On the Clock and Under Watch:
A Review of the Literature on Electronic Employee Surveillance, with a focus on Call Centres

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Introduction

More and more aspects of our lives are being organised and experienced through digital technologies. We have intimate conversations with loved ones on messaging apps; we divulge to digital calendars the events and meetings that make up our lives and rely on them to remind us what’s next; the first advice we seek on love, health symptoms or our deepest insecurities is often from a search engine; and we increasingly experience real world events and even friendships via images and videos on our screens. With the use of the breath-taking technologies that make these new ways of living possible, comes the supply of our private information to these apps, platforms, and the corporations and organisations behind them. As these technologies have emerged, many people have developed a healthy scepticism and critical attitude towards them.

However, it is not just in our private lives that technologies have taken a central position, but also our working lives. Almost every industry has come to utilise, if not rely on, new digital technologies, and this has also entailed profound transformations of our subjective experiences and interpersonal relationships at our places of work. Work processes have been reorganised around these technologies, as they have come to be the tools we work most closely with to complete our tasks, as well as a registry of how we spend our working days and how much we output. As we will see highlighted throughout the literature, these digital monitoring systems are compiling statistics on seemingly endless aspects of employees’ behaviour, and then being used by management teams to create more targets, reorganise how work is done, and to discipline.

Edwards et al. describe employee surveillance as the ‘Cinderella sister of surveillance studies: neither as outright shocking to citizens as state surveillance in the post-Snowden era, nor as ubiquitously discussed as consumer targeting and profiling in the “surveillance capitalism” ecology of social media, search and e-commerce platforms like Google, Facebook, Amazon et al.’ (2018, p.17). Nevertheless, there is a considerable amount written and learned about the topic and some of the specific employee surveillance technologies that have been introduced over the preceding decades, and in this paper I will present some of the important work from this literature.

A theme throughout this literature review is that surveillance at the workplace is under constant negotiation between management and labour. As we will see, the implementation of monitoring technologies at the workplace is always subject to the interpretations, and willingness to adapt and commit of workers, regardless of the framing, extent, or form of monitoring. Within this negotiation surrounding surveillance between management and labour, meaning-making occurs and norms are developed.

The majority of the literature in this review is from a sociological background, but there are also some papers featured from management studies, as well as references to news articles and reports. I first present a review of the literature pertaining to surveillance at the workplace generally, and then go on to discuss in more detail the specific technologies involved, paying particular attention to the more recent and emerging digital monitoring technologies and trends. Then, taking call centres as an example of an occupation that has been identified as a site of high levels of managerial control and surveillance, I will review research focused on the labour process and monitoring practices in call centres.

Surveillance at Work

Control and surveillance of workers at the workplace is not a new topic (Burawoy, 1979; Foucault, 1979). There is a rich and varied history of bosses watching over and monitoring their workers, passing through key events and periods of time including warfare, slavery, colonialism and globalisation, as well as many other more recent methods used to control and exploit workers (Ajunwa et al., 2017). Surveillance of the employee has always been a key component of the capitalist mode of production (Thompson, 2002), and it is generally agreed employers have good reason to conduct some amount of monitoring of their workers. It is often taken for granted that workplace surveillance is
a necessity: normal, expected, and good management practice (Ball, 2010). Over a century ago, Taylorism and ‘scientific management’ undertook the analysis of workflows and focused on ways to maximise efficiency and labour productivity (Taylor, 1911). One aspect of the Taylorist re-organisation of the workplace was in changing office lay-outs so that supervisors would have the ability to physically oversee a number of typists in different locations in a room from one position (Thompson, 2002). If the surveillance of employees goes back for so long, the question then presents itself, why is there such increased interest in and importance given to the topic in the last number of decades? Upon inspection, an unprecedented intensification of the surveillance process, especially in its new electronic forms, along with an increase in its scope and reach into life outside the workplace, seem to be the two driving factors of this renewed scholarly and public interest (Moore et al., 2018a; Thompson, 2002).

A preliminary note on terminology: in this review, ‘monitoring’ and ‘surveillance’ are used interchangeably, although in the literature the choice of terminology often reflects something about the background of the researcher, and both words can have quite different connotations (Sarpong & Rees, 2014; Botan & Vorvoreanu, 2000). Ball (2010) makes a rough divide between the sociologists interested in power, politics, resistance and employee meaning-making that tend to use the term ‘surveillance’, often with a negative connotation, and the researchers from a psychology background who investigate ‘monitoring’ which tends to not have the dystopian baggage that ‘surveillance’ often carries. Sewell and Barker (2006) draw a line between the ‘radical’ and ‘liberal’ camps; the radical camp tending to be more polemic and focusing on the dangers of surveillance, domination etc., while the liberal camp see monitoring as more justifiable, tolerable and necessary, as long as it is carried out within the right regulatory framework. According to them, there are two corresponding discursive formations to the two sides of the debate: surveillance as ‘caring’, and surveillance as ‘coercive’. As one would expect there is also a large quantity written on the subject from a management background, often with less attention being paid to the potentially problematic ideological underpinning that interests many sociologists.

Surveillance Technology at Work

Technologies of Modern Workplace Surveillance

Why do organisations monitor their workers?
To understand why businesses resort to electronic surveillance, Ball (2014) identifies three reasons, namely: to maintain productivity and monitor resources used by employees, to protect trade secrets, and to provide evidence in case of a legal dispute. We also hear businesses say the reason they implement these types of electronic monitoring systems is to improve efficiency and innovation (Ajunwa et al., 2017).

A large part of why there have been dramatic changes in electronic employee monitoring is that these days so much work is performed on the internet (Ball, 2014), and often from devices that have been supplied by the employer. The fact that workers are using equipment supplied by their employer for both private and professional purposes means it is increasingly possible for companies to gain access to software that will give them a broad range of control and surveillance over their employees’ online activities (Rosengren & Ottosson, 2016).

In advertisements and product descriptions, surveillance equipment manufacturers often warn businesses about the different threats they should be weary of. Abacus Group, for example, claim their software will ‘tell you which members of the team are idling away their time’ and ‘prevent fraudulent and abusive use of your phones and networks’ (Stevens & Lavin, 2007). Rosengren and Ottosson (2016) speak about how these software providers fuel narratives that are often difficult to verify, such as there being a large number employees out there that are spending their days at work browsing porn on the internet, and thus businesses have a real issue of productivity and costs to deal with. The fear of ‘loafing’, ‘time-theft’ and other
immoral workplace behaviour play a significant role in organisations implementing intensified monitoring, which is consistent with the historical perspective that recognises that wage labour has generally held a negative connotation, with the labourer appearing as a ‘despised character’ (Rosengren & Ottosson, 2016, p.183). Stevens and Lavin make the comparison with Taylorist-era discourses surrounding the worker: ‘similar moralistic comments as those espoused by Taylor arise, but with an added criminalizing emphasis’ (2007, p.41). Sanjeev Patni of Crossover, who produce productivity software that monitors workers, presents their technology as something an employee could welcome: ‘The response is “OK, I’m being monitored, but if the company is paying for my time how does it matter if it’s recording what I’m doing? It’s only for my betterment”’ (Guardian, 2017a).

Stevens and Lavin (2007) say that the main point of this surveillance is to document the entirety of the working day and thus acquire exhaustive statistical computation of how each worker spends their day at work. Based on all this data, management builds an assemblage of calculative and calculating practices based around regulating time. All transgressions by the worker are recorded on their file and are then available for use by management in the future should they need to argue a point of contention or discipline the worker at some point in the future. Levy (2015) emphasises managers wanting their workers’ day-to-day practices to be more visible and measurable. Interestingly, though, once this data is measured and recorded, it opens up new pathways of action for management, pathways that are often incongruent. Levy describes some of these pathways that are available only because of the electronic surveillance. One is that the abstracted knowledge gives rise to new barometers and the ability to make comparisons between workers, teams, regions and firms, as well as evidence that can be used if there is an issue with an employee.

Moore (2018, p.40) says new work design methods use surveillance technologies to measure and decipher ever more aspects and types of labour, one example being affective labour. The goal here, somewhat predictably, is not to pay for these previously unacknowledged forms of work, but rather to uncover to what extent workers can cope with the acceleration of change in digitalised workplaces. She presents these management systems as attempting to predict the mental load-bearing capacity of workers under the weight of the increasingly oppressive labour process, in order to prevent and counteract any future challenges of labour against capital.

The push for collecting and analysing data and information on employees’ behaviour and productivity can also be seen as part of the broader and rapidly growing trend within human resources of people analytics. The application of data-science methods in helping organisations understand their employees and workforces is now seen as a must within many large companies, including insights into recruitment, performance measurement, compensation, employee behaviour analytics, and network analytics (Taitz, 2019).

