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Human-technology relations in an age of surveillance capitalism

Towards an anthropological theory of the dialectic between analogue and digital humanity

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Abstract. What can anthropology contribute to the current debates about the negative effects of social media on people? Starting from a critique of anthropological work that sees human subjectivity and culture as ontologically unaffected by social media use, I propose that human engagement with these digital technologies produces significant ontological transformations that deserve more attention. I develop my analysis in dialogue with Boellstorff's ontology of the digital, Nardi's theorisation of virtuality and affordances, and Zuboff's formulation of surveillance capitalism, and I use empirical illustrations from the Cambridge Analytica data scandal to highlight key theoretical junctures. My main contribution is an outline of an anthropological theory of the dialectic between what I call analogue humanity and digital humanity. The two are mutually constituted but ontologically distinct. In the current political economy of digitalisation, tech companies are driving a process of increasing substitution of analogue humanity and forms of life with digital ones, as part of their quest for accurate prediction and social engineering of all aspects of human behaviour. While an anti-technology stance is neither practicable nor desirable, anthropologists need to think about how analogue humanity can be preserved and nurtured so that it can avoid ontological extinction.

Keywords. Digitalisation; digital anthropology; subjectivity; humanity; Cambridge Analytica

The recent revelations by Facebook whistleblower Frances Haugen [Bateman 2021] add to growing concerns in public and policy debates about the negative effects of social media on people, and about the insidious work of algorithms in our everyday lives. Haugen leaked company documents that showed that Facebook had internal research on many areas of its operations that warned against the negative effects its platforms were having on people – from harming teenage users' mental health [Dang & Dave 2021] to fuelling violent ethnic conflict in Ethiopia [Robins-Early 2021] – but the company did not seem

to have acted to address these issues, leading Haugen to conclude that "Facebook over and over again has shown it chooses profit over safety" [Mac & Kang 2021].

The public outrage caused by the Haugen leaks fits into a broader trend in the last few years that has been referred to as "techlash" in academic and policy literature [Mitroff & Storesund 2020]. The accelerated digitalisation that has taken place since the outbreak of the Covid-19 pandemic might be marking a turning point in increasing public awareness of the dangers posed by the prominent role that social media play today in all aspects of social and political life, from connecting with family and friends to discussing electoral politics or the latest conspiracy theory about coronavirus.

These debates raise serious questions about what digital technologies are doing to "us" as humans, and about the kind of ontological transformations that might – or might not – be at play as digital technologies become increasingly embedded in our everyday lives. To capture the core of the anthropological problem at hand, we could slightly rephrase Taylor [1999 in Nardi 2015, 25] and ask: "What do we look like and who are we in a world where digital technology so deeply intersects our lives?".

There is a pressing need for anthropologists to engage with this question. Despite the wealth of knowledge that the well established niche of digital anthropology has produced so far, anthropology on the whole is struggling to keep abreast with the latest developments in digital technologies. We have several anthropological studies of social media that have made their mark – above all, the work by Daniel Miller and colleagues at the University College London, who studied social media in different parts of the world for the project *Why We Post* [e.g. Miller et al. 2016]. Anthropologists regularly use social media content as ethnographic context for their studies. But when it comes to other key aspects of digitalisation, such as, for instance, algorithms and big data, anthropology's contribution to interdisciplinary academic and public debates is less visible, leading Gusterson [2019: 8] to note that "[c]ritiques of social algorithms and big data abuses […] have largely been penned by information scientists, legal scholars, media critics and journalists rather than […] anthropologists" – notable exceptions include Boellstorff and Maurer [2015], González [2017], Seaver [2018], Besteman and Gusterson [2019], Laterza [2021].

