Hacking the citizenry?

Personality profiling, 'big data' and the election of Donald Trump

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> After Eisenhower, you couldn't win an election without radio. After JFK, you couldn't win an election without television. After Obama, you couldn't win an election without social networking. I predict that in 2012, you won't be able to win an election without big data. (Alistair Croll, founder of Bitcurrent).

Thirty years ago, anthropologist David Kertzer (1987: 108) noted that 'the greatest political sociodrama and the most elaborate competitive use of ritual in American politics come each four years with the campaign for the presidency'. These sociodramas have relied upon 'symbolic manipulation by design, playing on deeply held beliefs in the electorate',[1] and the methods of manipulation have grown increasingly complex (Hersh 2015).

This article examines claims that a small political consulting firm, Cambridge Analytica, played a pivotal role in Donald Trump's victory by formulating new algorithmic techniques to influence the electorate during the final months of the 2016 US presidential campaign. The company reportedly generated personality profiles of millions of individual voters which were then used to send narrowly targeted political advertisements. Some described Cambridge Analytica's tools as 'mind-reading software', a 'weaponized AI [artificial intelligence] propaganda machine' that 'turned the world upside down' by saturating voters with carefully crafted messages.[2]

These accounts implied that Cambridge Analytica's last-minute efforts resulted in Trump's narrowly winning six crucial states won by Barack Obama in 2012: Michigan, Wisconsin, Iowa, Pennsylvania, Ohio and Florida. Because of the US's idiosyncratic electoral college – a winner-take-all system that awards all of a state's designated electors to the presidential candidate with the most popular votes – these states played a decisive role in Trump's victory. Most of the states are located in the rust belt, an area that was once America's industrial heartland but which has lost many thousands of factory jobs over the past 40 years due to offshoring and automation.[3]

Cambridge Analytica first received significant media attention in July 2015, shortly after the firm was hired by Republican presidential nominee Ted Cruz's campaign.[4] Although Cruz ultimately failed, Cambridge Analytica's CEO, Alexander Nix, claimed that Cruz's popularity grew largely due to the company's skilful use of aggregated voter data, personality profiling and individually focused messaging, or 'microtargeting'.[5]

By August 2016, reports had emerged that the Trump campaign had decided to employ Cambridge Analytica as part of a desperate effort to challenge Hillary Clinton's formidable campaign machine. According to one account, the company deployed six PhD data scientists 'to pinpoint 20 million "persuadable" voters in key battleground states'.[6]

This article reviews the case of Cambridge Analytica in order to analyze transformations that are enveloping politics, technology and social science. I will revisit the idea that recent US presidential campaigns and elections might be viewed as 'rituals of rebellion' – culturally produced ceremonies that function as a means of publicly expressing antagonism towards established political institutions (Gluckman 1954; McLeod 1999). Max Gluckman's classic study of Zulu, Swazi and Thonga ceremonies revealed that such rituals promote processes of social catharsis and ultimately lead to the reinforcement of existing political structures. He also argued that rituals of rebellion can enable the conciliation of political world views or ideologies that contradict participants' perceptions of social reality – an idea which might help explain why a New York might be so appealing in US regions that have been battered by corporate capitalism.

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Fig. 1. *Virtual reality interfaces are likely to make even larger amounts of data available within Homo sapiens' virtual lives.*

If 'rhetorical skills, sound bites, debates, and televised performances' were the means by which US presidential candidates and voters ritually participated in 'rebellion' in the 1990s (McLeod 1999: 361), then social media and the Internet have become equally important for both consuming and enacting ritual performances. Within this framework, organizations like Cambridge Analytica might be seen as mechanisms for delivering individually tailored messages and symbols that 'present a picture of the world which is so emotionally compelling that it is beyond debate' (Kertzer 1987: 101).

What follows is a preliminary investigation into the ways in which relatively new techniques for collecting and analyzing online data are being integrated into US political processes. It is part of a broader effort to critically examine 'big data' practices and projects using an anthropological lens. The term big data is so widely used that it has become difficult to define. I will use it to describe 'massive amounts of electronic data that are indexable and searchable by means of computational systems … stored on servers and analyzed by algorithms' (Lane 2016: 75). As noted by anthropologist Justin Lane, big data is also an industry in which companies such as Facebook, Twitter and Google are able to buy and sell data harvested from their users.[7]

I lived and worked in the US throughout the 2016 presidential campaign, the election and its immediate aftermath. During that time, I collected data from archival sources, TV, radio and online media sources. I also analyzed speeches and debates broadcast during the election campaign. In the next phase of my research, I hope to delve more deeply into the world of the data scientists who create the algorithms used by political consulting firms, Internet companies and military, police and intelligence agencies.