**Examples of modern workplace monitoring technologies and their uses**

To illustrate the reality of modern technologies of workplace surveillance, I will now give some examples of such technologies and how they have been implemented. There is a wide range of surveillance techniques being used by management teams currently, including computer and phone logging, closed circuit television, GPS tracking, RFID badges and electronic recruitment systems (Ball, 2014, Balkovich et al.,2005). There are accelerometers in mobile phones supplying data to various phone applications, facial recognition software that assesses employee mood, as well as applications that put together information from the entire workforce’s social media posting and prepares it for use by management (Ball, 2014). Some acts of surveillance occur only as a singular event or as a series of random ones, while other techniques like call monitoring or key logging are typically ongoing (Rosenblat et al., 2014). Moore et al. (2018b) point out that while some of these technologies, such as movement-tracking software, have been around for a few years now, the more recent iterations have greatly advanced in scope and precision. As I will further highlight in a later section, these technologies can have profound impacts for workers and management,
including the rationalisation and reducing of workforces: wearable tracking badges that tracked working speed in a Tesco warehouse were shown to reduce Tesco’s need for full-time employees by 18% (Wilson, 2013). The speed and direction of movement is not all that is recorded now but often also physiological information such as steps taken and heart rate. This level of surveillance is not limited to jobs where moving around is central, such as warehouse transportation or truck driving, but much office work now also features desks and chairs that measure heat and movement levels, as Radio-Frequency Identification (RFID) badges are attuned to workers tone of voice and gesturing (Moore et al., 2018b). It is also reported that some nurses now wear electronic badges that tracks how often they wash their hands (Ajunwa et al. 2017, p.110).

In figure 1 below which is adapted from Ball (2010), we can see some of the primary targets of surveillance and the techniques and tools employed to control them.

![Image of employee surveillance techniques](image-url)

**Figure. 1** The range of employee surveillance techniques used by organizations (Ball, 2010, p.90)

As far as computer logging goes, it is now possible, and common, for many different types of data to be recorded. This can include the content of files stored and websites visited, keystrokes, time spent at the keyboard, email and messenger monitoring, as well as content uploaded onto various social media sites or blogs (Schumacher, 2010). The data can then be used for many purposes, including building typical behaviour profiles and patterns, in order to then be able to detect when someone is deviating from the norm.

There are advanced technologies for ID badges and ‘Smartcards’ that control and record workers’ access to different parts of buildings and company data centres, with some firms using fingerprint scans, facial recognition and iris scans to control such access (Schumacher, 2010). Boston-based analytics firm Sociometric Solutions have developed ID badges which comes with a built-in microphone, location sensor and accelerometer (Ajunwa et al., 2017). While the company claims they do not record conversations or provide employers with the raw individual data, Ajunwa et al. point out that there is an unspoken caveat that there is currently no legal barrier to management getting access to the raw data and that if this were to happen they could potentially use it (a conversation on a coffee break between employees, for example) for a number of reasons beyond the stated goals of the technology.

Amazon submitted and won two patents for wristband software that would track workers’ movements and time, and deliver corrective vibrations to their wrists if they were found to be doing something wrong by the software, such as moving in the wrong direction (New York Times, 2018).

Ball (2014) says the most intense electronic surveillance is to be found (at least in 2014) within the service sector, particularly gambling, logistics and call centres. This is largely due to a lack of resistance to such technologies, owing to typically low union density. It was reported in the Guardian (2017a) that many surveillance technology providers focus on the financial sector, since companies are required to track staff communications in order to prevent insider trading. Belanger and Thuderoz (2010) also highlight that sooner rather than later, most professionals, whether in design,
universities, engineering or the civil service, will have to connect their software to their employer's mainframe technology, which opens them up to surveillance. The industry for producing this monitoring software is also growing rapidly, with some estimates saying it will reach 3.84 billion USD by 2023 (Rosengren & Ottosson, 2016; Market Research Future, 2019).

Rosengren and Ottosson (2016) point out that many of the features of such monitoring software are the same as those sold to parents to monitor their children's internet use. In a bizarre similarity, monitoring software in Japan that was originally designed for families with relatives with dementia to locate their family members, has been adopted by sales departments and police forces to track their staff. The system tells the employer not just where their worker is but if they are standing, walking, running, or have fallen over (Sewell & Barker, 2006). Brad Miller, CEO of Awareness Technologies who sell employee monitoring technology makes the parent-child comparison also: 'If you are a parent and you have a teenage son or daughter coming home late and not doing their homework you might wonder what they are doing. It’s the same as employees' (The Guardian, 2017a).

In an interesting example of where new surveillance technology meets globalised production chains and ethical consumptions concerns, Poster (2018) discusses the UK supermarket ASDA who set up surveillance cameras watching over their outsourced garment workers in Bangladesh, and broadcast this feed on their website so it could be viewed by the UK public, and ASDA’s customers especially, who had voiced concerns over the labour conditions in ASDA’s offshore factories. This also serves as an example of how some contemporary surveillance practices do not necessarily fit neatly into the boss-watches-worker idea commonly imagined as a legacy of historical factory work, a theme I will touch on more later.

One case mentioned by Ajunwa et al. (2017) highlights how surveillance of workers now reaches into their private lives and not just time spent at the office. In 2015, a woman was fired for deleting a tracking app on her phone (pp.104-105). This app had tracked the woman’s movements during and also after working hours, when she was outside the office, and even when she manually turned the app off. She accused the boss of bragging about monitoring how fast she would drive, and compared the experience to wearing an ankle bracelet like a felon (Ars Technica, 2015). This ability for employers to track their employees’ precise locations is increasingly possible and common, with more workers being supplied mobile phones and other digital devices that they can use outside of work hours. The Economist (2009) magazine highlights how when workers are using a company-provided laptop in a hotel for example, there is a good chance that unbeknownst to them, their IT department will have details of all of their internet activity. Levy (2015) documents how long-distance truck drivers are rendered visible and contactable to their employers even when they are off-duty. The software in her case study could sometimes not be turned off or muted, so even during sleep breaks management could contact the drivers.

There are some types of surveillance that are largely industry-, or even work contract-specific. Some freelance workers for example, have their photos taken by their computers’ webcam at random and sent to the employer, to ensure that they are at their desk working at that time (Ajunwa et al., 2017). Things like screenshots of their display, keystrokes and mouse clicks are also recorded. Some technology is even capable of detecting anger, raised voices and children playing in the background in workers’ home-offices (2017, p.112). The Upwork monitoring system for example means freelancers can be hired theoretically by anyone, and then once hired their client can log in and make sure their contractor is working (2017, p.113). Relevant for sociologists interested in the Foucauldian concepts of discipline and productive power, these freelancers and crowdworkers are often made aware of these surveillance practices and are sometimes alerted to them and notified by a pop-up icon that appears whenever a screenshot is taken (2017, p.113). Like the principles behind Bentham’s Panopticon, here we can understand that it is not just the definite and visible presence of an employer or client watching over a
worker that can discipline and control their behaviour, but also the possibility and implied threat of their gaze.

While this level of surveillance intensity is technically possible, as Schorpff et al. (2017) show in their case study of crowdworkers, at the moment it is only infrequently adopted. While these tools deal with clients’ issue of uncertainty, it is time-consuming and the crowdworkers may be resistant to such direct and pervasive monitoring. They reported that clients tended to instead control their workers in three ways: define a project and set a timetable and milestone for delivery; review the outcome and possibly demand revisions; and rate the worker and write them a review. They said that sometimes with these freelancers and crowdworkers there are parallels with other creative work, where intense surveillance can be a real hindrance to the overall goal, and more indirect forms of control are more relevant.

These electronic surveillance systems can capture and store vast amounts of information, often at a relatively low cost. This information is then collated, analysed, summarised into metrics and put to further use, often being fed back into the production process. In Levy’s (2015) case study we can see how comparisons along ‘[any] imaginable axis of variation’ of driver groups can be made (pp.166-167). Without the drivers’ permission, information about their activity is shared with other drivers to create competition between workers. Indeed the companies that sell these systems encourage and train management to put the technology to use in this way and implement ‘culture change’ in the organisation. Citing a natural propensity for people to be competitive, the companies advise creating inter-employee competition explicitly as a way to overcome ‘barriers’ to adopting the tracking technology (2015, pp.170-171). This is comparable to what is common practice in call centres, as we will see in a later section.

There is evidence that monitoring tends to focus on problems and threats, a coercive supervisory style, rather than on success an empowerment (Ball & Margulis, 2011, p.119; Smith et al., 1981). It has also been shown that once supervisors classify a worker as a poor performer, they will often tend not to change their mind about that individual, but monitor and scrutinise their future performance even more closely (Ball & Margulis, 2011, p.119).

Companies can also take the surveillance data and use it to invoke extra-employment social pressures. One company mentioned by Levy (2015) attempted to control drivers through their families. By hosting banquets to be attended by employees’ families, and by addressing bonus cheques to truckers’ wives, the financial benefit of which would be based off data collected from workplace monitoring, the firm sought to encourage their employees’ families to exert pressure on them to be more productive at work, to reach their quantitative targets and thus win the extra cheques (p.171).

