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## Tinker, Tailor, Soldier, Spy

Peter Buell Hirsch

In her groundbreaking book *The Age of Surveillance Capitalism*, Shoshana Zuboff sounds the alarm on the dangers global society faces from the ways in which the information technology industry increasingly controls our behavior as individuals (Zuboff, 2019). In her telling and the critiques of other like-minded Cassandras, the FANG companies (Facebook, Amazon, Netflix and Google) are using the yottabytes of data they have on us to nudge us into behaviors that are commercially lucrative to them, whether that involves buying products and services or simply spending more and more time on the networks they own and operate. Whether one believes there is deliberative manipulation going on or not, it is objectively true that the internet is consuming us. Between 2000 and 2018, according to the Annenberg School at the University of California, the time that Americans spent online increased from 9.4 to 23.6 h a week (Chafee, 2018). This is not an exclusively American phenomenon. According to the UK's communications regulator OfCom, the average Briton spends an entire day per week online, with 20 per cent of the population spending more than 40 hours per week interacting with an internet-connected device (Hymas, 2018).

It is the trove of data created by these trillions of hours and the insights about individual human beings that it generates that allegedly enabled the attempted political manipulation of the 2016 US Presidential Election and the UK vote on Brexit (Auchard and Ingram, 2018). According to US Department of Homeland Security's Jeannette Manfra, the Russian Government almost certainly also attempted to undermine the electoral system in all 50 US states (Levine, 2018). What can be missed, however, in the anxiety about politics, democratic institutions and the alleged machinations of Facebook and Google, is that advanced data analytics is making its way into every nook and cranny of business life.

A compelling example of how and where this is happening is the increasing use of AI tools by business organizations to monitor and influence employee behavior. Moving further on from the now well-established use of automated resume reading in hiring and recruitment, many companies are deploying related tools to identify patterns of behavior and communications that influence employee retention. Alerted by the algorithm, the HR department of today can increasingly identify valued employees who are a flight risk and provide the company with enough information about the possible grounds for that risk to recommend changes in assignments, promotions or raises (McGregor, 2016). Given the many different ways in which companies can monitor and could subliminally influence employee behavior, it seems important to ask where the limits to such interference should be placed. In countries, such as those in Western Europe in which corporate managements must collaborate with workers councils, it does not seem too far-fetched to imagine the creation of special committees dedicated to regulating the use of employee behavioral data

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by company management. It is clear we have moved far beyond the deployment of Stakhanovite posters, urging employees on to more heroic efforts (Newman, 2015).

The technologies for universal employee surveillance and “nudging” are all already available. They range from the analysis of emails, time spent online in social networks, tone of voice, facial expression and even commuting times, and there is no shortage of vendors anxious and willing to provide employers with these tools. Humanyze, a company that makes name badges with two microphones doing real-time voice analysis, as well as sensors that track an employee’s movements around the office, emphasizes that it only shares individual data with the employee and only aggregated data with company management (Heath, 2016). It also requires employees to opt in to be monitored in this way. The company is taking great pains to underscore its data privacy controls and how the information is as useful to the employee as it is to the company. In a pilot on a financial trading floor, the company discovered that successful traders were emotional athletes whose vital signs responded swiftly to stressful situations, such as market volatility, but relaxed quickly when the situation was resolved. Less successful traders, by contrast, were “hounded by their mistakes,” and had elevated heart rates for an extended period. “Think of it as a Fitbit for your career,” says company founder Andrew Lo, who believes that this kind of monitoring will quickly become ubiquitous because of the value of the performance insights flowing from the data.

On the employee retention side, data analytics is apparently becoming increasingly reliable. IBM’s CEO Ginny Rometti has said that with AI tools, the company can predict with 95 per cent accuracy whether an employee is planning to leave the company within six months (McGregor, 2016). IBM’s Chief Human Resources Officer Diane Gherson describes how “talent analytics” identified a software engineer at risk because she had not been promoted at the same rate as two other engineers in entirely different operating units but who had graduated from the same university computer science program as she had. By flagging the risk, the company was able to keep her at IBM by giving her “more mentoring and stretch assignments”.

