Draining Bodies without Care: Worker Energy Depletion and Recharging at Amazon, Poland.

Milosz Miszczynski, Kozminski University, Poland

Abstract

This article proposes integrating the concepts of energy depletion and recharging as key elements in the struggle over labour indeterminacy at Amazon. To this end, it draws on empirical data collected from two Amazon warehouses and analyses worker narratives related to energy management at work. The findings illustrate how, in digital warehousing, diverse worker bodies are treated as homogeneous, disposable, and replaceable due to their short-term energy capacity. This helps explain why such companies often organise for permanent turnover rather than ensuring sustainable energy management. Conceptually, centring energy extends existing debates on work surveillance and the labour process towards embodiment and social reproduction; empirically, it identifies energy governance as a distinct locus of the indeterminacy struggle. The article argues for transparency in algorithmic assessment, enforceable restorative time and ergonomic standards, and incentives aligned with sustainable, health-preserving work.

Keywords: body, labour indeterminacy, energy, depletion, Amazon

This research was funded in whole or in part by The National Science Centre, Poland, as part of the CHANSE program, no. 2021/03/Y/HS4/00285. For the purpose of Open Access, the author has applied a CC-BY-NC public copyright licence to any Author Accepted Manuscript (AAM) version arising from this submission.

Introduction

Over the past decade, warehouses have become focal sites for studying how global capital leverages the interplay between digital technologies of control and casualised employment structures (Amazon Workers and Supporters, 2018; Delfanti, 2021; Gutelius, 2015; Jaehrling, 2019; Schaupp, 2022; Staab & Nachtwey, 2016). Studies of warehouse work have highlighted the concept of techno-economic despotism, a labour management approach that integrates advanced algorithmic oversight (techno) with precarious employment practices that exploit workers' economic insecurity (economic) (Vallas, Johnston, & Mommadova, 2022; Wood, 2020, 2021). Nowhere is this more evident than in Amazon's warehouses, which have become emblematic of a high-velocity push toward maximising productivity through an extensive reliance on digital technology (Lee et al., 2025; Miszczynski & Zanoni, 2025; Zanoni & Miszczynski, 2023). Existing research on global logistics and digitised labour regimes largely converges on two key theoretical streams addressing the realities of digital warehousing work: (1) the deployment of algorithmic technologies that rationalise and intensify the labour process, and (2) precarious contracts that fragment the workforce (Alimahomed-Wilson & Ness, 2018; Benvegnù & Cuppini, 2018; Birken & Taylor, 2018; Cattero & D'Onofrio, 2018; Ding et al., 2015; Delfanti, 2021; Keller et al., 2009; Moody, 2019; Vallas et al., 2022). While offering valuable perspectives, analyses centred on coercive techno-economic control often overlook its deeper impact on workers' lived experiences.

This text fills this gap by focusing on the consequences of techno-economic despotism, examining the embodied experiences of energy at work. It positions the warehouse workplace as a site of indeterminacy struggle between the worker and the employer (Boysen et al., 2019; Edwards, 2003; Smith, 2006; 2016; Veen et al., 2020). As I show in this text, the focus on energy, as part of broader physical, mental and social health, can be particularly helpful for understanding employment model of contemporary logistics, expanding the existing interpretations, so far largely focused on the labour process, to the broader spheres of work surveillance, ethics and social reproduction. The starting point of this study is an often-overlooked but significant aspect of warehousing work—captured in Polish media discourses by the notion of 'caloric expenditure'—which explores how warehouse workers subjectively experience the physical toll of sustaining unrelenting efficiency demands (Leśniewicz, 2021; TVNBiznes, 2018). In Poland, for instance, where Amazon has rapidly expanded its operations, critics argue that Amazon's internal methods for calculating energy consumption consistently understate the actual impact on employees, fuelling legal and administrative disputes while leaving workers in a difficult position (BusinessInsider, 2024). Through the empirical material, this text shows how due to digital technologies of workplace control, diverse worker bodies witness unprecedented energy expenditures. While the bodies are heterogenous, differing in size, age, gender and other characteristics, workers undergo a set of parameters that are universally standard, with only one differing lifting limit for gender. These bodies also rest in different way, require different maintenance and are fuelled by different actors.

This article proposes integrating the concepts of energy depletion and recharging as key elements of the struggle over labour indeterminacy at Amazon (Smith, 2006, 2016). To address it, it draws on empirical data collected from two Amazon warehouses and analyses worker narratives related to energy management at work. The data shows that energy depletion and renewal play a significant role in worker narratives, serving as a metaphor for their ongoing struggle to realise labour power (Bélanger & Edwards, 2013; Veen et al., 2020). The

findings illustrate how under augmented despotism, the diverse worker bodies are treated as homogenous, disposable and replaceable due to their short-term energy capacity. This helps to understand why such companies often organise a system of permanent turnover rather than ensuring sustainable energy management. The pursuit of intensity relies on energy levels that are impossible for individual workers to sustain long-term, significantly impacting their lives, including short-term commitment to the job, placing a burden on extended families, and causing long-term physical effects on their bodies. Incorporating these arguments into the theorisations of workplace surveillance, embodied experiences of work and workplace ethics, helps to reveal the challenges of contemporary working populations in terms of social reproduction and public health.

Literature Review

Energy and Digital Organisational Control

Contemporary workplaces extensively rely on worker surveillance, understood as 'collection and processing of information (…) for the purposes of influencing and managing those whose data have been garnered' (Lyon, 2001:2). Even traditionally offline sectors such as manufacturing and transportation now operate in computer-driven environments, where data, algorithmic decision-making, the physical world, and human labour are tightly interwoven. From a business perspective, technologies of workplace surveillance ensure efficiency—allowing for comprehensive monitoring of inventory, the flow of goods, machinery conditions, and, most importantly, intensifying work. A labour-management approach that epitomises it is techno-economic despotism: an approach that combines advanced algorithmic oversight and control with precarious employment practices that leverage workers' economic insecurity (Vallas, Johnston, & Mommadova, 2022; Wood, 2020, 2021).

Existing literature has so far, broadly addressed the consequences of work surveillance, placed at the intersection of labour process theory (Elliott & Long, 2016; McDonald & Thompson, 2016; Sewell & Wilkinson, 1992), organisational sociology (Veen et al., 2020), and Foucauldian analysis of power (Caluya, 2010; Galiere, 2020). These approaches all challenge the presumed neutrality of monitoring technologies, revealing how surveillance creates information asymmetries (Curchod, 2020; Rosenblat & Stark, 2016), for example, enabling social sorting through electronic profiling (Zanoni & Miszczynski, 2024), and transforms the employment relationship into gamified, computer-controlled labour processes (Shulzenko & Holmgren, 2020). They also have consequences for power relations: reproducing social inequalities (Kossek & Lautsch, 2018), propelling marginalised employment (Goldstein & Alonso-Bejarano, 2017), and disproportionately affecting disadvantaged groups (Briziarelli, 2018; Wood et al., 2019).