Edwards et al. (2018) explain how collected data is now being taken an extra step and being fed into algorithms that not only analyse past performance but lay claim to a certain level of predictive capabilities. These algorithms have a sort of parasitic relationship with the preceding data collection phases, taking the collected raw information as their food-source, and then developing themselves based on it, making predictions and analyses, continuously feeding in fresh raw data. While the power and complexity of algorithms has grown tremendously over the last number of years, in the context of the workplace their outputs and decisions have been shown to be in danger of bias, error and discrimination, and yet are virtually impossible to challenge, question or understand given their opacity and lack of transparency (Edwards & Veale, 2017). Sometimes recruitment decisions as well as promotions and dismissals can be decided entirely by algorithms, based off the data from pervasive electronic surveillance, with no human input (Edwards et al., 2018). The Verge, in an article on productivity-based dismissals at Amazon, report how the company’s system of employee productivity monitoring and benchmarking ‘automatically generates any warnings or terminations regarding quality or productivity without input from supervisors’, and how workers feel like they are being monitored and supervised like robots (2019b).
Another example of the application of machine learning to previously-collected data is in the Presto Vision software, which uses footage collected by CCTV cameras in restaurants to analyse waiters’ behaviour: their movements, interactions with guests, for how long and how often they tend to tables. Managers are then provided with the compiled statistics so they can assess the restaurant staff’s performance (Matsakis, 2019).

The existence of ‘function creep’ is another important aspect of modern workplace surveillance. The concept refers to technologies being used for things that they weren’t initially envisaged or designed to do. Edwards et al. (2018) give the example of the recordings of lectures in UK universities. Lectures had been previously recorded for largely commendable reasons: broadening access of the material to students with disabilities who it suited better to watch remotely, and to aid students in their revision and studies. During a strike by teaching staff in spring 2018 against university management, the university threatened to facilitate “teaching” to continue by publishing videos of the striking teachers giving the same class the year previous. This has been interpreted as essentially strike-breaking behaviour, and stands as an example of data gathered from monitoring being put to an alternative use from the original one without consent, in this case combatting collective worker action.

New technologies can also “add value” in other ways to collected worker data. In an example seemingly inspired by the dystopian HAL 9000 character in Stanley Kubrick’s ‘2001: A Space Odyssey’, Edwards et al. (2018) document lip-reading and facial-recognition algorithms that can be applied to CCTV recordings, supplying management with full transcripts of workers’ private conversations. This is something that the workers under video surveillance certainly wouldn’t have originally expected to be possible just by being on camera, and so presents obvious issues of consent.

In an interview with a non-manager employee in Allen et al.’s (2007) study we can see workers becoming acutely aware of this new power in the hands of management with all this collected data:

As we go forward, we start to gather all types of information about people because saving information is cheap. The problem is that when I want to catch someone or not hire someone, I can go back and then gather all this information and create a case against anybody I want. That is very, very dangerous (2007, pp.190-191).

Microsoft filed a patent some years ago for software that monitored workers’ well-being through biometric measurements including heart rate, galvanic skin response, EMG, brain signals, respiration rate, body temperature, facial movements, facial expressions and blood pressure. This system is supposed to detect frustration or stress in the user and offer assistance (Ball, 2010, pp.91-92). Such technologies and norms at the workplace are gradually arriving in the mainstream, and they are often couched in narratives of ‘wellness’. Moore (2018) builds upon Lupton’s (2016a; 2016b) writings on the ‘quantified self’ and ‘dataveillance’ and looks at self-tracking, self-improvement technologies and wellness narratives in the workplace, where ever-increasing areas of the worker’s private life are being invaded and surveilled, and the nature of management practice and employment relationship is undergoing rapid change. In the next section I will take a look at and discuss some of these new monitoring technologies related to this concept of wellness.

Surveillance for Wellness
It has been estimated that 202 million wearable devices were given out by employers as part of wellness programs in 2016 (Edwards et al., 2018), and that a fifth of employees in Europe had access to wearable technology at work in 2015 (ADP, 2015). Employers can gain deep insights into their employees and monitor what would have been unthinkable not too long ago. Examples include what drugs workers use, whether or not they vote, or when they stop filling their birth control prescriptions (Ajunwa et al., 2017).

In Moore’s (2018) case study in the Netherlands, Fitbit Charge HR Activity Trackers were given to 30 employees, and Rescuetime tracking software was installed on their computers. Participants were also supposed to rate their stress, subjective productivity
and well-being on a Likert scale from 1-5. Physical movement, heart rate and sleep tracking were also monitored. Employees were provided individual dashboards where all of their activities were stored, as well as shared ones where employees could view their colleagues’ information and stats. Ajunwa et al. (2017) also reports these shared dashboards where workers’ development are represented in either a blossoming or shrivelling tree, which in ways similar to Levy’s (2015) trucker case study, are used to induce workers to shame each other and conform to desired productivity metrics (p.167).

Rosenblat et al. (2014) report that large companies including BP America have adopted technologies such as the Fitbit tracker to improve employee health habits and reduce the firms’ rates with insurance companies. While the programs can officially be opted in or out of, the employees who take part are likely to be more favourably viewed and treated by their employers. In an example of the coercive power of the programs, CVS was taken to court for allegedly requiring staff to disclose weight and sexual activity, and that by not opting in to the program employees had to pay $600 extra health insurance annually (Rosenblat et al., 2014, pp. 5-6). The legal status of issues such as intimate employee data on employer-supplied technology is still not clear-cut and so privacy remains an issue due to this lack of clarity.

Edwards et al. (2018) see employee participation in such wellness programs as a contributing factor to the normalisation of surveillance. They warn workers who are keen to take part to be wary that the information collected may be repurposed for goals not foreseen or desired by the employee, such as demotion or replacement.

A New Age of Surveillance (?)

There is debate around the extent to which this era of digitalised surveillance is a qualitative ‘New Age’ or whether it is merely a continuation, albeit intensified, of previous eras and systems of surveillance and control of the labour process. There is an even more specific debate mainly located within the call centre literature about the usefulness of the Digital Panopticon metaphor and theories of ‘total control’ in explaining contemporary call centres, which I will briefly touch in on an upcoming section. I will not attempt here to provide final answers or syntheses to these two debates, but will discuss what others have written and some of the important aspects that some researchers identify as ‘new’ or step-changes in the modern workplaces.

Edwards et al. (2018) introduce a novel five-phase model of surveillance and say that we have entered ‘Surveillance 5.0: the Age of the Algorithms’. In this current phase, which builds off the innovations of Surveillance 4.0 — real-time, ubiquitous and unobtrusive surveillance of employees with small sensor technology embedded within the work environment and body — machine learning algorithms are applied to collected big data to enable further worker surveillance. These algorithms spot patterns in data, categorise and profile. They are uses to hire, fire, promote, discipline, uncover behaviours, emotions, opinions and create new knowledge (2018, pp.9-11). The authors use the Panopticon metaphor, since there is such a mix of surveillance methods at work on the employee at one time.

Moore (2018) places these new workplace surveillance technologies squarely within the broader contemporary context of neoliberal capitalism. She sees self-tracking and well-being apps as existing within trends of self-optimisation and the ‘political economy of anxiety’, itself situated within the rollback of the welfare state and rise in austerity (pp. 42-43). She says the hierarchy between humans and machines is being inverted by concepts like Agile, where workers are expected to be constantly adapting to the ‘inevitable’ developments of technology, and embracing subjective transformations. She ties a willingness to be always traceable in with other Agile staples like being happy to make personal changes and be always on the move (pp.44-45). In a vivid and at times dystopian account of the situation, she says that it is like we are becoming the tools, inadvertently restructuring the parameters in which we work, too often against our best interest. These new management technologies are instrumental in our further subsumption and alienation, and are running
the risk of shrinking humanity’s potential of any ‘outside-to-capitalism’, to an unsustainable extent. These new technologies, as observed in her case study, take aim at aspects of the labour process and the worker that were previously not directly measurable such as mood, fatigue and stress. Moore sees this as capital now casting its eye and thus controlling power on forms of affective and emotional labour, realms of human experience that used to be out of its reach.

Graham and Wood (2003, p.228) see a ‘step change in power, intensity and scope’ with the introduction of digital surveillance, and Moore et al. (2018a) point out that we increasingly work with machines in both cognitive and manual workplaces. Ajunwa et al. (2017) characterise employee monitoring as using digital and other types of technologies as its primary tools now, and says there has been a move away from the ‘authoritarian’ surveillance regimes of old, and one towards more ‘participatory’ regimes, where workers aid and take part in their employers’ surveillance by engaging with the types of quantified self and wellness technologies mentioned in the previous section.