In this article, I aim to sketch an anthropological theory of the dialectical relations between two ontologically distinct, but epistemologically connected kinds of humanity: what I call "analogue" humanity and "digital" humanity. I propose this distinction as an expansion and revision of Boellstorff's [2016] crucial insights on the ontological difference between the digital and the physical. I argue that, in the worlds of ubiquitous technology we are living in today, the gap that separates the digital and the physical is better reformulated as that between the digital and the analogue, where the analogue is defined as that which not only precedes the digital, but also eludes and escapes its grip, that is, everything, whether physical or immaterial, that is not digitalised and thus not subsumed under the colonising logic of digitalisation. I ground my theorisation in a selective review of the anthropological literature on digitalisation, social media and algorithms, and of Zuboff's [2019] recent formulation of surveillance capitalism. I develop my arguments through illustrations and empirical examples drawn from the rich wealth of data emerged from the Cambridge Analytica data scandal, which includes media investigations, commissions of inquiries, two whistleblowers' books and a significant public archive of leaked documents – I have dealt in more depth with the empirical details of the scandal in Laterza [2021]. The Cambridge Analytica affair centred around the allegations that this now-defunct UK-ba-

sed shadowy political campaigning firm might have been able to influence the behaviour of voters in the 2016 US presidential election through the ethically questionable (if not outright illegal) use of big data models and social media microtargeting – Cambridge Analytica (CA from now onwards) was hired by the Trump campaign in the final months of the race. The choice of this case also puts into focus issues of political agency, manipulation and democracy in relation to the use of social media, but the arguments I will develop have broader implications and hit at the heart of what is – and what is not – to be human in an era of accelerated and pervasive digitalisation.

I have followed the CA scandal and the 2016 US presidential election from early on, and my insight is coupled by a long-term engagement as a political commentator writing in international media about the rise of social media politics, spontaneous protests, and the social media messages of political movements across the political spectrum in the US and Italy [e.g. Laterza 2012; Laterza 2016; Laterza & Römer 2020]. In recent years, I have also participated as an activist scholar in various transnational workshops, conferences and informal conversations with progressive party and social movement activists from around the world, and especially from Africa, Europe and North America. In all these events, discussions about the uses and abuses of social media for political campaigning were key, and I had the privilege of rapidly updating my knowledge with expert insiders, including social media campaigners and cybersecurity privacy activists. It is difficult to call this knowledge ethnographic in the classic sense, but there is no doubt that I am speaking to some extent "from the inside", and have been autoethnographically immersed in these flows and events since my early days as a direct action activist in Cambridge in 2009–2010.

Culture, sociality and the anthropology of social media

One of the most significant bodies of work in the anthropology of social media springs from the *Why We Post* project carried out by Daniel Miller and colleagues, whose main insight is aptly summarized by the title of one of several books published by the team, *How The World Changed Social Media* [Miller et al. 2016]: the dominant techno-optimistic adage about the allegedly revolutionary nature of social media is here inverted, placing the emphasis on the pre-digital world having the upper hand over these new digital phenomena. The project carried out extensive ethnographic work on social media in the 2010s, with anthropologists conducting long-term fieldwork in several locations (Turkish Kurdistan, two Chinese sites, India, Chile, Trinidad, UK, Italy, Brazil), resulting in nine ethnographic monographs [Costa 2016; Haynes 2016; McDonald 2016; Miller 2016; Nicolescu 2016; Wang 2016; Sinanan 2017; Spyer 2017; Venkatraman 2017]. These works are a testament to the value of ethnography, with its focus on situated actions and specific communities that need to be engaged offline as much as online in long-term fieldwork and through participant observation, so that the nuance and rich fabric of everyday life emerges, revealing key aspects of sociality, societal norms and culture.

Miller and colleagues situate themselves in a long tradition of ethnography that emphasises these dimensions, and perhaps exactly because of that, they provocatively argue that the hype about social media "radically transforming" humanity and sociality is not justified by ethnographic evidence. Building on a longer genealogy of anthropology of media, Miller et al. [2016] treat social media as a "medium", a tool in the hands of its

users to perform old tasks in new ways that do not ontologically transform the human subjects involved:

> We reject a notion of the virtual that separates online spaces as a different world. We view social media as integral to everyday life in the same way that we now understand the place of the telephone conversation as part of offline life and not as a separate sphere.
>
> We propose a theory of attainment to oppose the idea that with new digital technologies we have either lost some essential element of being human or become post-human. We have simply attained a new set of capacities that, like the skills involved in driving a car, are quickly accepted as ordinarily human. [Miller et al. 2016, x]

