

## Workplace Surveillance: Assessing the Impact of New Technologies on Workplace Experiences

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### Key Points for Project:

- I. Attention to surveillance and surveillance technologies is rising. In the workplace, the growth in technological surveillance possibilities intersects with the issue of worker autonomy-control.
- II. There is an understandable fear that there is an inexorable march toward more surveillance, more employer control, and as a result major harm to workers' job quality and dignity.
- III. In our project, we would like to better understand the processes that might – or not – lead to such outcomes.
- IV. Although we sympathize with the apprehensive sentiment regarding how technological evolution could tighten employer surveillance of workers and impair their autonomy, based on our and others' work, we make a limited number of observations that problematize the "inexorable march" prediction above:
  - a. Not all surveillance is "bad" surveillance from the workers' perspective. For example, surveillance could be employed to improve workplace safety.
  - b. Workers are not docile subjects and are, under certain circumstances, able to push back: block the introduction of surveillance technologies (including the redeployment of already existing technologies for surveillance purposes), and even force the rolling back of already existing technologies.
  - c. Employers and employees are at the center of the struggle over surveillance technologies in the workplace, but they are not alone. Others play important roles in this power play. Two actors that should not be ignored are technology producers/disseminators and public authorities. The former shape the contours of technology and have a vested interest in spreading it. The latter could take action to both facilitate the spread of technology but could also regulate to bound its use and spread. There are also several workplace contexts in which worker surveillance may be effectuated not only by managers, but by third parties like the state (e.g. in regulated workplaces) and by consumers.
  - d. To put it succinctly the decisions of a) what to develop; and b) what to deploy are not purely technical but are inherently part of a political process which plays out differently in different sectors and different societies/ political-economic-regulatory systems.

## **Stage I: Modeling Workplace Surveillance over the Long Term**

In the project's first stage, we intend to explore the process of diffusion of workforce surveillance at a general level. As a first step, we intend to draw on diverse disciplinary perspectives to create a new conceptual framework for analyzing such processes. Through an extensive review of multiple literatures, we will place the current and evolving state of surveillance technologies and practices in the workplace in the long-term history of managerial control techniques that have arisen since the industrialization and growth of the factory system (Taylor, 1911, 1913; Nelson, 1995). Here we hypothesize that the primary driver of surveillance in the workplace is not technology per se, but the logic of accumulation and profit on the one hand, and the balance of power or politics of the workplace on the other (Miller and O'Leary, 1987; Dubal, 2023).

Employers have long sought and adapted various methods for monitoring, measuring, comparing, and disciplining their workforces. Those methods range from the more mechanical or today's digital devices for accumulating data on workers, their lives, and their workplace performance, to more invasive psychological and sociological practices for getting workers to reveal their thoughts, feelings, values, and attitudes so that they can be attuned and oriented to the expectations of the job (Kaufman, 2010; 2008; Levy, 2018; Pasquinelli, 2023). As today these surveillance methods attach to workers at the place of work but also may monitor them in their personal lives (Meyer, 1981).

Depending on their relative power, including worker organization, political lobbying, and ability to mobilize public sentiment, workers have either resisted such practices, put up limits and guardrails on the extent of surveillance, or have been able to negotiate and adapt surveillance to meet their own needs. Such agency has often involved law and the state, where workers have been able to mobilize government to investigate and pass legislation to limit practices, often in accord with both implicit and explicitly articulated concepts of ethics and value. On the other side, employers have often been aided by technology producers as well as technological enthusiasts who have made a case for the long run social benefit of unfettered adaption (which often works in their own self-interest) or the inevitability of it occurring (Kasana, 2022; Mak, 20121).

Looking to the present, the study will consider what is similar and what is different today about the workplace practices of surveillance. Do the methods and techniques employed involve new areas of surveillance, and new challenges, or are they consistent with long-term practices. How much of a difference does the quantity of data and speed with which it can be collected matter? Have values about surveillance and privacy shifted in different societies to make workplace surveillance either easier and more routine, or are values increasingly at odds with the deep penetration of surveillance in the work and daily life of employees? How should we understand the dynamics of workplace surveillance alongside related—but conceptually distinct—dynamics, like workplace automation, and the use of predictive algorithms in managing workers? Likewise has the institutional framework of work shifted in ways that promote greater surveillance or are there also more opportunities for worker resistance and agency? Among the institutional factors to be considered are the structure of the surveillance producer industry, the types of work amenable to surveillance,

the state of worker organization, and the legal framework and precedents in operation regarding new technologies of surveillance (Levy, 2023; Jacoby, 1985).