This paper adds to the literature on workplace surveillance, considering worker energy as the key element negotiated in waged work. It shows energy-focused perspective, including it into the debate on the struggle over labour indeterminacy, the inherent unpredictability of the employment relationship, particularly in the realisation of labour power (Smith, 2006, 2016). Labour indeterminacy arises because the employment contract cannot specify or enforce the exact amount or intensity of effort a worker will exert, leaving this to continuous on-site negotiation (Bowles & Gintis, 1990; Edwards, 2003). Effort, along with labour mobility,

creates uncertainty as workers retain the ability to change employers (Smith, 2006). Both factors stress employers' inability to fully control labour power, which is contingent on workers' choices and influenced by dynamic constraints and motivations (Bélanger & Edwards, 2013; Veen et al., 2020). Yet, this natural workplace tension becomes highly uneven with the progressing digital surveillance shaping work relationships, linking worker bodies to digital systems of control such as Warehouse Management Systems (WMS) in the logistics industry (Boysen et al., 2019).

Recent scholarship has proposed adapting traditional conceptualisations of labour indeterminacy to include worker health, closely tied to energy and the worker's body (Harvey & Wallace, 2024). Since health—encompassing physical, mental, and social components (Bircher, 2005; WHO, 2014)—moderates a worker's capacity to perform tasks, energy serves as a manifestation of this capacity. Energy levels fluctuate over time and cannot be immediately replenished at will; they require management. For example, ill health diminishes energy, as well as the effectiveness of effort, as a worker who is not well expends greater physical or mental exertion to achieve the same outcomes as a worker who is in good health (Qureshi et al., 2014). Chronic health issues can limit labour mobility, restricting workers' ability to change employers and shaping their options in the labour market (Das, 2023). Yet health is only one element influencing worker energy. Other elements, such as gender, body size, and age are equally crucial in indeterminacy struggles, shaping both individual strategies of prerforming work and organisational approaches to labour control.

The incorporation of worker energy into the framework of labour indeterminacy has the potential to reveal the consequences of energy-intensive environments like digitally organised warehouses. While coercive mechanisms and performance incentives can influence effort, managing energy remains an unspoken issue throughout the workforce, delegated to the worker's reproductive sphere, where, for instance, familial support can help to replenish energy levels (Miszczynski, 2020), or it can occur within the community (Posada, 2022). Although employers invest in worker energy and health—such as through ergonomic adjustments or recovery planning—the trend in warehouses relies on intensification of work and labour fragmentation. The lack of long-term employment planning results in delayed negative effects (Ford et al., 2011), and the prioritisation of short-term productivity gains (Das, 2023). Consequently, digitally enforced excessive performance demands or the neglect of workplace safety can exacerbate worker stress and energy depletion, leading to long-term declines in organisational performance (Artz & Heywood, 2023).

Recognising worker energy as a distinct component of labour indeterminacy both advances theoretical discussions and underscores the importance of sustainable and equitable management practices. By linking energy management to socio-economic and health considerations, this paper enhances our understanding of the contemporary realities of warehousing work through the perspective of the worker's body. Studying work in the platform economy, Gregory and Sadowski (2021) argue that platformised forms of digital surveillance treat workers' vital capacities as a directly governable and extractable resource, cultivating 'perverse virtues' (such as constant flexibility, bodily fitness/readiness, and legibility to metrics) that align the worker's energetic self-maintenance with the firm's throughput goals. In this view, energy is not merely expended in the course of work but is actively produced, monitored, and optimised by surveillance technologies that externalise the costs of restoration and risk onto workers, requiring continual self-investment to remain 'fit for work'. Translating this

approach to digitally organised warehouses clarifies how pacing algorithms, performance dashboards, and individualised targets convert the worker's vitality into an object of management, making depletion a structural—and therefore predictable—outcome rather than a side effect (Gregory & Sadowski, 2021). This perspective strengthens the case for treating energy governance as a central locus of labour indeterminacy, where organisational designs and datafied controls shape both the amount of effort elicited but and the ways in which the conditions of recovery, health, and bodily sustainability are distributed over time and across workers.

This paper focuses on the embodied experiences of energy. Embodiment—defined as 'the physical and mental experience of existence' (Cregan, 2006, p. 3)—offers critical insights into how workers experience and negotiate the increasing energy demands on their bodies and minds. The perspective captures how labour process is experienced on the body-level, for example as mechanical, as a site of power struggles, resistance or community-building. For example, intense competition, prolonged work schedules, and an ethos of limitless achievement often disregard the limitations of workers' capacity, leading to burnout, stress, and mental health crises (Gaspar et al., 2024). On an organisational level, practices such as promoting wellness programmes or self-development initiatives often aim to shape a pliable workforce aligned with managerial demands (Dale & Burrell, 2014; McGillivray, 2005). Access to substances like caffeine (Endrissat and Islam, 2021) or rituals around eating and drinking (Plester, 2015) exemplify workplace influences embodied experiences of work.

At the same time, employees develop diverse strategies to manage their physical and emotional capacities. For instance, commuting time, often considered 'dead time,' can be used for tasks like responding to emails or recharging, helping workers maintain their stamina (Bolton & Wibberley, 2014; Holley et al., 2008). In some cases, where lots of commuting is part of the job - such as domiciliary care, commuting can lead to depletion and exhaustion (Wibberley, 2013). Additionally, organisational structures blur the boundaries between work and private life, with extreme examples like hackathons illustrating the collapse the distinction between rest and labour (Endrissat & Islam, 2021). Alongside these physical tactics, employees rely on emotional regulation techniques, described by Hochschild as the tension between the 'authentic self'—primarily in the private sphere—and the emotional expressions demanded by work roles (the 'multiple selves'). The literature broadens the traditional focus on individual bodily experiences to emphasise how feelings circulate, thereby shaping relationships, power imbalances, and institutions (Fotaki, 2017; Fotaki & Daskalaki, 2020). These processes are reflected in a framework of 'embedded reproduction' (Posada, 2022), where work is sustained by networks of social reproduction—households, online peer groups, and local communities. In this understanding, worker energy is shown as socially produced and differentially replenished: Recovery, health, and access to common resources are structured by institutional weakness and environmental conditions, making energetic depletion a systemic rather than a personal issue (Posada, 2022).

Organisational strategies may seek to harness employees' energy for the sake of increased efficiency, though this often risks both exploitation and the erosion of personal boundaries (McCarthy & Glozer, 2022). While recognising the power dynamics at play, these debates emphasise that workers are not passive victims of organisational control; rather, they resist, adapt, and shape their experiences (Burkitt, 1999, p. 5; Rydzik & Ellis-Vowles, 2019). Affective solidarity—turning to colleagues for support (Fotaki, Kenny, & Vachhani, 2017)—helps restore energy, whereas 'sensory retreat'—withdrawing from social contact—may be essential for

preserving mental equilibrium. Resistance itself becomes embodied, whether through slowing down work, taking sick leave, or otherwise asserting boundaries to challenge workplaces that disregard bodily limits.

Methodology

To explore the energy-related embodied experiences of warehouse work, this study relies on 114 semi-structured interviews conducted between 2018 and 2024 in two Polish warehouses, POZ1 (78), SCZ1 (36), triangulated with additional data sources, including interviews with trade union representatives, press articles, and observations of online worker forums. The qualitative interview approach was selected for its ability to capture how workers subjectively experience and interpret their labour conditions. Semi-structured interviews allow for an open dialogue, enabling workers to articulate their perspectives without rigid constraints on their narratives (Roulston, 2021). Online observations took place in the three major Facebook fora for Amazon workers in Poland: AMAZON PL (approximately 17,000 members), Amazon Fulfillment Center POZ1 (around 7,000 members), and Amazon Fulfillment Poznań POZ1 (about 8,000 members). Participants were recruited through posts on these forums, which outlined the research objectives, funding sources, and an open invitation to participate (Miszczynski, 2025). Snowball sampling was also employed; at the end of each interview, participants could refer colleagues to the study. A desk review of press articles on Amazon Poland added to the contextual understanding (Turner & Turner, 2009).