In this article, I begin by reviewing developments in the social sciences (particularly psychology) that have enabled researchers to harvest vast quantities of personal data at little or no cost. This is followed by an assessment of claims that Cambridge Analytica's techniques led to Trump's victory. I then conclude with a broader anthropological discussion about the state of democracy in an era of digital devices and diminishing privacy.

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1. See McLeod (1999: 360).
2. See Anderson & Horvath (2017); Foster (2016); Grassegger & Krogerus (2017).
3. Despite the rhetoric of many US politicians, in recent years most manufacturing jobs that have disappeared were eliminated as the result of automation, not offshoring. See for example Brynjolfsson & McAfee (2016) and *The Economist* (2016). Automation was also introduced to weaken labour unions.
4. See Vogel & Parti (2015).
5. Cambridge Analytica may have provided support to the UK Brexit campaign. See Cadwalladr (2017a); Doward & Gibbs (2017).
6. See Blakely (2016).
7. Two months into his presidency, Trump further repealed US privacy regulations, allowing Internet service providers such as Comcast, Verizon and AT&T to also sell user data.
8. 'Five-factor' traits were first proposed in the early 1960s (Tupes & Christal 1961), but weren't popularized in social psychology until the 1980s (see for example Goldberg 1981; McCrae & Costa 1983).

Targeting the electorate

To get a better understanding of how social science intersects with data science, let us take a closer look at Cambridge Analytica. The company's signature products are based upon 'psychographic' techniques which incorporate the so-called 'Big Five' personality traits well-known to many social psychologists: openness, conscientiousness, extroversion, agreeableness and neuroticism (or OCEAN).[8] These traits have become widely adopted among social psychologists over the past 35 years as a means of gauging an individual's personality. The 'Big Five' is the latest in a long line of psychometric instruments created over the past century.[9]

Cambridge Analytica claims to have collected data by surveying hundreds of thousands of people to determine their psychological profiles. It apparently gathered information by planting free 'personality quizzes' on social media platforms, most notably Facebook. Users were lured by the prospect of obtaining free OCEAN scores, while Cambridge Analytica gathered the data – and access to their Facebook profiles and names (Davies 2015). Cambridge Analytica's parent company, British-based Strategic Communication Laboratories (SCL), specializes in 'psy-ops', and has a history of developing disinformation campaigns and psychometrics-based propaganda techniques for influencing elections around the world (Cadwalladr 2017b; Doward & Gibbs 2017; Issenberg 2015). SCL's clients have included the British Foreign Office and the US Department of Defense.

According to some reports, Cambridge Analytica's methods were reverse-engineered – essentially reconstructed from research tools developed by psychologist Michal Kosinski. As early as 2013, Kosinski and his colleagues had argued that a person's private traits can be predicted with high degrees of accuracy by combing digital records of his or her behaviour (so-called 'digital footprints'): Facebook 'likes', Twitter 'retweets' and so on (Kosinski et al. 2013; Kosinski et al. 2016).

Among their most significant innovations was a Facebook app that allowed users to view their own personality profiles based upon their answers to a questionnaire. In so doing, they could share their profile data with Kosinski and the other researchers: 'before long, hundreds, thousands, then millions of people had revealed their innermost convictions. Suddenly the two doctoral candidates [Kosinski and David Stillwell] owned the largest dataset combining psychometric scores with Facebook profiles ever to be collected'.[10] Furthermore, the data could be reversed: 'not only can psychological profiles be created from your data, but your data can also be used the other way round to search for specific profiles: all anxious fathers, all angry introverts … all undecided Democrats … what Kosinski had invented was sort of a people search engine' (Grassegger & Krogerus 2017).