Cohen (2014) has introduced the idea of the ‘surveillance-innovation complex’, where consumer surveillance is painted in a progressive light that is central to economic growth and innovation. Zuboff characterises today as a new age of capitalism — ‘Surveillance Capitalism’ — since surveillance has come to be such a central part of the system’s functioning (2015). Positive narratives related to surveillance such as ‘gamification’ that we see laid bare in these theories can also be detected in narratives surrounding workplace wellness trackers, and so it is possible to view workplace surveillance as being part of these broader theories of surveillance. Rosengren and Ottosson (2016) see a new situation emerging where the home of the employee becomes a place of work, since they take their employer-provided technology home with them, sometimes work from there, and use the technology for their private communication. Ajunwa et al. (2017) also say that as productivity apps such as Xora demonstrate, employers can now monitor their employees outside of work hours and locations, giving them the power of uninterrupted monitoring of workers’ lives. They have created ‘an all-seeing Argos Panoptes, albeit one that seduces us with its novelty and distracts us from its surveillance aspects with a user-friendly interface’ (Ajunwa et al., 2017, p.142).

Bélanger and Thuderoz (2010), however, say that it is only management utopia to search for systems that do not rely on employee consent and know-how. Similar to the Panopticon/Foucault debate about call centre surveillance, some of these more polemic accounts of modern surveillance technology tightening its grip lack the theoretical space for resistance (with the notable exception of Moore [2018] who includes a kind of dialectic about the worker only being able to take so much). Rosengren and Ottosson make the point that must be taken seriously, that while new digital technologies do open up certain kinds of monitoring and surveillance, the extent and consequences will necessarily depend on the social fabric interwoven into the organisation in terms of culture and trust (2016, pp.182-183). On this note, I will now look at the perspective of the monitored, and how they react to, resist, cope with, and understand these modern surveillance technologies.

Reactions and Resistance to Surveillance Technologies

Impacts on Workers’ Performance

Before getting to specific electronic surveillance techniques and their effects, here I will mention some of the research on the negative effects of employee surveillance in general, and how it has consequences for employees’ well-being, work culture, productivity, creativity and motivation (Ball, 2010, p.87). Ball (2010) makes a list of some of the main reasons monitoring can be problematic, including:

- employees privacy can be compromised if their information is disclosed to unknown parties without authorisation;
- worker creativity can be stifled if they are aware that their actions and communications are monitored;
- tasks will be prioritised by workers depending on how tightly or loosely they are monitored;
• messages (that are potentially unintentional) are sent to workers regarding the relative importance of quantity over quality, or working as a team versus individually;
• trust levels can be reduced.

While companies that introduce these methods of digital monitoring of staff often expect or assume that it will increase productivity and behaviour of their staff, the empirical evidence on its effects has sometimes lead to the opposite conclusion. In Alder’s (2001) paper there are many examples of evidence for both outcomes. Sarpong and Rees (2014) report that monitoring can be counterproductive and negatively impact employees’ productivity, commitment and attendance, and could also bring about an atmosphere of mistrust and hostility. Monitoring can also cause resentment as employees might feel they are being treated like children (Lim, 2002). From a Human Resources Management perspective, Holland and Bardoel draw attention to the fact that intense electronic surveillance can counteract modern HR practices designed to develop trust and high commitment relationships, and effect they refer to as one of the ‘dark side’s of technology (2016).

Rosengren and Ottosson (2016) say that monitoring indicates to workers that their employer does not trust them to behave in the appropriate manner, and may actually reinforce the behaviour that the monitoring seeks to minimise. They say the relationship between trust and surveillance is a two-way street. We know that stress levels can be raised if monitoring is inappropriate or badly designed (Nebeker, 1987), or if the findings of the monitoring will lead to discipline rather than development or training (Nebeker & Tatum, 1993). Ariss et al. (2002) report that those being monitored were believed to be apprehensive and inhibited due to presence of an unseen audience. Aiello and Svec (1993) found that workers’ task performance was poorer when monitored (either electronically or in person) than when they performed the same tasks unmonitored. Ball and Margulis (2011, p.117), citing Chalykoff and Kochan (1989), say that it is ‘important for the organisation to ensure that staff has clearly formed expectations about the monitoring process and understand the criteria by which they are rated’, a lesson we will see repeated and affirmed in studies on call centres later in the literature review.

In Schumacher’s (2010) article there is evidence of workers focusing only on the monitored and quantitative aspects of work to the detriment of those that are unmonitored, and the quality of the work done. This could clearly become a problem if the differences in task monitoring are more to do with the convenience or ease of quantification, rather than actual importance or value of the task to management.

Putting the importance of worker surveillance into perspective, Peter Cheese, the managing director of Accenture's talent and organisation practice, was quoted in the Economist (2009) warning companies that: ‘If you have to check up on employees all the time, then you probably have bigger issues than just productivity’. Ariss et al. (2002) in a management studies paper advise managers to use trust rather than monitoring to increase their workers’ performance.

**Meaning-Making and Negotiation by Workers**

Employee surveillance is not a simple top-down process that can be understood in pure objective, physical or technical terms. Just like any other element of organisational life, monitoring practices are subject to worker sense-making, and become embedded within organisational histories (Ball, 2010). Monitoring becomes appropriated by worker groups and embedded within workplace cultures that give it different meanings. It can also become an issue in negotiations over working conditions (Ball, 2010). When a new monitoring technology is introduced it does not necessarily function exactly as planned but must be interpreted, understood, and taken on-board by the staff, before it can be said to have its place within the organisation. This doesn’t just apply to those being monitored, but managers may also give the surveillance different meanings and understandings at different times, themselves manipulating or circumventing certain aspects of the system if it is also in their interest (Bain & Taylor, 2000; Ball, 2010). Monitoring can also be seen in a more positive light and understood as ‘caring’,
Zirkle and Staples (2005) termed certain responses of workers, those that were aimed at circumventing monitoring, developing informal social ordering, and having some fun in the workplace, ‘idiocultural’. While monitoring is not something that completely dominates workers, and is shaped by these reactions of employees, workers are often left with only small pockets of space to negotiate compliance. Zirkle and Staples (2005), and Ball (2010) reflect on the limited effects that these ‘idiocultural’ behaviours have in challenging the dominant application of monitoring. Responses such as various types of circumvention, horseplay and informal social ordering do not supplant the more institutionalised opposition to monitoring as represented by, for example, trade unions or labour legislation. Allen et al. (2007) similarly make the point that employees often lack the power and/or motivation to participate actively in the privacy negotiation process, and so the ‘turbulence’ at these contested boundaries is often limited (p.190). They found that workers face institutional norms that reinforce the surveillance practices, experience great risk if they do attempt to challenge the norms — ‘Employees usually do not come forward and complain about or question the company’s rule. If they did, they could lose their job.’ (p.191) — and generally have low expectations when it comes to privacy at the workplace (2007, p.191). So just because workers resist surveillance and make their own meanings, doesn’t mean it can be completely relativised or presented as a neutral change to the workplace; it still exists within the hierarchical employment structure and can have a real impact on the staff on both sides of the monitoring technologies.

Harm to Workers

Winant (2019), in an article on the algorithm-based intensification of the contemporary workplace, reports on how Emily Guendelsberger found that working class Americans are ‘in the weeds’ (meaning ‘swamped’, overwhelmed by work, and stressed out). After working in an Amazon warehouse, a call centre and a McDonalds restaurant — all neo-Taylorist workplaces with high digital surveillance, and algorithm-based workflows — Guendelsberger found that these so-called ‘weeds’ that highly-surveilled workers find themselves in are ‘a terribly toxic place for human beings. The weeds make us crazy. The weeds make us sick. The weeds destroy family life. The weeds push people into addiction. The weeds will literally kill you’ (Winant, 2019).

There are a number of studies that report fairly straightforward results about the physical, social and psychological harms that monitoring technologies can cause to workers. Schumacher (2010) reports that it can lower employee self-esteem and confidence, cause stress, anxiety, paranoia, carpal tunnel syndrome and nerve disorders. The presence of an ‘unseen audience’ may cause those workers under surveillance to be ‘constantly apprehensive and inhibited’ (Fairweather, 1999). Some workers have even compared the experience of working under electronic monitoring to that of a slave, except they are being whipped ‘not in our bodies, but in our minds’ (ibid). In one study a data processor felt their life had become intolerable due to their screen periodically flashing ‘You’re not working as fast as the person next to you’ [Nussbaum, 1992] (Quoted. in Ariss et al., 2002, pp.23-24).

Sarpong and Rees (2014) report, citing Kizza and Ssanyu (2005), that monitoring creates an atmosphere of fear, especially the fear of losing one’s job. They, amongst others (Alder, 2001; Mujtaba, 2003), also report that monitoring can create a lack of trust. Kizza and Ssanyu (2005) say stress, repetitive strain injury, lack of individual creativity, reduced or no peer support, lack of self-esteem, worker alienation, lack of communication and psychological effects on employees are some of the other impacts of being monitored. Monitoring can also constrain the right to autonomy and freedom of expression [Hofman et al., 2003] (from Sarpong & Rees, 2016, p.218).

