the digital. But even the idea that our analogue selves somewhat curate the digital doubles can be somewhat misleading: as we spend more and

more time online, more aspects of our offline life are digitised, and we start thinking and adapting to the rules, interactions and relationships that our digital doubles have with the rest of the world, with our offline behaviour increasingly shaped and dependent on our online communications.

Let me provide a telling illustration that gives a glimpse of the uncanny dialectical relationship that can develop between these two selves.[7] A researcher leaves Facebook several months earlier, also driven by her increasing scepticism about the usefulness of the platform and by her concerns about the negative atmosphere of this online environment. A video is then produced by her institution, profiling her work with a personal interview – the interview is curated by the media office of the institution, emphasising through its editing and montage the passion and commitment of the researcher to social justice. A colleague who knows the researcher personally shares the video in their Facebook feed, and the video impacts several others to the point of spurring rather personal reactions. Other academics, many of whom do not have a close relationship to the researcher in the video, start to convivially saying hello on the colleague's wall, calling the researcher by her first name, greeting her and sending other positive feedback directly addressed to her in a personal manner, as if they were engaged in a friendly talk with the researcher herself. All of this happened beyond the control of the analogue self of the researcher. When I brought it to her attention, the reaction was mostly one of puzzlement and discomfort. The researcher expressed surprise but also an uncanny feeling, as she could not recognise herself in that interaction – it was her, in some way, but it was also not. This example puts into stark relief some of the aspects of the relationship between our analogue selves and their digital doubles, but we tend to engage in most of these activities without a conscious awareness of how deeply entangled with, but also alienated from our digital doubles we are, as we increase the time we spend online and the range of activities we carry out with digital tools.[8]

7. Reality tricks

To move back from the nitty-gritty details of digital agency to the bigger structures at work, what Zuboff's work does, if repurposed next to Debord's groundbreaking ideas about subjectivity, is to provide a clear and empirically sound account of the agency of those who benefit from the replacement of analogue selves with digital doubles: the surveillance capitalists. This puts a face on the often faceless and structural analysis of Debord and Debordian scholarship.

If we apply the insights derived from Debord to the "society *in silico*" experiment by CA key players, it becomes clearer why that simulation of society in the CA dashboard is qualitatively different from the analogue reality it refers to. Yet, the ideological trick is that CA employees sell it as what it is not: a working replica of the original. This deception too is based on making the targets unaware of the real story: potential clients need to believe that CA is indeed an operation based on objective facts and methods, and that they are really onto something "scientifically proven" and thus effective. If clients were told that simulations had their own autonomous (and often mysterious) life, and did not actually adhere to the reality "out there", then it would be rather hard to buy them in. I am not here suggesting that all CA employees were themselves aware of this deception: it is quite possible, even likely, that Wylie and his data scientist colleagues believed that they were

---

[7] I use this anonymised example with permission from the person involved.

[8] Some readers will probably recognise the influence of psychoanalytical theories of the self in these illustrations. One inspiration here is psychoanalyst Jacques Lacan's influential concept of the "mirror stage" (Lacan, 1977; Thibierge and Morin, 2010). A more in-depth treatment of this line of inquiry is however beyond the scope of this article. For an integration of Debord's insights with Lacanian psychoanalysis, see also Wu (2020).

working on a true replica in line with hard to die positivist tenets. If so, this would make the "reality" trick all the more believable.

Setting aside their own awareness and interpretation of the experiment, what were Wylie and colleagues testing when they randomly called some of the digital doubles in their system? Was the success of that test not the proof that there was in fact a correspondence between the digital double of Jane Doe and her analogue self? Did the "real" Jane Doe not answer correctly all the questions posed to her, confirming the validity of the simulated data? Surely the simulation must have captured something real then?

I am not pushing my analysis to the point of saying that there is no Jane Doe out there that is not already an extension of her digital double. While a process of digital conquest might be under way, there is no proof yet that it will be complete any time soon, or that it will ever be.

But the CA phone test itself has no external object to compare to, it has no external reality that validates the simulated data. Wylie and colleagues are acting and talking from within the simulation, and they ask questions that merely confirm the validity of specific digital data points they held about the person they speak to: all confirmation comes from within the simulation. This situation is resonant with Baudrillard's ideas about simulation, where all referents to external reality are gone, and the reign of "operational simulation" means that reality is driven by a continuous series of tests, polls and stimulus-response mechanisms that elicit from the subjects participating in the simulation a range of options and answers that were already inscribed in the "generative models" that underpinned the system (Baudrillard, 2017: 78-89).