Cambridge Analytica's methods combine OCEAN profiles with information about personal preferences, consumption patterns, reading and viewing habits and other data mined from a range of public and private sources. The firm's marketing materials claim that 'we collect up to 5000 data points on over 220 million Americans … [to] predict the behavior of like-minded people' (quoted in Kranish 2016). What is curious – and typical of comments made by big data's boosters – is the notion that 'bigger is better': collecting enough 'data points' will magically reveal the truth. Anthropologist Genevieve Bell calls this the 'new empiricism', peddled by the custodians of big data, the 'new priests and alchemists' of the digital era.[11]

This is the essence of 'psychographics' – using software algorithms to scour individual voters' Facebook 'likes', retweets and other bits of data gleaned from social media that are then combined with commercially available personal information:

> land registries, automotive data, shopping data, bonus cards, club memberships, what magazines you read, what churches you attend … [are supplied by] active data brokers like Acxiom and Experian – in the US, almost all personal data is for sale. For example, if you want to know where Jewish women live, you can simply buy this information, phone numbers included. Now Cambridge Analytica aggregates this data with the electoral rolls of the Republican party and online data and calculates a Big Five personality profile. Digital footprints suddenly become real people with fears, needs, interests, and residential addresses. (Grassegger & Krogerus 2017)

This process might be seen as a high-tech form of animism, to the extent that the 'new priests and alchemists' attempt to breathe life into arbitrary fragments of information. One might also interpret these activities as pseudo-archaeological efforts to reconstruct the lives of real people using residues of virtual (not material) culture.

In a 2016 presentation, Nix described how such information might be used to influence voter opinions on gun ownership and gun rights. Individual people can be addressed differently according to their personality profiles: 'For a highly neurotic and conscientious audience, the threat of a burglary – and the insurance policy of a gun … Conversely, for a closed and agreeable audience: people who care about tradition, and habits, and family'.[12] Cambridge Analytica has reportedly sorted US voters into 32 different personality types for the purpose of creating targeted advertisements tailored to each of these types (Confessore & Hakim 2017). From an anthropological perspective, these messages might be interpreted as forms of symbolic manipulation deployed for use in America's greatest political sociodrama.

Fact or fiction?

Let us return to our original question: did big data in the hands of a small company make the difference in the 2016 presidential election?

This claim should be viewed sceptically for several reasons. Cambridge Analytica is well known within the industry for its aggressive sales and marketing efforts, including a sophisticated public relations strategy and relentless self-promotion. For example, the company's main webpage features footage of a triumphant Donald Trump interwoven with clips of *CNN* and *Sky News* reporters who breathlessly describe Cambridge Analytica's decisive role in his victory. Cambridge Analytica clearly benefits from such media attention.

Critics charge that the company and its CEO, Alexander Nix, have exaggerated Cambridge Analytica's role in the election's outcome. In February 2017, investigative journalist Kendall Taggart wrote an exposé claiming that more than a dozen former employees of Cambridge Analytica, Trump campaign staffers and executives at Republican consulting firms denied that psychographics was used in the Trump campaign: 'Rather than a sinister breakthrough in political technology, the Cambridge Analytica story appears to be part of the traditional contest among consultants on a winning political campaign to get their share of the credit – and win future clients' (Taggart 2017). Not a single critic was willing to be identified in the report, apparently fearing retaliation from the company's leading investors, Robert and Rebekah Mercer, and Cambridge Analytica board member, Steve Bannon (who briefly served as Trump's chief strategist).

The anonymity of Cambridge Analytica's critics might lead some to wonder whether Taggart's unnamed sources might be public relations operatives employed by the company's competitors for the purpose of discrediting it. With nearly $2.7 billion spent on the 2016 US presidential cam-

9. Critics within psychology include Samuel Juni, Jack Block and Paul McAdams. (Paul 2005: 191-196). Anthropologists have scarcely shown interest in the topic, though research among the Tsimane of Bolivia indicates that 'Big Five' traits are not universal (Gurven et al. 2013). Such profiling is ripe for anthropological critique – OCEAN personality tests are big business and have been adopted by many organizations for hiring employees, career counselling and marketing purposes.

10. See Grassegger & Krogerus (2017). The claims made by Kosinski and his colleagues are remarkable: on the basis of 68 Facebook 'likes', they claim to be able to predict a user's skin colour, sexual orientation and political party affiliation. Cambridge Analytica reportedly developed similar tools after SCL hired psychologist Aleksander Kogan to create a predictive personality instrument using Facebook 'likes' from tens of thousands of users and their 'friends' (Davies 2015).