Table 1: Research Overview (own work)

Site	Year	Number of Interviews	Gender Balance	Employment Status	Age	Warehouse Roles	Additional Data
POZ1	2018	78	58% female	37% direct Amazon employees	Over 50% aged 25-45	All shop floor roles	Trade unionist interviews
SCZ1	2023	36	53% female	64% direct Amazon employees	52% of workers aged 25-45 and 42% of workers aged 18-24	All shop floor roles	Management interviews

The collected data was analysed through a structured, multi-stage process designed to uncover the interplay among energy consumption, depletion, and labour dynamics. The analysis followed an iterative approach, incorporating thematic coding, triangulation with secondary sources, and key phrase identification related to energy. Systematic coding of the interview material was conducted using qualitative data analysis software

(MaxQDA). The initial phase involved open coding (Charmaz, 2014), focusing on key themes relevant to warehouse operations and labour structures. These themes included the historical development of Amazon warehouses in Poland, human resource policies and contractual arrangements, the division of labour and spatial organisation within warehouses, the structure of shift systems and workload distribution, the role of digital management tools such as WMS and real-time tracking technologies, and workforce demographics and employment patterns. This coding process allowed for the identification of recurring patterns and divergences in how workers experience and negotiate labour conditions under Amazon's digitalised management regime.

Given the focus on energy, the second and third phases of analysis identified and categorised key phrases (465 coded fragments in total). Using an inductive approach, thematic clusters emerged around physical and mental exhaustion, often described as 'energy crashes' or 'hitting the wall'. Additionally, worker strategies for sustaining their stamina—such as micro-resting techniques ('power naps'), consumption of caffeinated of energy drinks, and reliance on social support networks—were identified and coded. By synthesising these dimensions, the analysis provided a comprehensive understanding of how workers navigate the demands of energy-intensive digital labour environments. The multi-step approach ensured analytical depth, balancing individual subjectivities with broader labour structures and global trends in warehousing.

Case description: Amazon warehousing in Poland

Amazon's global warehousing system is an extreme organisation, based on advanced data analytics, integration of robotics and surveillance of workers. It operates a network of 320 warehouses across the globe, employing approximately 250,000 grey-collar workers and 25,000 auxiliary personnel (Amazon.com, 2025). Its sustained growth is based on a highly effective online marketing strategy, driven by consumer analytics and a Prime membership programme that offers unlimited orders with free shipping and fast delivery for a flat annual fee. This strategy is combined with a 'digital Taylorist-Fordist' organisation of work and highly precarious employment conditions (e.g., Boewe & Schulten, 2019; Briken & Taylor, 2018; Delfanti, 2021). The internal organisation of all warehouses is similar across all locations: Operations are divided into inbound (receiving, unpacking, quality control, labelling, and stowing of goods) and outbound (picking, packing, and preparing shipments for external couriers). Inside, warehouses follow a hierarchical structure, where workers—referred to as 'associates'—are organised into teams of approximately 20, led by team leaders, who report to area managers and ultimately to operations managers (Delfanti, 2021; Kassem, 2023; Vallas, Johnston & Mommadova, 2022).

Inside the warehouses, the main workflow relies on the digital warehouse management system. This digital tool, controls the flow of goods but also plays a main role in the indeterminacy struggle. In Poland, shop floor workers are assigned to alternating day and night 10-hour shifts on a monthly basis. They receive two paid 15-minute breaks and one unpaid 30-minute lunch break per shift. Full-time workers typically work four days a week, with the option to add an extra shift during peak times. Part-time workers—who make up a small portion of the workforce—usually work on weekends. Yet, the work contracts do not specify any productivity measures, such number of items handled as per hour, completed tasks, or orders shipped. Warehouse workers are employed by the hour, as selling their labour power directly to Amazon or to work agencies (Ding et al., 2015; Keller et al., 2009). Although workers may know their wages in advance (as well as varying bonuses), the exact amount of

energy expended to earn the wages remains vague (Delfanti, 2021; Vallas et al., 2022; Zanoni & Miszczynski, 2024). This indeterminacy reflects a deep power imbalance – the people actually doing the work have little knowledge, control and input regarding the amount and intensity of work. Moreover, the criteria of assessment cannot be precisely determined before the engagement of workers, machinery, and products in the labour process (O'Doherty & Willmott, 2001; Warhurst et al., 2008). This open-ended nature of the labour contracts allows employers to dictate and enforce a varying level of output over a given period through digital control mechanisms, which are primarily designed to maximise the exploitation of the worker's body. In addition, there are productivity bonuses that incentivise effort. In other words, the absence of a mutual agreement on work effort creates a structural gap within the employment contract, driving continuous attempts to intensify labour.

The study presented in this article examines Amazon's operations in Poland's post-socialist economy, described as a radically neoliberal capitalist model (Bohle & Greskovits, 2007; Hardy, 2009; Kideckel, 2008). The Polish labour market is characterised by low-skilled, precarious, and low-paid employment, alongside an overqualified workforce resulting from the expansion of tertiary education since the 1990s. This mismatch in the labour market has led to ongoing work-related migration, particularly among young workers, primarily to other European countries. Although both warehouses operate in regions with one of the lowest unemployment rates in the country, endemic job precarity and the normalisation of 'flexible' employment (Mrozowicki, 2016) significantly limit workers' mobilisation potential. At Amazon, union membership is low and largely driven by the grassroots, self-organised union Inicjatywa Pracownicza (Workers' Initiative), which operates without paid staff. This contrasts with the symbolic presence of the mainstream union Solidarność (Amazon Workers and Supporters, 2018). Unions remain constrained by Polish legislation, which requires a large number of supporting workers to initiate mobilisation (Boewe & Schulten, 2019; Cattero & D'Onofrio, 2018).

Results

Workers' Embodied Energy in Digital Warehousing

In digitally managed warehouse work, workers' bodies become the site where abstract and concrete labour intersect. Their physical presence and embodied labour contribute to overall value production, albeit within the constraints imposed by management systems. Workers' (primarily physical) labour capacities are integrated into the digitalised framework. The struggle over labour indeterminacy occurs through tensions that arise between the employer-imposed degree of effort and amount of energy workers have. On the one hand, digitalised systems assess and control work performed on-site – objectifying workers and datifying their performance. On the other hand, the heterogenous bodies remain quantified against selected tasks, often requiring worker independence, manual dexterity, adaptability, and problem-solving abilities. One-size metrics benchmark bodies, erasing differences in age, size and gender that shape energetic capacity. While standardisation can aim at fairness, it also amplifies inequality in embodied burden.

For the Polish context, these tensions are reflected in media discourses over Amazon's labour practices, including scrutiny from the Polish National Labour Inspectorate (Leśniewicz, 2021; TVNBiznes, 2018). According to official statements, this agency has conducted multiple inspections of Amazon's warehouses in response to concerns over working conditions and health standards. These inspections revealed widespread

violations, including inadequate health and safety protocols, delayed salary payments, and non-compliance with break regulations. A particularly revealing case involved the caloric expenditure of Amazon workers, which was measured by inspectors. The inspection determined that physical effort among female workers performing warehouse tasks often exceeded 1,100 kcal per shift. However, the legal framework limited inspectors' ability to enforce changes beyond issuing recommendations and imposing minor fines.

