Left to our own devices
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Olly, developed by London-based Emotech, can be defined as a companion robot, a character bot, a home robot, a socialbot, a digital or voice assistant, an emotion-enhanced IoT device, or as Andrea L. Guzman would define it, "a vocal social agent" (2017, p. 70). It employs facial recognition, motion analysis, voice analysis and integration with various accounts, such as Gmail or Spotify. It communicates through spoken word and sounds, limited movement, as well as through a visual design language coming from its circular LED display.

In theory, as a result of sensor data, as well as integrations and constant analysis, Olly is able to learn the user's patterns, schedules or routines. Proactivity is thus enabled through an employment of several sensors that allow a multimodal analysis of a user's behaviour. Several sensors, in theory, enable what Shoshana Zuboff calls "ever more predictive sources of behavioural surplus" (2019, p. 8), which act as fuel for machine intelligence.

What convinced me to be vocal about this vocal social agent was my affect after hearing the sentence in a video on Emotech website. The video is now protected by a password, but one of the cofounders said the following: "First Olly will learn from the user, then the user will learn from Olly." I consider this an interesting shift of perspective in relation to the prevalent discourses on machine learning. In this case, it is not the model that learns, or keeps on learning, but the (human) user.

In 2017, Olly received awards at CES Innovation Awards, in four categories: Smart Home, Drones and Unmanned Systems, Home Appliances, and Home Audio-Video Accessories. That achievement made Olly the most awarded robotics product in CES history.

In the preliminary phase of my project, I wanted to couple the conceptual analysis of proactivity in human-robot interaction with the analysis of biases and presuppositions of engineers, designers, and academic advisors contributing to the development of Olly. Conducting fieldwork would enable me to inquire into the ways in which interaction designers inscribe the rhythms of leisure, pleasure, and productivity into human-robot interaction. Simply, I was interested in what reaction of Olly is caused by a laugh, by a grin, by crying, or perhaps by a break-up email.

Despite an initial possibility to conduct fieldwork in the company, my study was cancelled due to the shortage of time of their employees. Despite all the awards I just mentioned, the device is still not shipped to their backers on Indiegogo, and for the past year and a half, they have been apologising to their backers. But they are still working on it: they are predominately backed by Chinese venture capital, so Indiegogo backers are not their main backers. But it is through Indiegogo that we can get a glimpse of their troubles, their explanations, such as their inability to compete with the monopolies of Amazon and Google.

When I had to change the research question and then refrained from pursuing a data analysis of interaction commands, I decided to explore a shift from mass surveillance to personalised steering of populations or personalised behaviour change, which was – among others – voiced by Byung Chul Han in *Psychopolitics: Neoliberalism and New Technologies of Power*. Or in the words of Bernard Stiegler, I explored the shift from biopower to psychotechnological psychopower, which is related to cultural and cognitive technologies that capture, form and deform attention (2010, p. 22).

The multimodal user recognition system of Olly combines facial detection, motion detection and voice detection, which enables Olly to demonstrate, or give the appearance of, emotional intelligence. As Andrew McStay (2018) calls them - "emphatic media," are capable of attracting gaze, voice commands, and motions, readable by machines – or emphatic media. The multimodal analysis of user behaviour enables a more personalised, and therefore more effective, steering of behaviour. And I must say it again: for now, or forever, in theory.

As the theory and practice of new technologies are often very different, I consider their fictions, their politics, their funders and especially the political climate in which they are embedded, a much more reliable source for understanding, and contesting them.

(PARTICIPATORY) SURVEILLANCE

The shift from mass surveillance to active behavioural steering happens in a climate of participatory surveillance, at a time when technologies activate, motivate, and optimise users. Self-tracking, practice of the theory of the Quantified Self, and the users' participation or *eagerness* to be tracked, complicates the analysis of surveillance as a disciplining power. Users delegate the management of their routines: their, or our, eagerness to be surveilled, recasts privacy as a secondary or non-existent concern, or a trade-off for convenience.