Humu, a company founded by a former Google HR leader, takes this proposition several steps further by offering AI-driven insights to help managers “nudge workers towards happiness” (McGregor, 2018). The company, whose Web copy reads “Using Science, Data and Love,” has developed a patented “Nudge Engine” that analyzes data from employee surveys and other sources to make recommendations about how managers should treat employees. One of the company’s founders, Jessie Wisdom insists that its nudges cannot get employees to do things they do not want to do, but critics are concerned that the employer is the only party that knows the purpose of the nudges and it is they, rather than the employee, whose interests are in the forefront.

Measuring employee performance is also being subjected to AI and machine learning. Isaak, a program designed by the UK company Status Today has earned the ire of trade union leadership by monitoring employee behavior minute by minute to, in the company’s words, identify how collaborative workers are and who, within the system, are “influencers” or “change makers” (Booth, 2019). Labor leaders say the system, which workers do not have an automatic right to inspect, will lead to mental health issues, as employees curtail breaks in fear of the algorithm.

The use of biometric data, such as fingerprints and facial recognition technology, has also made its way into the workplace. Increasingly, facial recognition software is even being used in recruiting to determine the likelihood of good cultural fit with a prospective employee. By “measuring” aspects of a candidate’s personality such as confidence, anxiety, stress or enthusiasm, the company’s software program called Artificial Emotional Intelligence (AEI) purports to overcome natural human bias in making hiring decisions (BasuMallick, 2018). As Xi Yu, CEO of a company called Human, puts it: “Using our

technology, we can now provide a level of intelligence that was previously unattainable and remove some of the 'damaging' human bias that so often clouds our judgment".

In the face of this onslaught of artificial intelligence (AI) tools being put to use in the workplace, it is hard not to ask questions about its impact on the relationship of trust between employer and employee, long believed to be the bedrock of effective organizational cultures. The proponents of these tools argue vehemently that transparency and consent can compensate for the invasiveness of these new technologies and that, at the end of the day, the data produced benefit employees as much as employers by giving them insights that help them be more productive in their work. In our view, the relentless expansion in the use of AI in monitoring and surveilling employees will backfire, and the most talented workers, often those with the greatest understanding of how these tools work, will opt to find employment in corporate environments in which they are not under constant scrutiny.

For companies truly committed to the deployment of these tools, we recommend a few guidelines to mitigate the Big Brother effect. While employee consent and transparency about the use and disposal of the data gathered are fundamental, we believe there are some additional elements that are just as critical.

### Verification

While the computer algorithms of AI are unquestionably able to identify intriguing patterns in the data, the interpretations of these findings are by no means infallible, and a duly constituted panel of employees must be given the opportunity to challenge the assumption built into the algorithm and the interpretations it spits out. Companies dedicated to using these tools need to proactively hire employees with the technical skills in AI to operate as a check and balance against overly confident application of the insights generated by the software. In those countries in which labor representation is still strong, we anticipate that unions will proactively seek out representatives with these same skills to sit on their side of the bargaining table. While wages and work rules will always dominate labor management discussions, we believe that the fair and equitable use of surveillance technologies will become a routine part of contract negotiations.

### Democratization

Just as the insights derived from the data need to be verified for accuracy, it will be important for companies to share the data and insights with their employees preemptively. The more invasive the surveillance becomes, the more important it will be to give employees themselves the right to assess the implications of the findings and offer their own recommendations for changes to the flow of work that they imply. If trust between employer and employee is not to be completely eradicated, the tools must be shared in such a way that employees feel they have some control of the ways in which they are used.

If these straightforward and arguably reasonable steps are not taken, we foresee a time in which companies will be forced to make a choice. They can either derive the competitive advantage flowing from the use of these new surveillance tools with a docile and potentially resentful workforce. Or they can elect to join the group of companies who largely abjure the use of these tools in the belief that the most talented and engaged potential employees will seek them out for precisely this reason. The jury is still out as to which group will be the larger or more successful.

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