The goal of this first part will be to establish the model for studying surveillance in the workplace empirically in the second phase. That model will emphasize relative power and agency, institutional framework, flexibility in the adaptation, use, and control of technologies, as well as the importance of the macro-economic environment and job structure.

## **Stage II: Case Studies**

In Stage II we plan to focus our research on two industries in two different locations in a way that will maximize study of the variables we most care about. Our choices are the American hospitality industry in Chicago and the advanced mining industry in Ontario and British Columbia in Canada.

Workers in the hospitality industry are disproportionately low-skilled immigrants, often people of color, and predominantly women (see: <https://www.unitehere1.org/about-local-1/>). Some of them are unionized. But overall, these are low-paying jobs and worker struggles over pay are prevalent. In general, technological innovation has underpinned the evolution of surveillance in this industry (Guerrier and Bohane, 2013; Lynch et al., 2021; Zhao et al., 2023).

In advanced mining, on the other hand, workers are highly skilled, extremely well paid, and in great demand. Further, much of the surveillance technologies developed and deployed do not (at least at the beginning) have worker control and productivity as the main impetus but instead aim to increase health and safety and provide better essential communication in a physically challenging environment.

Accordingly, how have worker surveillance-related processes in those very two different industries unfolded? Our research will proceed on four fronts: (a) worker focused (e.g., how do workers perceive surveillance and how do they respond to its expansion?); (b) the institutions and power relations established in the past examining how long-term historical context shapes surveillance practices in these sectors; (c) the policy-political context of technological decisions, rules, and regulations; (d) research on the surveillance technology developers/providers who may drive technological change and adoption.

At a later stage, we plan to expand our research model to other cases – both in North America and elsewhere.

## **Key Questions to be Addressed**

We address several general questions in this project. First, how does an increase in worker surveillance come about? In extant research it is implicitly assumed that employers are inherently interested in expanding worker surveillance to increase productivity and minimize worker behavior that results in adverse workplace effects. However, while that might be true (or might become so) in many industries it might not always be the case, for example the development of wearables, one of the most intrusive forms of surveillance, is

now prevalent in the mining sectors, where the main impetus has been to monitor health in order prevent life threatening health outcomes and assist with rescue and relocation efforts when needed. Surveillance for the purpose of worker protection and surveillance for the purposes of managerial control often co-exist; to what extent can these motivations be analytically separated?

Further, little is known about how employers set about achieving whatever targets they pursue with surveillance. Given the ubiquitous nature of monitoring technologies, it may be easier than ever before to introduce new forms of surveillance with little worker attention (Swell and Wilkerson, 1992). Second, once data is collected how and who decides what the meaning of that data is: for example, do more emails written per workday signal higher or lower productivity? Third, what actors are involved in the practice of surveillance and what roles do they play? Beyond workers and employers, a host of other actors play a role in affecting surveillance: government regulators; arbitrators and courts; firms that develop surveillance technologies and instruments to analyze the massive digital data inputs generated by surveillance; customers that contribute to the practice of surveillance (e.g., through grading individual performance), etc. Fourth, should surveillance-enhancing measures be stalled, regulated, or even rolled back? If so, how? Which policies would be most effective in accomplishing such goals? Fifth, what are the implications of enhanced technological surveillance for workers? This relates also to the question of whether the acceleration in the development of digitally based surveillance technology creates a qualitative leap in terms of how workers experience technology.

Below, we elaborate further on the questions we wish to address as part of this project.

- a. Given that workers should be considered agents and not merely passive objects of employer actions, in our future research we intend to focus on how, if at all, workers push back against surveillance. By this we mean both how they may resist what they regard as over surveillance or unethical surveillance. But we also consider ways that workers may adapt technology to serve their own needs. The question of *worker resistance* is not entirely new (Ball 2010; Hanley and Hubbard, 2020), but previous work largely failed to tease out the impact of discrete factors on surveillance. There is emerging work on workers adapting technology to their own purposes (Spektor et al., 2023). Among the factors, we intend to investigate:
  - i. The importance of business cycles for the timing of surveillance technology introduction. We might assume that workers' capacity to resist employer initiatives of this type is reduced during economic slowdowns when worker layoffs are more likely.
  - ii. Differences in worker pushback across sectors and professions. There are vast power disparities between workers in different economic sectors, which obviously determine their ability to resist or adapt surveillance, but there could also be significant differences in

organizational and professional culture that matter. For example, the norm of academic freedom is still sufficiently powerful to mobilize faculty against administrative encroachment in a way that is unheard of in other professions.