Blood pressure levels (Henderson et al., 1998), tension, workload satisfaction (Schleifer et al., 1995), depression, anxiety and sore wrists (Smith et al., 1992) have all been linked empirically to electronic monitoring. Correlating with the positive findings about
employee acceptance of surveillance in a section below, Varca (2006) reports that employees can get more stressed from not having control over the monitoring system, than the actual experience of being monitored itself.

There are numerous examples of this electronic monitoring and the goals and benchmarks they generate having the desired effect, and spurring-on workers to work harder and try to reach targets. Sometimes however, this has ended up in workers pushing too hard, resulting in injuries and stress. Under UPS’s monitoring system, delivery drivers were seen to break safety rules in order to hit their targets, which put their and others’ lives at risk (Kaplan, 2015). While there were multiple effects and pathways of control found in Karen Levy’s study of truck drivers, one result of the surveillance technology introduced was workers not taking mandated breaks, and being encouraged to continue driving by the electronic system, even when they felt like they needed sleep (Levy, 2015).

Amazon has become infamous in recent years for its staff monitoring practices and high productivity targets staff must work towards (as well as a time-off policy reportedly worse than that of Ebenezer Scrooge from Dickens’ A Christmas Carol) (Guardian, 2018; Winant, 2019). Their warehouse workers have their movements tracked as they load and unload products, and their minutes and distance travelled are catalogued (McCelland, 2012). This is part of Amazon’s efforts to study and produce the most efficient methods for completing tasks, but the bottom line for the workers is that they will be fired if they don’t hustle (Head, 2014, cited in Rosenblat et al., 2014, p.6). On peak occasions over the last two years, including ‘Black Friday’ in 2018 and 2019, as well as ‘Prime Day’ 2019, Amazon workers have held strikes across Europe as well as in the US. Central to staff’s complaints are the pressures being put on them to hit numerical targets, following reports of workers working in constant agony (or take company-supplied painkillers), not having time to go to the toilet, a heavily pregnant woman being forced to work standing, and targets leading to numerous occasions of ambulances being called out to the warehouse (GMB, 2018; Huffington Post, 2019; The Verge, 2019a; Winant, 2019).

Similar to the earlier section outlining Moore’s account (2018), others have written about the explicitly dehumanising aspects of surveillance. Rothstein pointed out how human dignity is denied by treating the employee as a mere factor of production, and as being a transparent mechanism to the view of the supervisor at a distance, to be manipulated and potentially disposed of (2000, pp.383-384). Others have done explicit ethical analyses on the very question of ‘are electronic surveillance practices ethical’ (West & Bowman, 2016).

Resistance to Monitoring
In Moore’s (2018) case study, workers responded actively (active withdrawal from the tracking problem) and passively (as indicated through interview discussion) to wellness tracking technologies, showing awareness of tensions involved in such systems and the changes to the labour process they can entail. Moore interprets this as proof that these new digital management practices are not total, or a ‘fait accompli’. Stevens and Lavin also point out that the workplace is not a total institution and that workers successfully evade many elements of management’s technological gaze (2007, p.42). Even if it is somewhat of a last resort, Ball and Margulis (2011) as well as Zielinska (2019) say that the ability to quit a job remains a key source of resistance for many workers.

Lim (2002) found that self-identified ‘cyberloafers’ did not just do it out of boredom or laziness, but as an act of defiance against their employers. The truckers in Levy’s (2015) study were deeply resistant to the monitoring technologies brought in, and refused to take orders, or advice on when to sleep from a ‘box’: ‘You, as a professional, you know when your body is tired. You know when your mind is fatigued. You know when you need to stop and rest. That dispatcher doesn’t know. And by God, that electronic device certainly does not know’ (p.170).

An obvious method of trying to avoid certain types of workplace monitoring is to shift conversations and interactions outside of the digital networks that are
under company surveillance. In an example of the somewhat symbiotic relationship involved between employees and management’s monitoring, surveillance technology companies have now started creating software to detect such attempts by workers to interact through alternative channels, be that offline, in-person, or through alternative unmonitored digital networks. The company Digital Reasoning try to automatically detect this ‘context switching’ behaviour, such as suggestions of ‘Let’s meet downstairs for a coffee’, or ‘let’s move over to the other app’ (Guardian, 2017a). Anteby and Chan (2017) say that this process of monitoring and workers’ resistance to it can start a reinforcing cycle where both are intensified.

Acceptance of Monitoring
Westin (1986), quoted in Alder (2001), found that some employees accept digital monitoring because they would trust its fairness of judgement more than humans. Conrad Cross, chief information officer for the city of Orlando, is quoted in Schumacher (2010, p.141) as saying that: ‘Employees are less likely to complain if they have some level of control over the monitoring, even if it’s only the freedom to check their own data. If they see the system as a way of helping them to do their job, then they will feel less that it is a way for management to spy on them’. Schumacher (2010) suggests that employers explaining why they need to undertake monitoring and asking employees for feedback on the system can create ‘buy-in’, and thus less worker resistance down the road. Alder (2001), and Ambroise and Alder (2000), highlight the importance of perceived fairness by employees of the monitoring system, in determining the extent of acceptance of or resistance to such systems.

Institutional theory perspectives (DiMaggio & Powell, 1983) teach us that workers’ acceptance of monitoring can be in part explained by the norms of the industry. Alder (2001) says that if workers are involved in the implementation of monitoring then they are more likely to accept it (but only under certain conditions).

Surveillance of Call Centres as Case Study
Call centres are known for being, amongst other things, places where workers are closely monitored by management (Ball, 2014; Winant, 2019). In this section I will take call centres as an example of a site of high workplace surveillance, first reviewing the literature on the work process in call centres, and then focusing more specifically on aspects of surveillance in call centres.

General Aspects of Call Centres
Taylor and Bain define a call centre ¹ as a ‘dedicated operation in which computer-utilising employees receive inbound – or make outbound – telephone calls, with those calls processed and controlled either by an Automatic Call Distribution (ACD) or predictive dialling system. The call centre is thus characterised by the integration of telephone and VDU technologies’ (1999, p.102).

Peaucelle (2000) says that call centres allow clients’ businesses to respond to their clients quickly and at a very low cost. Taylor and Bain (2005) highlight that call centres were initially set up in order to save costs and increase profit, and so we should be sceptical of accounts that refer to ‘autonomous organisational logic’ or improving interaction with customers as primary goals or driving motivations. They argue that the interests of customers are always subordinated to the imperatives of capital accumulation, and that even if importance is given in some call centres to quality, satisfaction and customer retention, these are post hoc justifications (p.264).

Taylor and Bain (1999) give a description of the typical call centre worker and work process that sets the scene excellently for the purposes of this section, to the point where it is worth quoting at length (a description that has aged remarkably well despite the drastic changes to so many aspects of work over the last two decades):

¹ ‘Call Centres’ have since come to incorporate other forms of communication such as live chats and emails and so ‘contact centre’ might be a more accurate name. However, ‘call centre’ is still used most of the time in the academic literature and public discourse, regardless of the range of tasks involved, and so will also be used in this article.
The typical call centre operator is young, female and works in a large, open plan office or fabricated building, which may well justify the white-collar factory description. Although probably full-time, she is increasingly likely to be a part-time permanent employee, working complex shift patterns which correspond to the peaks of customer demand. Promotion prospects and career advancement are limited so that the attraction of better pay and conditions in another call centre may prove irresistible. In all probability, work consists of an uninterrupted and endless sequence of similar conversations with customers she never meets. She has to concentrate hard on what is being said, jump from page to page on a screen, making sure that the details entered are accurate and that she has said the right things in a pleasant manner. The conversation ends and as she tidies up the loose ends there is another voice in her headset. The pressure is intense because she knows her work is being measured, her speech monitored, and it often leaves her mentally, physically and emotionally exhausted (1999, p.115)

Throughout the literature, one sees comparisons to the labour processes from previous eras, including factory work. Jamie Woodcock (2017) refers to call centres as the ‘factories of our times’; Taylor and Bain (1999) use the notion of an ‘assembly-line in the head’ to describe the nature and intensity of the labour process of call centre work; and Peaucelle (2000) says that the conditions often resemble those of Taylorian workshops where breaks are limited, there are high levels of tension and workers are pushed to the maximum levels of work that they can manage. There is quantitative data that indicates call centre agents have higher stress levels than coal or gold miners (Van den Broek, 2002).

Zielińska (2019) says call centres jobs have become synonymous with bad quality jobs in the public discourse. In a lot of the literature on call centres there is an emphasis on the systems of managerial control and authority, on how workers are subjected to high levels of surveillance, and the low levels of trust that exist (Pritchard et al., 2014; Russell, 2008; Taylor & Bain, 2007; Lloyd & Payne, 2009). Taylor et al. list routinisation, repetitiveness and a general absence of employee control as the dominant although not universal features of call centre work organisation (2002, p.136). Shift timings can also have an exacerbating impact on the tough nature of the work, making it even harder for workers to cope. Taylor and Bain (2005) heard from managers that the combination of night-time working and repetitive call-handling was stressful and took its toll on workers’ health, as well as their social and family lives.