CA staff knew that Jane Doe loves *Game of Thrones*, but how much did they know about why she loved the series, and what kind of reactions it provoked in her, even beyond what she could articulate on Facebook? They knew some basic demographics about the family, but did they know the kind of relationship Jane Doe had with their children in her everyday life outside the screen of her smartphone?

The Jane Doe that speaks on the phone, to the extent that she is led by her digital data points (and as in Zuboff's treatment, without her awareness of what is going on), is in fact a physical extension of her digital double. Insofar as her life might be already heavily mediated by the online world, Jane on the phone is indeed an extension of the simulation, an agent responding to certain stimuli and moving in a maze of rewards and punishments heavily steered by her social media feed – now I am talking hypothetically, as we do not really know about the life of that specific person mentioned by Wylie (2019) beyond what is recounted in his book.

This highlights another important implication of this analysis: the separation between analogue selves and digital doubles is not synonymous with that between physical and online. Abstract phenomena such as thoughts can be analogue (that is, if they are delinked in content, structure and mode from the digital world), just as our physical actions can be directed and influenced by our digital doubles. The power of the simulation is then assessed as the power to influence real life behaviour, both online and offline. As Zuboff (2019) cogently notes, surveillance capitalism is moving from a stage where the main goal has been to get people online via multiple screen-equipped devices (e.g. a laptop or a smartphone), to one where the rendering of human experience into data happens ubiquitously, even more insidiously in the background, as physical life itself is datafied in the material world outside the screen (e.g. sensors collecting data from smart machines or cameras recording street life as we go about the physical business of life). The term "offline" itself already indicates a significant shift in the relationship between analogue and digital life, as all life is now defined in relation to "online" as the default set up.

8. Conclusion: countering the dystopian vision of guaranteed outcomes

Through a sympathetic critique and revision of Zuboff's theory of surveillance capitalism, I argued that the digital doubles in the CA simulation are epistemologically and ontologically different from the analogue selves

they relate to (Q1). In the 2016 US presidential contest, CA acted as a surveillance capitalist with the aim of modifying people's electoral behaviour in favour of CA client Donald Trump. In the process of datafying US analogue voters, CA might have produced digital doubles that entered into a dialectical relationship with their analogue selves, through a process that advances the digital conquest of analogue humanity, whereby the digital doubles are intended to gradually "swallow up" their analogue selves.

I will now briefly show that this process of digital conquest is integral to the success of the predictive models used by CA and other surveillance capitalists. This leads us to Q3: *Does Jane Doe's digital double behave in the computer models – at least to some extent – as her analogue self would behave in a similar real life situation?*

This question is really about the predictive quality of CA data tools. Zuboff (2019) makes an important point when she stresses that the issue with surveillance capitalism is not just the wholesale granular extraction of data. The crux of the matter is that this process of extraction is geared towards behavioural modification aimed at "total certainty" (Zuboff, 2019: 382). A predictive model is as good as the validity of its predictions, and surveillance capitalists are not just trading in data, but in what Zuboff calls the "guaranteed outcomes" that the data is expected to deliver. The relentless expansion of rendering of people's experience into data that Zuboff describes is geared to that purpose: to create a behavioural maze where everything in physical and virtual reality is datafied and controlled so that all predictions can, at least in principle, be 100% accurate.

To rephrase it in terms of my own analysis, Zuboff is describing a process where Wylie's "society *in silico*" becomes the only "real" society left, and where Jane Does are living as fully digital selves, in their virtual and physical forms. It is not materiality itself that disappears here, but rather all materiality becomes datafied – in this sense, what we have called analogue humanity, is an essentially dis-connected, de-linked, un-datafied reality.

Here it should also become clear why the increasing replacement of analogue selves with digital doubles – the dialectic of which I have explained in Debordian terms – is key for the system's reach and efficacy, and thus the validity of predictions. CA predictive models are only as good as the extent to which their digital doubles have effectively replaced the analogue selves they are linked to. This is a spectrum, rather than an either/or binary process: the more advanced and pervasive such digital replacement of analogue humanity, the closer the adherence of the real life behaviour of Jane Doe and other voters to the behaviour of the digital doubles in the CA simulation. This might be the essence of the dystopian society of guaranteed outcomes actively imagined and pursued by surveillance capitalists.

As I have shown before, while Zuboff's account has made an outstanding and much needed contribution in describing the workings of this real life gigantic laboratory experiment, her theory of agency is limited and does not make up for the key role played by mediation and the production of digital doubles at the human-technology interface. The dialectic of duality and conquest that Debord envisaged – which I have here extended to the relationship between analogue selves and digital doubles – addresses the limitations of Zuboff's framework, and thus provides a major interpretive key to understand the ontological and epistemological vision of CA, as a surveillance capitalist firm intent on (re)creating "society *in silico*".