In practice, shop floor work depends on physical effort , so workers regularly experience energy depletion. Receivers unpacking items, stowers replenishing shelf space, pickers collecting items, and packers preparing shipments all carry barcode scanners that dictate their next task and the pace of work. These scanners simultaneously feed data into the Associate Development and Performance Tracker (ADAPT), a computerised system that uses an opaque set of universal algorithmic criteria to continuously monitor and benchmark individual workers' performance against aggregate 'productivity scores' (Amazon term). The data reveals a high representation of metaphors used to capture the work experience, illustrating how humans are turned into cogs in the machine, or into 'executors of next-day delivery service' (female stower #99). In interviews, some workers called themselves 'robots' (male stower, #52), 'engines' (female stower, #34; female packer, #84), 'locomotives' (male stower #11), or said they were 'pulling horses' (female packer #106) to reflect the uninterrupted flow of instructions given by the scanner. Such metaphors, along with descriptions like 'brain dead' (male stower, #55) or 'zombie' (female picker, #20), highlight the immense physical effort required and the exclusion of deeper cognitive engagement needed to comply with the employer-controlled pace. Amazon's low-bar recruitment widens access (apparent equity) while enabling rapid churn and interchangeability.

While subject to surveillance and putting physical effort into daily work, the workforce struggles to understand the process in which their work is datified, and how (or if) it is used in managerial decision-making. A significant imbalance outlines the indeterminacy —while workers maximise their energy in daily tasks, they are unsure about the rules governing their performance assessment. For example, one interviewee pointed out that older workers often 'work their energy to zero just from fear' (middle-aged male stower, #5) without knowing the expectations. This lack of clarity regarding how labour is evaluated is not addressed in training, leaving it in the domain of informality, leaving workers puzzled about the meaning of a digit displayed on their scanners (online post #1). Another example:

> Some [workers] don't know that the items that they pick have different weight [in the system]. Let's say half the people don't know that it influences their assessment. (male picker from 18-24 age group, #14)

Two interviewees speculated about the system and used their assumptions to regulate their daily effort at work:

> I don't know how it [the system of performance assessment] works, I never found out. But it's not that every item is the same. Of course, you have a heavy duty drill and it is counted differently than a small plastic cutting board, for example. (female picker from 45+ age group) #109)

> I'm on so-called AFE [Amazon Fulfillment Engine, other name for speedy packing department], yes. I see some items in this compartment, I don't know if they are small items or large ones. Only the computer knows, the database actually knows - the system out there on a server in Seattle. Everything is generally in America, yes. (female packer from 25-45 age group, #90)

Amazon's warehouse workers learn about the system through a performance evaluation process that includes formal—generally negative—feedback from their line managers. The system determines the size and number of objects handled by workers, which contributes to the overall assessment, which workers call 'the norm'. The system generates a percentage factor based on this evaluation, indicating whether a worker needs work faster or if their performance is satisfactory.

As a consequence, this approach to management results does not ensure sustainability or consider the long-term effects on individual workers. Warehouse turnover is high, partly a consequence of rigorous performance metrics and ambiguity. Even though the norm is not formally a criterion for work assessment, it remains a central element of management – for example causing the manager to transfer a worker to a different department or shift, or reducing the bonus. The norm, a numeric expression of productivity in the warehouse, fluctuates constantly as a result of seasonal demand, short-term contracts, and the large proportion of the workforce hired through intermediaries. Although no official statistics are available, one interviewee who works in her department as a trainer responsible for work introduction shared this observation:

> I trained hundreds of people and I think by my observation that about 5% stays longer than a year. Sorry, 3%. That is really something that Amazon has an approach to take people, give them low norm and see how they work and if they are doing okay, then increase it. (Middle-aged female stower, #34)

This incredibly low percentage, shared with workers with 'longer' (meaning two years) tenure, is indicative of a radically short-term horizon of Amazon.

At the same time, by engaging workers for short periods, Amazon provides indiscrimate recruitment criteria for new or returning workers. Interviewees shared the minimal qualification requirements and screening before a contract is offered. Amazon relies on a hiring policy based on basic health screening, and on-site job selection, with new hires being job-tested inside the warehouse. One worker cynically described this process as 'making sure that you have hands and legs to be a picker, and can survive that job mentally' (middle-aged female picker, #63). Another worker emphasised simply being a warm body, given the energetically draining quality of these jobs:

> They advertise [the jobs] that seems like you need to be qualified for this job. But I think that you will hear a lot from other workers that you don't. All you need to know to read from the scanner. The rest does not really matter – we joke that you need to have a pulse, as long as you move fast enough and follow the scanner you are qualified. (Middle-aged female stower, #21)

This form of indiscriminate inclusion is a pipeline to disposability. Digital surveillance expands the labour pool even as it accelerates exit – ensuring indeterminacy through easy replacement. The data paints a picture of precarious workers forced to engage in daily physical labour, and unsure of their future. Witnessing waves of new workers (hired as replacements or in peak periods), workers are acutely aware that as far as the digital system is concerned, they are anonymous and interchangeable. One of the participants commented on feeling objectified by Amazon: 'We are just a record in an Excel spreadsheet, and if we turn red on somebody's computer, he [sic] will know what to do [alluding to layoffs] (middle-aged male packer, #4).' Another worker

reiterated this sentiment, describing his effort strategy was to 'keep their [workers' -MM] head below the surface' (middle-aged male stower, #5). In other words, he tried to avoid becoming conspicuous in deviating from the average.

Workers' Energy Management

In the indeterminacy struggle, warehouse workers experience exploitation of their bodies through the close monitoring of their performance. The subjective experiences of energy depletion and crises are regular occurrences at work. Warehousing work inevitably leads to both end-of-shift and chronic exhaustion. The following passages show how worker energy declines either after a certain period or due to repetitive movements:

> And then for ten hours, or something like standing under that [artificial] light, well, around four o'clock, there's already this kind of energy crisis, you know, well, it's obvious—it hits everyone. (Middle-aged female packer, #62)

> You stow for the whole day and your body just gets into a mode that it is performed like a trance. Every muscle knows what you are doing but you hit the wall at some point, probably like after a couple of hundred items. It's inevitable, a human is not a robot but even a robot needs to be charged and maintained. (Middle-aged male stower, #111)

Workers are universally experiencing energy depletion, even though it varies by department and the workers' movement preferences. The workers in the packing department prefer to stand in one place; pickers prefer to walk around.

Almost immediately after beginning their shift, workers form their own embodied strategies of performing work. Workers' micro-techniques of energy management, such as pacing or standing in place confer some agency and conserve energy. At the same time, they translate resistance into metric-friendly performance, reinforcing the very regime that physically exhausts them. A female packer in one of the most physically demanding departments, Speedy Packing, mastered a technique for working efficiently. Referring to the Amazon Fulfillment Engine (AFE), she explained:

It's obvious, a single movement, an improper movement of the hand repeated thousands of times during the shift, takes energy, takes time, and that's enough. (female packer from 18-24 age group, #76)

Another worker remarked on his process of adapting his body to the demands of work.