For these scholars, the main change that social media bring has to do with the capacity of "scalable sociality", that is, the technologically-mediated operation of scaling up or scaling down people's social networks along two dimensions: from the most private to the most public form of communication, and from the smallest to the largest group of people involved in the communication [Miller et al. 2016, 3]. The main focus of these studies is how humans maintain, adapt or change their sociality with the use of digital technologies such as social media. These works pursue a conventional view of ethnography intended as the study of the cultural characteristics of one or more social groups located in a physical geography. The corollary to this is that social media platforms are not seen as actors or infrastructures capable of radically altering human cultures and sociality. What matters is the content that these platforms help circulate, rather than the platforms themselves [Miller et al. 2016, xi]. While Miller et al. [2016] have made these elements explicit in their theoretical and methodological approach, the presence of similar implicit assumptions might help explain why the growing literature on the anthropology of populism, the far right and political events such as Trump's 2016 victory or the Brexit referendum [e.g. Green et al. 2016; Gusterson 2017; Rosa & Bonilla 2017; Hann 2019; Mazzarella 2019] tends to take the infrastructure of digital communications provided by social media for granted, rather than as an object of analysis deserving its own anthropological treatment.

But if platforms such as Facebook and Twitter do not really matter to an anthropological understanding of social media, and if, according to Miller and Horst [2021], the rise of these digital technologies, far from marking a loss of pre-digital authenticity, actually "intensifies the dialectical nature of culture" [2021, 21], how is anthropology to meaningfully contribute to the current debates, for instance, on the harmful effects of social media algorithms on teenage mental health [Wells et al. 2021], or on the escalation of violent ethnic conflicts [Mackintosh 2021]? In her ethnography of social media in Turkish Kurdistan, Costa [2016], who was also part of Miller's team, dismisses her participants' concerns about the nefarious effects of social media on privacy and reputation as a "moral panic". Is the current techlash against Facebook just another moral panic? As anthropologists involved in long-term fieldwork, we tend to pride ourselves in being close to people and their everyday experiences. Should we then not take people's concerns about the negative effects of social media more seriously?

The approach of Miller and colleagues is certainly valuable in producing a counterpoint to the dominant discourses in public debates and other disciplines. The extensive ethnographic library produced by the *Why We Post* project will turn out to be useful for decades to come – and, as the late David Graeber reminds us, the fine-grained detail provided by in-depth ethnographies can be re-interpreted with the help of different theoretical frameworks [Graeber 2009, viii]. But the theoretical insights and assumptions that underpin

these ethnographies seem to negate the possibility of asking the question of whether the human, the *anthropos*, can indeed be ontologically transformed through engagement with digital technologies. Ultimately, for Miller et al. [2016: 8], digital "technologies make no difference whatsoever to our essential humanity".

Nardi's [2015] anthropological review of contributions to the study of virtuality suggests that the anthropological literature on social movements tends to be perhaps less sceptical about the innovative potential of social media, but the emphasis of many works in this strand seems to be primarily on the social and political effects of employing digital communications, rather than on ontological changes to the human properties of political activism. Postill's [2021] review of digital politics does take into account the role of platform affordances in enabling political activism and communications, but the focus remains on the "communications as medium" dimension of these political activities, and on the social media infrastructure and its features, rather than the ontological effects on activists. In her review of digital anthropology, Aouragh [2018] focuses on the online-offline dialectic in social movements and on the issue of political subjectivities emerging from these interactions. Her conclusions strike closer to the Miller's camp: even where online activities and deterritorialised aspects of communication across disparate geographies are significant (as in her fieldwork on Palestinian internet users in refugee camps), it is ultimately the physical relations offline that provide the key to understand how political subjectivities and, in this case, issues of class, gender and religion come into being. Aouragh's [2018: 8] warning is that "we need to apply caution in carrying out online digital anthropology, as it can sometimes turn into a version of armchair anthropology".