Sometimes on top of the general call centre labour process and other negative aspects, the very nature of the industry or job can already be a considerable burden for workers. This can be seen in the moral outrage of the workers in Bain and Taylor’s (2000) study. A quote highlights this:

People are acting in strange ways because they are constantly under stress. Remember, staff are dealing with these pressures for twelve hours at a time, taking calls constantly for ten hours and forty minutes every shift. If you can imagine the effect of listening to a woman being beaten up in her home and dragged from the phone, then consider how you would feel if you were exposed to this kind of thing every night. The emergency authorities need those address details urgently and we can’t supply them. How do you think we feel? (2000, p.15)

While this paper is mainly limited to call centres in Europe and North America, it should be mentioned that a lot of call centre work has been outsourced to India and other low-income countries to make further cost-savings. Taylor and Bain (2005) show how Indian call centres have a lot in common with those in the West when it comes to the issues faced by employees, high levels of control etc., but a lot of these issues are exacerbated by neo-colonial and sometimes racist processes and complications.
Despite similarities in the labour process and many aspects of workers’ experience, call centres do vary along many axes and so should not be treated as uniform. Taylor and Bain (2000) highlight size, industrial sector and market, complexity and length of call cycle time, nature of operations, extent of trade unions and collective bargaining, as well as management style and priorities, as some of the lines on which call centres differ. Kinnie et al. (2000) make the contrast between repetitive, tightly-controlled, ‘transactional’ styles of call centre work, with ‘relational’ customer interaction where employee discretion and variation are more commonplace. Batt and Moynihan (2002) delineate the different types of call centres into Taylorised mass-production, professional services, and mass customisation. There are similar themes and polarities one can see in most of these typologies and differentiations. Taylor et al. (2002) give a detailed list of the sort of characteristics seen at the two poles of quantity and quality:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Customer Interaction</td>
<td>Complex Customer Interaction</td>
</tr>
<tr>
<td>Routinization</td>
<td>Individualization/customization</td>
</tr>
<tr>
<td>Targets hard</td>
<td>Targets soft</td>
</tr>
<tr>
<td>Strict script adherence</td>
<td>Flexible or no scripts</td>
</tr>
<tr>
<td>Tight call-handling times</td>
<td>Relaxed call-handling times</td>
</tr>
<tr>
<td>Tight ‘wrap-up times’</td>
<td>Customer satisfaction a priority</td>
</tr>
<tr>
<td>High percentage of time on phone/ready</td>
<td>Possibility of off-phone task completion</td>
</tr>
<tr>
<td>Statistics driven</td>
<td>Statistic modified by quality criteria</td>
</tr>
<tr>
<td>Task cycle time short</td>
<td>Task cycle time long</td>
</tr>
<tr>
<td>High call volumes</td>
<td>Low call volumes</td>
</tr>
<tr>
<td>Low value of calls</td>
<td>High value of calls</td>
</tr>
<tr>
<td>Low level of operator discretion</td>
<td>High level of operator discretion</td>
</tr>
<tr>
<td>Nature of call – simple</td>
<td>Nature of call – complex</td>
</tr>
<tr>
<td>Mass service delivery</td>
<td>Customization</td>
</tr>
</tbody>
</table>

They emphasise these characteristics are not exhaustive and definitive, but indicative of the general contrasts that exist. The defining characteristics of call centres – the ACD system and the integration of telephone and computer technologies – operate at both polarities and often in combination (2002).

Scholars and Taylor (2011) look at gender in call centres. They point out that there are two contrasting representations one finds about call centres offering opportunities to women: the positive (flexible employment, career opportunities, ‘female-friendly’ workplaces, semi-professional knowledge work, semi-skilled clerical and service work) and the negative (‘a female ghetto’, demanding, glass-ceilings, limited progression, feminised, low-status clerical labour) (2011, p.1292). Overall their quantitative study shows women are less likely to get promotions in call centres, and tend to be disproportionately segregated into mass production rather mass customisation roles, mainly explained by human capital, domestic requirements and different treatment from supervisors, indicating that the ‘glass elevator’ (see Williams, 1992) effect also seems to exist in call centres (2011, pp.1308-1311). Taylor and Anderson (2008) found men were more concentrated in IT technical-help and high-end financial services like stockbroking, whereas women were disproportionately represented in basic customer service, information provision and sales, especially in the travel, transport, holiday and local government sectors. In Belt (2002) there is a reference to a ‘female underclass’, at the bottom of the career ladder, comprised of working class women with childcare commitments. As could be expected from this brief outline of gender differences in call centre work, and leading on into the upcoming section of call centre surveillance, Ball (2010) reports evidence that shows electronic monitoring disproportionately covers large amounts of female and minority workers (p.98).

Collin-Jacques and Smith (2005) undertook a comparative study of the UK and Canada. They highlight the many different factors that influence the processes in a call centre. They list the profession, the worker’s skill level, client base, worker resistance, but also forces outside labour process, namely occupation, society and
industry formation, as factors with the potential to shape the process inside the call centre. They argue customer service representatives are a new generation of industrialised ‘clerical’ workers without an ‘occupational consciousness’ with which to filter or place their work comparatively and historically (2005, p.6). They highlight the important role of occupation in mediating call centre processes.

**Surveillance in Call Centres**

Some descriptions of the call centre labour process have conjured images of scenes from Orwell’s *1984* or of Jeremy Bentham’s Panopticon, with some authors claiming that the electronic surveillance technologies had given managers total control, and that supervisory power had been ‘rendered perfect’ (Fernie & Metcalf, 1998; *Guardian*, 2017b). There have been many criticisms of this sort of interpretation, and there is debate about the extent to which call centres are actually Foucauldian institutions of panoptic disciplinary power (Taylor & Bain, 1999; Bain & Taylor 2000; Thompson, 2002). Regardless of the merits of this particular metaphor, it is clear that just like in Amazon warehouses and the 18-wheelers of Levy’s (2015) truckers case study, in call centres there are swaths of data and information being monitored and recorded using digital technologies. This data is then collated and processed to make possible comparisons with other agents, teams, and periods of time.

The exact technologies and processes used to monitor workers change from centre to centre, and depend on many aspects of the organisation and management style. These features include: the recording and storing of all calls, chat logs and emails (with the ability of management to listen back to them); supervisors being positioned so that the call agents are within their physical field of vision; supervisors listening to conversations and reading live chats in real-time; technology allowing supervisors to listen-in to conversations amongst employees through their headsets; statistics on numerous time-related aspects of the agent’s shift (call duration, time taken between calls, time on lunch, time in the bathroom); statistics on the qualitative aspects of contacts (see Table 2 below); monitoring of emails and websites visited by staff; and screenshots of workers’ screens. Information collected from this monitoring is often put on display on large screens on the office wall, visible for everyone. It can also be kept private by management, or communicated through team and individual meetings.

Shellnagher (2008) reports on the intensified surveillance processes and technologies affecting a specific set of call-centre workers, those that are home-based. Workers are discouraged from leaving their desks and are told to plan their (unpaid) bathroom breaks ahead of time. She reports on one company, Working Solutions, applying sophisticated speech-analytics technology to tune into multiple home-based conversations at once. Rather than supervisors having to notice through real-time listening in or going back on a recording and finding worker issues, this new technology can automatically flag potential problems such as anger in the voice, or mention of cancellations by customers.

Bain and Taylor (2000) report how every call is subject to a series of ‘strict and exceptionally detailed measurements’. Call centre technology manufacturers explicitly market their products on their surveillance capacity (Thompson, 2002). This data is then collated and fed into the benchmarking process. As Callaghan and Thompson put it, workers are seen as being out of line with ‘the centre’, with ‘the system’, rather than them personally. This technology and benchmarking can create a seemingly ‘objective’ system of control (2001, p23).

If teams are not meeting these benchmarks they are subjected to even more pressure from management to meet productivity targets, and have their bonuses threatened (every single team was failing to meet the required standards in Bain and Taylor’s [2000] study). Some of the main categories that were recorded and analysed, and that one sees commonly tracked in other call centres, were average call handling time and time ‘not ready’. As there are different types of call centres with different focuses and targets, there is not a uniform ranking or criteria for exactly which aspects of the contacts management are interested in. The table
below from Bain and Taylor (2000) shows the criteria that ‘Custcom’’s mystery shoppers would be looking out for and rating the workers on, and gives a rough idea of the sort of things call centre workers are forced to constantly be aware of when speaking to customers:

1. Time to answer
2. Salutation which will be judged as either Good/Average/Poor
3. Time taken to retrieve the number
4. Accuracy of the information
5. Agent helpfulness – Good/Average/Poor
6. Agent tone – Good/Average/Poor
7. Enthusiasm – Good/Average/Poor
8. End of call (hand off to AVD)

Table 2. ‘Custcom’ mystery shoppers customer care criteria (from Bain & Taylor, 2000, p.11)

As mentioned previously regarding the two ‘poles’ of quantity and quality in call centres, agents tend to be assessed on the sheer efficiency of getting through calls, and also the qualitative content of their interactions, which can be described as coming under the realm of ‘emotional labour’ in many call centres (Hochschild, 1983). As well as mystery shoppers, calls are usually recorded and supervisors listen back to the calls back without the employee’s knowledge, so surveillance isn’t limited to real-time (Bain & Taylor, 2000, p.11).