> Well, it is a very physically demanding job because the shelves are taller than the worker, and the lowest shelf is at ankle level or... the lower half of the calves. It involves constant bending or climbing a two- or three-step ladder, where you work for ten hours, with a half-hour break, because that half-hour is unpaid, which means the actual working time is ten and a half hours. (…) I remember training, going

> through all the processes, and not being used to standing work, I wanted to cry from the pain after each day, and I know it wasn't just my problem. However, it's also a matter of getting used to it and not acting like it is a sport in which you win. Two or three weeks, and you switch from a sitting mode of work to a standing mode and with time you focus on keeping your energy levels. But of course every one complains about wrist, joint, shoulder, and tendon issues after a while. (…) Because four days a week, with ten hours of what is essentially aerobics, is definitely burning you. (female picker from 25-45 age group, #20)

Similar passages relating to energy expenditure use similar metaphors speaking of body learning to conserve energy. Workers labelled it a form of 'trance' (female picker from 18-24 age group , #54), or internalised, energy-efficient muscle movement 'just like in karate' (male stower from 25-45 age group, #11). Since workers adopt their movements to the requirements of control, this form of habituation preserves their employability while embedding body exploitation, reflecting the argument of normalisation of energy depletion as part of the indeterminacy struggle.

To workers, energy management is an individual process of learning through observation and adaptation of how to perform the job. As the following passage shows, it creates a hard-won embodied efficiency:

> I was learning the tempo only by looking at how other people work. I did not know anybody but I tried to figure out how people who have been at Amazon for a while work. So for instance, I looked at one girl and she was very organised in her moves. She did not mess with it [packing]. Just necessary moves. And I tried to do the same thing – and it helped me know how to. (female stower from 25-45 age group, #99)

The result is striking a balance between the effort and the metrics of the job.

> The worst thing you can do is to be too precise. Like read everything, be careful and slow. I remember that I was feeling a type of anxiety if I did not read it all and just scanned. But I looked at how others do it and they were fast. It felt a bit like a game, like stressed and hoping I won't screw it up. (male stower from 25-45 age group, #11)

> One important thing that this job had for me was just a simple rule: 'You perform'. Even though I can't explain it, I know when I will perform and when I have lost time trying to find an object, for example, it's a razor or it's a ring or a little eyeliner or, I don't know, something so small that you can't find it. Then I really know, okay so this means I have to put extra effort in the next few picks. And this has been the key to my success – if I don't sleep on the job, there will be no feedback or trouble. (female picker from 25-45 age group, #66)

The result of role mastery, learning the moves and adapting the joints, is mobility anxiety. For workers, stabilising their performance in one department restores control. Moving to another department risked disrupting this stability, forcing them to adapt once again to a new system that might demand even greater effort and

endurance. Some roles, like those in AFE, the speedy packing department, were dreaded for their relentless pace and repetitive nature. One worker compared it to being treated as a piece of machinery:

> AFE is just too much. This is too intense and repetitive. As a picker, I honestly can't stand it, because you are constantly used like a human robot to move things from one place to the other and to pass it to the next stage. (female packer from 18-24 age group, #76)

Others referred to AFE's work culture in more metaphorical terms, calling it a high-speed, dehumanising environment that resembled an automated system rather than a human-driven workplace:

> At AFE, you are running like a rat. (…) Do you know about AFE? We call it disco because there are lamps of different colours. But also, people just dance – take an item from a big shelf and pack it and dance back. I resisted being trained for AFE because I was very worried that they would move me there. (female packer from 25-45 age group, #64)

Taken together, these practices show how workers carve out agency and ration their effort. In the process, adaptation normalises energy depletion by converting embodied know-how to a catalyst for continued extraction.

Workers' energy recharging

The experience of work is defined not only by the rhythms of energy depletion but also by worker strategies for rest. While Amazon, like other companies, implements measures ostensibly designed to support worker well-being—such as subsidised meals or designated break areas—these interventions often serve as temporary means of replenishing worker energy. At Amazon, employees receive an employer-subsidised meal during their unpaid 30-minute break. This meal is often considered a significant advantage of the job and a crucial element in maintaining energy throughout the workday. One interviewee described how the meal helps her 'restart' the day and feel that half of the effort is already behind her:

> I get that feeling that my arms hurt me and I have no energy but I am only waiting for the lunch break. I actually like the food they serve, it might not be anything too special but I sit down, take a breath, eat some fruit and lunch and I get that second wave of energy. (…) After the break we have a stand-up with the manager, they tell us about the goals and it feel sometimes like a fresh start. (male stower from 25-45 age group, #101)

Another worker remarked on 'having a good lunch to compensate for all the walking' (male picker from 18-24 age group, #23), citing the meal's energy restorative function. Yet, these attempts are timed and scripted to re-fuel throughput – with rest becoming a resource governed for production.

Additionally, in the two critical moments of the day, at the beginning of the shift, and after lunch; management holds brief stand-up meetings to deliver motivational messaging about goals. The mid-day stand-up

creates a sense of starting fresh, . This timing is linked to the rhythm of worker depletion and restoration, transforming moments of physical recovery into opportunities for ideological renewal. Rather than addressing the underlying causes of worker exhaustion, management uses these meetings to psychologically re-energise workers and maintain productivity expectations.

> These meetings are always the same: the manager gives a few tips – on safety, and quality, usually talks about the results, like what happened yesterday, but also shares new like they are some prices to win or new type of action. And the important thing is fast start (…). I means that after log in (to the scanner), we should immediately handle at least five items – so that [the WMS] starts counting immediately. (male picker from 25-45 age group, #113)

The obligation to start fast is understood as an interaction with the digital system. But at the same time, the pacing allows for re-establishing the rhythm of work, potentially influencing how physical restoration can be leveraged to renew both bodily capacity and psychological commitment. In other words, subsidised meals and post-lunch stand-ups 'refresh' workers, but recovery moments are synchronised to re-energise commitment to goals.

To many workers meals are making milestones during the day to 'survive to the lunch break' (middle-aged female stower, #9). A worker described personal routines in connection to meals:

> In my experience I mostly have kind of worse days, where I don't really feel like working but then I save myself with coffee or some energy drink. And then lunch and, like I said, the days pass so quickly in this job that I honestly don't know when these two years flew by. (male packer from 18-24 age group, #44)

In the interviews, workers emphasised the lack of genuine concern for employee well-being, highlighting how these initiatives often contradict the labour process. One worker specifically remarked on the 'resting chairs' in the warehouse.

> I have never seen a single person using them. In four years nobody ever sat at them because nobody has time to do it. I don't know what would have to happen, probably a stroke or something dramatic, but they never removed it, it is just for the show. (male packer from 25-45 age group, #51)

'Resting chairs' signal well-being while time pressure makes them untouchable. Organisational care in general is directed harvesting rather than restitution – providing only minimal time and space for rest.

Naturally, longer-term energy replenishment is externalised. The interviewees often explained that their work does not end with their shift. The depletion and extreme regularity of movement required by the job extend into their personal lives, leaving little room for recovery. The rhythms of work both sap their energy and dominate their entire weekly schedules, trapping them in a cycle of recharging rather than active living. According to one worker:

> If I take four, or sometimes five days of work, then the two ones are kind of wasted for me. The days between shifts I just focus on resting, but really, what can one do, you wake up after a shift, eat something, watch some tv and once you look at the clock, it is time to get to the bus and get back to work. And you live week after week and your life escapes. (female stower from 18-24 age group, #7)

For those on night shifts, the toll is even greater, as their bodies struggle to adapt to the artificial cycle imposed by their work schedules. The process of returning home, unwinding, and then attempting to sleep is exhausting in itself.

