

DOCTORAL THESIS

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Unpacking Online Retailing

The Organization of Warehouse Work and Inequality

Klara Rydström

Arbetsvetenskap



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Klara Rydström

Luleå University of Technology
Department of Social Sciences, Technology and Arts
Division of Humans and Technology
Human Work Sciences

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To the workers in online retail warehousing

Summary

This dissertation studies the organization of warehouse work and inequality in Swedish online retailing. Online retailing relocates the work of providing service to individual customers, usually performed by frontline workers in retail stores, to warehouses backstage. In line with the on-demand characteristics of online retail warehousing, where a fast and smooth goods handling process becomes a competitive advantage for the companies, the manual warehouse work has been shown to be associated with routinization, and a high work tempo and monotony for workers performing it. Little is known about these issues in Sweden. Union reports and news media have shown that online retail warehousing involves a generally poor work environment and low wages. Research-based findings from other geographical contexts explain that the workforce mainly consists of those who cannot find a job elsewhere and whose subordinated position limits their possibilities for resistance against the working conditions. Herein, inequality appears. Inequality is understood in the dissertation as a consequence of the practices that organize the work, which tend to be shaped by gendered and racialized processes. The inequality as such often, but not always, take the form of class relations (Acker 2006).

Based on an ethnographic study of five online retail warehouses in Sweden – *Homeware*, *Electronic*, *Recreational*, *Pharmacy*, and *Grocery* – the dissertation aims to explore and understand how practices and processes to organize online retail warehouse work relate to inequality, and it aims to contribute with knowledge in this regard. As part of this, the dissertation also aims to make visible the work, workplaces, and workers that online retail warehousing brings about. The methods and materials include interviews with managers, workers, and union and health and safety representatives (n=30); focus groups with workers and pharmacists (n=15 groups, a total of 49 participants); and ethnographic observations (a total of eleven weeks). The dissertation also comprises material from a systematic literature review of 21 articles focused on warehouse working

conditions and inequality, and employment data from Statistics Sweden divided into occupations groupings. My ambitions with the dissertation have been empirical – in how I have worked to contribute with knowledge about online retail warehousing, in particular in with regards to the Swedish context – and theoretical – in how I have strived to contribute with perspectives on how we can analytically approach inequality.

The results show that the warehouse work was organized in relation to the ‘on-demand’ element of online retailing, wherein flexibility becomes a necessity for online retail warehouses in the strive to fulfil the (over time fluctuating levels of) customer orders on time. While *Homeware*, *Electronic*, *Recreational*, *Pharmacy*, and *Grocery* all strived for profit by making warehouse workers provide a fast and satisfactory service for customers, the differences between them with regards to how the warehouse work was organized meant that there were variations in the shape and the degree of the inequality (cf. Acker 2006). This is exemplified in the dissertation with the practices and processes of *the division of work tasks*, *the monitoring of workers’ performance through productivity data*, and *a Swedish language policy*. In addition to inequality expressed in gendered and racialized class relations between managers and warehouses workers, and other groups of employees, the dissertation also found inequality produced by class and shaped by gender and race/ethnicity between groups of warehouse workers. The variations of the inequality seemed to be associated with the differences in the size and spatiality of the online retail warehouses, the size of the workforce, and the extent of technology applied in the goods handling process. Furthermore, the dissertation suggests that there are three analytical points of entry to from where to approach inequality – *the workplace level*, *the field of work level* and *the worker level* – which together help us understand its manifoldness, how the severity of inequality varies and the lived and embodied realities of it.

Sammanfattning

Den här avhandlingen studerar organiseringen av arbete och ojämlikhet i svensk e-handel. Med e-handeln förskjuts det arbete som vanligtvis utförs av butiksarbetare inom detaljhandeln – tillhandahållandet av service till enskilda kunder – till lager backstage. I linje med de *on-demand*-aspekter som karakteriserar e-handeln, där en snabb och smidig godshanteringsprocess utgör en konkurrensfördel för företagen, har lagerarbetet i e-handeln visat sig vara förknippat med rutinisering, och ett högt arbetstempo och monotonitet för de som utför det. Det finns begränsat kunskap om dessa frågor i en svensk kontext. Fackliga rapporter och nyhetsmedier har synliggjort en bristande arbetsmiljö och låga löner på svenska e-handelslager. Forskningsbaserad kunskap från geografiska kontexter bortom Sverige framhåller att arbetskraften huvudsakligen består av de som inte kan få arbete någon annanstans och vars underordnade ställning begränsar deras möjligheter att göra motstånd mot arbetsförhållandena. Här framkommer ojämlikhet. I avhandlingen förstås ojämlikhet som en konsekvens av praktiker för att organisera arbetet, vilka tenderar att formas av könade och rasifierade processer. Ojämlikhet som sådan tar sig ofta, men inte alltid, uttryck i klassrelationer (Acker 2006).

Avhandlingen baseras på en etnografisk studie av fem e-handelslager i Sverige – *Husgerådslagret*, *Elektroniklagret*, *Fritidslagret*, *Apotekslagret* och *Matlagret*. Syftet är att utforska och förstå hur praktikerna och processerna för att organisera lagerarbetet inom e-handeln relaterar till ojämlikhet, och avhandlingen syftar till att bidra med kunskap i detta avseende. Som del av detta syftar avhandlingen också till att synliggöra arbetet, arbetsplatserna och arbetarna som e-handeln och dess lager för med sig. Metoderna och materialet inkluderar intervjuer med chefer, arbetare och fackliga representanter och skyddsombud (n=30); fokusgrupper med arbetare och farmaceuter (n= 15 grupper, totalt 49 deltagare); och etnografiska observationer (totalt elva veckor). Avhandlingen omfattar även material från en systematisk litteraturstudie

av 21 artiklar fokuserade på arbetsvillkor och ojämlikhet på lager, samt bransch- och yrkesindelade data från SCB. Jag har haft både empiriska och teoretiska ambitioner med avhandlingen. Dels har jag strävat efter att bidra med kunskap om e-handelslager, med särskilt fokus på den svenska kontexten. Dels har jag strävat efter att bidra med perspektiv på hur vi analytiskt kan närma oss ojämlikhet.

Resultaten visar att lagerarbetet organiserades i relation till *on-demand*-aspekterna av e-handeln, där flexibilitet blir en nödvändighet för e-handelslagren i strävan att uppfylla kundorder i tid (vars nivå dessutom fluktuerar över tid). Även om både *Husgerådslagret*, *Elektroniklagret*, *Fritidslagret*, *Apotekslagret* och *Matlagret* strävade efter att uppnå vinst genom att få lagerarbetare att ge en snabb och tillfredsställande service till kunderna, så fanns skillnaderna mellan lagren gällande formen och graden av ojämlikhet (jfr. Acker 2006). I avhandlingen exemplifieras detta med processer och praktiker kopplade till *fördelningen av arbetsuppgifter, övervakning av arbetarnas prestationer genom produktivetsdata och den svenska språkpolicy som införts på ett av lagren*. Förutom att ojämlikhet tog sig uttryck i könade och rasifierade klassrelationer mellan chefer och lagerarbetare, och andra grupper av anställda, fann avhandlingen även ojämlikhet producerad av klass och formad av kön och ras/etnicitet mellan grupper av lagerarbetare. Avhandlingen föreslår att variationerna av ojämlikhet har att göra med att e-handelslagren skiljer sig åt i storlek och rumslighet, storlek på deras personalstyrka och implementeringen av teknik i godshanteringsprocessen. Vidare föreslår avhandlingen att det finns tre analytiska ingångspunkter från vilka vi kan närma oss ojämlikhet – *arbetsplatsnivån*, *arbetsfältsnivån* och *arbetarnivån*. Dessa tre tillsammans hjälper oss att förstå ojämlikhetens mångfald, hur svårighetsgraden av ojämlikhet varierar, och de levda och förkroppsligade verkligheterna av ojämlikhet.

Articles included in the dissertation:

1. Johansson, K., Rydström, K. and Sardiello, T. Bortom servicefronten. E-handelsarbetets platser och ojämlikhetsmönster. *Unpublished manuscript. Accepted for publication in Tidskrift för Genusvetenskap, in April 2024.*
2. Rydström, K. Good Girls? Ideal Workers in Online Retail Warehousing. *Unpublished manuscript. Re-submitted to Gender, Work & Organization after revision #3, in April 2024.*
3. Rydström, K. ‘There’s Nothing Strange’: Racialization in Online Retail Warehousing. *Unpublished manuscript. Submitted to Journal of Intercultural Studies, in April 2024.*
4. Rydström, K., Johansson, K., Sardiello, T., Jackson, J., and Mathiassen, S. On Precarity in Online Retail Warehousing. *Unpublished manuscript. Submitted to Work, Employment and Society, in December 2023.*
5. Rydström K., Jackson, J., Johansson, K. and Mathiassen, S. (2023). A Systematic Review of Work Organization, Work Environment and Employment Conditions in Warehouses, in Relation to Gender and Race/Ethnicity. *Annals of Work Exposures and Health*, 67(4): 430-447.

Rydström's contributions to the articles:

1. Rydström conducted the observations, interviews and focus groups together with Sardiello, which were analysed together with Johansson. Rydström reviewed and edited the text, over which Johansson had the main responsibility.
2. Rydström conducted the observations and interviews, analysed the materials, and produced the text.
3. Rydström conducted the observations, interviews and focus groups together with Sardiello, which were analysed together with Johansson. Rydström continued the analysis and produced the text.
4. Rydström conducted the observations, interviews and focus groups together with Sardiello, which were analysed together with Johansson. Rydström had the main responsibility for the text production, and provided a first draft of the text which was reviewed and edited by all authors.
5. Rydström collaborated with Jackson, Johansson and Mathiassen in the systematic review process. Rydström had the main responsibility for the text production, and provided a first draft of the text which was reviewed and edited by all authors.

Preface

There are many people that I want to acknowledge for contributing to this dissertation in different ways.

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My opponents at the 50 % seminar and 90 % seminar.

Gunilla Olofsdotter and Paula Mulinari. What a luxury to have researchers that I admire read and comment on my work. I have felt starstruck and thankful.

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Luleå, May 2024.

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Chapter 1. Introduction

Poor Working Conditions Backstage, for Workers Without Options?

To state the obvious, without work there is nothing to consume.

(Räthzel, Mulinari and Tollefsen 2014: 7)

I keep being told that we must streamline things and expand,
we are to double our pick-and-pack rate and I don't know how to do it
when my employees run their asses off every day.
This is of course an issue in many industries, I mean,
I guess it's a classic problem. But it becomes quite invisible in these places
where you are not visible to anyone else but your colleagues [...]
It's not like in a store when you can see that the staff is stressed as hell.

(Sofia, warehouse manager, *Electronic*¹)

This sounds harsh, but we get what we pay for and with low wages,
there will be a certain category of people available.
And that is often those who have recently arrived,
maybe just got a work permit and so on. So that is who we get.

(Tomas, team manager, *Pharmacy*)

¹ This quote is translated by me from Swedish to English. The same applies to all other quotes in this dissertation that come from observations, interviews and focus groups at the five online retail warehouses *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery*.

The dissertation you are to read explores and problematizes the organization of warehouse work and inequality in online retailing. Online retailing's embeddedness in the global, on-demand economy makes it an appealing case to study, because it challenges the traditional notions of work organizations as bound to the four walls of a workplace. It is particularly interesting to study it in the Swedish context where I am located, as the research-based knowledge brought forward so far is based on studies from online retail warehouses elsewhere. At the centre of this dissertation are the five online retail warehouses *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery*.² The methods and materials refer to an ethnographic study including interviews with managers, warehouse workers, marketing assistants, and union and health and safety representatives (n=30 participants); focus groups with warehouse workers and pharmacists (n=15 groups, a total of 49 participants); and observations (a total of eleven weeks). In broad terms, what is explored and problematized in this dissertation can be summarized by the three quotes above.

Consumption requires work, as stated by the first quote, and online retailing relocates the work traditionally performed in retail stores to warehouses.³ Studies of work and inequality in Swedish retail stores have shown that men and women tend to work in different sections of the store with different opportunities for variation (Johansson 2015; see also Johansson and Lundgren 2015) and different possibilities for career

² These are all pseudonymized names, and so are the names of research participants.

³ A distinction can be made between 'warehouses' and 'distribution centres,' where the former term would then refer to storage of goods in more traditional terms whereas the latter additionally comprises the processing function of unpacking, re-packing, and sorting of goods before they are sent to the next actor of the supply chain (Bonacich and Wilson 2008). 'Fulfilment centre' is a third term like those two. However, in my understanding and experience, these terms are generally used interchangeably, and in Bonacich and Wilson's (2008) words it seems like the 'the mixing of terms reflects the mixed reality' (page 124) wherein there is a variety of warehouses/distribution centres/fulfilment centres with similar/different functions. The terms I have chosen to use in this dissertation are 'online retail warehouses' and 'warehouses belonging to online retailing.'

opportunities (Olofsdotter, Bolin and Mathiassen 2023). The relative closeness between retail workers and customers has been proven meaningful for who is assigned what tasks, with women often working in sections close to the customers (see, for example, Johansson 2015; Kvist 2006; Olofsdotter, Bolin and Mathiassen 2023). In online retailing, all the warehouse work is performed at a physical distance from customers: the picking and packing of goods, and unpacking, sorting, and allocation of incoming goods from pallets and boxes to shelves, and palletizing of the outgoing goods. We can thus assume that the processes by which certain bodies become meaningful for the work and how work marks the body (cf. Zampoukos 2021; Mulinari 2017) partly take a different shape in warehouses belonging to online retailing than in stores belonging to retailing. The worker-customer relation nonetheless still appears to be meaningful. The fact that customers visit a web shop, place their products in the virtual shopping cart and check out, and that the warehouse workers get a notification on their computer/tablet/scanner that there is a new order to fulfil, *in real time*, makes it possible to characterize online retail warehouse work as a 'handling of goods on-demand' (cf. Shapiro 2018; Van Doorn 2017) which is performed 'backstage' (spatially separated from the customer). This holds significance for what is explored and problematized in my dissertation.

The on-demand characteristics are associated with online retail warehouses' ambition to provide a fast and smooth service to their customers, and this makes flexibility into central concern for them. Findings from online retail studies before mine suggest that routinization and de-skilling of the warehouse work (Gautié, Jaerhling and Perez 2020; Kembro and Norrman 2023; Massimo 2020; Vgontzas 2022; Zaroni and Miszczyński 2023) provides the employers flexibility, as it makes the work so easy that anyone can be hired to perform it (cf. Schaupp 2022). Platform-mediated work through companies such as Foodora, Wolt and Uber, represents another work brought forward by the on-demand economy (see, for example, Webster and Zhang 2020; Webster and Zhang 2022). These companies instead keep flexible towards the market

by having ‘self-employed’ gig workers performing the work. In retailing, the use of part-time work is a common flexibility strategy, and it puts many workers in a precarious situation (Olofsdotter, Bolin and Mathiassen 2023; Campbell and Price 2016; see also Carlén and de los Reyes 2021). There are limits to the flexibility, as Mulinari (2004) puts it, in how the companies’ strategies to keep flexible towards the market implicate on the workers in various ways. One example with regards to part-time employment is that workers might have to spend a lot of time travelling back-and-forth between their home and the workplace just to get a few paid hours of work (cf. Sjöstedt Landén 2017; Mulinari, Rätzel and Tollefsen 2021). What makes online retail warehousing interesting is that many workers, at least in the Swedish context, have formal employment and work full time (Handels n.d.). Thus, different from platform-mediated gig work and retailing, the online retail warehouses’ flexibility strategies take a partly different form.