From medium to world

Aouragh's [2018] review makes an important distinction between two trends in digital anthropology: there are studies "that are geared toward online-offline dialectics, and those that are geared toward the internet or online realm in and of itself" [Aouragh 2018, 4]. The body of work by Miller and colleagues falls under the first trend, while the second trend includes, among others, landmark studies on the online virtual world of *Second Life* [Boellstorff 2008] and the multi-player online role-playing game *World of Warcraft* [Nardi 2010]. Perhaps it is not an accident that authors in this second camp have developed a more interdisciplinary approach to digital anthropology that sees their work inserted at the intersection between anthropology and the broader field of human-technology relations – in contrast, the work of Miller and colleagues is in closer dialogue with classic concerns in media and communication studies.

Some of the work in this second strand [Boellstorff 2008; Nardi 2010; Nardi 2015; Boellstorff 2016; Boellstorff 2021] provide a productive engagement with questions of ontology in the digital era, which might be more suited to tackle pressing questions about social media, humanity and society. Nardi [2015] makes a bold case for a "technological turn" in anthropology that moves beyond subsuming technology under one social process or another. In her view, the key notion that marks this turn is that of affordances, drawn from the ecological psychology of J.J. Gibson [1979 in Nardi 2015, 18-19]. In Gibson's view, the properties of a certain environment, together with the action capabilities of the agents that inhabit it, determine what such agents perceive as "affordances", which are specific possibilities for action. When translated to the technological world, "affordances

are a technology's action possibilities that mediate cultural activity, potentially changing the person and the culture" [Nardi 2015, 19]. Nardi's framework enables us to conceive the possibility that, through specific features of the virtual environment, social media platforms enable certain kinds of actions that would have otherwise not been possible. For instance, through engagement-based ranking of the posts appearing on somebody's Facebook feed, the user is fed more and more posts of the kind that drive their engagement, without an appropriate ethical filter, so that the user's addictive and self-destructive behaviours could be amplified and worsened through such feedback loops. When we hear that Instagram has been allegedly using algorithms that promoted content glorifying eating disorders targeted at teen accounts [O'Sullivan et al. 2021], with the consequence of increasing the prevalence of eating disorders among teenagers [Keith 2021], we are not just seeing some unchanged pre-digital human attitudes communicated with different tools. We are witnessing an ontological transformation from teenagers that might have never been affected by eating disorders had they not been using social media, to teenagers who develop such problems exactly because they engage with the agency of social media platforms. These tech companies profit from increasing user engagement, which is at the basis of their business model centred around targeted advertising.

In this respect, Nardi [2015] makes an important point that is often missed in digital anthropological theories, but also in the broader field of human-technology relations outside anthropology:

> [I]t is critical to ask, "Who will design the [virtual] worlds?" We have seen that game mod[ifications by players] develop organically within player communities, and online communities assert their own interests in venues such as Faunasphere. But more generally, the answer to this question is that designers will design the worlds. The affordances designers deem important will shape a significant portion of human social activity now and in the future. [2015, 24]

In other words, who designs social media platforms, the kind of features they design, and with which goals in mind, determine to a great extent what humans engaging with social media and with their specific affordances can or cannot do – and hence, what some of the users will end up doing, and could probably not have done without social media.

As Boellstorff [2016, 395] aptly reminds us, activities that take place in social media or other virtual worlds are no less real than those that take place in physical environments. This is because virtual worlds are places: "[v]irtual worlds do not mediate between places; they are places in their own right as individuals log into or out of them" [Boellstorff 2016: 394]. So if somebody physically located in Chicago posts something on Facebook and others scattered across different physical geographies react to it, it would be inappropriate to say that these activities are taking place in Chicago: "[i]n the sense of social action, these activities occur 'on Facebook'" [Boellstorff 2016, 395]. In Boellstorff's [2016, 388] view, the digital has its own ontological status, with its own axis of what can be real and unreal, very much as the physical has its own parameters for what constitutes reality and unreality.