Callaghan and Thompson (2001) plot the schema for their case study’s control system, with employee monitoring playing a key role:

Pressure controls
speed;
Software directs
tasks

Statistics:
Average handling time; post-call wrap time;
comfort breaks; call recording; remote listening

Pacing &
Direction

Monitoring &
Evaluation

Taylor and Bain (1999, p.109) say that the use of rigid scripts that agents must stick to, combined with the recording of each operator’s conversation to ensure compliance, represents an unprecedented level of attempted control which must be considered a novel departure in the Taylorisation of white-collar work.

Taylor and Bain (1999) argue that regardless of the extent of electronic monitoring in call centres, they still rely on a combination of these technological measurements and the human supervisors interpreting them. Bain and Taylor (2000) also note the huge amount of supervisory time and energy that must be committed to these methods of surveillance and control, e.g., learning how to use the systems, listening back to calls, retrieving the outputs of data collection and collation, interpreting the statistics and making decisions based off them, and carrying out the coaching and disciplinary activities. They interpreted the scale of such activities as indicating Telcorp was in a perpetual struggle for control, and not confident in its authority. They see surveillance as just one tool amongst many that is used by employers and management to exert control over their workforce. Situating surveillance technology explicitly within the specificities of the hierarchical, capitalist, employer/employee relationship, they resoundingly reject a Foucauldian approach centred around ‘disciplinary power’. They emphasise that control is what matters most to management, not surveillance itself (2000, p.12).

When viewed from the perspective of the enterprise, there can be considerable upside to introducing increased monitoring in a call centre. There are examples of customer satisfaction, for example, rising considerably once monitoring is introduced (to 96% in General Electric, after they implemented a telephone surveillance system [Bylinsky, 1991], as well as other major companies also seeing improvements [Alder, 2001, p.325]).

Townsend writes about how in call centres there are often multiple modes of control coexisting, in place to support management’s main goal — running a profitable business venture (2005, p.48). The author reports on the use of ‘teams’ by management, an
approach which tries to control the actions of employees through attention to normative or cultural control. Management tries to make the ‘team’ the locus of ‘fun’, with the intention that workers internalise the idea of these teams and commitment to work (2005, p.51). Mulholland’s (2004) case study in PhoneCo had similar programs, and provided interesting insights into how such non-surveillance methods of control are also subject to negotiation, interpretation and buy-in from workers. She reports that in PhoneCo, the ‘fun culture’ can be a double-edged sword, and that workers are aware of the fabricated nature of this ‘teamwork’ and enthusiasm expected by management. She gives the example of workers being expected to cheer and clap every time someone from the team makes a sale, which is meant to indicate (or induce) their consent and identification with the goals of management (2004).

Stevens and Lavin (2007) also report on ‘teams’ being used by management to control workers. The call centre workers in their study engaged in techniques and tricks to avoid work, but expressed concern or restraint due to the extra work load such tricks imposed on their colleagues. They say that employers create such arbitrary teams as a means to subvert worker resistance, as it creates peer pressure amongst colleagues. They say that employers create such

In Sturdy, Fleming and Delbridge’s (2010) study, management attempted to appropriate aspects of call centre workers’ personalities such as sexuality, consumption patterns and leisure activities, in order to enhance output. While ‘slacker cool’ and other aspects of an ‘anti-establishment’ youth ethos were incorporated into the company’s corporate identity, any kind of union identity, ‘fun as sabotage’ or ‘militant self’ was strictly unwelcome. This system of promoting and incorporating things like workers’ sexualities, where possible, existed alongside and in conjunction with other control mechanisms such as call monitoring technologies and disciplinary performance assessments (Sturdy, Fleming & Delbridge, 2010, p.129).

Poster (2018) shows how international clients who outsource their call centre work selectively hide and show themselves in the monitoring process. They might pose as customers by entering themselves into the autodialer that connects with real call centre agents, or control the autodialer technology themselves in order to oversee the pace of work. Even managerial staff in the call centre are treated as potential criminals and under suspicion of data theft. The building in Poster’s study was comparable to a military compound, featuring metal detectors, checkpoints, confiscation of electronics upon entry, and pass code-restricted halls and doorways. Partially due to this particular case study being on out-sourced call centres, we see an example in this research of how there can be a differentiation between the immediate supervisors monitoring the worker, and the client, the organisation that pays for the services of the call centre.

Stevens and Lavin (2007) focus on the strict surveillance of time in call centres. As in other call centres, the workers’ time in their study is monitored and analysed electronically; each minute is accounted for and categorised definitively. In their case study, and as is common in the sector, workers are punished for taking an extra minute on a lunch break, yet are expected to arrive for ten or fifteen unpaid minutes of work before their shift officially starts. The authors describe the situation as one where advances in information and communication technologies, especially their capacity for surveillance, have given management the opportunity to monitor and thereby exercise more detailed control over the labour process — an opportunity that management has eagerly seized (2007, pp.54-55). The authors also give some examples which highlight well this obsession with time monitoring, and how dehumanising it can be when one considers the individual and human nature of the employees involved. The company has regular ‘cleaning binges’ — usually in Autumn — where there are mass firings of workers, selectively applied under the pretext of time theft (e.g., an extra minute on break). Workers are made to feel like kindergarteners by having to ask permission to go to the toilet, a practice which is common in many call centres and can lead to worker hesitating to go out of fear of discipline and has been referred to as ‘bathroom break harassment’ (Stevens &
Lavin, 2007; van den Broek, 2004; Snider, 2002, p.103).\textsuperscript{2}

Citing other examples such as pregnant women being told they are going to the bathroom too often and that they should instead get sick in the garbage can next to their desks, Stevens and Lavin say that workers are being treated like miscreants and are being perceived to be committing offences against capital simply for not fully controlling their bodily functions (2007, p.50).

In an example of a less surveillance-heavy call centre, Jenking and Delbridge (2014) did a case study looking at employee happiness. Workers in this case were treated well and with respect; there was very little monitoring, with more of a focus on trust and quality, which was related to the firms’ position in the market position. The strategy of ‘VoiceTel’ emphasised quality over quantity, in service delivery, and ‘going the extra mile’ for customers. Workers reported the environment not feeling like a call centre. The authors say we should look at workers not as just being manipulated and duped, but as agents who interact with their structural contexts.

Reactions and Resistance to Surveillance in Call Centres

Like other technologies, the implementation and development of surveillance in call centres is an emergent process that workers resist and re-interpret; it is not as straightforward as a technology being put into use and operating exactly as management intended (Prichard et al., 2014; Collin-Jacques & Smith, 2005). If workers feel that monitoring has crossed a line they might end up putting more effort into subverting or manipulating it (Ball, 2010). Intense surveillance has been shown to increase resistance and non-compliance (Ball, 2010). Most worker resistance in call centres has been getting the better of the monitoring systems and appropriating it for their own ends, rather than actively and directly challenging or breaking the overall practice (Ball, 2010, pp.93-94; Ball & Margulis, 2011).

\textsuperscript{2} Similar examples have recently emerged in reports from Amazon warehouses, with workers being under such pressure to meet targets that they have opted for urinated in plastic bottles on the shop floor rather than going to the bathroom (Bloodworth, 2018).

Callaghan and Thompson (2001) illustrate with this graphic how workers actively engage with the various elements of control in call centres:

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{Customer Service Representative Agency (Callaghan & Thompson, 2001, p.30)}
\end{figure}

There have been many different methods documented by researchers, illustrating how call centre workers resist their monitoring systems (Ball & Margulis, 2011). These include leaving phone lines open after the call was hung up on by the customer, pretending to talk when there’s nobody there on the other end of the phone, and only providing the absolute minimum required information and effort (Ball, 2010). Stevens and Lavin (2007) reported on workers employing technical tricks such as the ‘double wrap’ or ‘rolling the
queue’ to avoid work. Variations of such methods are seen throughout the literature, with the exact technique changing from call centre to call centre, largely due to the form of manipulation or avoidance being based off where workers can find gaps and weak points in the particular surveillance system or technology under which they work.