11. See Bell (2015: 23-24).

12. Alexander Nix, 'The power of big data and psychographics', posted at https://www.youtube.com/watch?v=n8Dd5aVXLCc.

13. See 'Cost of election', Center for Responsive Politics. https://www.opensecrets.org/overview/cost.php.

14. See Liu et al. (2016) and Levine (2016).

15. A *Washington Post* journalist candidly admitted that most American journalists 'couldn't believe that the Americans they knew could embrace someone who mocked a disabled man, bragged about sexually assaulting women, and spouted misogyny, racism and anti-Semitism … although we touched down in the big red states for a few days, or interviewed some coal miners or unemployed auto workers in the Rust Belt, we didn't take them seriously' (Sullivan 2016).

16. See Condliffe (2017) and Confessore & Hakim (2017).

17. See Gould (1981: 192-193). Over the years, anthropologists (Malinowski, Powdermaker, Geertz, Berreman and others) also expressed concerns about the perils of assuming that science is an exclusively quantitative endeavour (Seaver 2015: 34-35).

18. Recent books discussing these phenomena include Hochschild (2016), Judis (2016) and Walley (2013). There are startling signs of desperation in the US's rural and deindustrialized regions. The suicide rate increased by 24 per cent between 1999 and 2014, while fatal drug overdoses have more than

paign (and another $4.3 billion on congressional contests) the stakes are higher than ever.[13] It would seem likely that public relations offensives and counter-offensives are in high gear, making it difficult to discern fact from fiction. Perhaps this is a reflection of the current state of public discourse in the US in which top officials label inconvenient truths as 'fake news' and, without a trace of irony, call blatant lies 'alternative facts'.

Some critics questioned Cambridge Analytica's methods. For example, political scientist Eitan Hersh has stated that the company's claims about predicting personality traits is 'basically impossible … you can do better randomly guessing' (quoted in Kranish 2016). Engineering scientist Jamie Condliffe (2017) is sceptical that there is anything new about the company's approach: 'Cambridge Analytica's targeting may not be doing a great deal more than other approaches that are widely used around the Internet'.

According to psychologist Michal Kosinski (personal communication), both sides in the 2016 US presidential election used personality profiling software, and similar tools were also used in Barack Obama's successful 2012 campaign. Furthermore, 'off-the-shelf' products and apps such as IBM Watson, Crystal and Apply Magic Sauce can hypothetically be used to create personality profiles based upon social media information and 'digital footprints'. What is more, computer scientists and psychologists are devising other ways to analyze personalities, including social media profile photos and 'emotional analytics' software that interprets facial expressions with the use of webcams.[14]

By late January 2017, Cambridge Analytica appeared to be backpedalling on some of its grander claims. Eventually, the company's head of product, Matt Oczkowski, admitted that 'we actually didn't do any psychographics with the Trump campaign' (quoted in Confessore & Hakim 2017). Such statements contradict articles and footage still posted on the company's website which make a direct connection between Trump's victory and Cambridge Analytica's psychographic tools.

Making sense of the election

It is tempting to explain Trump's victory as the net result of artificial intelligence, complex predictive algorithms and psychological profiling. Some will see this as a compelling narrative: it appears to place responsibility for the election's outcome primarily upon crafty right-wing elites who manipulated the masses with the help of PhD data scientists at Cambridge Analytica and its parent company, SCL. For some journalists, it may have also served to divert attention from the media's poor prognostication of the final result in the days following the election.[15]

The problem with such a narrative is that there is no concrete evidence to support it, nor is there sufficient data to suggest that 'psychographics' can be used to significantly influence people's political behaviour.[16] Stephen Jay Gould's scathing critique of early psychometrics –which took the form of IQ testing a century ago – can be similarly applied to psychographics today. Its proponents sought to transform psychology into 'as rigorous a science as physics … [they] equated rigor and science with numbers and quantification', a flawed assumption.[17]

Just as importantly, such narratives tend to minimize the significance of deepening economic, regional and ethnic divisions and disparities in the US, divisions that have been amplified and sometimes created by the political class and commercial media.[18] Millions of Americans voted for Barack Obama with the hope that he might bring substantive and systemic change in the wake of the 2008 financial crisis, but in the end many Americans perceived little improvement in their daily lives.[19] Despite official government statistics signalling economic growth and a booming stock market, tens of millions of Americans continue to struggle even as there is broad public support for universal health care, minimum wage increases, tuition-free college and paid family leave for new parents.