I conclude by highlighting some key implications of my analysis. This work shows the need to shift the emphasis from the technical aspects of algorithmic prediction to the epistemological and ontological aspects of a world geared towards total certainty and 100% predictive validity – we need to understand the vision that surveillance capitalists are pursuing, if we want to better understand their tools of datafication and algorithmic prediction. In the case of CA, the assessment of its alleged efficacy in delivering Trump's victory takes a qualitative philosophical turn that moves beyond previous analyses.

The word "vision" here is crucial. We need to be careful not to fall into the kind of dystopian thinking that would validate the project of surveillance capitalism. The goal of guaranteed outcomes is a model, an

aspiration, not a fully realised actuality. It is a dangerous project that we should counter with all our analytical power, especially at a time of unprecedented acceleration in digitalisation.[9]

A final thought about our fictitious agent, Jane Doe: we can only hope that CA did not develop models good enough to significantly transform her directly experienced self into a digital double to be manipulated and moulded in the shape of the 2016 Trump campaign messages – although evidence seems to suggest that it is entirely possible that enough digital Jane Does were thus created to swing the election in Trump's favour (Laterza, 2021).

Either way, we are still at the beginning of a much needed academic project to develop the theoretical tools and the empirical vocabulary to describe what they are doing to "us" – that analogue "we" that we need to protect from wholesale digital colonisation, if we care to preserve humanity in its distinctive diversity and plurality.

References

Baldwin-Philippi, J. (2019), "Data Campaigning: Between Empirics and Assumptions", *Internet Policy Review*, 8(4): 1-18.

Bassett, K. (2004), "Walking as an Aesthetic Practice and a Critical Tool: Some Psychogeographic Experiments", *Journal of Geography in Higher Education*, 28(3): 397-410.

Baudrillard, J. (1975) [1973], *The Mirror of Production*, St Louis: Telos Press.

Baudrillard, J. (1994) [1981], *Simulacra and Simulation*, Ann Arbor: University of Michigan Press.

Baudrillard, J. (2017) [1976], *Symbolic Exchange and Death*, London: Sage.

BBC (2018),"Facebook Scandal 'Hit 87 Million Users'," *BBC News*, 4 April, Retrieved March 10, 2021 (https://www.bbc.com/news/technology-43649018).

Best, S. and D. Kellner (1999), "Debord, Cybersituations, and the Interactive Spectacle", *SubStance*, 28(3): 129-156.

Best, s. and D. Kellner (n.d.), "Debord and the Postmodern Turn: New Stages of the Spectacle", Retrieved June 20, 2021 (https://pages.gseis.ucla.edu/faculty/kellner/Illumina%20Folder/kell17.htm).

Briziarelli, M. and E. Armano (eds. 2017), *The Spectacle 2.0*, London: University of Westminster Press.

Bunyard, T. (2018), *Debord, Time and Spectacle: Hegelian Marxism and Situationist Theory*, Leiden: Brill.

Cadwalladr, C. and E. Graham-Harrison (2018), "Revealed: 50 Million Facebook Profiles Harvested for Cambridge Analytica in Major Data Breach", *The Guardian*, 17 March, Retrieved March 10, 2021 (https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election).

Debord, G. (2005) [1967], *Society of the Spectacle*, trans. by Ken Knabb, London: Rebel Press.

Diallo, S.Y., Wildman, W.J., LeRon Shults, F. and A. Tolk (eds. 2019), *Human Simulation: Perspectives, Insights, and Applications*, Cham: Springer.

Dinnen, Z. (2020), "Virtual Identities", In: *Oxford Research Encyclopedia of Literature* (https://doi.org/10.1093/acrefore/9780190201098.013.1152), published online 27 October.

---

[9] On a final note, I have purposefully used the term "digital double" throughout instead of "digital self" to mark the gap between what we know as the analogue human self, and what might or might not become a fully formed "digital self" that replaces the analogue one. This is an important dimension that will hopefully be explored elsewhere with the epistemological finesse that it deserves. I have referred to "fully digital selves" once when mentioning, in the conclusion, the dystopian view of a fully digital society that has no analogue reality left to conquer. There remains the question as to whether we can still use the term "selves" to label such (post)human actors. But perhaps, in such a scenario, they would be no longer "doubles": in true postmodern fashion, the original selves they were once connected to, would be irretrievably lost.