But the ontological stance that Boellstorff proposes is not predicated on an *a priori* assumption of difference, as some of the proponents of the well-renowned ontological turn in anthropology tend to do [e.g. Henare et al. 2007; Heywood 2017], but rather on a critical investigation of the similarities and differences that constitute worlds, be they digital or physical. This enables the study of digital cultures and digital worlds as formations in

their own right, without subscribing to some old-fashioned idea of human culture bounded by a specific physical place and time, e.g. the more conservative understanding of *ethno*-graphy that has been rightly criticised by Tim Ingold [2009]. If digital worlds as those enabled by the features of social media platforms exist and come into being autonomously from the specific predigital human cultures that platform users embody and actualise, then statements such as this one by Costa [2016] seem to lose their analytical power: "in order fully to understand the implications of social media in southeast Turkey, we must temporarily put aside what we know about social media in Milan, London or Palo Alto" [2016: 166]. It might very well be, as Costa [2016] suggests, that her main findings about the redrawing of boundaries between private and public that she witnessed in her fieldwork have much to do with the social and cultural dimensions of the physical place she studied. But to imply that the shared digital infrastructure that works across physical geographic boundaries is so insignificant that a comparison with social media use in other physical localities is irrelevant, signals a kind of cultural relativism that denies the very possibility for comparison. What is also problematic in Miller et al.'s [2016] and Costa's [2016] notion of culture as ontologically distinct from social media and from digital interactions, is that it forecloses the possibility for key processes such as those involved in algorithmic work to be conceived and studied as cultural phenomena, producing an unjustified stark distinction between technology and culture. A more productive alternative is elaborated by Seaver [2017], who calls for an understanding of algorithms *as* culture:

> Like other aspects of culture, algorithms are enacted by practices which do not heed a strong distinction between technical and non-technical concerns, but rather blend them together. In this view, algorithms are not singular technical objects that enter into many different cultural interactions, but are rather unstable objects, culturally enacted by the practices people use to engage with them. [2017: 5]

With these foundational insights in mind, I will now turn to empirical illustrations from the Cambridge Analytica data scandal to explore further the potential of ontological transformations in human subjectivities held by interactions with social media and in social media worlds.

Cambridge Analytica and the limits of an ontology of mass manipulation

The CA affair has played a crucial role in the "techlash" phenomenon and has been pivotal in raising public awareness about the potentially negative effects of social media platforms such as Facebook on politics and democracy.[1] In early 2018, the Guardian investigations spurred from the revelations of whistleblower Christopher Wylie [Cadwalladr & Graham-Harrison 2018; Wylie 2019] raised a storm that led to several commissions of inquiry in US and UK and a vibrant public debate. CA operated in several locations across the globe, but the main focus of media attention remained its involvement in the 2016 US presidential election, and, to a lesser extent, in the Brexit referendum. Another whistleblower, Brittany Kaiser, emerged after Wylie with more revelations [Kaiser 2019],

[1] For an accessible in-depth anthropological account focusing specifically on Cambridge Analytica and its activities, see Laterza [2021].

and leaked a substantial amount of internal company documents. Despite this wealth of information available for scrutiny and analysis, social scientific work on this topic has somewhat lagged behind the heated public debates, although academics intervened in the media as well [Laterza 2021]. Anthropology was no different, and most of the highly-ranked journals in the discipline have largely ignored the issue – one significant exception is the work published in *Anthropology Today* [González 2017; Laterza 2018]. Several scholars [Lynch et al. 2018; Sumpter 2018], including anthropologists [González 2017; Kavanagh 2018], dismissed the case as hype, echoing the idea of a moral panic about social media elaborated by Costa [2016] and Miller et al. [2016]. Sceptics tended to focus on the claims by CA that it had delivered Trump's victory in 2016 through the use of internet psychographics, that is, models built on the use of personality assessment to analyse social media users' behaviour and allegedly deployed in social media campaigns targeting specific segments of the US electorate. I have argued elsewhere that these critiques focused too narrowly on what was eventually revealed to be only one tool in the big data arsenal at disposal of CA, which was also supported by in-depth qualitative research that informed statistical models and algorithms that went beyond personality profiling [Laterza 2021]. Also, public concerns were not solely or primarily focused on the issue of personality assessment via social media data: what worried many people was the sheer amount of personal data of US voters collected by CA through certainly unethical and possibly illegal means, which were allegedly used in the social media campaigns aimed at helping Trump secure his 2016 victory.