Sometimes, foreign anthropologists have a clearer picture of American society than their counterparts in the US. Their insights can be prescient: Canadian anthropologist Maximilian Forte predicted that tempestuous economic forces would catapult Trump to the presidency. Writing nearly six months before the November 2016 election, Forte argued that 'anyone understanding the contest in terms of Republican vs. Democrat, men vs. women, or whites vs. minorities, is already far off. *The primary dividing line of this election is globalization*, specifically neoliberal globalization, and more specifically: the plight of the working class in the wake of free trade'(Forte 2016; emphasis in original). Forte correctly observed that 'neoliberal Democrats', including the Clintons, had betrayed working-class voters and that for some, Trump represented an attractive opportunity to demolish the entire system.[20] It is striking that so few anthropologists have taken a scholarly interest in their own compatriots. Why is it that those 'Others [who are] disturbingly close to home' – for example, those who would become supporters of Trump, Brexit, Wilders, Le Pen, etc. – are rarely the subjects of anthropological study (Martin & Krause-Jensen, this issue)?

There is another dimension to Trump's electoral success. He had an uncanny ability to co-opt the political rhetoric of both the left and the right during his campaign. On the one hand, Trump adopted the language of conservatives by demonizing 'big government' regulation and excessive taxes. On the other hand, he embraced the language of liberals and progressives by complaining about Wall Street bankers, 'free trade' regimes, and the US-led wars in Iraq and Afghanistan. This campaign tactic was effective enough, but Trump took things a step further by calling into question the very integrity of the electoral process – with vituperative attacks on the media and ominous references to a 'rigged' election system.

We should not forget that before he entered the world of politics, Trump was best known to most Americans as a showman, the celebrity host of the reality TV show *The apprentice,* which at it its peak had more than 20 million viewers. Many people undoubtedly felt a connection to Trump, since for 14 seasons they had viewed him week after week in their living rooms and bedrooms.

Throughout the campaign, the US commercial media followed Trump's every move – and every tweet – with lurid fascination, which is hardly surprising given the fierce competition for ratings among news organizations geared to a relentless 24-hour news cycle. During Trump's first press conference on 16 February, he lashed out at journalists, while reminding them: 'I do get good ratings, you have to admit that … I know how good everyone's ratings are'.[21] Indeed, more than 5.6 million viewers watched the midday press conference on the three major cable news networks (CNN, Fox News, and MSNBC) while millions more watched on other networks or online. Writing more than 30 years ago, Neil Postman observed the rise of politics as entertainment – perhaps it was only a matter of time before the rise of entertainment as politics.[22]

Discussion

Despite Cambridge Analytica's exaggerated claims, we should not discount the company's importance and what it represents. Cambridge Analytica, SCL and similar organizations, serve as a stark reminder that data scientists, working side by side with psychologists and other social scientists, are vigorously pursuing more effective and effi-

doubled since 2000, largely due to opioid addiction (Beck 2016). Some are connecting rising death rates among middle-aged white Americans to 'despair deaths' (Khazan 2015).

19. Economist Richard Wolff recently noted that in 2008, economic elites 'found an attractive, handsome, young well-spoken man of African-American heritage to become the president of the United States in the hope that this would quiet the left, which it did … it was nowhere near enough to deal with the underlying mechanism of this system's inability to function, which is in large part why eight years later, the logical successor to Obama, Ms. Clinton, was defeated' (Wolff 2017).

20. See Forte (2016). Trump's xenophobic rhetoric was particularly effective in mobilizing white nationalists (Osnos 2015; Posner & Neiwert 2016). By aggressively scapegoating Latin American immigrants and Muslims, Trump was able to get support from working-class voters open to ideologies of patriarchal white supremacy.

21. Quoted in Ariens (2017).

22. Neil Postman's book *Amusing ourselves to death* (1985) was published at a time when Ronald Reagan – a former Hollywood actor – was US president.

23. Tim Crook, quoted on the radio programme *Letters & politics,* KPFA (Berkeley, California). https://player.fm/series/kpfa-letters-and-politics/george-orwells-1984.

24. Adolescent victims of cyberbullying might be canaries in the digital coal mine (Kowalski et al. 2012).

25. See Alter (2017) and Bosker (2016). Stanford University's Persuasive Technology Laboratory, directed by psychologist B.J. Fogg, is an alarming example of how this influential new area of applied social science has quickly become normalized.