> If I work on night shifts, I can't just come back home and go to sleep. I have a whole routine and it takes me like 2 hours to really go to bed. I come back, eat something, watch some tv, in the meantime take a shower. But just my body can't immediately go to rest. (female packer from 25-45 age group, #56)

This fatigue does not exist in isolation from workers' responsibilities outside of Amazon. For many, the commute and household duties further erode their capacity to recharge. One worker explained how their life is structured around rest snatched in between shifts:

> Listen, I spend three hours commuting every day. (…) I take two big naps in the bus, every day. I come back and help my kids get ready, or make meals. And then sleep at home for like five hours or so. Then I send my kids to school, or do homework with them. This is really tough life if you look at it. I don't think anyone can last forever like that. (male picker from 25-45 age group, #16)

Coping with Amazon's demanding work process often involves relying on family networks for support. One interviewee insisted that their household functioned only because of intergenerational care structures, with elder family members absorbing the brunt**:**

> My husband has a job where he also works on shifts but often we just don't have capacities to manage everything. My mother really runs the whole enterprise for us as she lives nearby. (female picker from 25-45 age group, #68)

These pressures build over time, with long-term physical and mental consequences. Some workers spoke of 'Amazonian diseases'—a term employees coined to describe chronic illnesses associated with warehouse labour. As one worker recounted:

> Worker: Did people tell you about Amazonian diseases?
> Interviewer: Tell me.
> Worker: That doctors from the region already know the aftermath of this work. That people come to them with injuries, like chronic backache, knees, all kinds of rheumatic pains. And also depression or sleep deprivation. This is all because this job just takes away life from you, you can't sustain it. (male picker from 25-45 age group, #53)

In this arrangement, the reproductive sphere becomes a refuge of energy replenishment, with the warehouse acting as a site of extraction. Commuting naps, night-shift 'wind-down', and family care redistribute restoration to households but since there exist different needs and commitments, often falling along gender and age lines, maintaining their energy falls on the workers themselves.

Discussion

Despite extensive research on techno-economic despotism and workplace surveillance in warehouses, there remains a significant gap in understanding how these regimes are lived and negotiated as limits of worker energy—and how the costs of restoring that energy are organised beyond the workplace in households and communities. Using the concepts of labour indeterminacy and embodied energy (depletion and recharging), this text has theorised energy governance as a central terrain of indeterminacy struggle in digitally managed warehousing, showing how algorithmic control reconfigures the on-site negotiation of effort through the body (Edwards, 2003; Smith, 2006, 2016; Harvey & Wallace, 2024; Gregory & Sadowski, 2021). The data has shown how energy at work is finite, fluctuating, and not instantly replenishable and how digital warehousing extracts it through worker surveillance (Veen et al., 2020; McDonald & Thompson, 2016) and techno-despotic approaches (Vallas et al., 2022; Wood, 2021).

I find, first, that algorithmic opacity and floating productivity norms translate managerial discretion into predictable depletion and overexertion; and second, that recharging is partially scripted inside the warehouse (meals/stand-ups) but structurally externalised to workers' private lives, where commuting, sleep routines, and family support become necessary conditions of continued employability (Rosenblat & Stark, 2016; Veen et al., 2020; Posada, 2022). This is important because it contributes a body-centred account of techno-economic despotism that links surveillance and labour-process debates to embodiment, social reproduction, and workplace ethics/public health: it shows turnover is not an anomaly but a functional outcome of an energy-extractive model, and that unequal capacities to recover (shaped by age, gender, health and care responsibilities) reproduce inequality over time (Kossek & Lautsch, 2018; Gregory & Sadowski, 2021; Posada, 2022).

Secondly, these insights advance the debate on the changes occurring the sphere of work and employment. First, the case of Amazon, and digital logistics more broadly, provides insights into the debate on labour indeterminacy (Boysen et al., 2019; Edwards, 2003; Smith, 2006, 2016; Veen et al., 2020). In doing so, the article extends classic indeterminacy accounts by specifying energy as the contested variable and showing how software tools such as WMS/ADAPT intensify indeterminacy through information asymmetry and moving benchmarks, complementing surveillance work on opacity and datafied control (Edwards, 2003; Smith, 2006, 2016; Lyon, 2001; Rosenblat & Stark, 2016). In this industry, energy effort cannot be fully specified ex ante; since digital systems reconfigure the on-site negotiation of effort/pace, intensifying extraction, while shifting terms of control (Lee et al., 2025; Miszczynski & Zanoni, 2025; Zanoni & Miszczynski, 2023). The text has shown how floating norms keep the target moving, sustaining prerogatives without contractual metrics. This is amplified by redeployment anxiety – manifested in the workplace by a reset of hard-won embodied efficiency,

based on embodied adaptation. The background of this short-term orientation is epitomised in the inclusion-to-disposability pipeline (Zanoni and Miszczynski, 2023), based on low-bar hiring and rapid churn, as a mechanism for keeping indeterminacy. Together, these identified dynamics make depletion a built-in condition of productivity—shifting the costs of restoration onto workers' bodies and households while preserving managerial discretion.

Thirdly, although algorithmic monitoring and performance targets impose high energy demands, workers are not merely passive recipients of these pressures (Briken & Taylor, 2018). In the course of their work they execute privatised, embodied resistance, based on pacing, motion minimisation and other efforts aimed at immediate productivity requirements against long-term health and well-being. This is expressed in worker-authored rules to avoid discipline without overdoing energy, often based on peer learning or simple observational learning of efficient moves. These strategies highlight the dynamic, ongoing negotiation between the employer's quest for maximum output and the individual's finite capacity to sustain prolonged physical effort. Yet, as this paper has shown, moving the responsibility on remaining 'fit for work' to the worker, parallels the model of the platform economy (Gregory & Sadowski, 2021). This connects embodiment scholarship to platform-economy arguments about governing "vital capacities", showing how micro-tactics of pacing can be simultaneously protective and functional to datafied control (Cregan, 2006; Gregory & Sadowski, 2021).

Finally, even though standardised metrics erase bodily differences, this capacity is not homogeneous and relies on unequal energetic load – replicating existing inequalities (Jarrahi et al., 2021; Vallas et al., 2022). Age, gender, body size, health status, tenure, and care responsibilities shape stamina and recovery, making some workers far more vulnerable to depletion. This falls along not only with embodied work experiences, tied to capacity of performing work, for example based on age or gender, but also social roles that might for instance shape recovery and availability, such as those with responsibility for caring for young children or elderly relatives. While depletion is systemic, energy is individually replenished within households, communities and local infrastructures (Posada, 2022). The process of replenishment is also not linear; for example, the data details commuting or household work as energy economy that both restores and drains worker energy. Workers' capacity to restore themselves—whether through rest, healthcare, emotional support, or simple leisure—depends on domestic and community networks outside the workplace. Families, for instance, frequently absorb the extra burden by preparing meals, handling childcare, or managing housework so that workers can devote their limited off-hours to rest and recovery. While this collective pooling of resources allows some employees to remain in their roles for longer periods, it also illustrates the hidden costs transferred onto kinship networks and social environments. It also develops "embedded reproduction" accounts by demonstrating how recovery is redistributed to households and kin networks, with uneven consequences for workers differentiated by gender, age and care responsibilities (Posada, 2022; Kossek & Lautsch, 2018).