The fact that the on-demand handling of goods is performed ‘backstage’ in online retail warehouses entails that the workers are invisible, as explained in the second quote by the warehouse manager Sofia. One of the points I have strived to make with this dissertation is that the invisibility comes with a vulnerability with regards to working conditions. This is also implied by previous research findings of the various physical and mental demands on workers in online retail warehouses (see, for example, Gutelius and Pinto 2023; Rosenström 2016; Struna and Reese 2020). A common focal point in the online retail warehouse work literature is managers’ monitoring of workers through digital technology, such as the scanners often used in picking and packing, and how this is a means for class control (see, for example, Delfanti 2019; Fuchs et al 2023; Pottenger 2020; Struna and Reese 2020; Vallas, Johnston and Mommadova 2022; see also Kelly 2024). Control is a ‘classic problem’ in the labour market and working life, to use the wordings of Sofia, given that employers’ time generally stand in contrast to workers’ time. ‘Policing of time’ (Mulinari 2021) is hence a way for the former to control the latter. Sohl (2021) makes such findings in her study of a

commercial laundromat, where the racialized women workers' performances were monitored and made them feel like 'numbers' (see also Knocke 1994). What I find interesting with online retailing is precisely what Sofia expresses – that the workers 'becomes quite invisible to anyone else but their colleagues.' As a customer doing online shopping, I know little about the situation for those preparing the packages I get delivered to my home. However, Sofia's quote not only tells us about an invisibility and vulnerability of warehouse workers. What can also be read from the quote is that the manager's awareness of it, and a collegial community, might be able to balance some of it (cf. Baude 1993).

In addition to my point about the vulnerability of being invisible, I am also hoping that the dissertation will show that the issue of working conditions in online retail warehouses is associated with the issue of who performs this 'handling of goods on-demand.' This takes us to the third quote above. There it is implied by Tomas, another manager I have interviewed, that the online retail warehouses are not only interested in providing a fast and smooth service to their customers, but it should also be at a low cost. Like Tomas expresses that those who agree to (or have no choice but to) perform work under these conditions tend to be migrants to Sweden, so has newspaper articles from 2023 highlighted that Zalando, an online retailer, employs many migrant workers in their Swedish warehouse. These workers, the article explains, are in a position where they worry to lose their employment, as having an employment can help them get access to a permanent residence permit in Sweden – hence these workers 'put up with more than many others would' (Tronarp 2023a, translation from Swedish; see also Tronarp 2023b). Research in other geographical, cultural, and political contexts than Sweden have similarly shown that those who are hired to perform online warehouse work tend to be people who for different reasons were not hired elsewhere. Not only migrant workers (Fuchs et al. 2023) but also older workers, women with little experience from formal, paid work, and others in need of an income (Vallas, Johnston and Mommadova 2020).

Gautié, Jaehrling and Perez (2020) concludes that ‘low-skilled immigrant women and young people [...] are *less likely to complain* about narrow, repetitive tasks than are senior (male) workers’ (page 786, emphasis added).

Part of what got me interested to study work and inequality in Swedish online retail warehousing was the narrowness in the previous research having been conducted in online retail warehouses. It is noticeable that many of the published work studies to date have had warehouses belonging to Amazon as their focal point (see Alimahomed and Reese 2020; Alimahomed and Reese 2021; Apicella 2019; Briken and Taylor 2018; Delfanti 2019; Fuchs, Dannenberg and Wiedeman 2022; Gutelius and Pinto 2023; Henaway 2023; Pottenger 2020; Sprague and Sathi 2020; Vallas, Johnston and Mommadova 2022; Vallas and Kronberg 2023; Vgontzas 2022; Zanoni and Miszczyński 2023). Much of the research is placed in the North American context, although there are also studies having been conducted in Europe (Briken and Taylor 2018; Fuchs 2023; Gautié, Jaehrling and Perez 2020; Vgontzas 2022; Zanoni and Miszczyński 202) and Asia (Sprague and Sathi 2020). At the centre of much of the previous research is the digital technology, such as scanners and algorithmic systems, and how it engenders a digital Taylorism in the online retail warehouses (see, for example, Delfanti 2019; Delfanti and Frey 2021; Fuchs et al 2023; Gautié, Jaehrling, and Perez 2020; Pottenger 2020; Struna and Reese 2020; Vallas, Johnston and Mommadova 2022; Pottenger 2020; Zanoni and Miszczyński 2023). Furthermore, different from Zanoni and Miszczyński (2023) who find that demographic categories might no longer be significant in work organizations – they view the main problem to be an overarching exploitation and precarity of all online retail warehouse workers – other scholars have proven that class, gender, and race/ethnicity are important aspects to consider if we are to understand the situation for workers in online retail warehouses (see, for example, Alimahomed-Wilson 2019; Alimahomed-Wilson 2021; Alimahomed-Wilson and Reese 2021; Reese 2020).

Despite a rather vast number of online retail warehouse studies having been published since 2020, the year I began working on what came to be this dissertation, there are still aspects I find lacking. Not least knowledge of online retail warehouse work and inequality in Sweden (cf. Rosenström 2016). Moreover, with consideration to Fuchs et al.'s (2023) conclusion that employers' control over employees varies in different online retail warehouses, I also identify a need for more research that is focused on other than Amazon warehouses. Thus, I see a value of the broader approach to study online retail warehouse work and inequality as offered by this dissertation, where various online retail warehouses in Sweden are studied.

Sweden makes an interesting context to studies of work and inequality given our imagined exceptionalism when it comes to equality, that does not match the reality (see Alm et al. 2021; Martinsson, Griffin and Giritli Nygren 2016). Swedish working life is marked by inequality on the bases of class, gender, and race/ethnicity (Boréus, Neergaard and Sohl 2021) and structural discrimination has long been an issue therein (see Knocke 2006). Scholars studying various fields of work have proven Swedish working life to be both gendered (see, for example, Abrahamsson 2009; Johansson et al. 2019; Mattsson 2015; Sjöstedt Landén 2012) and racialized (see, for example, Behtoui et al. 2020; Boréus and Mörkenstam 2010; Boréus, Neergaard and Sohl 2021; Bursell 2012; Bursell 2014; Mulinari 2012). To understand the racialization, migration is an aspect of relevance not only in this dissertation, but also in the Swedish labour market and in Swedish working life more generally. Not least considering that having a job can be beneficial for those applying and hoping for permanent residence permit (cf. Migrationsverket 2024). Sager and Öberg (2017) explains that this makes finding a job a strategy also for refugee migrants applying for asylum, as a standard, long-term employment can contribute to providing these migrants with a residence permit instead of asylum. Despite the (at least theoretical) possibility for asylum seekers to get a job in the regulated labour market, and potentially stay in Sweden, their 'deportability and the uncertain

outcome of the assessment of the application for asylum' puts them in an uncertain position in the meantime (Sager and Öberg 2017: 6). The previously mentioned newspaper articles highlighting the difficult situation for migrant workers at Zalando (Tronarp 2023a; Tronarp 2023b) suggest that these issues are applicable to the work context of online retail warehousing.

A Study of Online Retail Warehouse Work and Inequality Takes Form

It happened to be that I was offered the position as a PhD student – in the interdisciplinary 'Retail 4.0' project, focusing on work environment issues and inequality in online retail warehousing – just weeks before the COVID-19 pandemic hit the world in 2020. The social restrictions limited people's possibilities to visit retail stores and affected our consumption habits, and there were many of us who began to shop online to a greater extent than before. In Sweden, the total turnover in online retailing proved record levels in 2020 and 2021 (PostNord 2024; Svensk Handel 2023). What this meant was that many online retail warehouses were too busy dealing with the high order levels and staffing puzzles to let researchers in.

In 2021 I finally got access the first two online retail warehouses which make part of my study – *Homeware* and *Electronic*. Although I entered my study with an ethnographic approach to conducting research, whereby I have been working from the understanding that 'nothing should be taken for granted and nothing should be assumed to be uninteresting' (Neyland 2008: 100), I soon came to realize that I had pre-conceived ideas about online retail warehousing. A year previous to this, in 2020, there had been a debate in Swedish news media about online retailing and warehouse work, with the pharmacy *Apotea* at the centre of this storm.

Apotea gained extensive attention as warehouse workers gave testimony about high work demands, stress, and managers' control of workers' performances, among other issues (see, for example, Söderin 2021). In combination with what I had read about online retail warehouse work and inequality in the published research, as discussed above, and about warehouse work more generally (see Allison et al. 2018; Cillo and Pradella 2018; De Lara, Reese and Struna 2016; Elliot and Long 2016; Hoppe, Heaney and Fujishiro 2010; Hoppe, Fujishiro and Heaney 2014; Kaminer 2018; Lindemann and Boyer 2019), the news about *Apotea* made me imagine the online retail warehouses as providing generally poor working conditions for their employees. I imagined large buildings with automated digital technology, monitoring of warehouse workers' every step, punishment for those who did not meet the picking- and packing goals, and physical and mental demands in general. I also deemed it possible that there would be a relatively high quota of people among the warehouse workers who were racialized as 'non-Swedish' and 'non-white.' Then I came to *Homeware*, and I did not really recognize what I had read. What met me at *Homeware* was a rather homogenous group of workers, most of them seemingly white Swedish-born women, and among them the vast majority expressed they enjoyed their job. What also met me was dogs, who employees had the benefit of being able to bring to work – the dogs contributed to making the warehouse feel homely. I wrote in my field diary that I was surprised: 'there are all those news about harsh working conditions in online retail warehouses, but *Homeware* does not seem to be representative of this.' Was it *Homeware* which was representative for work in Swedish online retail warehouses – and was all those news about *Apotea* describing an exception? This clash of seemingly different realities intrigued me, and I got interested to study other online retail warehouses as well.

In 2022, I got to conduct research at *Recreational*, *Pharmacy* and *Grocery*, all of which had been recruited to participate in the Retail 4.0 project. When I entered the locked doors of those large buildings, looking like big boxes, what is now one of the main points in this dissertation began to

take shape – that the organization of warehouse work and inequality varies. What surprised me at *Grocery*, the last of the online retail warehouses that we went to, was the scepticism that we were met with; the warehouse workers who expressed that we would not be able to make a difference. One of them angrily said: ‘a recommendation for the future – if you really want to understand our job then you must work with us, spend a month here and you will understand what it is all about.’ Afterwards, I wrote in my field diary: ‘I would never study something where I did not believe I could contribute to make a difference [...] and then it becomes very heavy emotionally to carry the distrust towards us.’ However, from having spent a month each at *Homeware* and *Electronic*, and one week each at *Recreational*, *Pharmacy* and *Grocery*, I understood what he was getting at. By participating in the handling of goods at *Homeware* and *Electronic*, I had been able to really experience the warehouse work in my body – the paper cuts in my fingers, my head tired from the repetitive work, the nice small talk with the warehouse worker at the packing desk next to mine. What was embedded in the questioning of the Retail 4.0 research project were experiences of online retail warehouse work that differed from those experiences I had come to learn about at *Homeware* and *Electronic*. How the last one of the online retail warehouses I spent time at, *Grocery*, stood in contrast to the first of them, *Homeware*, and the nuances provided by the five of them together – *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* – have contributed greatly to shaping this dissertation. I hope to be able to show that working in Swedish online retail warehousing can be illustrated with the benefit and pleasure of having your dog next to you at work, but also with the experience that ‘dogs are better off than us’ as a warehouse worker told me.

This dissertation is theoretically built on the sociologist Joan Acker’s argument that all capitalist organizations have inequality regimes (see Acker 2006a; Acker 2006b). ‘Inequality regimes’ is defined by Acker as ‘loosely interrelated practices, processes, actions, and meanings that result in and maintain class, gender, and racial inequalities within particular organizations’ (Acker 2006b: 443). Like Acker, I understand

inequality in this context as ‘systematic disparities between participants in power and control over goals, resources, and outcomes; workplace decisions such as how to organize work; opportunities for promotion and interesting work; security in employment and benefits; pay and other monetary rewards; respect; and pleasures in work and work relations’ (Acker 2006b: 443) that tend to often take the form of class relations. According to Acker, inequality occurs as a consequence of class practices, which refer to ‘all those activities that organize and control production and distribution’ (Acker 2006a: 50). The class practices as well as the inequality resulting from it tend to be shaped by gendered and racialized processes and hence class, gender, race, and often ethnicity, makes the most common bases for inequality in organizations. Different from Acker, I mostly talk about ‘race/ethnicity’ rather than ‘race’ and ‘ethnicity’ as I understand the race and ethnicity terms as interconnected and difficult to separate in my study.⁴ Acker (2006a; 2006b) further argues that the shape and the degree of the inequality, how severe the disparities are, vary between different work organizations. The ‘work organization’ term is understood in the present dissertation as referring to ‘the ways through which technology and the workforce are organized to produce goods or services. It includes the choice of model for organizing the production, but also people in the organisation’

⁴ Despite the difficulties of separating the two in my study and dissertation, I do recognize that the way many use the terms reflects an understanding of that ‘race is a socially constructed bodily concept, whereas ethnicity is a socially constructed cultural concept’ (Hübinette and Mähle 2015: 1). For this reason, I sometimes talk about ‘race’ and ‘ethnicity’ when relevant in relation to how it has been used by others. My use of the race/ethnicity term has a basis in my understanding that both race and ethnicity result from racism and serve racism in that they are used to categorize, label and rank people (Manga et al. 2023). The term ‘race/ethnicity’ also offers a way to pragmatically deal with the contextual differences in how ‘race’ and ‘ethnicity’ are used. In Sweden, the race term (*ras*, in Swedish) is generally stigmatized as it bears connotations to the so-called racial biology and racial hygiene, and the ethnicity term is often used interchangeably to how the race term is used in other geographical and cultural contexts (see Manga et al. 2023). Thus, my use of ‘race/ethnicity’ also holds a recognition that ‘the use of beautifying terms such as “ethnicity” [...] delays a necessary awareness of that there are racist beliefs in Swedish society, deeply rooted in the taken for granted.’ (SOU 2005:41: 21, translated from Swedish).

(Abrahamsson 2009: 16, translated from Swedish).⁵ I often talk about the ‘organization of work’ to point out the same. I do not explicitly explore the production model applied in the studied online retail warehouses, but I rather focus on the ‘people part.’ I consider non-human aspects herein as well, such as the technological devices and the goods which are handled in the warehouses.

‘To state the obvious, without work there is nothing to consume’ (Rätzzel, Mulinari and Tollefsen 2014: 7) and in this dissertation, I explore warehouse work in online retail warehousing with an ambition to contribute, empirically and theoretically, with knowledge about its on-demand, backstage organization, and inequality. The dissertation is motivated by the thematical narrowness in the previous research focusing on these issues, and how it has been conducted in other geographical, cultural, and political contexts than the Swedish one. I imagine the contributions of this dissertation to be found in its ethnographic approach, whereby five different online retail warehouses in Sweden have been studied through observations, interviews and focus groups with various groups of employees. It is from these points my dissertation has taken form, and I will now continue with presenting its aim and research questions.

⁵ Original quote in Swedish: ‘Det är det sätt på vilket teknik och arbetskraft organiseras för att producera varor eller tjänster. Det handlar om val av modell för hur produktionen kan organiseras, men också om människorna i organisationen’ (Abrahamsson 2009: 16).

Aim and Research Questions

This dissertation has been driven forward by an interest in exploring and understanding how practices and processes to organize online retail warehouse work relates to inequality, and it aims to contribute with knowledge in this regard. As part of this, the dissertation also aims to make visible the work, workplaces, and workers that online retail warehousing brings about. With reference to this two-fold aim, and based on a study of five online retail warehouses, the following two groups of research questions are to be answered:

1. What type of work is performed in the online retail warehouses?
What type of workplaces are the online retail warehouses?
Who are the people working as online retail warehouse workers?
How is the online retail warehouse work organized?
2. How are the practices and processes that organize the online retail warehouse work (re)producing inequality?
In what ways does the shape and the degree of the inequality vary?