Winant (2019), summarising Emily Guendelsberger’s research which involved her working undercover in a call centre (as well as McDonalds and an Amazon warehouse), says that as digital surveillance grows and more and more pressure to meet metrics is put on workers, ‘hidden moments of reclaimed freedom that make any job bearable are being discovered and wiped out by bosses everywhere: That trick you used to use to slow down the machine won’t work anymore; or that window of 23 minutes when you knew your boss couldn’t watch you is vanishing. Whatever little piece of humanity survived in these fragments dies with them’ (Winant, 2019).

Mulholland (2004) documented covert and tacit solidarity and other forms of resistance amongst call centre workers. They feigned indifference, remained silent as a group when confronted by management, worked to rule when punished for going off script, generally tried to avoid work, and contributed to the offices’ high turnover rates. Call centre workers may sometimes sabotage customers who mistreat them, even while being monitored (Skarlicki et al., 2008).

Taylor and Bain (2005) highlight how the very nature of the work at a lot of call centres lends itself to rich and complex forms of resistance. They specifically mention how the emotional content of customer interactions, and the modes of verbal communication involved provide possibilities for subversion and humour. Summarising, they argue that call centres are ‘contested terrain’, both individually and collectively (including trade unionism in some cases), and in formal and informal ways (2005, p.265).

Bain and Taylor (2000) criticise authors for getting mesmerised by electronic or peer surveillance, and not realising that the reality is different and less far-reaching than whatever the formal characteristics of the system or technologies might be. Even though workers in their call centre were under ‘exhaustive’ surveillance, they still managed to find and exploit gaps in the system.

Another method of resistance that has been observed is workers quitting their jobs and missing days of work. Zielińska (2019) and Mulholland (2004) note that quitting was a commonly resorted to method of resistance in their studies. The ability of workers to leave their job is also largely seen as evidence of call centres not being ‘total institutions’ (Taylor & Bain, 1999; Thompson, 2002). Turnover and absenteeism are generally high in call centres, and (turnover at least) is sometimes even welcomed and encouraged by management. One manager in Van den Broek’s study felt that after 12 to 18 months in telemarketing, workers were 'hitting the end of the road' (2002, p.54). Callaghan and Thompson (2001) also report on management viewing turnover as a positive, and as having learned through experience to judge how much of the work people are mentally able to handle. One quote from a manager does a good job of highlighting this: ‘To me attrition is very healthy in a call centre, very costly, but very healthy. Because of the stressful nature of the job and because you want these people to keep constant energy and enthusiasm, it does the organisation some good if you can pump in some fresh blood’ (Callaghan & Thompson, 2001, p.33). The high levels of staff absenteeism and turnover can be interpreted as reflecting the problems of call centre work quality, including excessive monitoring (Hannif et al., 2005).

Call centre managers and team leads are often themselves under pressure and some level of surveillance, and so it can happen that the worker and supervisor’s interests align and collusion is possible (Bain and Taylor, 2000; Ball, 2010). Both supervisor and worker want to maximise ‘greens’ and minimise ‘reds’, since supervisors are oftentimes themselves judged on the combined individual statistics of the call agents they monitor. Sarpong and Rees’s study (2014) showed how the style of management required in some call centres can affect the managers, those doing the monitoring.
They felt under pressure to manage excessively through electronic measures, and their own innate or acquired management skills went underutilised (2014, p.220). Reverse surveillance is another form of resistance, where information collected by the monitoring systems is used against management, forcing them to adhere to certain performance standards (Ball & Margulis, 2011, p.116).

Some writings on call centres help us understand under which conditions stronger resistance is more likely to exist. Ball and Margulis (2011) find that personal information is not considered appropriate for monitoring, and that improved social relations, task design, and the type of organisational culture of the call centre can have an effect on workers’ attitudes. They also found that some amount of control being given to workers over the type and extent of monitoring can improve stress levels (2011, p120). Additionally, they argue an issue to consider is whether monitoring could ever be used in an empowering way, hypothesising that performance evaluation is less likely to be perceived as threat-like if its aim is developmental (e.g., to help improve performance through training) rather than administrative (e.g., to apply rewards and punishments contingent on performance) (2011, p.120). In the call centre of Mulholland’s case study, it was suggested that management ‘singling out’ certain workers as ‘suspects’ was interpreted as vengeful and unfair by other workers, and added to the resentment, tension and opposition between employees and management within the office (2004, p.716). Similarly, workers in Bain and Taylor’s (2000) study reported that ‘bullying management’ had spurred them to join a union. In this case there was a culture of intimidation where ‘bad boys’ were singled out for special attention, and thus collective action became to be seen as important by staff (2000, p.13). Staff monitoring in the call centre studied by Sarpong and Rees (2014) generally had extremely high levels of support and acceptance of the workers; however, when management tried to install cameras on the premises without consulting the staff first there was strong protest. This further underlines the importance of giving workers a say in the systems monitoring them, in order to anticipate how they will react and interpret such systems.

Prichard et al. (2014) identify trust as one of the key mediating factors in determining the extent of worker resistance to such systems, and shaping their interpretations of them. In their case study, upon the introduction of a new call-controlling technology, workers often ignored the formal controls and resisted the prescribed workflow. With time, these formal controls were eased to give the call-handlers more discretion, and trust grew between management and the workers. It even came to the point where workers would approach supervisors to listen back to their calls to see if they had been handled correctly. Positive results were seen by giving the workers a say in the design of the system that monitored them, with trust being a key operator. Their analysis revealed it is impossible to decouple trust as an organising principle from that of managerial control: trust and control can co-occur. They say that trust can become an efficient choice for management, since it exists in spaces where control doesn’t, where behaviour is unobserved and unpredictable.

Hastings and MacKinnon (2017) emphasise how labour plays an active role in creating the work conditions and norms in call centres. In their case study of two relatively easy-going call centres in Glasgow, regimes of discipline and surveillance can be seen to have mellowed in line with the overall improved contractual status of workers in the Scottish call-centre industry. Attendance and time-keeping were the main focuses of management rather than performance targets. The workers are able to actively maintain and strengthen the low-pressure atmosphere. Managers reported that when there was a peak period and they needed to intensify productivity they struggled to do so since the staff had become accustomed to the laid back atmosphere. In this case, management was unable to sufficiently ‘re-socialise’ labour to make it more adaptable to management’s will. The authors note that this sort of worker agency and efficacy has more relevance for the day-to-day processes in the workplace than broader processes such as career progression.
Summary and Conclusion

In this paper I have presented some of the literature on the phenomenon of surveillance at the workplace. First I briefly outlined the history and embeddedness of bosses monitoring the people performing work under their supervision, and then discussed the reasons behind this monitoring, such as maintaining productivity, tracking company resources, and mistrust of employees. I then gave examples of recent advanced digital technologies that have begun to be used by management teams, including some that can be situated within broader ‘wellness’ and ‘self-optimisation’ trends we see in society. Key elements highlighted here included the lower costs of these technologies, the increased scope and depth of employee surveillance that they allow compared to previous eras, as well as the ability to use collected data and algorithms to create productivity benchmarks, compare employees, and increasingly, make predictions. Following this, I presented literature focusing on the effects the use of these monitoring technologies can have on employees, as well as how workers adapt to, understand, and resist such surveillance. In the final section I took a focused look at call centres, given the fact that they are known for being sites of relatively high levels of surveillance. After first describing the general work processes of call centres, I outlined the types of employee monitoring that are undertaken in them, as well as how call centre workers have reacted to and resisted this monitoring.

Over the last number of years we have seen an explosion in the capabilities of technology to render human behaviour visible and quantifiable. Along with their customers, businesses and organisations have been quick to utilise such technologies in order to monitor their staff. While this has given management teams incredibly detailed information on exactly how workers spend their days, there is a great amount of evidence showing that such monitoring can have profound effects on the workers themselves and the atmosphere in the workplace.

Workplace surveillance technologies develop faster than the legal regulations that would potentially regulate them, and so although the monitoring we are now seeing is in some sense a continuation and intensification of that which occurred in factories over a hundred years ago, we can now be seen to be entering uncharted — and indeed unregulated — territory. As many of the authors cited in this paper pointed out, workplace surveillance is not a straightforward top-down process, and workers do have a role to play in its implementation, whether it’s direct resistance, using tricks to circumvent the digital gaze, or otherwise repurposing the technology. However, as labour’s bargaining power has diminished in the context of precarious work and weak trade unions, this ability of workers to resist the intense monitoring technologies watching over them and act as a counterbalance to the forward march of surveillance technology, is not guaranteed. As other forms of state and consumer surveillance grab headlines, we must not ignore the surge in surveillance going on at our places of work.

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Stephen Deery and Nicholas Kinnie, 267 – 283


This paper examines the academic literature on surveillance at the workplace, taking call centres as a case study of an industry known for high levels of such surveillance. Supervision and monitoring have long been central facets to the employer-employee relationship, but with the rapid advances of various technologies in the last number of years the extent to which bosses can monitor and track their workers has increased massively. This paper looks at what has been written on the reasons behind this intensifying monitoring and outlines with examples some of the methods and technologies that are being used, as well as the impacts such technologies can have on the workers being tracked.

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