- iii. Differences across countries or states. Institutional differences, especially as they are manifested in legal codes and work councils/unions' influence matter greatly for surveillance regimes as demonstrated in the fact that in the U.S., firms are not required to report to workers they are being surveilled and American law gives workers little recourse against workplace related surveillance. In France, by contrast, not informing workers would constitute a criminal offence and employers must consult with the work council in advance with respect to new surveillance measures (Rogers, 2023; Hodges, 2006). Cultural differences might also play a role. It is possible, for example, that Swedes have comparatively greater trust in new technologies. See for example, Gnamb and Appel (2019) on Europeans' trust of robots and Petersén (2018) on Swedes willingness to have microchips implanted under their skin. Such cultural norms may result in higher worker tolerance for digital monitoring.
  - iv. Gender differences. On the one hand, a common characterization of women is that they are relatively docile and are more willing than men to take orders in the workplace (Anker, 1997). This might suggest that resistance to surveillance – or anything else – would be weaker in women-dominated workplaces and professions. On the other hand, some studies indicate that women hold more negative attitudes about being monitored than men (Stark et al., 2020), which might increase their motivation to resist. At the same time women might feel more vulnerable to sexual harassment at work, and we might hypothesize they would be more willing to adapt surveillance technologies in ways that afford them greater protection. Regardless, historically surveillance practices have been more prevalent in services such as retail in which the majority of workers are women.
  - v. Class differences. Lower-skilled workers with lower incomes tend to work under economically precarious circumstances (e.g., they are more easily replaced than high-skilled workers). This should adversely affect their motivation to resist surveillance.
- b. When are workers, and their representatives, involved in the introduction of surveillance measures? How are the results different relative to conditions in which workers are not involved in the process? Clearly, where workers are unionized, the likelihood that they would be consulted in the process of

surveillance introduction is greater (Ball, 2010; 2021). In fact, in a survey (sponsored by a British trade union), it was found that union members were twice as likely as non-union members to be consulted on the introduction of new technologies into their workplaces (Prospect, 2021). Nevertheless, we know little about what forms of surveillance matter most in negotiations between employers and workers and what employers care most about.

- c. What role does government play in the process of technological surveillance introduction/roll back? Clearly, governments make the rules and as such should be able to facilitate surveillance or, conversely, set limits to its scope, which would also include limits on the utilization of data collected for one purpose (e.g., safety) to be used to police another (e.g., productivity).

Furthermore, government could be the focus of significant lobbying efforts on behalf of different stakeholders. We should not assume, however, that lobbying is symmetrical; in the U.S. over recent decades, for instance, the finance and business sector have invested far more in lobbying than organized labor has (Hacker and Pierson, 2010).

A related question is whether the partisan identity of government matters for policymaking around worker surveillance. There is a rich research literature in political science dedicated to the ideological, or interest-based, differences between right and left and how policy is affected. While the traditional focus of such work is on redistribution-oriented policies (Bobbio, 1996), in recent decades a right-left policy divide expanded to other areas such as the environment (Jahn, 2023). It might be hypothesized that right-leaning governments would be more supportive of employer surveillance practices as the right is more closely associated with employers as a political constituency than the left and endorses a neoliberal approach of minimal intervention in markets (and therefore employer practices).

Last but not least, not all governments are the same. As suggested before many national systems have different fundamental sets of laws and regulations about the collection and use of individual data. This is apparent also at the meta-national level; for example the very active privacy agencies at the EU level would make many surveillance technologies developed and deployed in other societies illegal no matter which party is in power.

- d. What role do the producers of surveillance technologies play in the process? Does their involvement stop at the point of production or are they engaged in efforts to reshape work environments in ways that would make these more amenable to the introduction of their preferred new technologies? If so, how is this accomplished? There is little doubt that surveillance technology producers have much to gain if these technologies become

pervasive in workplaces (Clawson and Clawson, 2017). Technology producers could play a reactive role by offering technical support to employers to adapt existing technologies for surveillance purposes. Of course, they could also actively promote their products and even lobby government to create a favorable legal framework for their introduction. They may also be crucial to creating a favorable ideological climate that sweeps up users and adapters in a compelling narrative of the future that encourages a bandwagon effect in adoption (Schlogl, Weiss, Prainsack, 2021).