I think the refusal by many academics and media commentators to seriously consider the possibility that a firm like CA could have indeed influenced enough voters to get Trump elected, might have only partially something to do with the validity of theoretical arguments or the rigorous evaluation of the evidence. Deeply held beliefs about the resilience of the human capacity for action and freedom as something fundamentally unchanged by social media infrastructures might have also played a role. It is not that CA actions were excused on ethical grounds, or that the right-wing interests behind CA and Trump were seen as innocuous. Rather, it seemed to defy common sense that a social media platform like Facebook could provide the affordances to change people's minds through covert influence methods to the point of becoming a threat to well established liberal democratic procedures for election as those in the US are generally considered to be.

A failure of the anthropological imagination – not just that of anthropologists, but of social scientists and experts more generally – disabled the possibility to conceive the negative ontological transformational potential of social media in the CA case. But even on the other side of the debate, the kind of *anthropos* implied by those who took seriously the potential for voter manipulation was still assumed to be a unitary and coherent human subject, albeit ontologically transformed by the tactics used by CA. Christopher Wylie's [2019] memoir of his involvement in CA rogue operations plausibly shows how a mix of online and offline methods were allegedly used to transform people's perceptions and behaviours, in ways that drew from the experience of SCL Group (CA parent company) in defence and security operations in wars and counterterrorism and against international drug cartels [Wylie 2019, 43-51]. While we cannot take Wylie's story at face value, triangulating his claims with the available academic literature in the fields he mentions, and with the public archive of CA leaked documents, seems to check out [Laterza 2021]: for instance, CA used and adapted target audience analysis, a methodology developed by

SCL Group's partners in military settings well before the rise of social media [Mackay & Tatham 2011; Tatham & Le Page 2014; Laterza 2021, 131].

Wylie does not tackle ontological questions directly, but there are hints of where he might stand on this. His positivist take on the power of objectivist personality assessment methods such as the OCEAN model suggests that he seems to believe that CA tactics did indeed produce deep changes in perception and behaviour in at least some of the targeted voters[2]. Wylie holds an understanding of the human subject where, akin to views associated with the post-humanist turn, deep transformations brought about by the interaction with digital technologies are generally conceived within a unity of the perceiving and acting subject. The human subject is ontologically transformed, but remains singular.

In order to locate the activities of CA and ground the more impressionistic (and sometimes sensationalistic) revelations of Wylie in a comprehensive theoretical framework, it is useful to turn to Shoshana Zuboff's [2019] work on surveillance capitalism. CA is only one among thousands of firms operating in various sectors of the economy that benefit from the relentless exploitation of data coming from all kinds of physical and digital sources.

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].

Zuboff's theorisation, supported by a large wealth of empirical data and insider knowledge that gives this work a strong anthropological relevance, provides a clear case for the importance of affordances as conceptualized by Nardi [2015]. Zuboff also rightly puts the spotlight on the agency behind the platforms, breaking away from the idea that the platforms' workings and the intentions of their owners and developers are somewhat tangential to an anthropology of social media [cf. Miller et al. 2016].

Zuboff claims that this system of behavioural engineering works as a sophisticated machinery of user manipulation exactly because the human subject being manipulated lacks awareness of such processes [Zuboff 2019, 306-308]. The data rendered from human ex-

[2] On the use of the OCEAN model for the analysis of online data, see for instance, Kosinski et al. [2013] and Matz et al. [2017]. The OCEAN model (also known as the Five-Factor model or the Big Five model) has its roots in the long history of personality traits assessment, a subfield of psychometrics (the science of psychological measurement and assessment).

perience ends up in a "shadow text" [Zuboff 2019, 185] that is hidden from the average consumer, and is only legible to surveillance capitalists. This economic regime is based on deception: surveillance capitalists manipulate people into doing things for purposes other than those users consciously intend to pursue. Users become "the means to others' ends" [Zuboff 2019, 88] – the ends of surveillance capitalists.