Disposition

The dissertation at large is built around five articles, with the kappa as a summarizing framework making those articles relevant and meaningful in relation to one another. *Chapter 2. Contextual Framework* follows this introductory chapter. It is also introductory in its form, in how it gives you, as reader, information about the online retail market and online retail employees in Sweden. Then follows *Chapter 3. Theoretical Framework*. Therein, I present and discuss theories on the relations between class, gender, race/ethnicity, and inequality in capitalism in general and in the capitalist context of the on-demand economy in particular. *Chapter 4.*

Methodological Framework is where the research process, with its methods and related considerations, is clarified and problematized. *Chapter 5. Results* presents the study findings and analyses them, first in the form of ethnographic descriptions of *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* and then in the form of summaries of the five articles. The articles are included as appendices. *Chapter 6. Discussion and Conclusions* bring forward knowledge on the organization of warehouse work and inequality in online retailing, based on what has been explored in the articles and the kappa. The first part of the chapter is structured around three of the many practices to organize work as shown by the study findings: *the division of work, the productivity data, and the language policy*. After this, I discuss how my results reminds us that there are variations to inequality (cf. Ahmed 2006a) both in empirical terms and, as I am arguing, in how we can enter an analysis of inequality not only from the *workplace level* but also from *the field of work level* and *the worker level*. The chapter ends with some concluding reflections on the dissertation's contributions.

Chapter 2.

Contextual Framework

Contextualizing Online Retailing in Sweden

It is not only that online retail consumption requires online retail work, but it is also the other way around – that the work in online retail warehouses requires consumption. This chapter gives an overview of the online retail market in Sweden, to then provide a background to the Swedish online retailing from the perspective of employees – the geography of the workplaces, the income levels and what we know about the work environment.

Online Retail Consumption

Online retail consumption in Sweden has been proven to increase over time, in particular when comparing the market before and after the COVID-19 pandemic. Online retailing made 16 % of the total retail sales in Sweden in 2021 (Handelsfakta n.d.a) and these numbers are estimated to grow, with a prospective of making up to 40 % of retail sales in 2030 (Svensk Handel 2023). The Nordic logistics company PostNord, together with HUI, a research institute owned by the business and employment association Swedish Commerce (*Svensk Handel*, in Swedish), publish reports every year that focus on the development of online retail consumption. The 2023 annual *E-barmetern*, as the report is called, states there was an increase in online retail consumption in 2020-2021 (measured by the online retailers' turnover) and a decline following it in 2022-2023. 2022 and 2023 make the first years since the PostNord and HUI started the measurements in 2000 when online retailing proved a decline of the total turnover as compared to the year before, which can likely be explained by the inflation and economic recession (PostNord 2024). The total turnover is nonetheless higher than before the COVID-19 pandemic (Svensk Handel 2023). Considering the segments of online

retailing that are covered in this dissertation – homeware, electronics, pharmacy, recreational and grocery – grocery (-5 %), home electronic (-3 %), sports- and recreational (-4 %), and furniture and homeware (-6 %) are segments that have seen a decrease in turnover, while the pharmacy segment has seen a comparatively high increase in turnover in 2023 (+17 %). *E-barometern* suggests that the development of the online pharmacies not does not only have to do with the COVID-19 pandemic, but also other factors. For example, that medicine and other products sold by the pharmacies are things that people continue to buy even in times when the economy is tightened, which is currently the situation (PostNord 2024).

While online retail consumption has increased over time, the order levels in online retailing tend to fluctuate over the week and over the year. Statistics show that Swedes shop online at all hours a day, and all days a week with the most sales taking place on Sundays (Handelsfakta n.d.b; Handelsfakta n.d.c). 11 % of the sales online takes place in November, with its Black Week, which is higher compared to the rest of the months on ca 8 % each (Handelsfakta n.d.d). Translated to work, this means that the amount of work needed to fulfil customer orders also tend to vary on a weekly and monthly basis.

Online Retail Employees

Based on employment data from Statistics Sweden, online retailing in Sweden hired ca 20 000 employees in 2020. As we describe in Article 1, this employment data concerns the online retailing based on the industry code ‘SNI 47.91 Retail sale via mail order houses of via Internet’ (as part of the Swedish Standard Industrial Classification). Online retail employees are also visible in employment data that concerns retailing at large – ‘47 Retail trade, except of motor vehicles and motorcycles’ – given that companies where in-store retailing is supplemented with

online retail solutions are reported as retailing, and not as online retailing. In Sweden, retailing hired ca 290 000 employees in 2020 (see also Svensk Handel 2022).

It is not a straightforward task to summarize the number of online retail employees, considering that not all online retail activities take place at online retail warehouses but also in stores. For example, an in-store sales staff that help the customer to complete an online order when the correct size is not available at the store, or a customer who have bought a product online, gets it delivered and decides to return to product to a store instead of sending it back to the online retail warehouse (see Rosenström 2016). Another factor that makes summarizing of the number of online retail employees complex is that there are retailers who have their employees working with online retailing towards individual customers placed at their wholesale warehouses, where orders normally are prepared and sent to stores, instead of having a designated online retail warehouse (Carlén and Rosenström 2018).

The Geographical Locations

Online retail companies, and hence also online retail workplaces, in Sweden are generally concentrated to certain parts of the country. The largest part of them is located in the Southern regions and often in regions with many inhabitants (Bornhäll et al. 2022; HUI Research 2019; see also Eriksson 2021). Almost 75 % of all people working in online retailing are found at workplaces in one of the three large regions of Stockholm County, Västra Götaland county or Skåne County. There are also ‘online retail clusters’ to be found in certain locations, such as Jönköping county, Uppsala county and Västra Götaland county. This phenomenon could be explained by entrepreneurship in specific cities or that there have been companies in the location previously that has been transformed into online retail companies. One such example it the city

Borås, Västra Götaland county, which has been a previous location for mail order companies (HUI Research 2019; see also Eriksson 2021).

The Income Level

Income levels in certain jobs and fields of work can give us important information about inequality. In Sweden, the overall average monthly wage was 38 300 SEK per month in 2022, with the average being higher for men (40 200 SEK per month) than for women (36 200 SEK per month). The occupation with the highest average monthly wage in 2022 was ‘finance and insurance manager’ (150 100 SEK per month). In 2022, the occupation with the lowest average monthly wage in 2022 was ‘maids and nannies’ (23 400 SEK per month) (SCB 2023). The wages for online retail warehouse workers in online retail warehousing differ depending on which company they work for and whether the company applies a collective agreement or not, and in which segment of online retailing that they work.

	Men	Women
20 years old	26 400 SEK per month	25 900 SEK per month
30 years old	28 600 SEK per month	27 900 SEK per month
40 years old	29 300 SEK per month	27 800 SEK per month
50 years old	30 000 SEK per month	29 600 SEK per month

Table 1. Average income from wages for workers in warehousing and online retailing. Adapted table from Handels (2023).

The average income from wages differs between men and women workers in online retailing, with men generally earning more than women. A report from the Swedish Commercial Employees' Union (*Handelsanställdas förbund*, in Swedish) describes that workers in retailing tend to have part-time employment, and women workers tend to be contracted less hours than men, which have impact greatly on their income. This is explained by the report to be an issue in online retailing as well, although to a much lower extent. The contracted hours are generally higher in online retailing than in retailing, and most women and men workers work close to full-time (Handels 2023; see also Handels n.d.). The numbers presented in Table 1 refers to the average income when actual working hours have been taken into consideration. It is notable that the average income from wages for women decreases slightly when comparing women 40 years old to women 30 years old, while an increase of the average income from wages applies to men in the same age span (Handels 2023). The collective agreement, which is negotiated between the Swedish Commercial Employees' Union and the business and employment association Swedish Commerce, holds that workers working in a freezer section of the warehouse should get a wage increment (Svensk Handel and Handelsanställdas förbund 2023). Warehouse workers in the pharmacy segment of online retailing are not accounted for in these numbers, in that they count as 'pharmacy employees' and not 'warehouse workers' by the business and employment association Swedish Commerce and the workers' union *Unionen* (see Unionen 2023).

The Work Environment

A 2016 report by the Swedish Commercial Employees' Union shows that the work environment in online retailing tend to be poor, in particular so for the women employees (Rosenström 2016). The report is based on a questionnaire and interview study with online retail employees. Its

findings make visible both physical and psychosocial outcomes of the work situation on employee health. Participating women reported worse health, because of the work environment, than the participating men. This refers to 'psychosomatic illness symptoms (e.g. stomach ache, headache, palpitations)' and 'physical problems due to the work (e.g. aches and musculoskeletal disorders)' among other symptoms (Rosenström 2016: 34, translated from Swedish).⁶ There is a larger quota of women than men that reports staying at home due to physical problems and, similarly, a larger quota of women than men that reports going to work despite symptoms of unhealth. The report explains the gender differences by women having different bodily possibilities than men to handle the physical demands of the work, and by women being treated different than men in online retailing. Other issues that the workers, and especially women workers, report as problematic is a loud and noisy work environment, low wage levels, monotonous work, and limited possibilities to influence their situation (Rosenström 2016).

What we also know about warehouse work in Sweden is that work environment issues tend to not be properly addressed by the employers. The Swedish Work Environment Authority (*Arbetsmiljöverket*, in Swedish) made inspection of the online retail chain in 2020-22, including inspections of online retail warehouses. What they found was that employers often fail to identify and follow up on issues in the organizational- and social work environment, and that the employers tend to lack knowledge about systematic work environment management (Arbetsmiljöverket 2022). In their study of retail companies and their warehouses, Kembro and Norrman (2023) similarly conclude that a limited focus tends to be directed psychosocial work environment issues when automation technology is implemented – which is interesting given the impact of such technology on workers situation. Kembro and Norrman (2023) found that the 'simplicity' in learning and performing

⁶ Original quote in Swedish: 'Psykosomatiska sjukdomssymtom (t.ex. magont, huvudvärk, hjärtklappning)' and 'Fysiska problem på grund av arbetet (t.ex. värk och förslitning)' (Rosenström 2016: 34).

the warehouse work tasks, and the monotony experienced by the workers, result in that many tend to leave their employment after a year or two (see also Berggren and Wrangborg 2022; Wrangborg och Söderberg Talebi 2023).

Chapter 3.

Theoretical Framework

Theorizing the Gendered and Racialized Shapes of Work and Inequality

The role of theory in research is to facilitate analysis of the empirical findings. Empirically, my interest in studying online retail warehouse work and inequality began at the workplace level of the individual online retail warehouses. Like many feminist organization scholars before me, my theoretical starting point has been the feminist sociologist Joan Acker's theories on organizations in capitalism and their inequality regimes. As explained in the *Chapter 1. Introduction*, I agree with Acker that inequality in this context refers to 'systematic disparities between participants in power and control over goals, resources, and outcomes; workplace decisions such as how to organize work; opportunities for promotion and interesting work; security in employment and benefits; pay and other monetary rewards; respect; and pleasures in work and work relations' (Acker 2006b: 443) that often take the form of gendered and racialized class relations. Like Acker, I understand the inequality to be a consequence of 'all those activities that organize and control production and distribution' (Acker 2006a: 50), that is, class practices that tend to be shaped by gendered and racialized processes. The shape and the degree of the inequality, how severe the disparities are, vary between different work organizations (Acker 2006a; Acker 2006b). During the research process, my empirical material took me elsewhere than expected and I found it relevant to complement the Ackerian theoretical framework with theories on racial capitalism and phenomenologically based theories on gender and race/ethnicity. Disposition-wise, I will begin the chapter by presenting and discussing theories on gender and race/ethnicity respectively, to then dig deeper into the capitalist context wherein online retail warehousing operates and where gendered and racialized class relations, and other inequalities, are (re)produced.

Gender

In how Acker (2006a; 2006b) focuses on class practices in organizations shaped by gender, she seems to understand gender as something that is done, although she talks about ‘practices’ and ‘processes’ rather than ‘doings.’ According to Acker, in the organizational context, gender can be defined as ‘structurally constructed differences between men and women’ and ‘beliefs and identities that support difference and inequality’ (Acker 2006b: 444). As such, gender involves ‘unequal economic and social power’ between groups of people in the organization (Acker 2006a: 6). I agree with Acker on this and recognize that gender could be understood as both a process and as a doing in this sense, that relates to structures of power.

The ‘doing gender’ theory is applied by many scholars who have different interpretations of its meaning (Wickes and Emmison 2007). A common ground is found in what West and Zimmerman (1987) pointed out when coining the term: ‘doing gender’ was introduced as a theory to challenge biologically essentialist ideas of sex/gender as a given by shifting focus ‘from matters internal to the individual’ to instead acknowledge that gender is constituted on ‘interactional, and ultimately, institutional arenas’ (West and Zimmerman 1987: 126; see also Fenstermaker and West 2002).⁷ What scholars ultimately do when using ‘doing gender’ is to acknowledge that gender is constructed and thus changeable. The way West and Zimmerman (1987) conceptualized it has nevertheless been criticized for failing to recognize the room for change, and that they instead make it appear as if gender is socially determined. From this criticism alternative, or additive, concepts such as ‘undoing

⁷ A division between ‘sex’ and ‘gender’ is seen in the theory brought forward by West and Zimmerman, as they point out a difference between (a) the sex one is assigned at birth, (b) the sex category one continues to be categorized by throughout life, and (c) the gender doings one does to reproduce or challenge the sex category (West and Zimmerman 1987). Like many other contemporary gender researchers, I prefer to talk about ‘gender’ and not ‘sex’, to stress that it is a socially constructed phenomenon all through. West and Zimmerman (1987) do emphasize the socially constructed characteristics of what it means to be a man/woman, still, they use both the sex and gender terms.

gender' and 're-doing gender' have emerged (see, for example, Butler 2004; Connell 2010; Deutsch 2007; Kelan 2010; cf. West and Zimmerman 2009). Deutsch (2007) emphasizes that the possibility to undo gender is implied by the very concept of doing gender, in that 'if gender is constructed, then it can be deconstructed' (page 108). I will not go into depth with this discussion, as I do not find that it is of relevance for the dissertation. What I bring with me is an understanding that (un)doing gender can contribute to stabilizing *and* destabilizing relations and structures, depending on how it is (un)done (cf. Kvande 2007: 63).

An understanding of gender as a doing also holds that gender is situational. Fenstermaker and West (2002) argue that one's doings of gender always relate to 'normative conceptions of gender.'⁸ Gender doings as such reflect relational assumptions of what a man/woman/other should look and behave like, and how man/woman/other should relate to one another. This can be read in light of how Butler (1999) argues that gender is performed within a framework of heteronormativity, whereby gender is stabilized via the assumed linear and dichotomous relationship between 'women-expressing femininity-feeling desire towards men' versus 'men-expressing masculinity-feeling desire towards women' (see Butler 1999, on the heterosexual matrix). In other words, men are supposed to occupy certain spaces, women others, and the binary ways in which the gendered bodies are organized will result in a normatively desired (re)production; these are common 'normative conceptions of gender' (Fenstermaker and West 2002) that affects how gender is done. Here, Ahmed's (2006) queer phenomenology – and how it argues that we tend to be orientated around a heterosexual background that organizes our bodies in a way so that man and woman become one – becomes useful to further our understanding of gender doings and how they take form. I will not dig deep into her queer phenomenology here, given that I do so

⁸ Kvande (2007) similarly holds that the way one does gender is demarcated by what we think gender is.

in Article 1 and Article 2. However, I will develop some aspects further, that are of usefulness for the broader dissertation:

I start here because phenomenology makes “orientation” central in the very argument that consciousness is always directed “toward” an object, and given its emphasis on the lived experience of inhabiting a body [...] it emphasizes the importance of lived experience, the intentionality of consciousness, the significance of nearness or what is ready-to-hand, and the role of repeated and habitual actions in shaping bodies and worlds.