Conclusion

This article has shown howdigitally organized warehousing—exemplified by Amazon—institutionalises a regime of techno-economic despotism in which worker energy becomes the central currency of labour indeterminacy. By foregrounding workers' embodied experiences across depletion and recharging, the analysis

shows how algorithmic controls, fluid productivity norms, and low-bar, churn-oriented hiring convert finite bodily capacity into a continuously extractable resource. At the same time, it externalises the costs of recovery onto households and communities. Standardised metrics that ignore age, gender, health status, and care responsibilities unequal energetic burdens, reproducing broader social inequalities. The data points at individualized patterns of resistance: workers' micro-tactics of pacing and motion minimisation reveal consequential, yet ultimately constrained, forms of agency that stabilise short-term output, often at the expense of long-term health and mobility. Conceptually, positioning energy as a constitutive dimension of indeterminacy extends labour process theory toward the ethics of embodiment and social reproduction; empirically, it clarifies why high turnover is not an aberration but a functional feature of the model. These findings call for research that measures energy governance as a distinct locus of control and for policy interventions that mandate transparency, enforce restorative time and ergonomic standards, and that align managerial incentives with sustainable, health-preserving employment.

Bibliography

Amazon Workers and Supporters (2018). Stop treating us like dogs! Workers organizing resistance at Amazon in Poland. In*: Choke Points Logistics Workers Disrupting the Global Supply Chain*, Alimahomed-Wilson, J., & Ness, I. (Eds.), London: Pluto: 96-109.

Artz, B., & Heywood, J. S. (2023). Performance pay and work hours: US survey evidence. *Oxford Economic Papers*, gpad032. https://doi.org/10.1093/oep/gpad032

Bélanger, J., & Edwards, P. (2013). The nature of front-line service work: Distinctive features and continuity in the employment relationship. *Work, Employment & Society, 27*(3), 433–450.

Bircher, J. (2005). Towards a dynamic definition of health and disease. *Medicine, Healthcare & Philosophy, 8*(3), 335–341. https://doi.org/10.1007/s11019-005-0538-y

Birken, K., & Taylor, P. (2018). Fulfilling the 'British way': beyond constrained choice—Amazon workers' lived experiences of workfare. *Industrial Relations Journal, 49*(5-6), 438-458.

Boewe, J., & Schulten, J. (2019). The long struggle of the Amazon employees. Rosa Luxemburg Foundation. Available at https://www.rosalux.eu/en/article/1558.2nd-edition-the-long-struggle-of-the-amazon-employees.html (accessed: 25.01.2025)

Bohle, D., & Greskovits, B. (2007). The state, internationalization, and capitalist diversity in Eastern Europe. *Competition & Change, 11*(2), 89-115.

Bolton, S. C., & Wibberley, G. (2014). Domiciliary care: The formal and informal labour process. *Sociology*, *48*(4), 682-697.

Bowles, S., & Gintis, H. (1990). Contested exchange: New microfoundations for the political economy of capitalism. *Politics & Society, 18*(2), 165–222. https://doi.org/10.1177/003232929001800202

Boysen, N., De Koster, R., & Weidinger, F. (2019). Warehousing in the e-commerce era: A survey. European *Journal of Operational Research, 277*(2), 396-411.

Braverman, H. (1974). *Labor and monopoly capital*. New York: Monthly Review Press.

Briziarelli, M. (2018). Spatial politics in the digital realm: The logistics/precarity dialectics and Deliveroo's tertiary space struggles. *Cultural Studies, 33*, 823–840.

Burkitt, I. (1999). *Bodies of thought: Embodiment, identity and modernity*. London: SAGE.

Caluya, G (2010) The post-panoptic society: Reassessing Foucault in surveillance studies. *Social Identities 16*(5) pp. 621 – 633.

Cattero, B., & D'Onofrio, M. (2018). Work organisation and the labour process: Towards a renewed research agenda. In: *Digital labour platforms and the future of work*. Geneva: International Labour Organization.

Collinson, D. L. (1999). Surviving the rigs: Safety and surveillance on North Sea oil installations. *Organization Studies*, *20*(4), 579-600.

Cregan, K. (2006). *The sociology of the body: Mapping the abstraction of embodiment*. London: SAGE Publications.

Curchod, C; Patriotta, G; Cohen, L and Neysen, N (2020) Working for an Algorithm: Power Asymmetries and Agency in Online Work Settings. *Administrative Science Quarterly 65*(3) pp. 644 – 676

Dale, K., & Burrell, G. (2014). Being occupied: An embodied re-reading of organizational 'wellness'. *Organization*, *21*(2), 159-177.

Das, R. J. (2023). Capital, capitalism and health. *Critical Sociology, 49*(3), 395–414. https://doi.org/10.1177/08969205221083503

Delfanti, A. (2021b) *The warehouse: Workers and robots at Amazon*. London: Pluto Press.

Ding, M. J., Kam, B. H., Zhang, J. Y., & Jie, F. (2015). Effects of human resource management practices on logistics and supply chain competencies–evidence from China logistics service market. *International Journal of Production Research, 53*(10), 2885-2903.

Edwards, P. (2003). The employment relationship and the field of industrial relations. *Industrial Relations: Theory and Practice, 2*, 1–36.

Elliott, CS and Long, G (2016) Manufacturing rate busters: Computer control and social relations in the labour process. *Work, Employment and Society 30*(1) pp. 135 – 151.

Endrissat, N., & Islam, G. (2021). Hackathons as affective circuits: Technology, organizationality and affect. *Organization Studies, 43(*7), 1019-1047

Fleming, P. (2017). The human capital hoax: Work, debt and insecurity in the era of uberization. *Organization Studies, 38*(5), 691–709. doi: 10.1177/0170840616686129.

Ford, M. T., Cerasoli, C. P., Higgins, J. A., & Decesare, A. L. (2011). Relationships between psychological, physical, and behavioural health and work performance: A review and meta-analysis. *Work & Stress, 25*(3), 185–204. https://doi.org/10.1080/02678373.2011.609035

Fotaki, M., & Daskalaki, M. (2020). Politicizing the body in the anti-mining protest in Greece. *Organization Studies* vol. 42(8): 1265-1290.

Fotaki, M. , Kenny, K., & Vachhani, S. (2017). Thinking critically about affect in organization studies: Why it matters. *Organization, 24*, 3–17.

Galiere, S. (2020) When food-delivery platform workers consent to algorithmic management: a Foucauldian perspective. *New Technology Work and Employment*, *35*(3), 357-370.

Gandini, A. (2019). Labour process theory and the gig economy. *Human Relations, 72*(6), 1039-1056.

Gaspar, T., Botelho-Guedes, F., Cerqueira, A., Baban, A., Rus, C., & Gaspar-Matos, M. (2024). Burnout as a multidimensional phenomenon: How can workplaces be healthy environments? *Journal of Public Health*, 33(12), 2591-2604.

Gong, Y., & De Koster, R. (2011). A review on stochastic models and analysis of warehouse operations. *Logistics Research, 3*(4), 191-205.

Gregory, K. (2021). 'My life is more valuable than this': Understanding risk among on-demand food couriers in Edinburgh. *Work, Employment and Society, 35*(2), 316–331. doi: 10.1177/0950017020969593.

Gregory, K., & Sadowski, J. (2021). Biopolitical platforms: The perverse virtues of digital labour. *Journal of Cultural Economy*, *14*(6), 662–674. https://doi.org/10.1080/17530350.2021.1901766

Gwiazda, A. (2020). Right-wing populism and feminist politics: The case of law and justice in Poland. *International Political Science Review, 42(5), 580-595.*

Harvey, G., & Wallace, J. (2024). A third indeterminacy of labour power: Worker health investment and the indeterminacy of labour health. *Sociology of Health & Illness, 46(8), 1587–1601*

Heiland, H. (2022). Neither timeless, nor placeless: Control of food delivery gig work via place-based working time regimes. *Human Relations, 75*(9), 1824-1848.