Surveillance can therefore be analysed, following Greg Elmer, as an "act of solicitation and exchange" (Elmer 2003, p. 232). In this regard, I found the most useful the perioptic model of surveillance by Michalis Lianos. In contrast to the panoptical dimension of public and private institutions where subjects are monitored by an outward-looking gaze, the perioptic dimension or model emphasises how power is related to the ability of actors to attract the gaze (Lianos 2010, p. 79).

In order to be responsive in an appropriate manner, the digital assistant needs to reach solid levels of contextual understanding, related to the user's personal life (ibid., p. 89). That is why more data, and more intimate data, is needed to help with decision-making and better understanding, or simulation of understanding of users.

According to McStay, the "success of a digital assistant in its mission to serve and mine our lives for information is based on the extent it can decrease mediation and encourage immediation" (McStay 2018, p. 89). Immediation is a result of a reduction of obstacles, such as keyboards or mice (ibid.). Following Guzman (2017, p. 69), the strongest example of immediation is the very shift of a medium itself from a tool to a communication partner.

The appearance of their emotional intelligence or empathy is able to entice users into giving more data, as well as subjecting themselves to the rhythms of the algorithms.

REALITY MINING

Reality mining, wrote Nathan Eagle and Kate Greene in *Reality mining - Using Big Data to Engineer a Better World*, enables the manipulation of flows and acting on the data recorded – rather than simply recording the data (Eagle and Greene 2014, p. 1). In the words of reality miners, a person's behavioural space is a mathematical representation of their behaviours. An analysis of an event outside this space shows or warns that
"it is something that is so improbable considering any other prior behaviours that it has a high likelihood of being unintended or potentially dangerous" (Eagle and Greene 2014, p. 37).

Eagle and Greene considered that personal data could be used for a monitoring system that would indicate when a person's behaviour spreads considerably outside the norm, in relation to a person's behavioural space or baseline behaviour. Such behaviour could be then interfered with (ibid.) Even though Eagle and Greene recognised a stimulating application of reality mining in the development of coaching services for behavioural change, giving examples of influencing a person's talkativity during meetings, limiting internet usage, or helping to quit smoking (ibid., p. 31), we can imagine a wider use of reality mining, possibly embedded in devices such as Olly, for personalised behaviour change. If a device is able to, or gives the appearance of its ability, to recognise stress or predict psychological issues from analysing voice prosody, we can imagine many other uses. Especially as the funding comes from a state-sponsored fund for AI in health, as it is in the case of Olly.

Reality mining is closely related to space and time management, themes already analysed by Foucault. If we go beyond Foucault and the panoptic model, the perioptic model allows us to relate power to the ability of actors to attract gazes, or for that matter, attract any other signals a machine can read and then react, or nudge, accordingly.

Ideally, Olly manipulates the user's perception of time, by interfering in their patterns and routines, and thus modulates the consciousness of users. Zaferious Fountas, the creator of Olly`s brain, spent a considerable time doing research on the manipulation of time perception.

How can we then conceive of the agency, or perhaps autonomy, of users who delegate decisions about their everyday lives to home robots - whose developers spend time on manipulating the perception of time itself?

NUDGING

If I take the definition that satisfied Zuboff: "The word *autonomy* derives from the Greek and literally means "regulation by the self." It stands in contrast to *heteronomy*, which means "regulation by others." (2019, p. 308) The others that make us dance on the

rhythms of algorithms subscribe to the means of behavioural modification. As Zuboff calls it, instrumentarian power, is data-driven, and runs a society ruled by computation.

In that context, I need to refer to Richard Thaler and Cass Sunstein who under the concept of nudge, understand "any aspect of a choice architecture that alters people` behaviour in a predictable way" - it is about the ways in which situations are constructed, so they, following Zuboff (294) "channel attention and shape action" (Zuboff 294) Zuboff puts it under "herding", one of the three approaches to economies of action: tuning, herding and conditioning. In her words, "Herding enables remote orchestration of the human situation, foreclosing action alternatives and thus moving behaviour along a path of heightened probability that approximates certainty." (295)

Governing humans, writes Nikolas Rose (1999, p. 4), does not mean overpowering their capacities to act, but acknowledging and utilizing them for the governor's own objectives. Besides the normalisation of nudging in the market realm, it is an increasingly important element of contemporary governance.