(Ahmed 2006: 2)

Implied in this quote is that gender can be understood as a ‘bodily orientation’ that is expressed in how we turn in certain ways and reach for certain things depending on what is ‘near’ to us. To Ahmed, ‘gender is an effect of how bodies take up objects’ and, in turn, which objects we ‘take up’ is affected by our gender – in my understanding, the term ‘objects’ could here be switched for, for example, ‘behaviours’ or ‘looks’ as well. As further explained by Ahmed: ‘gender becomes naturalized as a property of bodies, objects, and spaces partly through the “loop” of this repetition’ (Ahmed, 2006: 58-59; cf. Butler 1999). A shallow and normative example: that I reach for a lipstick and put it on in the morning is part of what makes me appear woman and, the other way around, that I identify as woman is also part of the explanation for why I wear lipstick every day and why I cared to buy the lipstick. People who appear as/identify as man can likewise buy and wear lipsticks, but these actions will not be as close at hand to them as it is to me, as a woman.

How we do gender from the perspective of Ahmed's phenomenology has to do with what we are 'directed "toward"' (Ahmed 2006: 2), not only physically speaking but also in more symbolic terms. Against the background of heterosexuality, men will have certain things ready to hand and women others, and the gender binary is (re)produced in how we tend to reach for things that are close rather than things further away.

In this dissertation, my interest does not stop at 'how gender is done.' I also continue beyond how gender is done and how it shapes the practices to organize work, to also consider the consequences of it, i.e. the inequality. While Acker's (2006a; 2006b) theory makes possible an analysis of how work is organized in the online retail warehouses and how inequality is (re)produced from it, phenomenology helps me to further examine how the inequality is expressed and experienced. Here it is not only the phenomenological approach to gender as provided by Ahmed that is useful, but also that of Iris Marion Young. In the article *Throwing Like a Girl: A Phenomenology of Feminine Body Comportment Motility and Spatiality*, Marion Young (1980) argues, just like Ahmed, that the body is oriented in and by the world, and that this comes with possibilities and limitations in what the body can do. The main interest of Marion Young in the article is how girls/women are restrained from using their bodies to the full, in comparison to boys/men. As girls are brought up to become women, Marion Young (1980) argues, the continuous objectification of them limits their capacity for mobility as they are taught to be 'fragile'; '[i]n assuming herself as a girl, she takes herself up as fragile' (page 153). As a result:

Women in sexist society are physically handicapped. Insofar as we learn to live out our existence in accordance with the definition that patriarchal culture assigns to us, we are physically inhibited, confined, positioned, and objectified.

(Marion Young 1980: 152)

Inequality is not only structural and relational, but inequality is also embodied and experienced. I do find Marion Young's article to be rather generalizing and normative, although I suppose it might be purposely so to emphasize her argument. However, what I do find relevant for the present dissertation is how the body and, as part of it, the mind can be included in an exploration of inequality. Women are made aware that their mobility differs (or, is assumed to differ) from that of men, and women are continuously hindered from using their bodies in the same way as men do, and, consequently, women cannot/do not move freely (Marion Young 1980). Sexism set boundaries for how bodies can move – for example, spatially, at a workplace or, in a more symbolic sense, in an organizational hierarchy or at the labour market.

Race/Ethnicity

According to Acker, 'race' refers to 'socially defined differences based on physical characteristics, culture, and historical domination and oppression, justified by entrenched beliefs' (Acker 2006b: 445) and 'ethnicity' to differences based on 'cultural and language traditions' (Acker, 2006a: 6). As is explained in *Chapter 1. Introduction*, I use a combination of the terms – 'race/ethnicity' – which refers to both the 'physical characteristics' and the 'cultural and language traditions' that Acker points at.⁹ In a similar way as the verbalizing of the noun gender

⁹ As I state in the introduction, my use of the race/ethnicity term has to do with how I find it difficult to separate the two terms in my study, as well as the overlaps in how 'ethnicity' is used in the Swedish context with how 'race' is used in other geographical and cultural context (cf. Rastas, 2019). My use of the term 'race/ethnicity' also has to do with my interest in what race/ethnicity do, i.e., that both race and ethnicity categorize and rank people. While 'race' and 'ethnicity' might not always function in the same ways, they seemingly often function in similar ways (see Manga et al. 2023). I am not arguing that 'race/ethnicity' is a more valid term than 'race' and 'ethnicity.' It should rather be read within the complex and multiple 'nature' of them as phenomena and of how the terms are used in theory and in practice. Other scholars would perhaps have made sense of the present empirical material by using both terms separately, or one of the terms, while still ending in similar conclusions that I do by using the term 'race/ethnicity.'

(doing gender, gendering) contributes to pinpointing its construction, 'racialization' is helpful to explore the construction of race/ethnicity. That is, how race/ethnicity as a phenomenon comes about (Barot and Bird 2001). In tracing the genealogy of the racialization concept, Barot and Bird (2001) argue that Frantz Fanon and Robert Miles are two of the scholars whose work on racialization is the most significant (see also Mulinari and Neergaard 2017). Fanon (1986/1952) approaches racialization from a phenomenological perspective, which I will get back to later. Miles' main purpose of using the term 'racialization' is that he finds it counterproductive to use the 'race' and 'ethnicity' terms. According to Miles, to talk about 'races' or 'ethnicities' risks to (re)produce racism, even when used in a critical way by those of us claiming to be anti-racist scholars. As such, Miles argues, the 'racialization' and 'ethnicization' terms make necessary alternatives to 'race' and 'ethnicity' in trying to challenge the ideology of racism (Miles and Brown 2003). To Miles, 'racialization' points towards bodily aspects primarily; of significance for racialization has often been 'somatic features' but also 'other non-visible (imagined and real) biological features' in how they have been referred to in categorizations of people (Miles and Brown 2003: 101). The signification and categorization of people based on sociocultural aspects is then conceptually found in the term 'ethnicization' (Miles and Brown 2003). In this dissertation, and for the same reasons that I use the term 'race/ethnicity,' I use the 'racialization' term in a way that includes both the bodily aspects and sociocultural aspects. What I bring with me from Miles is that how race/ethnicity takes its form through practices shaped by racialization must be understood in relation to racism.

I understand racism to be the point from where racialization takes form and race/ethnicity comes into being and, vice versa, I also understand racism to be a result of racialization and race/ethnicity. Racism is (re)produced because of racialization, in that racialization tends to reinforce the racist illusion of race/ethnicity as being an essentially biological phenomenon that signifies humans (Desmond and Emirbayer

2009; Miles and Brown 2003). Constructed meanings of our bodies – referring to, for example, skin colour or hair texture – interact with ‘cultural’ practices in the racialization process, for example, assumptions based on the language we speak, the verbal expressions we use, what food we eat and what drinks we drink, our (non-)religious beliefs (Desmond and Emirbayer 2009). Although such racial/ethnic differences are pure constructions, they tend to appear as if they were essential/natural/given in how they are given (implicit or explicit) significance in practice, and thereby they are contributing to the reinforcement of racism (Desmond and Emirbayer 2009, Manga et al. 2023).

The way I approach ‘racism’ in this dissertation corresponds to how Manga et al. (2023) argue that racism can be defined as being a technology. Not ‘technology’ as in ‘engineering, technologies, or methods for industrial production’ but here ‘technology’ rather refers to how power operates to produce ‘human subjects’ and ‘realities’ (Manga et al. 2023: 27, translated from Swedish).¹⁰ Manga et al. (2023) suggest that racism is a technology¹¹ that: (1) classifies humans into distinguished groups (for example in ‘races’ or ‘ethnicities’); (2) produces the group of people who are considered as belonging in a specific place (by themselves and others); (3) (re)produce inequalities between people with regards to ‘status, privileges, resources, vulnerability and possibilities’; (4) place people according to a logic of ‘everything in its right place’; (5) produce affects and desires; and (6) naturalizes the power system produced therein and upholds its boundaries (Manga et al. 2023: 28, loosely translated

¹⁰ They base their ‘racism as a technology’ model in how Foucault has used the ‘technology’ term (see Manga et al. 2023: 27).

¹¹ In my understanding, Manga et al.’s (2023) ‘racism as a technology’ framework can likely be used as framework to define ‘sexism as a technology’ as well, by switching ‘race’ to ‘gender’ in those six points (cf. Sundén 2016: 30-31).

from Swedish).¹² My interest in the dissertation is mainly with the third point – that is, how racism (re)produce inequalities between people with regards to ‘status, privileges, resources, vulnerability and possibilities’.

While Manga et al. (2023) have a rather broad approach in their study of racism, Mulinari and Neergaard (2017) discuss it in the context of labour and work with the concept of ‘exploitative racism.’ Exploitative racism is not only about race/ethnicity but also class in how it ‘legitimizes the capitalist production of profit’ (Mulinari and Neergaard 2017: 92) through a racialization of workforces, and it takes its form in, for example, laws and regulations around migration and citizenship (see also Desmond and Emirbayer 2009: 339 on race, ethnicity, and citizenship). Similarly, Kundnani (2021) shows that the boundary-making between citizens and non-citizens relates to racialized divisions between, for example, paid and unpaid workers, ‘free’ and enslaved workers, workers who are protected by rights and those who are not (see also Kundnani 2023: 67). Kundnani's main argument is that the neoliberal, political idea of a global, universal market is (inevitably) contradictory in how it requires divisions and inequality to function. Therein, ‘race offers the neoliberal state organizing terms for embedding markets in systems of spatial order and for policing surplus populations’ (Kundnani 2021: 65). How citizenship(s) direct both the mobility of migrants and the flows of workers to the labour market is also recognized by Schierup, Krifors and Slavmic (2015), who argue that ‘substantial terms for full citizenship among those social most vulnerable is affected by market-led search for

¹² Original quote in Swedish: ‘Rasism är en teknologi som: 1. Klassificerar människor i olika ”sorter” (benämnda ”raser”, ”varieteter”, ”kulturer”, ”emiciteter”, ”folk”, ”folkslag” eller liknande) som tillskrivs särskilda nedärvda egenskaper och placeras mellan polerna det värdefulla och det värdelösa livet; 2. Producerar det ”folk” som anses höra hemma (och som därmed har rätt att känna sig hemma) på en viss plats och vars välgång skall värnas genom att exkludera eller exploatera andra slags människor, som inte tillhör det värdefulla folket och kan dödas eller låtas dö för att främja det värdefulla livets blomstring; 3. Upprätthåller en ojämlik fördelning av status, privilegier, resurser, sårbarhet och möjligheter till människor på basis av vilket sort de antas tillhöra; 4. Placerar människor i enlighet med logiken att var slag bör vara på sin plats; 5. Skapar affekter och begär; samt naturaliserar den maktordning som skapats och bevarar de gränser och flöden teknologin skapar och privilegierar.’ (Manga et al. 2023: 28).

cheap labour’ (page 216). Schierup and Jørgensen (2017) further connect this to the precarisation seen in many fields of work, whereby certain groups of migrant workers, with certain types of citizenship, fulfil the demands for an exploitable workforce in certain jobs (Schierup and Jørgensen 2017). Furthermore, gender tends to intersect with race/ethnicity and class in, for example, discourses of women migrants as (cheap and compliant) desired workers (Mulinari and Neergaard 2017; see also Sweeney 2021 on gendered racial capitalism).

The already mentioned theories on race/ethnicity, racialization, and racism are helpful in the dissertation as they make possible an analysis of inequality as a consequence of class practices shaped by racialized processes. I here return to phenomenology as it casts light on the lived and embodied reality of the inequality (see also Barot and Bird 2001: 612). In Article 1 and 3, I use the work by Ahmed who shows that bodies are orientated differently by racism around a white background (see Ahmed 2000; 2006; 2007). Before Ahmed, Fanon’s (1986/1952) study of colonialism made visible that people are differently oriented in/by the world through the racialization of their ‘bodily schemas’ (see also Ahmed 2006: 111). He explains that:

In the white world, the man of color encounters difficulties in the development of his bodily schema. [...] A slow composition of my *self* as a body in the middle of a spatial and temporal world – such seems to be the schema. It does not impose itself on me; it is, rather, a definitive structuring of the self and of the world – definitive because it creates a real dialectic between my body and the world.

(Fanon, 1986: 110-111, emphasis in original)

The racialization as inherent to the racist, white world makes the world extend to white bodies, whereas people of colour cannot move around in it as freely. The body is connected to the mind, in Fanon's view, and the difficulties of movement comes with the awareness that 'I *cannot* move' (Fanon 1986/1952). Ahmed furthers this line of argumentation with a phenomenology of 'being stopped.' Being stopped refer to various acts, for example, being prevented from doing something or being checked when doing something. Ahmed (2006) uses the example of airport passport controls, and how it involves a stopping of certain, racialized bodies. Being stopped by the airport officers, Ahmed argues, involves stress as stress is ascribed on the body through the 'stopping act.' In a broader sense, being stopped comes with an awareness of being Other(ed) (Ahmed 2006). I also understand the phenomenology of 'being stopped' as applicable to other types of stopping as well. For example, foreign-born people being stopped by laws and regulations concerning residency in Sweden, or that previous experiences of discrimination hinder one from applying for a particular job (cf. Herz and Johansson 2012). Thus, like how Ahmed (2006) and Marion Young (1980) help me to analyse the inequality stemming from class practices and gendered processes as an embodied phenomenon, the theories of Fanon (1986/1952) and Ahmed (2000; 2006) are useful to further our understanding of inequality stemming from class practices and racialized processes as an embodied phenomenon.

Gender, Race/Ethnicity and Capitalism

In general terms, capitalism can be defined 'as an organization of production and distribution' (Acker 2006a: 77) that involves market-related activities performed to reproduce the economy. With such activities, I refer to paid as well as un-paid work, at the workplace, at home and in other spaces (Acker, 2006a; see also Bhattacharyya, 2018: 39-70; Bhattacharyya, 2024: 32-51). 'Class' – which is defined by Acker

(2006b) as ‘enduring and systematic differences in access to and control over resources for provisioning and survival’ (page 444) – is fundamental to capitalism. Gender and race/ethnicity matter herein, in how capitalism is shaped by and embedded in gendered and racialized divisions of labour. Capitalism is a ‘white male project’ as white men generally are the ‘innovators, owners and holders of power’ in capitalist societies (Acker 2006a: 78-79) and, in capitalism, all organizations have inequality regimes.