With the metaphor of the shadow text, Zuboff conceives of a digital reality that is ontologically distinct from the processes of digitalisation that preceded this sophisticated system of data-driven behavioural engineering. At the same time, her view of human agency falls short of fully realising the theoretical potential of her systemic analysis.

Zuboff compares the workings of this system to the kind of dystopian Skinnerian behaviourism en vogue in the 1950s [Zuboff 2019, 361-375]. Human agency is described here as a captured, captive agency, devoid of privacy, freedom and dignity, colonised and subjugated by big data and algorithms directly intervening in our lives to open or close paths, enable or disable action, and so on. The human is held captive by a digital system that is experienced by the captured agent as something external, that can constrain and direct their material actions, and confuse their consciousness, but cannot ultimately change their "essential" 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 (big tech companies) and 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 will once again be 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 subject 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, it can turn us into caged birds, but cannot take away from us that inalienable freedom to think and imagine ourselves as free and autonomous individuals.

Beyond behaviourism: the internal dialectic of analogue and digital humanity

The singular conception of the human subject that, in rather different articulations and ontologies, underlies all these views – from sceptics of CA alleged efficacy to Wylie and Zuboff on the opposing camp – tends to miss one important point made by Boellstorff [2016, 2021]: these positions tend to gloss over the difference between the digital and the physical. Boellstorff [2016] argues against this erasure of boundaries and refocuses our anthropological imagination towards the gap that is always present between the digital and the physical. For Boellstorff, this is not just an epistemological distance, but an ontological difference The gap does not only divide the digital and the physical, but it also connects them [Boellstorff 2016, 396], enabling the possibility of a dialectic between the two. I think this line of inquiry can lead to a better understanding of what is at stake in the CA case, with broader implications about the allegedly "manipulated" subject conceived, in different ways, by Wylie and Zuboff.

Boellstorff's [2016] focus is on worlds, rather than the human subjects living in these worlds. What if we extend this insight to human subjects? Then it would not be far-fetched to claim that the voter being manipulated by CA might not be a singular entity. There is a physical voter in the physical world, to differing extents perceiving and acting in the world according to pre-digital physical affordances and socio-cultural norms. And there is a digital double that operates according to digital affordances and socio-cultural norms emerging in digital worlds. The predictions of a surveillance capitalist firm like CA are only as good as the capacity of the digital double to influence the physical behaviour of the physical voter. The targeted messages produced by the data models online need to cause a physical change of perceptions and behaviours so that the physical voter acts in accordance with the models – and thus ends up furthering CA goal of installing Trump in the White House.

But can we easily delineate the boundaries between the digital and the physical here? What about those CA physical campaigners who allegedly went door to door to meet physical voters and used the data from the digital dashboards to engage them with messages crafted with the use of big data models [Kaiser 2019, 87]? Were these physical agents not also embedded in the digital infrastructure of models and real-life experiments developed by CA?

Boellstorff's distinction between physical and digital seems to work well for an earlier phase of digitalisation that saw tech companies focused on getting users hooked on screen devices, from laptops to smartphones and tablets [Zuboff 2019]. But with increasingly ubiquitous technologies such as smart sensors or augmented reality glasses, this distinction might not be as productive. The kind of world envisaged by Zuboff and revealed through the dystopian lenses of the CA affair is one where the physical is not automatically "*not* digital", just as the digital is not anymore only online. The very linguistic formulation of online and offline implies a hierarchy where the physical is framed in relation to the primacy of the online, which is, in a sense, the "primordial" digital. But the fact that the gap between the physical and the digital might not hold the same analytical promise as it did when Boellstorff formulated it a few years ago, does not mean that the gap disappears. There is still a gap between that which is rendered into data (e.g. what becomes digital) and that which is not – and on both sides of the equation we have physical and immaterial elements. There are immaterial things such as human thoughts that might be delinked and unaffected in their content and process by the system of data extraction described before, just as there are physical environments that are highly digitalised to the point that it is the digital infrastructure that determines to a large extent how humans and things behave in the physical world – think for instance how different it is to navigate the physical world following Google Maps, rather than other forms of non-digital orientation.