The idea of using digital assistants as nudging devices was already proposed in *Helping Addicts: A Future Scenario*, an article published in 2005 by nobody else than Rosalind Picard, the author of *Affective computing* and former student of the father of reality mining, Alex (Sandy) Pentland from MIT. She constructed a vision of nudging addicts in the year 2021. Picard wrote a fictional tale of a heroin addict named Maria who lives on the street, and is being nudged by a virtual assistant. The data on her drug addiction and emotional, as well as medical and treatment history, is collected by a bracelet, and sent to medical authorities. The authorities are then able to nudge her and offer her therapy through realistic simulation, based on real people and situations in her life (Picard, 2005).

Relating that to our case: as it is a companion, Olly provokes the delusion about its benevolence. It makes manipulation – or surveillance – be perceived as care. Which brings us to the second, and perhaps more alarming, case of nudging in governance. Championed by The World Bank, the first Behavioural Insights Unit ushered in The United Kingdom, spreading to other countries.

In 2015, The World Bank published a report named *Mind, Society and Behaviour*, focused on the use of behavioural science to alter human decision making, for its deployment in development aid. In the report, they write that the development community needs to pay attention to the methods of marketers, engineers, and private firms that would enable them to manipulate people's automatic and social thinking, as well as thinking with mental models (World Bank 2015, p. 3). They cite the malleability of mental models as a good reason for targeting them and adapting them to development objectives (ibid., 13).

In 2017, Richard Thaler, the father of nudge, received a Nobel Prize award in economic sciences for his contributions to behavioural economics. In 2016, Cass Sunstein, the co-author of the book Nudge they published in 2008, published a book "The ethics of influence" that warns of the use of nudging in cases of authoritarian governments, stating that Hitler and Stalin were also among the ones who nudged.

In the current political environment, nudging is not – if it ever was – a neutral or impotent tool of subjugation. However, it is not necessarily Olly or other proactive robots, at least not with the most vulnerable, that we should focus on in our fight for the right to future tense.

As Zuboff defines the right to future tense, it is "the right to act free of the influence of illegitimate forces that operate outside our awareness to influence, modify, and condition our behaviour" (195) Similarly, Coeckelbergh proposes a reconceptualisation of privacy: "instead of "not being seen" or "not being heard" by others (via the technology) it could also mean "not being moved and choreographed" by others via the technology." (Coeckelbergh 2019, 41).

CONCLUSION

The case that I have chosen, a companion or home robot that acts as a IoT device manager, is a suitable attractor, an agent that can, in theory, attract many signals needed for successful behavioural change. As Zuboff notes (p. 216), the consultancy firm AT Kearney wrote that "IoT's true value depends on customers adjusting their behaviours and risk profiles based on feedback from their 'things'".

As Elmer wrote about the participatory aspect of surveillance, its enticement lays in the experience that consumers are both rewarded and disciplined. However, the punishment can be recognised in the effort that is needed to find unfamiliar, the previously unseen, and different commodities if they endeavour to opt-out. Such systems thus make the consumption of *more of the same* convenient and easy, whereas seeking the unknown becomes ever more difficult (Elmer 2003, p. 245).

If we perceive lifestyles as commodities to be bought or aligned with, and consider Olly or any proactive robot as a behavioural recommendation system, *more of the same* does not relate solely to content consumption. More of the same is about the increased sameness of the lives that we are nudged to live – through the manipulation of our flows through notifications, or even through recommendations of useful, productive, normalising actions.

Without a more engaged inquiry into the existence and design of persuasive technologies setting their limits, surveilling their creators, we might soon gaze deeply into the eyes of an "empathetic" simulant of surveillance, or the medium as the concealed master. We would be governed by computation, or as Zuboff names that, left to The Big Other. Being left to our own devices would not enable us to contest and fight for the future of our tenses, fight for the future of our senses.

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