In my understanding, the primary interest of Acker is the relations between management and employees, and between employees, within the boundaries of an organization (cf. Acker 2006a: 130; cf. Acker 2012: 221). She further notes that those gendered and racialized class relations are embedded in more overarching power structures, where founders and owners are provided with power and control through their ownership. While ownership comes with the most access to and control over resources, the employment relationship intrinsically holds that managers have more power relatively to the workers (and sometimes ‘the owner’ and ‘the manager’ refer to one and the same person). Acker (2006a; 2006b) explains that the class relations, and other inequalities produced by class, tend to be both invisible and legitimized in many organizations given that power disparities so normalized in our view of what work and working life comprise. The class relations will be controlled and legitimized by different mechanisms and practices through which managers – in running the owners’ errands – strive to make sure that workers do what they are supposed to do (contribute to the production and profit-making). Class relations will continuously be (re)produced for as long as the capitalist society remains, although they can take different forms depending on the work organizations (Acker 2006a; 2006b)

Gendered capitalism

The gendering of/by capitalism is expressed in a gendered division of labour. Or, in the segregation of women and men workers (and workers of other genders) to different fields of work and to different parts of a particular organization. It is also expressed in the gendered separation of production and reproduction, whereby the former is constructed as a men-coded/masculinized space of work and the latter is constructed as a women-coded/femininized spaces of (non-)work. Such processes are seen, for example, in how 'productive' work tends to be organized on the 'assumption that reproduction concerns are left at home' (Acker 2006a: 92) while in reality this is not the case neither for women nor for men and workers of other genders. Rather, work in one space must be understood as interlinked with work in other spaces, as shown by Glucksmann (1995) with her 'total social organization of labour' (TSOL) (see also Glucksmann 1990; Glucksmann 2005). The TSOL approach zooms out from the workplace level in how it refers to 'the social division of all the labour undertaken in a given society' (Glucksmann 1995: 67). In addition to how TSOL theorizes paid 'productive' work performed at the workplace as linked to and made possible by unpaid 'reproductive' work performed outside the workplace, TSOL also stresses are that activities which tend to be seen as 'reproductive' work takes place within the workplace. For example, caring for customers or co-workers (see Glucksmann 1995).

What happens when we think of work as organized in various, connected spaces in capitalism, is that gender also becomes visible in broader, economic processes beyond the workplaces. This is shown by Glucksmann (2005) in a development of her earlier thinking of TSOL, whereby she argues that work activities can be distinguished in four, interacting ways: 'across economic processes, modes of provision, the interfaces of work and non-work, and the temporalities of each of these three' (Glucksmann 2005: 35). She uses the example of 'ready-made food' products and explains that the introduction of such products brings

with it changes in how the economic processes of production, distribution, retailing, and consumption relates to one another. Instead of a meal being bought in form of groceries, brought home, and cooked by the consumer, what happens with the introduction of ‘ready-made food’ products is that part of the work shifts to instead be performed by a ‘highly feminized, and frequently ethnicised’ workforce in factories, and in warehouses and stores. In this example, then, gender (and race/ethnicity) comes to matter in the altering of work in production, distribution, retailing, and consumption, involving both temporal and spatial changes (Glucksmann 2005: 27-34; cf. Battacharyya 2018). I would argue online retailing and the possibility to order things online also makes an example of such changes in how warehouse workers handle the goods that customers previously would have picked and packed themselves (see Article 1). Another contemporary example is the platform-mediated labour performed by gig workers who cook and deliver meals to people having ordered it online, which has been shown to be a job shaped by both gendered and racialized processes (see, for example, Webster and Zhang 2020). I find Glucksmann’s theories useful in this dissertation to think with when trying to understand the online retail warehousing and how the organization of work relates to (gendered and racialized) processes beyond the warehouses.

Racial capitalism

Capitalism operates through racism and racialization in the exploitation and expropriation of people (Bhattacharyya 2018). The racialization of/in capitalism is recognized by Acker (see, for example, Acker 2006a) but I also find other theories useful in this regard. That is, theories on ‘racial capitalism’ that further emphasizes this interplay between capitalism and racism. The reason for why I bring in the racial capitalism theories is that I find them strengthening what Acker teaches us. One of the earliest, theoretical accounts of racial capitalism is found in the book

‘Black Marxism: The Making of the Black Radical Tradition,’ where Robinson (2000/1983) explains that the ‘racial capitalism’ concept springs from how ‘the development, organization and expansion of capitalist society pursued essentially racial directions’ and that this has functioned as a ‘material force’ to racialize ‘social structures emergent from capitalism’ in the West (Robinson 2000/1983: 2). Robinson (2000/1983) argues that racism and racialisation were strengthened in Europe through the colonialization of countries and people in America, Asia, and Africa, but it did not emerge with the colonization in the first place. Racism and racialization were already present from how capitalism has from its beginning (re)produced racialized and racializing relations between different groups of Europeans and between Europeans and non-Europeans (Robinson 2000/1983). Bhattacharyya (2018) challenges how Robinson make the relation between racism and capitalism appear inevitable and argues, instead, that it is not possible to know that capitalism is always racial. However, what we do know is that capitalism and racism interact in various ways and in many contexts.

A main argument of the theories of racial capitalism is that a differentiation between people serves capitalism (see, for example, Bhattacharyya 2018; Bhattacharyya 2024; Kundnani 2021; Kundnani, 2023; Melamed 2015; Robinson 2000/1983). Capitalism is built on a ‘requirement for inequality’ (Robinson and Quan 2019: xxii) and ‘racism enshrines the inequality that capitalism requires’ (Melamed 2015: 77). In agreeing with this, I also recognize that capitalism is not uniform in that it operates in the same way everywhere. Similar to Alimahomed-Wilson and Reese (2021) and their study of Amazon, wherein they conclude that ‘Amazon exemplifies contemporary, neoliberal racial capitalism’ and produces inequality on the basis of ‘race, gender and nativity’ (page 69), I will now zoom further in on the capitalist context where online retail warehousing is embedded.

Gendered and racial capitalism, on-demand

The capitalist space (Vitry 2022) that I explore and problematize in this dissertation can be conceptually delimited to *the supply chain* and *the on-demand economy*. With *the supply chain*, I am referring the chain of relations between producers and manufacturers, online retail warehouses, or warehouses and retailers, and customers. *The on-demand economy* refers, in the context of my dissertation, to the ways in which the warehouse work is performed and organized in relation to the incoming customer orders. Theories on these two contribute to contextualize capitalism in my analysis of the organization of work and inequality in online retail warehousing.

First, I have taken inspiration from how previous scholars have theorized the relationship between supply chains globally and workplaces locally. In their book *‘Getting the Goods: Ports, Labor, and the Logistics Revolution,’* Bonacich and Wilson (2008) identify a shift over time, from producers and manufacturers having the primary power over the supply chain, to now seeing that retailers (translated to *online* retailers in this dissertation) are the ones with the most power. This, in turn, is linked to changes in production and logistics. How the (online) retailers, nowadays, have the possibilities to act fast and flexible towards trends and customers means that goods are ‘produced on an as-needed basis’ (Bonacich and Wilson 2008: 12) to a greater extent than it was before. This asks for ‘more efficient logistics’ as ‘goods need to be moved quickly and accurately, at low costs, over great distances’ (Bonacich and Wilson 2008: 14). The centrality of logistics is exemplified in Shapiro’s (2023) and Kelly’s (2024) studies of dark stores. Like online retail warehouses, dark stores represent a part of the ‘online retail umbrella.’ Darkstores are store spaces (instead of warehouse spaces) that are closed to the public, where workers handle and prepare goods for customers who have placed their orders online. Both Shapiro (2023) and Kelly (2024) explain that dark stores, and the work performed therein, can be theorized as part of/driven by the premises of ‘supply chain capitalism’ (see also Tsing 2009). What the

concept of supply chain capitalism holds is that for companies to make profit and take market shares, it is not the goods per se that are central. Rather, what they can compete with is the service of handling and distributing the goods (Shapiro 2023: 171; see also Chua et al. 2018: 619). Today's global supply chain with its possibilities for fast production and delivery is expressed in a competitive situation, where flexibility is needed from companies to meet the demands of the market. This impacts on labour and working conditions in different ways (see Bonacich and Wilson 2008; Kelly 2024; Shapiro 2023).

Second, I have taken inspiration from how scholars studying platform and gig labour identifies an 'on-demand economy.' In this literature, 'on-demand' appears to point at the employment of those people working for Foodora, Wolt and Uber, and similar companies. That is, an 'employment on-demand' in how these workers are 'self-employed' and get paid by Foodora, Wolt or Uber, or other companies alike, to perform work upon order from customers via technological platforms (see, for example, Li 2022; Shapiro 2018; Van Doorn 2017). When I talk about the on-demand economy, I am interested in something partly different. My interest in this dissertation is not 'employment on-demand' but rather something which could be defined as 'consumer goods on-demand' and 'handling of goods on-demand.' What interests me is the situation where work is performed on-demand of customers, and where there is an extremely compressed time span between consumers placing their orders and workers fulfilling them. Digital technology plays an important role in the on-demand economy. It is digital technology that connects those buying the service or the goods (customers), those selling it (the companies) and those who pay with their time and bodies to provide it (the workers). This applies both to the 'on-demand employees' working for Foodora, Uber or other companies alike (see Van Doorn 2017; Shapiro 2018) and to online retail warehousing with its 'consumer goods on-demand' and workers performing 'handling of goods on-demand.'

Thinking with *the supply chain* and *the on-demand economy* is helpful in my analysis to understand how online retail warehousing binds together actors, locally as well as globally. Bhattacharyya (2024) casts light on this in a study of (what she defines as) ‘platform capitalism’ and ‘data capitalism’ (which I would define as part of the supply chain and on-demand economy). The ongoing changes that we see in the supply chain, with digital technology and the compression of time and distances through it, does not only represent ‘a change in the mode of production’ but also ‘an expansion in the realm of logistical possibility’ (Bhattacharyya 2024: 142; cf. Bonacich and Wilson 2008). What is suggested by Bhattacharyya is that (what I would define as) the on-demand economy (which she would refer to as ‘platform capitalism’ and ‘data capitalism’) brings with it new ways for capitalism to operate. In the contemporary society with its discourse of economic growth at all costs, the relatively privileged is left with:

[...] no time to clean, no time to pick and carry, no time to tidy up after itself and/or too few spaces in which to remake cleanliness. That kind of space *requires the occasional precarious person, probably non-waged, probably resident elsewhere most of the time*, to be able to be sufficiently mobile and innovative and in the right place at the right time to provide a supplement of something like a social reproduction for a workforce that is squeezed so tight that these matters of maintain the body can no longer be squeezed into either their living arrangement or their working day [...]

(Bhattacharyya 2024: 144-145, emphasis added)

The livelihood of the relatively more privileged workers' demands the relatively less privileged workers to provide their services. Or, put differently by borrowing the wordings of Glucksmann, 'changes in the temporalities of some people's non-work consumption activities may interconnect or clash with changing temporalities in the work activities of others who provide consumption products or services' (Glucksmann 2005: 34). The groups of relatively more privileged workers and the relatively less privileged workers – whereby the latter provides a consumption service to the former – do not only represent different points in the supply chain and the on-demand economy; they also tend to be (as part of it) racialized in different ways (Bhattacharyya 2024). It is through such processes, which are not only racialized but also gendered, that women of colour have been shown to be made into an 'ideal global workforce' (see Mulinari and Neergaard 2017). These women are put in a vulnerable situation 'not only because they are women but also because they are rightless people of colour' (Bonacich and Wilson 2008: 19) in how racialization tend to work through the (non-)access to citizenship and, as part of it, the (non)access to rights. However, this is not to say women of colour makes the desirable workforce in all fields of work, the desirable workforce can also be racialized workers more generally, irrespective of their gender.

Chapter 4.

Methodological Framework

Studying Online Retail Warehouse Work and Inequality

The dissertation rests upon a study of the organization of work and inequality at five Swedish online retail warehouses, which are named *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* in my texts. Part of the empirical materials emerges from the research project 'Retail 4.0. Work environment and inequality in e-retail,' in which I have participated during my PhD studies. As part of the Retail 4.0 project, I have conducted direct observations interviews with managers and union and health- and safety representatives and focus groups with warehouse workers and pharmacists at *Recreational*, *Pharmacy* and *Grocery*. Another part of the material emerges from the research I have conducted at *Homeware* and *Electronic*: participant observations and interviews with managers, marketing assistants and warehouse workers. In addition to the research at *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery*, I have also conducted pilot interviews with employees at four other online retail warehouses. Taken together, the empirical material used in the dissertation consists of field notes from the different types of observations (a total of 11 weeks), and transcripts from interviews (n=30) and focus groups (n=15 focus groups, with a total of 49 participants). In addition, the dissertation also uses material from a systematic literature review that I conducted in collaboration with my colleagues in the Retail 4.0 project, taking the form of an analysis of 21 articles dealing with issues of inequality and working conditions in warehousing.

This chapter presents and discusses the methods, how the materials have been analysed and what knowledge have been produced. The chapter begins with an introduction to my approach to research, including what I imagine my role to be and how I look upon the relation(s) between myself and the research participants. I will then describe the timeline of the study before I go deeper into each of the methods and materials. The chapter ends with a discussion of the knowledge production, the transferability and credibility of the knowledge, and the ethics.

Ethnographic, Feminist and Anti-Racist Research

I look upon myself as a researcher-in-becoming who have a feminist, anti-racist and ethnographic approach to research. The main point with naming it a feminist and anti-racist approach is to acknowledge that my motivation to do research is informed by a strive to be critical and a will to contribute to making a difference towards a more equal society. Being critical, to me, refers to a practice of not taking anything for granted and instead turning and twisting of phenomena to point towards its manifoldness. This is where my ethnographic approach comes to means (cf. Neyland 2008: 18). I believe that spending shorter or longer periods of time in the research context, together with the research participants, is beneficial if we are to construct knowledge that – to different extents and in different ways – corresponds to the research participants' realities. This is not to say that everyone who have been partaking in my research would agree on all things stated in this dissertation. Like any research text is the result of the researcher's analysis of the research phenomena, so is the present dissertation the result of how I have interpreted and problematized the organization of online retail warehouse work and inequality. For this reason, I have made the choice of writing myself into the dissertation to a rather large extent.

In recognizing knowledge as partial and situated, I align my research approach to that of the feminist standpoint theories who acknowledges the subjectivity of research participants. While Harding (1986) is often referred to in this sense, I also take inspiration from the theorists Hill Collins (2000) and Mohanty (1984) who manage to highlight the common experience of a group of people while also emphasizing their heterogeneity. Warehouse workers are treated as a group in this dissertation, based on their position in online retail warehousing, who have a standpoint with an epistemic power to produce knowledge about their reality. Yet, this group also contains various individual workers with

a heterogeneity of experiences (and other epistemic powers therethrough). What I find particularly useful with Hill Collins (2000) work is that she uses the lived experiences of black women to challenge how knowledge and knowledge production has been approached by many. Not only does Hill Collins (2000) show that black women's experiences often differ from the normative, but she also argues that black women's knowledges are not possible to 'legitimate' by 'using prevailing scholarly norms' (Hill Collins 2000: 254-255). My research is not centred on black women's experiences neither am I a black woman. However, I am inspired by how Hill Collins (2000) yield legitimacy to experience and emotions in producing and assessing knowledge. The employees at *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* have knowledge about online retail warehousing and the work, and about class, gender, race/ethnicity, and other power relations therein. While it is my hope that I have managed to assign subjectivity to the research participants, I also acknowledge that the inevitability of me being the researcher-in-becoming provides me with power that the research participants do not have (see Skeggs 1997). It is me who have access to academia, with this dissertation to write down and disseminate knowledge to a community of researchers and (hopefully) actors outside of academic. I acknowledge that I am the one accountable for the interpretations and problematizations that are published with the dissertation. I hope that the dissertation communicates my care for the different topics I have studied, and that the research participants would find my analysis valid.