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Bell, G. 2015. The secret life of big data. In T. Boellstorff & B. Maurer (eds) *Data, now bigger and better!*, 7-26. Chicago: Prickly Paradigm Press.

cient ways of influencing human behaviour in both the virtual and real worlds. It is worth pondering what might have happened if Cambridge Analytica had had more time, more detailed data and a more ethnographic (rather than 'psychographic') approach. It is also worth asking: will we soon face a future in which anthropologists are complicit in helping companies like Cambridge Analytica design more potent methods of mass manipulation?

Let us return momentarily to Gluckman's 'rituals of rebellion'. It is certainly the case that pre-existing political and economic structures remained intact during Trump's presidency: America's power elite certainly has not lost influence, nor have its two major political parties. However, last year's political sociodrama and its aftermath have resulted in little social catharsis or reintegration between those who supported Trump's political agenda and those who opposed it – quite the contrary. Mass bloodshed has not occurred on the streets of America, but within the first 100 days of the Trump presidency, there have been mass public protests (including a women's march, a 'march for science', a 'people's climate march' and spontaneous mobilizations at dozens of US airports in opposition to Trump's travel ban), a rash of anti-Semitic, anti-Muslim, and anti-immigrant incidents, and violent clashes between groups of protesters in several US cities – most recently Berkeley, California.

But beyond questions of ritualized rebellion, the Cambridge Analytica case is significant because it illuminates new technological controlling processes (Nader 1997) under construction. We should heed Gillian Tett's warning: 'data science is changing digital privacy and democracy in ways most people do not understand' – and we ignore these changes at our own peril (Tett 2017).

Consider the use of automated 'bots' – artificially created social media accounts that can be deployed at a moment's notice. These programs have become potentially powerful propaganda tools: bots are programmed to act like people posting information online and can be mass-produced in order to change online conversations and create topical trends. Communications studies researchers Sam Wooley and Philip Howard discovered that just before the US election, hundreds of websites were created to disseminate pro-Trump links and articles in order to amplify Trump's message (Kollanyi et al. 2016). They also discovered the presence of hundreds of thousands of 'sleeper bots': 'Twitter accounts that have tweeted only once or twice and are now sitting quietly waiting for a trigger – some sort of crisis where they will rise up and come together to drown out all other sources of information' (Cadwalladr 2017a).

Though Orwell's *1984* topped the bestseller list in the weeks following Trump's election, his brilliant essay 'Politics and the English language' is perhaps more useful for understanding the current state of political rhetoric in the US. 'If thought corrupts language, language can also corrupt thought', wrote Orwell. In a supercharged media environment in which Facebook and Twitter have become the primary means by which millions of citizens consume news, perhaps we should not be too surprised that many people 'are experiencing anxiety about the verification of reality, and the corruption of language, and the deployment of the big lie' in recent times.[23] Designing and mass producing systems of symbolic manipulation has never been so easy.

Finally, the controversy surrounding Cambridge Analytica speaks to the deep anxieties many people feel about the obliteration of privacy in the digital era. People around the world are communicating in radically different ways now compared to a decade ago, as Internet technology advances apace. With so many people posting so much information about the intimate details of their lives for the world to see on the Web, coordinated attempts at mass persuasion will almost certainly become more widespread in the future.

In a world of diminishing privacy, our vulnerabilities and frailties are easily magnified.[24] There is also mounting evidence that digital compulsions – some call them addictions – are negatively affecting human health, social relationships and cognitive capabilities, thanks in part to the efforts of social scientists who dedicate themselves to maximizing the amount of time we spend on our smart phones and tablets. Experimental psychologists specializing in what they euphemistically call 'behaviour design' have largely ignored the ethical problems inherent in such work to help companies create digital devices, apps, media platforms and other technologies that are literally irresistible to their users.[25]

If nondescript pocket-sized devices made of plastic and glass have abruptly altered patterns of human behaviour, communication and cognition in less than a decade, what will happen once 'wearable' virtual reality interfaces like VR headsets, eyeglasses and corneal implants are widely available? The case of Cambridge Analytica deserves our attention because it points to the possibility of a future in which totalitarian institutions have the tremendous capacity to mould the ideas, attitudes and behaviours of an audience captured by its own compulsions. ●

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