González, R.J. (2017), "Hacking the Citizenry? Personality Profiling, 'Big Data' and the Election of Donald Trump", *Anthropology Today*, 33(3): 9-12.

Goriunova, O. (2019), "Digital Subjects: an Introduction", *Subjectivity*, 12(1): 1-11.

Hayles, N.K. (1999), *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, Chicago: University of Chicago Press.

Hayles, N.K. (2012), *How We Think: Digital Media and Contemporary Technogenesis*, Chicago: University of Chicago Press.

Heawood, J. (2018), "Pseudo-Public Political Speech: Democratic Implications of the Cambridge Analytica Scandal", *Information Polity*, 23(4): 429-434.

Hinds, J., Williams, E.J. and A.N. Joinson (2020), "'It Wouldn't Happen to Me': Privacy Concerns and Perspectives Following the Cambridge Analytica Scandal", *International Journal of Human-Computer Studies*, 143(November): 102498.

Lapowski, I. (2017), "What Cambridge Analytica Really Do for Trump's Campaign?", *Wired*, 26 October, Retrieved March 10, 2021 (https://www.wired.com/story/what-did-cambridge-analytica-really-do-for-trumps-campaign/).

Hoferer, M., Böttcher, L., Herrmann, H.J. and H. Gersbach (2020), "The Impact of Technologies in Political Campaigns", *Physica A: Statistical Mechanics and its Applications*, 538(15 January): 1-12.

Ihde, D. (1990), *Technology and the Lifeworld: From Garden to Earth*, Bloomington: Indiana University Press.

Isaak, J. and Hanna, M.J. (2018), "User Data Privacy: Facebook, Cambridge Analytica, and Privacy Protection", *Computer*, 51(8): 56-59.

Kaiser, B. (2019), *Targeted: My Inside Story of Cambridge Analytica and How Trump and Facebook Broke Democracy*, London: HarperCollins Publishers.

Kaptelinin, V. and B.A. Nardi (2006), *Acting with Technology: Activity Theory and Interaction Design*, Cambridge, Mass.: MIT Press.

Kavanagh, C. (2018), "Why (Almost) Everything Reported about the Cambridge Analytica Facebook 'Hacking' Controversy is Wrong", *Medium*, 26 March, Retrieved March 10, 2021 (https://medium.com/@CKava/why-almost-everything-reported-about-the-cambridge-analytica-facebook-hacking-controversy-is-db7f8af2d042).

Kellner, D. (2003), *Media Spectacle*, London: Routledge.

Lacan, J. (1977) [1966], *Ecrits: A Selection*, trans. A. Sheridan, London: Tavistock.

Laha, B. and J.N. Bailenson (2017), "The Proteus Effect and Virtual Doppelgängers: Changes in Appearance and Behavior from the Mediated to the Real World", In: P. Messaris and L. Humphreys (eds.), *Digital Media: Transformations in Human Communication (Second edition)*, New York: Peter Lang.

Laterza, V. (2018), "Cambridge Analytica, Independent Research and the National interest", *Anthropology Today*, 34(3): 1-2.

Laterza, V. (2021), "Could Cambridge Analytica Have Delivered Donald Trump's 2016 Presidential Victory? An Anthropologist's Look at Big Data and Political Campaigning", *Public Anthropologist*, 3(1): 119-147.

Lawton, G. (2019), "AI Can Predict Your Future Behaviour with Powerful New Simulations", *NewScientist*, 2 October, Retrieved March 10, 2021 (https://www.newscientist.com/article/mg24332500-800-ai-can-predict-your-future-behaviour-with-powerful-new-simulations/).

Levine, Y. (2018), "The Cambridge Analytica Con: How Media Coverage Misses the Mark on the Trump Data Scam", *The Baffler*, 21 March, Retrieved March 10, 2021 (https://thebaffler.com/latest/cambridge-analytica-con-levine).

Lukács, G. (1971) [1923], *History and Class Consciousness: Studies in Marxist Dialectics*, Boston, Ma: MIT Press.

Lynch, G., Willis, J. and N. Cheeseman (2018), "Claims About Cambridge Analytica's Role in Africa Should Be Taken with a Pinch of Salt", *The Conversation*, 23 March, Retrieved March 10, 2021 (https://theconversation.com/claims-about-cambridge-analyticas-role-in-africa-should-be-taken-with-a-pinch-of-salt-93864).

McDonough, T. (2002), *Guy Debord and the Situationist International: Texts and Documents*, Cambridge, Mass.: MIT Press.