Holley, D., Jain, J. & Lyons, G. (2008). Understanding business travel time and its place in the working day. *Time and Society 17*(1): 27–46.

Jarrahi, M. H., Newlands, G., Lee, M. K., Wolf, C. T., Kinder, E., & Sutherland, W. (2021). Algorithmic management in a work context. *Big Data & Society*, *8*(2), 20539517211020332.

Keller, S. B., & Ozment, J. (2009). Research on personnel issues published in leading logistics journals: What we know and don't know. *The International Journal of Logistics Management, 20*(3), 378-407.

Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. *Academy of Management Annals, 14*(1), 366-410.

Kossek, E.E. and Lautsch, B.A. (2018). Work–life flexibility for whom? Occupational status and work–life inequality in upper, middle, and lower level jobs. *Academy of Management Annals 12*(1) pp. 5–36.

Krzyżanowski, M. (2018). Discursive shifts in ethno-nationalist politics: On politicization and mediatization of the 'refugee crisis' in Poland. *Journal of Immigrant & Refugee Studies, 16*(1-2), 76-96.

Lee, T. L., Tapia, M., Aranzaes, C. L., Sapre, S. R., Shimek, S., Pinto, S., & Bustamante, A. R. (2025). The militarization of employment relations: racialized surveillance and worker control in Amazon fulfillment centers. Work and occupations, 52(4), 491-528.

Leśniewicz, K. (2021) https://oko.press/ofiary-wypadkow-w-amazonie-czuja-sie-jak-winni-przestepstwa-mowi-zwolniona-zwiazkowczyni (accessed: 27.01.2025)

Lyon, D. (2001) *Surveillance society: Monitoring everyday life.* Cambridge: McGraw Hill.

McCarthy, L., & Glozer, S. (2022). Heart, mind and body and the replenishment of emotional energy. *Organization Studies*, *43*(3), 369-394.

McDonald, P., & Thompson, P. (2016). Social media(tion) and the reshaping of public/private boundaries in employment relations, *International Journal of Management Reviews 18*, 69–84.

McGillivray (2005). Fitter, happier, more productive: Governing working bodies through wellness. *Culture and Organization 11*(2): 125-138.

Miszczynski, M. (2020). Mutual dependency: Offshored labour and family organisation in post-socialist Romania. *Organization*, *27*(5), 641-659.

Miszczynski M (2025), "Ethical and methodological implications of social media for participant recruitment: Amazon's workforce in Poland". *Journal of Organizational Ethnography 14*(3): 357–380.

Miszczyński, M., & Zanoni, P. (2025). Coercion and Consent under Techno-Economic Despotism: Workers' Alienation and 'Liberation' in the Amazon Warehouse. *Work, Employment and Society*, *39*(5), 1179-1200.

Newlands, G. (2021). Algorithmic surveillance in the gig economy: The organization of work through Lefebvrian conceived space. *Organization Studies*, *42*(5), 719-737.

Newsome, K., Thompson, P., & Commander, J. (2013). 'You monitor performance at every hour': Labour and the management of performance in the supermarket supply chain. *New Technology, Work and Employment, 28*(1), 1-15.

O'Doherty, D., & Willmott, H. (2001). Debating labour process theory: The issue of subjectivity and the relevance of poststructuralism. *Sociology, 35*(2), 457-476.

Pan, Y., & Froese, F. J. (2023). An interdisciplinary review of AI and HRM: Challenges and future directions. *Human Resource Management Review*, *33*(1), 100924.

Plester, B. (2015). Ingesting the organization: The embodiment of organizational food rituals. *Culture and Organization*, *21*(3), 251-268.

Qureshi, K., Salway, S., Chowbey, P., & Platt, L. (2014). Long-term ill health and the social embeddedness of work: A study in a post-industrial, multi-ethnic locality in the UK. *Sociology of Health & Illness, 36*(7), 955–969. https://doi.org/10.1111/1467-9566.12128

Rosenblat A and Stark L (2016) Algorithmic labor and information asymmetries: A case study of Uber's drivers. *International Journal of Communication 10* pp. 3758–3784

Rosenblat, A. & Stark, L. (2016). Algorithmic labor and information asymmetries: A case study of Uber's drivers. *International Journal of Communication 10*, 3758–3784.

Rydzik, A., & Ellis-Vowles, V. (2019). 'Don't use "the weak word"': Women brewers, identities and gendered territories of embodied work. *Work, Employment and Society*, *33*(3), 483-499.

Sewell, G and Wilkinson, B (1992) 'Someone to watch over me': Discipline, control and the labour process *Sociology 26*(2) 271- 289.

Shulzhenko, E. & Holmgren, J. (2020). Gains from resistance: Rejection of a new digital technology in a healthcare sector workplace. *New Technology, Work and Employment 35*(3), 276 – 296.

Smith, C. (2006). The double indeterminacy of labour power: Labour effort and labour mobility. *Work, Employment & Society, 20*(2), 389–402. https://doi.org/10.1177/0950017006065109

Smith, C. (2015). Continuity and change in labor process analysis forty years after labor and monopoly capital. *Labor Studies Journal, 40*(3), 222–242. https://doi.org/10.1177/0160449x15607154

TVN Biznes (2018) https://tvn24.pl/biznes/z-kraju/wynik-kontroli-panstwowej-inspekcji-pracy-w-amazonie-ra864842-ls4501602 (accessed 25.01.2025)

Vallas, S, Johnston H, Mommadova Y (2022) Prime suspect: Mechanisms of labor control at Amazon's warehouses. *Work and Occupations 49*(4): 421–456.

Veen, A., Barratt, T., & Goods, C. (2020). Platform-capital's 'app-etite' for control: A labour process analysis of food-delivery work in Australia. *Work, Employment and Society, 34*(3), 388-406.

Warhurst, C., Thompson, P., & Nickson, D. (2008). Labour process theory: Putting the managerialism back into the meaning of service work. In C. MacDonald & M. Korczynski (Eds.), *Service work: Critical perspectives* (pp. 91–112). London: Routledge.

White, A. (2016). Informal practices, unemployment, and migration in small-town Poland. *East European Politics and Societies, 30*(2), 404-422.

Wibberley, G. (2013) Getting the bodies of the workers to the bodies of the clients: The role of rotas in domicillary care. In: Wolkowitz, C., Cohen, R.L., Sanders, T., Hardy, K. (eds). *Body/sex/work: Intimate, embodied and sexualised labour*, Basingstoke: Palgrave Macmillan, pp. 223–38.

Wolkowitz, C. (2006). *Bodies at work*. London: Sage.

Wood, A.J., Graham, M., Lehdonvirta, V., Hjorth, I. (2019). Networked but commodified: The (dis)embeddedness of digital labour in the gig economy. *Sociology 53*(5), 931 – 950.

World Health Organization. (2014). Basic documents. Available at: http://apps.who.int/gb/bd. [Accessed 14 June 2024].

Zanoni, P., & Miszczyński, M. (2024). Post-diversity, precarious work for all: Unmaking borders to govern labour in the Amazon warehouse. *Organization Studies*, *45*(7), 987-1008.