## REFERENCES

- Anker, R. (1997). "Theories of occupational segregation by sex: An overview." *Int'l Lab. Rev.*, 136, 315.
- Ball, K. (2010). "Workplace surveillance: An overview." *Labor History*, 51 (1), 87-106.
- Ball, K. (2021). "Electronic Monitoring and Surveillance in the Workplace." Luxembourg: Publications Office of the European Union, 2021. <https://doi.org/10.2760/5137> (online).
- Clawson, D., & Clawson, M. A. (2017, May). "IT is Watching: Workplace Surveillance and Worker Resistance." *New Labor Forum* Vol. 26, No. 2, 62-69.
- Dubal, V. (2023). "On Algorithmic Wage Discrimination." Unpublished Paper, January 19, 2023. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4331080](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4331080).
- Gnambs, T., & Appel, M. (2019). "Are Robots Becoming Unpopular? Changes in attitudes Towards Autonomous Robotic Systems in Europe". *Computers in Human Behavior*, 93, 53-61.
- Hacker, J. S., & Pierson, P. (2010). *Winner-take-all politics: How Washington Made the Rich Richer--and Turned its Back on the Middle Class*. New York: Simon and Schuster.
- Hanley, D. A., & Hubbard, S. (2020). "Eyes Everywhere: Amazon's Surveillance Infrastructure and Revitalizing Worker Power." *Open Markets Institute*.
- Hodges, A. C. (2006). "Bargaining for Privacy in the Unionized Workplace." *International Journal of Comparative Labour Law and Industrial Relations*, 22(2).
- Jacoby, S. (1985). *Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry, 1900-1945*. New York: Columbia University Press.
- Jahn, D. (2023). "The Changing Relevance and Meaning of Left and Right in 34 Party Systems from 1945 to 2020." *Comparative European Politics*, 21(3), 308-332.
- Kasana, M. (2022). "Microsoft 365 Is Going Full Cop on Employees with Constant Monitoring." *Inverse*, November 25. <https://www.inverse.com/input/culture/microsoft-365-is-going-full-cop-on-employees-with-constant-monitoring>.

- Kaufman, B. (2010). *Hired Hands or Human Resources? Case Studies of HRM Programs and Practices in Early American Industry*. Ithaca: ILR Press.
- Kaufman, B. (2008). *Managing the Human Factor: The Early Years of Human Resource Management in American Industry*. Ithaca: ILR Press/Cornell University Press.
- Levy, K. (2023). *Data Driven: Truckers, Technology, and the New Workplace Surveillance*. Princeton: Princeton University Press Princeton, 2023.
- Levy, K. (2018). "Refractive Surveillance: Monitoring Customers to Manage Workers." *International Journal of Communication (Online)*. 1166–88.
- Mak, A. (2021). "The Exploding Market for Devices That Help You Evade Corporate Productivity Trackers." *Slate*, December 3.  
<https://slate.com/technology/2021/12/mouse-movers-market-corporate-productivity-tracking.html>.
- Meyer, S (1981). *The Five Dollar Day: Labor, Management, and Social Control in the Ford Motor Company, 1908-1921*. Albany: State University of New York Press.
- Miller, P, and Ted O’Leary (1987). "Accounting and the Construction of the Governable Person." *Accounting, Organizations and Society*, 12, no. 3, 235–65.
- Nelson, D. (1995). *Managers and Workers: Origins of the Twentieth-Century Factory System in the United States, 1880-1920*. 2nd ed. Madison, Wis: University of Wisconsin Press.
- Pasquinelli, M. (2023). *The Eye of the Master: A social History of Artificial Intelligence*. London: Verso.
- Petersén, M. (2018). "Thousands of Swedes are Inserting Microchips into Themselves—Here’s Why." *The Conversation*, 20.
- Prospect (2021), New protections needed to stop employer surveillance of remote workers. November 5. <https://prospect.org.uk/news/new-protections-needed-to-stop-employer-surveillance-of-remote-workers>
- Rogers, B. (2023) *Data and Democracy at Work: Advanced Information Technologies, Labor Law, and the New Working Class*. MIT Press.
- Schlogl, L, E. Weiss, B. Prainsack, (2021) "Constructing the 'Future of Work: An Analysis of the Policy Discourse. *New Technology, Work and Employment*. 36 (3), 307-326
- Sewell, G, and Barry Wilkinson (1992). "'Someone to Watch over Me': Surveillance, Discipline, and the Just-in-Time Labour Process". *Sociology (Oxford)* 26, no. 2, 271–89.
- Spektor, et. al. (2023) "Designing for Wellbeing: Worker-Generated Ideas on Adapting Algorithmic Management in the Hospitality Industry."  
<https://dl.acm.org/doi/pdf/10.1145/3563657.3596018>



Stark, L., Stanhaus, A., & Anthony, D. L. (2020). “ ‘i don't want someone to watch me while i'm working’: Gendered views of Facial Recognition Technology in Workplace Surveillance.” *Journal of the Association for Information Science and Technology*, 71(9), 1074-1088.

Taylor, F. W. (1911). *Shop Management*. New York: Harper & Brothers.

———. (1913) *The Principles of Scientific Management*. New York: Harper & Brothers,