Times and Places

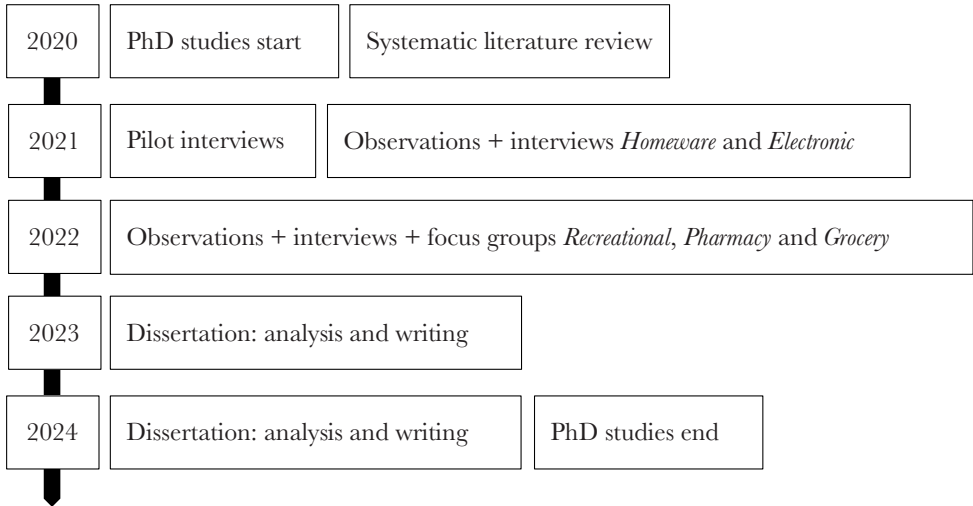


Figure 1. Timeline of the research process, August 2020 - June 2024.

My work on this dissertation began in August 2020 as I was hired as a Ph.D. student to work in a project called ‘Retail 4.0. Work environment and inequality in e-retail’ (2020-2023). The Retail 4.0 project has been a collaboration between researchers at University of Gävle (HiG) and Luleå University of Technology (LTU), financed by the Swedish Research Council for Health, Working Life and Welfare (*Forskningsrådet för hälsa, arbetsliv och välfärd*, in Swedish) (grant number 2019-01051). The project aim has been to describe working conditions and musculoskeletal health in online retail warehousing, including the extent to which differences based on gender and place of birth exist, and to examine factors at the organizational and individual levels underlying eventual inequalities in working conditions (see Jackson et al. 2024). In addition to interviews and focus groups – which I have taken use of in this

dissertation – the project has also produced materials from the use of a questionnaire directed at online retail warehouse workers (facilitated by LTU and HiG) and technical measurement data of upper arm and trunk elevation angles, physical activity profiles (sit, stand, walk) and heart rate among online retail warehouse workers (facilitated by HiG). The results from the questionnaire and the technical measurements are currently being analysed, and for this reason I have made the choice of not including them in the dissertation. The fact that the technical measurements required my project colleagues to spend a Monday-Friday at each of the warehouses made it possible for me to conduct direct observations there during the same time.

The start of the Retail 4.0 project in 2020 came to coincide with the COVID-19 pandemic and the ‘online retail boom’ (see PostNord 2024; Svensk Handel 2023). Travelling restrictions and high production levels at many online retail warehouses made recruitment a challenge, and the process hence stretched into 2021 and 2022. It was my project colleagues who worked with recruitment, by mapping the various online retail warehouses in Sweden and reaching out to them via e-mail and telephone. A follow-up was made with those who showed interest in participating, where my project colleagues held an online presentation about the research project to the contact persons. This left us with a handful of interested online retail warehouses. In the end, after we had presented the project at the site of the online retail warehouses, there were three who wished to participate and whom we considered would be suitable – *Recreational*, *Pharmacy* and *Grocery*. The reason for this sampling was that the technical measurements as performed by my project colleagues at HiG required a selection of warehouses that were similar regards to warehouse size, workforce size, and type of online retail warehouse work performed. There were two online retail warehouses we decided not to conduct research at, given that they were much smaller in size than *Recreational*, *Pharmacy* and *Grocery*. The empirical materials were produced in the fall of 2022.

Parallel to the recruitment process in the Retail 4.0 project, the project group conducted the systematic literature review of 21 articles dealing with warehouse working conditions and gender and race/ethnicity, as already mentioned. During this time, given the long-stretched recruitment process in the Retail 4.0 project, I also decided to try reaching out to employees in online retail warehousing on my own. I figured that it would be easier for me, as an individual PhD student, to find individual employees to interview, as compared to the broader Retail 4.0. project where we wanted to conduct a mixed-methods study at several online retail warehouses. I conducted five digital interviews in the spring of 2021, with managers, union representatives and warehouse workers at four online retail warehouses. I have named them ‘pilot interviews’ in the dissertation given that they have been used to guide me further in the research process. They have not been used in any of the articles in this dissertation.

The pilot interviews made me realize the importance of spending time at the online retail warehouses if I were to understand the organization of work and inequality. The first online retail warehouse that I contacted with this quest was *Homeware*. I became aware of *Homeware*’s existence while searching online for online retail warehouses in Sweden. What caught my interest was the fact that they had already been around for many years when this ‘online retail boom’ happened during the COVID-19 pandemic (see PostNord 2024; Svensk Handel 2023). I contacted the owner and asked for an interview. At the interview I asked if I could come there and do participant observations and interviews – and as it turned out, I was welcome to. As for *Electronic*, the other online retail warehouse where I have conducted participant observations and interviews, I had interviewed the warehouse manager as part of the pilot interviews. The reason I chose to contact this specific manager to ask if they wanted to participate in the study, was that I could sense that there were similarities between *Electronic* and *Homeware*. Both with regards to the workforce size and the level of technology implemented in the goods handling process. In total, in the fall of 2021, I did four weeks (Monday-

Friday) of participant observations at *Homeware* and *Electronic* respectively, and conducted a total of ten interviews with managers, warehouse workers and marketing assistants.

In the next parts of the chapter, I will go deeper into each of the methods and what materials and knowledge they have contributed with to the dissertation. A summary of the methods is provided in Table 2.

Aims	Methods and Materials	Application
To get an embodied understanding of work and inequality the online retail warehouses.	Observations <i>Homeware and Electronic</i> (2021) Participant observations 4+4 weeks.	Articles 1, 2. Dissertation.
	Observations <i>Recreational, Pharmacy and Grocery</i> (2022) Direct observations 1+1+1 weeks.	Articles 1, 3, 4. Dissertation.
To get an introduction to online retail warehousing in Sweden.	Pilot interviews (2021) Semi-structured interviews (n=5) with manager, warehouse workers and union representatives. All held online.	Dissertation.
To get an understanding of online retail warehouse work and inequality.	Interviews <i>Homeware and Electronic</i> (2021) Semi-structured interviews (n=10) with CEO, managers, marketing assistants and warehouse workers. All held face-to-face.	Articles 1, 2. Dissertation.
To get understanding of the online retail warehouses and their work organization.	Interviews <i>Recreational, Pharmacy and Grocery</i> (2022) Semi-structured interviews (n=15) with managers, union and safety and health representatives. Eleven held face-to-face and four online.	Articles 1, 3, 4. Dissertation.
To get an understanding of online retail warehouse work and inequality.	Focus groups <i>Recreational, Pharmacy and Grocery</i> (2022) Focus groups (n=15, total of 49 participants) with warehouse workers, pharmacists and a manager. All held face-to-face.	Articles 1, 3, 4. Dissertation.
To identify, summarize, and discuss research focused on the expressions of inequality in warehousing, and their effects on working conditions.	Systematic literature review (2020-22) Analysis of 21 articles focusing on working conditions in warehousing, and its relation to gender and race/ethnicity.	Article 5. Dissertation.

Table 2. Summary of methods, including the respective aims of using each method and where the materials have been applied.

The Observations

Online Retail Warehouse	Time	Type
<i>Homeware</i>	Four weeks	Participant observation
<i>Electronic</i>	Four weeks	Participant observation
<i>Recreational</i>	One week	Direct observation
<i>Pharmacy</i>	One week	Direct observation
<i>Grocery</i>	One week	Direct observation

Table 3. List of observations.

Making Selections and Sampling

In an ethnographic vein that ‘nothing should be taken for granted and nothing should be assumed to be uninteresting’ (Neyland 2008: 18) the aim of the observations listed above has been broad in character. Primarily, what I wanted was to get an embodied understanding of work and inequality the online retail warehouses, including similarities and differences between the five of them. What I mean with ‘an embodied understanding’ is that I wished to gain knowledge that spoke to my body – I wanted to feel how it was to pick, pack and perform other parts of the work, and experience the workplaces with my own eyes and ears. This was something I came to realize when conducting the pilot interviews (they were conducted before the observations), that it would be difficult for me to produce valid knowledge through interviews alone. The pilot interviewees spoke about how the warehouses looked and how the work felt, and I understood that being there would help me understand better the context and the conditions. In addition to my strive for an embodied knowledge, I also looked upon the observation as a method to understand what work tasks were performed and why, how the work tasks

were performed, where and when the work tasks were performed, and by whom.

There are various ways to do observations. As shown in Table 3, I have conducted both participant observations – at *Homeware* and *Electronic* – and direct observations – at *Recreational*, *Pharmacy* and *Grocery*. Kostera (2007) makes a distinction between the two in that the researcher’s aim with direct observations is less focused on blending into the observed context as an ‘insider’ as compared to the aim of participant observations. I never strived to become an insider. However, at *Homeware* and *Electronic*, I strived to participate in the as many of the work tasks as possible and to get to know as many employees as possible. This differed from my focus at *Recreational*, *Pharmacy* and *Grocery*, where I entered with a mindset of likely being less of a participant as compared to the former two online retail warehouses. The main reason for this was practicalities. The fact that I could conduct observations at *Recreational*, *Pharmacy* and *Grocery*, and not only visit them to conduct the interviews and focus groups, had to do with my project colleagues having to spend a Monday-Friday at each of the warehouses for the technical measurements. The differences in observations also had to do with the warehouse and workforce size. It was easier for me to participate in the work to a larger extent and meet more of the employees at the smaller *Homeware* and *Electronic*, than at the larger *Recreational*, *Pharmacy* and *Grocery*.

Conducting the Observations

My observations took me to different places. *Homeware* consisted of both a warehouse- and store space. As the warehouse work stretched between these spaces, so did my observations. At *Homeware* I also got to spend time with Julia and Karin, the two marketing assistants whose main job was located in an office. I did not participate actively as much in the tasks they performed, which differed from the tasks that the warehouse workers performed. Yet, I spent some hours observing them, mostly next

to them in front of the computer. I also met with Julia and Karin on the warehouse floor, as they performed picking and packing in addition to their other work tasks. At *Electronic* I did all my observations in the warehouse space and in the lunchroom which was shared between employees in the warehouse and employees in the offices. This was a natural delimitation emerging from the different spatial and organizational structures between *Homeware* and *Electronic*. At *Homeware*, Julia and Karin's office was in the warehouse space and they participated in the picking tasks every week. *Electronic* had their office space on a different floor. At *Electronic* the office employees and warehouse employees were a bit more distanced from each other in the everyday work, as compared to at *Homeware*. At *Recreational*, *Pharmacy* and *Grocery*, I conducted observations in the warehouse spaces and the lunchrooms, and I only briefly visited some of the offices.

The centrality of the body in conducting observations was something I thought about a lot during these weeks. In her ethnographic study of an industrial company, Martinsson (2006) describes that wearing the same type of clothes as employees while observing was a strategy she applied to fit in. Yet, imitating their style also left her with complex feelings of 'not fitting in' and 'trying to fit in "too much"' (Martinsson 2006: 117, translated from Swedish).¹³ This was something I experienced too. After the first day of observing, at *Homeware*, I wrote in my field diary:

¹³ Original quote in Swedish: 'Hos mig fanns en portion oro över att inte passa in, att vara "fel", eller att försöka passa in "för mycket"' (Martinsson, 2006: 117).

Jenny told Nils that I would be with them to conduct research. Nils jokingly replied that "then we have to put the shirt on!" and Jenny mentioned something about me being around the "nine-to-fivers." I don't remember what I said, if I said something. Maybe I just laughed. They seemed to have the perception that I would be fancier than them. It reminded me of the countless situations when people around me have implied I will never leave the university and that time when they said that I should get a "real job." I am in a privileged position as a doctoral student. I understand it comes with status. At the same time, I feel so grounded in the non-academic world that it bothers me when people take me to be... well, whatever they think I am. Although I am exactly that too.

(Field notes, *Homeware*, 2021)

In the quote above, the 'shirt' becomes significant for not only differences in style but also in jobs. Working in a warehouse, as the participants, and working in an office, as I do most of the time, naturally comes with different requirements on clothing. As such, the clothes can also communicate class. I experienced getting dressed in the mornings as a balancing act between (a) being perceived as a 'office rat' with no understanding of non-academic jobs and (b) being perceived as someone who tried too hard to become an 'insider.' It often ended up mid-way with me wearing a relaxed shirt made of linen or denim and jeans. On my feet I usually wore sneakers or Dr Martens, both to make it look less 'office' and to feel comfortable walking around the warehouse all day. I wore similar clothes at *Recreational*, *Pharmacy* and *Grocery*, where I also got to borrow a jacket adapted to the cold temperatures and shoes adapted to the warehouse floors.

I used my body to look, listen, smell and sense when walking around in the different online retail warehouses. In addition to performing the handling of goods together with the warehouse workers, and other employees, I also spent much of the observations talking with them. I often tried to stir the conversation to focus on the things I wanted to find out about the work and workers (Neyland 2008: 113; cf. Johansson 2015: 65). At *Homeware* and *Electronic*, this was possible mostly when packing the outgoing goods and unpacking the incoming goods. I asked questions such as why certain work tasks were done in particular ways, by whom, why the warehouse space and goods on shelves were organized like this or that, or what employees were thinking and feeling when picking, packing, and performing the other tasks. I did the same at *Recreational*, *Pharmacy* and *Grocery*. To be able to produce such knowledge, early on I decided to use socializing and transparency as a strategy. If I were to ask employees to share things with me, then I would benefit from being open to employees' questions to me, even if they were more private in character. Thus, I participated in, and sometimes initiated, general small talk about seemingly nonsensical things. At *Homeware* and *Electronic*, in particular, I assume that the employees categorized me as a heterosexual woman in her late 20-early 30s, which was also what I perceived most of the employees to be. Me being able to join conversations about what Christmas gift to give to one's boyfriend, tv-series in the early 2000s, norms around having children in your 30s, et cetera, seemed to be a key in the process of me and the employees feeling comfortable with one another. Martinsson (2006: 12) draws similar conclusions in how she describes that being categorized by the participants as a middle-class woman and mother allowed her to be part of the daily conversations at the workplace, and therein she could get to know the participants. A conversation at *Grocery* makes another example: I was standing next to a warehouse worker who all of a sudden asked me if I eat meat. Most often I do not, I said, and I felt it was a weird question to ask me. He replied that he was not surprised by my answer because 'you look like a vegetarian human.' I laughingly said it might have to do with my short hair and tattoos, and he nodded. I am confident that conversations such

as this – and the transparency and self-distancing that I strived to practice – was an important factor in how I ‘got access’ to the warehouse and the warehouse workers.

Another strategy of mine, at *Recreational*, *Pharmacy* and *Grocery* in specific, was to approach warehouse workers and pharmacists who also participated in focus groups. In some focus groups I asked the participants by the end of the conversation if I could join them on the warehouse floor later. I applied this strategy as I spent a limited time at these warehouses, and I assumed that the warehouse workers and pharmacists who had signed up for the focus groups were likely interested in talking to me. I did also approach people not participating in the focus groups, with varying results. There was one warehouse worker who kindly told me, in a firm voice, that she got stressed from having people looking over her shoulder – I replied that I understood and moved on. Others were more willing to have me join them. One day, at *Grocery*, I was observing two warehouse workers who were performing the task of preparing bags. They showed me how to perform the task, and we talked as I prepared the bags next to them. Suddenly a team manager approached us, took them to the side and said something that I was not able to hear. The warehouse workers turned to me when the team manager had left, they laughed and said that ‘he doesn’t like that we are talking.’ The team manager had told them to switch to another task, in another part of the warehouse. To me, this was an awkward situation. I felt I might had taken up more time and space than the managers thought was ok.