I think this gap is better reformulated as that between the digital and the analogue. The analogue does not correspond to the physical, but is that which is not ontologically transformed by the digital. The dialectic between the digital and the analogue is not, as the CA case and Zuboff's political economy of tech companies show, politically neutral. The intention of surveillance capitalists, inscribed in the affordances of the technology platforms they develop and commercialise, is for the digital to increasingly swallow the analogue so that the predictions of the system can be made more accurate, in the hope that they will eventually approximate total certainty. For this to happen, digital humans of the kind produced by CA models need to "colonise", take over the analogue humans they

are dialectically related to, so that these colonised, and thus ontologically transformed subjects can now act in accordance with the predictive models of surveillance capitalists.

The process of digital conquest of analogue humanity operates through various forms of replacement of analogue activities with digital ones: democratic participation online substitutes analogue town halls, connecting with friends and family on Facebook substitutes analogue forms of conviviality, and so on. The narratives that accompany these substitutions tend to hide the very fact that an ontological transformation might be taking place: we often hear that it is better, smarter, more efficient to do things with digital technologies and social media, than doing the same activities the "old fashioned", analogue way. Perhaps it is now time to revise Zuboff's claim about the lack of awareness of the manipulated subject. It is not so much that we are not aware of the system's workings – we increasingly are, also thanks to these debates. But even when we become aware, we continue to use these tools, or might be satisfied with small modifications of our digital ecosystems, such as stopping tracking cookies or similar fixes, acting more as rituals warding off negative thoughts about the dystopian potential of the digital, than effective solutions to the problem. One reason why we easily buy the narratives about efficiency and progress might be that we continue, especially in Western contexts, to believe in our inalienable freedom as agents who can control and master digital tools for their own purposes – whatever went wrong can be fixed, exactly because the possibility of ontological transformation is in direct contradiction with the dominant ideology of the free autonomous individual whose core is allegedly left untouched by changes in technology.

The paradox is that it is only once we become attuned to the significant ontological transformations that occur through intense engagement with digital technologies, that we can think about ways to protect human cultural diversity from wholesale digital conquest. This does not mean turning to a militant anti-technological stance which, in any event, is likely to fail given the current balance of power in society. Instead, we need to think about effective ways to nurture and preserve analogue humanity and analogue forms of life so that that the unique array of cultural forms that we have been studying anthropologically for centuries is rescued from extinction. Something as obvious as the ability to engage in face-to-face conversation or a phone call can, in fact, be seriously hampered by the pervasive presence of social media – see for instance Sherry Turkle's [2011] insightful empirical work on American teenagers' use of social media platforms and her more recent work [Turkle 2015] on the necessity to nurture face-to-face conversation as a key human ability that enables us to learn, innovate, collaborate and build meaningful relationships with fellow humans.

It should also be clear that the distinction between digital humanity and analogue humanity is not intended as a universalising abstraction that erases cultural difference and context-specificity. This conceptualisation should be used as an exploratory meta-theory that illuminates specific configurations of human-technology relations situated in specific places (physical or not) and historical trajectories. In a Eurocentric context such as the US electorate targeted by CA, assuming a duality of subjects might capture some of the socio-cultural features at play in that society, but it is entirely possible that in other societies, and even within different groups and subcultures of US society, the gap between the digital and the analogue is constitutive of a multiplicity of dialectically related subjectivities.

Regardless of how many ontologically distinct but dialectically related worlds and human subjects there might be, anthropology would do well by moving away from a cultural relativism predicated on absolute difference that tends to ignore the very difference that new technologies are making to humans and culture. As Boellstorff [2016] cogently argues, this does not mean abandoning difference, but theorising "difference and similitude together in an archipelagic style, where difference is internal and relational" [2016, 393]. We need to apply the same insight to anthropology itself: for anthropology to make a positive difference in the current public and policy debates around digitalisation, anthropologists should stop seeing their discipline as radically different from everything else that happens around and outside anthropology, and should start finding common ground with other academic disciplines and policy and activist practices engaged with the ontological transformations brought about by the latest stages of digitalisation.

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