Ndlela, M. (2020), "Social Media Algorithms, Bots and Elections in Africa", In: M.N. Ndlela and W. Mano (eds.), *Social Media and Elections in Africa, Volume 1*, Cham: Palgrave Macmillan, pp. 13-37.

Nusselder, A. (2009), *Interface Fantasy: A Lacanian Cyrborg Ontology*, Cambridge, Mass.: MIT Press.

Papakyriakopoulos, O., Hegelich, S., Shahrezaye, M. and J.C. Medina Serrano (2018), "Social media and Microtargeting: Political Data Processing and the Consequences for Germany", *Big Data & Society*, 5(2): 1-15.

Richterich, A. (2018), "How Data-Driven Research Fuelled the Cambridge Analytica Controversy", *Partecipazione & Conflitto*, 11(2): 528-543.

Roemmele, A. and R. Gibson (2020), "Scientific and Subversive: the Two Faces of the Fourth Era of Political Campaigning", *New Media & Society*, 22(4): 595-610.

Shapiro, A. (2018), "Baudrillard and the Situationists", *noemalab.eu*, Retrieved June 20, 2021 (https://noemalab.eu/ideas/baudrillard-and-the-situationists/).

Shukaitis, S. and D. Graeber (2007), *Constituent Imagination: Militant Investigations // Collective Theorization*, Edinburgh: AK Press.

Sumpter, D. (2018), *Outnumbered: From Facebook and Google to Fake News and Filter-Bubbles – the Algorithms that Control Our Lives*, London: Bloomsbury.

Sun, R. (ed. 2006), *Cognition and Multi-Agent Interaction: From Cognitive Modeling to Social Simulation*, Cambridge: Cambridge University Press.

Sun, R. (2018), "Cognitive Social Simulation for Policy Making", *Policy Insights from the Behavioral and Brain Sciences*, 5(2): 240-246.

Szaniecki, B. (2017): "Rio de Janeiro: Spectacularization and Subjectivities in Globo's City", In: M. Briziarelli and E. Armano (eds.), *The Spectacle 2.0*, London: University of Westminster Press, pp. 121-134.

Thibierge, S. and C. Morin (2010), "The Self and the Subject: A Psychoanalytic Lacanian Perspective", *Neuropsychoanalysis*, 12(1): 81-93.

Turkle, S. (1984), *The Second Self: Computers and the Human Spirit*, New York: Simon and Schuster.

Turkle, S. (2011), *Alone Together: Why We Expect More from Technology and Less from Each Other*, New York: Basic Books.

Verbeek, P.-P. (2005), *What Things Do: Philosophical Reflections on Technology, Agency, and Design*, University Park, Pa.: Pennsylvania State University Press.

Ward, K. (2018), "Social Networks, the 2016 US Presidential Election, and Kantian Ethics: Applying the Categorical Imperative to Cambridge Analytica's Behavioral Microtargeting", *Journal of Media Ethics*, 33(3): 133-148.

Wark, S. (2019), "The Subject of Circulation: on the Digital Subject's Technical Individuations", *Subjectivity*, 12(1): 65-81.

Witzleb, N., Paterson, M. and J. Richardson (eds. 2020), *Big Data, Political Campaigning and the Law: Democracy and Privacy in the Age of Micro-Targeting*, London: Routledge.

Wu, G. (2020), "The Rivalry of Spectacle: a Debordian-Lacanian Analysis of Contemporary Chinese Culture", *Critical Inquiry*, 46(3): 627-645.

Wylie, C. (2019), *Mindf*ck: Cambridge Analytica and the Plot to Break America*, New York: Random House.

Zuboff, S. (2019), *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, London: Profile Books.

Acknowledgements

Author bio

Vito Laterza is Associate Professor in the Department of Global Development and Planning, University of Agder, and leads the Sustainability focus area at the Centre for Digital Transformation (CeDiT) of the same university. He is a Senior Research Associate at the Centre for Education Rights and Transformation, University of Johannesburg, South Africa. He holds a BSc in Employment Relations & Human Resource Management from the London School of Economics, and an MPhil in Social Anthropological Research and a PhD in Social Anthropology from the University of Cambridge, UK.

He is an anthropologist, development scholar and political analyst with an interdisciplinary orientation spanning two main areas: political economy & political ecology; and digitalisation, new media & communication. His work focuses on higher education, digital technologies, political communication, sustainable development, labour and organisations, socio-economic inequalities, and social and political mobilisation.

He is a co-editor of the *Journal of Contemporary African Studies*, and founder and chief editor of the public engagement blog *Corona Times*. He writes regularly for international media such as *Al Jazeera English*, *Boston Review* and *Africa Is A Country*.