Analysing the Observations

The empirical material resulting from ethnographic observations often refers to a field diary, and this was also the case for me. There are different ways to produce field notes. It can take place during the observations by the researcher taking notes when being next to the

participants or in a way that the participants do not notice, for example during toilet breaks. The notetaking can also be done afterward, and preferably close in time to the observations (Kostera 2007: 187-188). During my first day of observing, at *Homeware*, I soon realized that it would be difficult to fully engage in the observations if I were simultaneously to take notes. I feared that being focused on writing things down would draw my attention from things happening in real time. I also felt like participants could perceive me as less engaged if I did. Thus, I decided to take notes as soon as I got home from work. My strategy was to sit undisturbed and think through the day, from morning until the afternoon, reflecting upon what I had done, what I had seen others do, and what the conversations had been about. The field notes are ordered by date and include descriptions as well as interpretations and problematizations of the things I had observed, direct quotes and reminders to myself of things that I wanted to dig deeper into the upcoming days (cf. Kostera 2007: 189). The way that I took notes at *Recreational*, *Pharmacy* and *Grocery* partly differed from how I did it at *Homeware* and *Electronic*. The format of direct observations, rather than participant observations, allowed me to take short breaks from walking around the warehouse floor to write things down continuously during the days. I did write some things down during the days at *Homeware* and *Electronic* as well, for example when I felt I wanted to remember the exact quote of something someone told me. This was then done on my phone when visiting the toilet or when I was picking products from a shelf out of sight from the others. In total, the field notes material that I have produced comprises five digital documents (one per online retail warehouse) with a total of 83 490 words, a circa of 166 pages.

In my understanding, field notes from observations are analysis in themselves. It differs from how interview transcripts and focus groups transcripts requires a layer of analysis to added to what the participants have said. The field notes from my observations unfold part of my understanding and problematizing of online retail warehouse work and inequality. By following the field notes, I can see how my knowledge have

developed and taken form day by day. Another part of the analysis is found in how I have read the field notes carefully several times. I have discussed the material with one of my supervisors, who have asked questions that have made me develop my thoughts further. The fact that I have done this not only after, but also during the actual fieldwork, allowed me to ‘test out’ my ideas and interpretations ‘while still in the field to see if they “fit” with my continuing observations of the field’ (Neyland 2008: 126).

Knowledge Contributions

The participant observations at *Homeware* and *Electronic* and the direct observations at *Recreational*, *Pharmacy* and *Grocery* have broadened and deepened my understanding of online retail warehousing. Spending time in the online retail warehouses provided me with bodily experiences – for example, a tired head from all the sounds, neck pain from having to repeatedly turn my head left when performing packing, and happiness from the social encounters with the employees. The observations also made it possible for me to see and hear the interactions and interplay between, for example, managers and workers. For example, when research participants told me in the interviews and focus groups that managers spent too much time in their offices and too little time out on the warehouse floor, I could puzzle this information together with what I had seen myself. Moreover, on a similar note, being ‘in the field’ is a way of learning the language spoken in the context. In the traditional ethnographic sense, this would refer to anthropologists learning the spoken language of the country they visited (Davies 2002: 77-78). For me, the observations meant that I was introduced to the online retail warehouse work lingo(s), which in retrospective comparison with the pilot interviews where I did not have that knowledge, turned out to be helpful during the interviews and focus groups.

The Interviews

Participant(s)	Warehouse	Time	Type
Pilot Interviews (2021)			
1. Warehouse manager	<i>Electronic</i>	60 min	Video call
2. Union representative	<i>Clothing</i>	60 min	Video call
3. Warehouse worker	<i>Kitchenware</i>	60 min	Video call
4. Union reps./warehouse workers (n=2)	<i>Clothing</i>	60 min	Video call
5. Union rep./warehouse worker	<i>Sports</i>	60 min	Video call
Interviews Homeware and Electronic (2021)			
6. CEO	<i>Homeware</i>	60 min	Face-to-face
7. Warehouse worker	<i>Homeware</i>	40 min	Face-to-face
8. Marketing assistants (n=2)	<i>Homeware</i>	45 min	Face-to-face
9. CEO	<i>Homeware</i>	50 min	Face-to-face
10. Warehouse manager	<i>Homeware</i>	40 min	Face-to-face
11. Warehouse worker	<i>Electronic</i>	35 min	Face-to-face
12. Warehouse worker	<i>Electronic</i>	35 min	Face-to-face
13. Warehouse worker	<i>Electronic</i>	40 min	Face-to-face
14. Warehouse worker	<i>Electronic</i>	30 min	Face-to-face
15. Warehouse manager	<i>Electronic</i>	70 min	Face-to-face

The table continues on the next page.

Interviews <i>Recreational, Pharmacy and Grocery</i> (2022)			
16. Deputy warehouse manager	<i>Recreational</i>	60 min	Video call
17. Operations manager	<i>Recreational</i>	60 min	Video call
18. Warehouse worker/union rep.	<i>Recreational</i>	50 min	Face-to-face
19. Warehouse manager	<i>Pharmacy</i>	35 min	Face-to-face
20. Team manager 1	<i>Pharmacy</i>	30 min	Face-to-face
21. Team manager 2	<i>Pharmacy</i>	20 min	Face-to-face
22. Team manager 3	<i>Pharmacy</i>	25 min	Face-to-face
23. Team manager 4	<i>Pharmacy</i>	35 min	Face-to-face
24. Team manager 5	<i>Pharmacy</i>	30 min	Face-to-face
25. Health and safety representative/ warehouse worker	<i>Pharmacy</i>	35 min	Face-to-face
26. Warehouse manager	<i>Grocery</i>	55 min	Video call
27. Team manager 1	<i>Grocery</i>	60 min	Face-to-face
28. Team manager 2	<i>Grocery</i>	40 min	Face-to-face
29. Health and safety rep./team leader	<i>Grocery</i>	55 min	Video call
30. Health and safety rep./team leader	<i>Grocery</i>	25 min	Face-to-face

Table 4. List of interviews conducted by me.¹⁴

¹⁴ Within the Retail 4.0 project, in addition to the interviews conducted by me, Dr Tiziana Sardiello conducted eight interviews with team leaders and one with a manager. The total of 24 interviews at *Recreational, Pharmacy and Grocery* (15 conducted by me, and nine by Tiziana) has been used as one empirical data set in Articles 1 and 4. The interviews conducted by Tiziana are relevant for my results, but I treat them as a contextual and complementary empirical material rather than primary materials in fulfilling the dissertation aim. The exception is one of the team leader interviews conducted by Tiziana, from where I analyse a quote in Article 3. Tiziana's nine interviews are not listed in Table 4.

Making Selections and Sampling

My grouping of the interviews into pilot interviews, interviews at *Homeware* and *Electronic*, and interviews at *Recreational*, *Pharmacy* and *Grocery* has to do with their different (yet overlapping) aims. The aim of the first group of interviews (listed as #1-5 in Table 4), was for me to get a first introduction to online retail warehousing in Sweden that could help me in the task of formulating a focus of interest for the upcoming research activities. The aim of the second group of interviews (listed as #6-15 in Table 4), was to get an understanding of work and inequality. The fact that I conducted these interviews parallel to participant observations meant that I also looked upon the interviews as an opportunity for me to ask further about things I had observed, as well as a possibility for interviewees to share information with me, that they might not have been keen to talk about with me on the warehouse floor or at the lunch table. The third group of interviews (listed as #16-30 in Table 4), aimed to contribute with an understanding of the online retail warehouses and their work organization, from the perspective of managers on different levels, as well as a selection of team leaders and warehouse workers. As such, the idea was for the interviews to complement and, possibly, nuance knowledge gained from the focus groups with warehouse workers at the same online retail warehouses. The selection of team leaders and warehouse workers interviewed refer to workplace union representatives or health and safety representatives. The aim was not to gain knowledge about their union engagement, but, in the Retail 4.0 project, we rather looked up on them as having a knowledge of the warehouse work and inequality that differed from other employees. Not that other employees would have less knowledge, but we assumed the union representatives or health and safety representatives to, likely, have a different type of knowledge.

The recruitment processes also differed between the three interview groups. The pilot interviews began with an interview by *Handelsnytt*, a newspaper by the Swedish Commercial Employees' Union. I had

contacted a journalist at the newspaper as a strategy to reach out to those working in online retail warehousing, and they decided to publish an online piece about my upcoming dissertation (see Julius 2021). I also sent out information about the study to the Swedish Commercial Employees' Union. I had no selection criteria other than that all interviewees would have to work in online retail warehousing. These two recruitment initiatives resulted in a snowball sampling process. At *Homeware* and *Electronic*, I asked employees I met during my observations if they would be willing to participate, and most of them were. The relatively small size of the online retail warehouses meant that all of them had experiences from working hands-on with the picking and packing, and other warehouse work tasks, even the CEO, managers, and marketing assistants. At *Recreational*, *Pharmacy* and *Grocery*, the selection criteria were adapted to the Retail 4.0 project's aim with conducting interviews – to get an understanding of the online retail warehouses and their work organization. What I did to recruit interviewees at *Recreational*, *Pharmacy* and *Grocery* was to approach managers and union- or health and safety representative directly. Sometimes via email, but mostly face-to-face at the online retail warehouse. How many, and who, agreed to participate was partly a result of the production activity at the warehouses. *Grocery*, in particular, was experiencing high volumes of orders and it was not practically possible to interview all the team managers.

A delimitation in the interviews, as well as in the focus groups, is that all those who participated were employed directly by the online retail warehouses. Several of the warehouses studied had additional warehouse workers hired via employment agencies such as *Samhall*. For example, at *Homeware*, the *Samhall* workers were only called in for peak time and rush hours at the online retail warehouse – different from the regular warehouse workers, employed by the online retail warehouse, who were there irrespective of it was a lot of customer orders to handle or not. This made it difficult for me to get access to the *Samhall* workers. *Pharmacy* and *Grocery* also had temporary agency workers, and here I believe they did not receive the same information as the regular workers

did from their managers, about the possibility to participate in focus groups. At *Pharmacy*, it was an agreement in the Retail 4.0 project, that only the regular employees would participate in the study. While I was unable to formally interview temporary agency workers, or have them participate in the focus groups, I did conduct informal and unstructured interviews with some as part of the observations (cf. Neyland 2008: 113).

Conducting the Interviews

All 30 interviews were semi-structured in character and conducted in Swedish. The somewhat different aims of the pilot interviews, the interviews at *Homeware* and *Electronic*, and the interviews at *Recreational*, *Pharmacy* and *Grocery*, meant that I used different, yet overlapping, interview guides (see Appendices). While I had a pre-set list of questions, I also adapted the questions during the interview depending on who I interviewed. For example, when I interviewed someone who I had already talked to during observations, I could then ask them to develop their thoughts on things they had already told me about. Similarly, that I interviewed the CEO at *Homeware* and the warehouse manager at *Electronic* before and by the end of my participant observations,¹⁵ meant that the second occasion was focused on things that I had observed. In other words, I made sure to not have the interview guide steer everything, but I strived for the interviews to be organic and develop between myself and the research participant. To me, part of an ethnographic approach to research, is to allow for complex understanding and opposing views on a particular issue (cf. Kostera 2007) and allowing for research participants to partly steer the interviews was beneficial as it hindered me from getting stuck in my preconceived ideas.

¹⁵ I interviewed the warehouse manager at *Electronic* as part of the pilot interviews.

While most of the interviews were conducted in a meeting room at the online retail warehouses, there are nine interviews that have been conducted online via video call platforms. Among them, five belong to the group of pilot interviews, where the online format was here a result of the COVID19-pandemic with its travel restrictions. There are differences between ‘online’ and ‘offline’ interviews (Archibald et al. 2019; Deakin and Wakefield 2014; Lobe, Morgan and Hoffman 2020) and I believe it has been beneficial for this dissertation that I had previous experience from the online interview format. All the interviewees also appeared to be familiar with using digital meeting form. The video function made it possible for me and the interviewees to follow each other’s bodily language and facial expressions. Thus, we could perceive when the other was ‘done talking’ in a similar way as is possible in offline interviews (see Archibald et al. 2019). I experienced another benefit of the video format in one of the pilot interviews (listed as #5 in Table 4), as the interviewee took use of the camera to show me a bit of the warehouse. At this point I had not yet visited any online retail warehouse, so this helped me to contextualize what the research participants talked about.

In addition to the differences in where the interviews have taken place, the length of the interviews differ as well. The fact that interview lengths span from 20 minutes to 70 minutes can partly be explained by how much time the research participants could spare me. At *Pharmacy*, in particular, several of the interviews were comparatively short in length. Here I believe that the fact that I spent time on the warehouse floor was beneficial: I felt that it contributed to making the atmosphere between me and the research participants more relaxed, as they had seen me and often talked to me before, even though we did not spend a lot of time together in the actual interview. Some of the interviews at *Electronic* was also comparatively short in length (around 30 minutes). The fact that I conducted participant observations at *Electronic* meant that I had conversations with the interviewed research participant at many more occasions, in the format of informal interviews.

Analysing the Interviews

In line with how Davies (2008) argues that ‘the process of analysis is intrinsic to all stages of ethnographic research, and not something that begins once data collection is complete’ (page 231), I define my analysis of the interviews (and the empirical material more generally) as manifold. Part of the analysis has taken its form ‘in the field.’ The days and weeks I spent time at the online retail warehouses made it possible for me put the interviews into context, both in terms of thinking about them and in terms of following up on topics with the research participants. At *Recreational*, *Pharmacy* and *Grocery*, the conversations I had with my project colleagues about what we had seen, heard, and felt also contributed to that the analysis began very early on. Another part of the analysis has taken its form in relation to the interview transcripts. Interviews were recorded upon agreement of the research participants and later transcribed by me. One of the participants did not want to be recorded but agreed to me taking extensive notes during the interviews, and in this case, I have analysed the notes instead of a transcript. The analysis of transcripts from interviews at *Homeware* and *Electronic* differs from the analysis of the *Recreational*, *Pharmacy* and *Grocery* interview transcripts.

The analysis *Homeware* and *Electronic* interview transcripts was conducted in 2021-2022, with guidance from Braun and Clarke’s (2006) thematic analysis method, where transcripts are coded, codes are categorized into themes, and the themes inform the written product. Braun and Clarke (2006) acknowledge that researcher is the one ‘identifying,’ ‘selecting’ and ‘reporting’ the material (page 80) which resonates well with my understanding that the researcher is a central actor in the production of research results (cf. Davies 2002; Kostera 2007; Neyland 2008). How I have conducted the thematic analysis follows five steps: (1) I transcribed the interviews word by word; (2) I printed and read each transcript carefully; (3) I coded each transcript in its digital form, and copied and pasted each coded section into a grid table. In the grid table, the farther

right column listed the interviewees, and the upper row was labelled with the code titles; (4) I used mind mapping to gather the codes into overarching themes and sub-themes. This process was iterative in that some codes were put together and others apart in the subthemes, and subthemes were grouped and re-grouped into the overarching themes. The mind-mapping was done both digitally and by using a non-digital whiteboard and pens; (5) I created a new grid table, with the names of each interviewee in the farther right column and each thematic title in the upper row. I copied and pasted each quote into the table, which allowed me to read and compare both what had been said under each theme and subtheme, and by each interview participant. This grid table is (non-extensively) illustrated in Table 5:

<i>Theme and subthemes:</i>		T1. Organization of work			T2.
		ST1. Work tasks	ST2. Competencies and qualities	ST3. Task division	...
<i>Participant:</i>					
<i>Homeware</i>					
#6	<i>Extracts from interview transcript</i>	...	...	...	...
#7	...	...	...	...	...
<i>Electronic</i>					
#11	<i>Extracts from interview transcript</i>	...	...	...	...
#12	...	...	...	...	...

Table 5. Illustration of the transcript analysis summary, from interviews at *Homeware* and *Electronic* (see also Article 2).

Braun and Clarke (2006) stress that ‘data within themes should cohere together meaningfully.’ While there are ‘clear and identifiable distinctions’ between themes I have identified (Braun and Clarke 2006: 91), I have also made the themes open enough to allow for possible contradictions. The final themes (and subthemes) included: *the organization of work* (work tasks; competencies and qualities; task division; approach towards the work); *work environment* (organizational; social; physical); *employment conditions* (employment type and benefits; union agreement; opportunities for development); *online retail context* (retailing-online retail warehousing-warehousing; material aspects; spatial aspects; business and economy); and *miscellaneous* (the future).

The analysis of the *Recreational*, *Pharmacy* and *Grocery* interview transcripts was conducted in 2022-2023, in collaboration with two of my colleagues in the Retail 4.0 project, Dr Tizana Sardiello and Dr Kristina Johansson. In addition to the total of 15 interviews that I have conducted at *Recreational*, *Pharmacy* and *Grocery*, Tiziana conducted nine interviews as well. The total of 24 interviews have been part of the analysis process described here. What this means is that I have had access to and analysed the transcripts from Tiziana’s interviews as well. The analysis was performed warehouse-by-warehouse (first *Recreational*, second *Pharmacy*, third *Grocery*), and we analysed the interviews and focus groups in parallel for each of the warehouses. The analysis was abductive in its form, given that we moved between inductive coding and deductive coding and thematizing in relation to Acker’s (2006a; 2006b) inequality regime theory. The analysis of each of the three warehouses followed same steps: (1) I transcribed the interviews word-by-word and uploaded them to the digital software programme NVivo (n.d.); (2) I coded each transcript inductively, which resulted in a total of 120 codes; (3) I gathered the first-cycle codes into second-cycle codes, and the second-cycle codes into themes and subthemes in a matrix that I developed (in collaboration with Tiziana and Kristina) based on Acker’s (2006a; 2006b) inequality regime theory. Tiziana and I had several meetings during this time, where we discussed how we had interpreted the

transcripts, including the first-cycle codes and second-cycle codes, and the themes and subthemes in relation to the three warehouses. Kristina followed our process and was more actively involved toward the end, as the matrix was developed. In the end, we had one filled-in matrix for each warehouse, which we read through and reflect upon together.

The matrix is (non-extensively) illustrated in Table 6. The rows follow the Acker's (2006a; 2006b) five themes – *organizing practices and processes*; *control and compliance*; *shape and degree of inequality*; *visibility of inequality*; and *legitimacy of inequality* – with subthemes and second-cycle codes below them. Subthemes and second-cycle codes are based partly on my reading of Acker, partly on what was identified in the transcripts. For example, Acker (2006b) identifies organizational *work hours and scheduling* practices to be part of the broader process of *organizing the general requirements for work*. These were treated as a subtheme (*organizing the general requirements for work*) and second-cycle code (*work hours and scheduling*) in our analysis. We found *workplace size and design* to be another relevant second-cycle code to the same subtheme, based on the interviews. Thus, the analysis was not fully deductive, but rather abductive in its character. The columns refer to bases for inequality: *class*, *gender*, and *race/ethnicity*, and *other* (cf. Acker, 2006a; 2006b). Some of the empirical material say things about not only one basis of inequality, but two or more. The *Other* in the matrix refers to *age* and *legal status and access to work permit in Sweden* (the latter which I conceptualize as intertwined with race/ethnicity in the dissertation results and discussions).

<i>Bases for inequality Themes and subthemes, and second-cycle codes</i>	Class	Gender	Race/ ethnicity	Other
T1. Organizing practices and processes				
ST1. Organizing the general requirements at work				
Work hours and scheduling	<i>Summary of transcripts</i>	...	...	...
Workplace size and design	...	...	...	...
ST2. Organizing class hierarchies				
ST3. Recruitment and hiring				
ST4. Wage setting and supervisory practices				
ST5. Informal interactions while ‘doing the work’				
T2. Control and compliance				
ST1. Control				
Pick- and pack rates	<i>Summary of transcripts</i>	...	...	...
ST2. Internalized control				
ST3. Coping strategies				

Table 6. Illustration of the transcript analysis summary, from interviews and focus groups at *Recreational*, *Pharmacy* and *Grocery* respectively.

As already mentioned, having performed the three analysis steps, then, resulted in one filled-out matrix per online retail warehouse (*Recreational*, *Pharmacy* and *Grocery* respectively). The summaries as provided by the filled in matrixes clarify what material is from the interviews (managers, team leaders and warehouse workers) and what is from the focus groups (warehouse workers and pharmacists). I do not consider these summaries as exhaustive, neither do I find that they would be the end-product of my analysis. I have continued the analysis in writing the articles and the dissertation kappa, wherein other theoretical perspectives have been added to the initial focus on Acker’s inequality regimes.

Knowledge Contributions

The pilot interviews, the interviews at *Homeware* and *Electronic*, and the interviews at *Recreational*, have had different (yet overlapping) aims and hence they have contributed to the dissertation in three (overlapping) ways:

First, the pilot interviews increased my understanding of the type of work performed in online retail warehousing, and what the working conditions can look like. They also provided me with some glimpses of inequality (between management and employees, and between employees). This – together with the fact that the pilot interviews functioned as a way for me to practice my interview skills – informed the upcoming research activities. Not least the fact that I decided to conduct observations after having conducted the pilot interviews.

Second, the interviews at *Homeware* and *Electronic* furthered my understanding of both online retail warehouse work and inequality, not least in how the material partly stood in contrast to what I had read about online retail warehousing in previous studies and in news media outlets. This have had an impact on the knowledge brought forward by this dissertation, in particular as the variations became even more visible after I had conducted the research at *Recreational*, *Pharmacy* and *Grocery*.

Third, the interviews at *Recreational*, *Pharmacy* and *Grocery* – the interviews with managers, in specific – have given me a more comprehensive and complex picture of online retail warehousing, I believe, than if I would only have talked to warehouse workers. In concrete terms, this empirical material has contributed to the knowledge on how the organization of work and the consequent inequality is associated with the capitalist, on-demand context of online retailing.

The Focus Groups

Participants	Time	Type
Focus Groups <i>Recreational</i> (2022)		
1. Two warehouse workers, one outbound manager ¹⁶	50 min	Face-to-face
2. Two warehouse workers	35 min	Face-to-face
3. Three warehouse workers	60 min	Face-to-face
4. Four warehouse workers	60 min	Face-to-face
5. Four warehouse workers	60 min	Face-to-face
Focus Groups <i>Pharmacy</i> (2022)		
6. Four warehouse workers	50 min	Face-to-face
7. Three warehouse workers	55 min	Face-to-face
8. Four warehouse workers	55 min	Face-to-face
9. Three pharmacists	55 min	Face-to-face
10. Four warehouse workers	50 min	Face-to-face
11. Two pharmacists	55 min	Face-to-face
Focus Groups <i>Grocery</i> (2022)		
12. Three warehouse workers	50 min	Face-to-face
13. Four warehouse workers	50 min	Face-to-face
14. Three warehouse workers	45 min	Face-to-face
15. Three warehouse workers	60 min	Face-to-face

Table 7. List of focus groups.

¹⁶ Focus group #1 included a manager. This was accidental due to my misunderstanding of this manager's occupational position; I initially thought he was a warehouse worker.

Making Selections and Sampling

The aim with conducting focus groups at *Recreational*, *Pharmacy* and *Grocery* was to produce empirical material that focused on work and inequality, from the experiences and views online retail warehouse workers and pharmacists. We initially discussed in the Retail 4.0 project if we should conduct individual interviews with them, instead of the focus groups. In comparing the two methods, we soon decided to use focus groups as that would be even more suitable as we wished to understand the complexity of issues (cf. Wibeck 2010: 50-51). With focus groups, we imagined that we would be able to grasp (potential) differences between groups of employees. For example, experiences and opinions of warehouse workers tending to work in different parts of the warehouse or with different tasks. We predicted that the group format would encourage such discussions to a greater extent than in individual interviews.

The recruitment of focus group participants varied between the three online retail warehouses. At *Recreational*, we were invited to present the Retail 4.0 project to the workers at their monthly workplace meeting. This meant, in practice, that we were standing in front of the workers and explained that the research aimed to produce academic knowledge about online retail warehouse work and inequality that, in the end, would hopefully contribute to improve working conditions. We also explained that the focus groups would take place during paid work hours. Those who wished to participate filled out an interest entry form. The same type of interest entry form was used by us at *Pharmacy* and *Grocery*. At *Grocery*, we had an info table in their break room for two days. We did the same at *Pharmacy* for one day. In addition to personally approaching workers during their morning-, lunch- and afternoon breaks, we also had a roll-up with information and put out information leaflets on the tables. The week we spent at each of the warehouses when conducting the observations and focus groups gave us a second chance to inform about the study in talking to workers in a more informal manner. This resulted

in additional focus group participants that had not reported their interest during the formal recruitment days.

The entry form included a question about what tasks workers usually performed. This information helped us to put together the different groups, as we strived to group participants based on what section of the warehouse they most often worked. It made it possible to, for example, put pharmacists and warehouse workers at *Pharmacy* in different groups, and to have workers from the freezer section at *Grocery* in the same group. Given the large size of the warehouses, we deemed that there might be social divisions that could have had an impact on the information shared in the focus groups. Thus, we also asked managers and team leaders for input on the different groupings from a social perspective, and they sometimes came with feedback on who workers spent most time with. This was a strategy to increase the chances of participants feeling comfortable in the group setting, and we did not allow for the managers and team leaders to decide the composition of the focus groups. The reason why we informed the managers about who were to participate in the focus groups also had to do with scheduling. While we aimed at having four participants in each group (cf. Wibeck 2010: 62-63) we had a pragmatic approach to it; how many and who among the workers we were able to get access to have been influenced by warehouse production volumes and staffing levels. One focus group at *Grocery* was cancelled by the managers last minute due to high production volumes and low staffing that day. In other focus groups, there was some planned participants who dropped out due to sick leave and care of sick children.

Conducting the Focus Groups

Most of the focus groups were facilitated by myself together with one of my project colleagues, Tiziana; I facilitated one focus group at *Recreational* and one focus group at *Pharmacy* alone. All focus groups were carried out face-to-face in a conference room at the online retail warehouses. The

conference room at *Pharmacy* was rather small, and here we made sure that none of the participants were seated in the corner of the room, as we imagined that could possibly create feelings of being trapped. The focus groups were mainly conducted in Swedish language. At *Recreational*, there was a worker who was more comfortable speaking English, yet he did understand a bit of Swedish, so in this focus group we spoke both Swedish and English. Similarly, at *Grocery*, there were a couple of participants who were more comfortable speaking English than Swedish. In one group at *Grocery*, there was a worker who had very limited speaking skills in Swedish and, in parts, it was difficult to understand what she was saying. Here, it was helpful that we were two facilitators, as Tiziana and me could talk which each other afterwards and puzzle together the different pieces of information that we had gotten out of the conversation. Moreover, after the focus group, I approached this specific worker during my observations on the warehouse floor, to talk to her some more. However, apart from this focus group, I did not experience that different languages would be an issue. Mixing languages was never a problem, likely because the workers were used to it. I also believe that we benefited from Tiziana being born and raised outside Sweden, as she could relate to the workers who had learned Swedish at an adult age, which she also mentioned to the focus group participants.

We used an interview guide to structure the focus groups (see Appendices). It was designed to match the questionnaire used in the Retail 4.0 project, which was based on COPSOQ. In the focus groups, we focused on the four themes of *sense of social community at work*, *organizational justice*, *work pace*, and *social support from supervisor* (see Berthelsen et al. 2020). We adapted and developed the content of the COPSOQ-questions to better suit the focus group format. How we addressed inequality was by asking the focus group participants, early on, to describe the organization in terms of gender and country of birth, or other relevant inequality aspects, which was then followed up on when relevant. This strategy served its purpose, as we got gain knowledge about inequality from the focus groups. However, we did not ask the

focus group participants ‘what is inequality to you?’ and I acknowledge that this would have been a relevant question. In using the interview guide, Tiziana and I divided the four themes between us; when one was asking questions, the other was listening to the conversation.

We allowed the focus group participants to partly steer the discussions. Some groups talked a lot on their own, and others needed more support from us in asking follow-up questions. In both cases, we made sure that everyone got to speak by addressing individual participants when relevant. I used verbal as well as non-verbal cues in this task (Wibeck 2010: 60). When a quiet participant's body language communicated that they had something to say – it could be that they made a face or shook their head – then I would ask, for example, ‘Charlie, do you agree with Ellen?’. This was more difficult in the two focus groups which I was facilitating by myself, as it required a lot to be both listening into what was being said and making sure that everyone was heard. It was particularly the case in one of these two focus groups, where one of the participants took up a lot of space. I could sense from how the conversation unfolded that there were informal power relations in this group, and I believed that there could have been things that were left unsaid. My suspicions were confirmed afterwards, as one of the workers approached me and explained how the focus group conversation had been experienced by some of those with ‘less power’ relatively speaking. This made it possible for me to take the relational aspects – how they possibly had an impact on what was being discussed – into consideration in the analysis.

Analysing the Focus Groups

The focus groups were recorded upon agreement of the participants and then transcribed before analysis. Whereas the actual transcription was performed by a transcribing agency, I carefully read through the texts while listening to the recordings; both to make sure that the text and

audio matched, but also as a means to re-familiarize myself with the materials.

Just like the interviews, the analysis of the focus group transcripts was manifold as it was performed both during and after the time I spent at the online retail warehouses. The analysis of the focus group transcripts was done in parallel to the analysis of the interview transcripts from *Recreational*, *Pharmacy* and *Grocery*, in 2022-2023. This process has already been explained in detail on pages 68-72. What should also be said about the analysis of the focus groups is that my interest has been directed toward the group level. When analysing the focus group transcript, I have primarily focused on (groups of) workers' experiences and views in a broader sense, and not each participants' individual narratives. I find this illustrative of the fact that it was focus groups that we conducted (cf. Wibeck 2010). With this said, however, I have also taken note of differences between warehouse workers.

Moreover, after each focus group that we conducted together, Tiziana and I sat down to reflect together. These post-focus group conversations provided us with a space to feedback each other. As an example: while we only asked focus group participants about 'country of birth' and never about how they would define their ethnicity or race, we also wished to find a way to grasp more complex racialization processes. During the first couple of days of at *Recreational*, the first online retail warehouse we spent time at, I tended to use the terms 'white' and 'non-white' (in general and broad terms, I should add, not to address or point out certain employees). These are terms that I am familiar with, and I am used to apply them in discussing inequality, so I did not reflect upon it much. However, during one of the post-focus group conversations that we had, Tiziana told me that she found those terms to be too narrow. She reminded me that these terms hold different meaning to different people; some might not even be used to talking in such terms. Instead, Tiziana suggested, we could try to talk about 'international backgrounds' and 'international culture.' So, I did this in upcoming focus groups and

other conversations I had with research participants, and it turned out to work well. The post-focus group conversations were also focused on the empirical material per se. We discussed how the focus groups related to previous focus groups, and to interviews and observations. In doing this, we also reflected on whether there were (possible) interpersonal relations between the participants that could have had an impact on what was being said and what had possibly been left out. Thus, the post-focus group conversations represent a place where part of the analysis has taken form.

Knowledge Contributions

While the interviews with managers at *Recreational*, *Pharmacy* and *Grocery* provided me with an understanding of the organization of work, the focus groups furthered my understanding of how such practices and processes implicate on and relates to warehouse workers. Not least, the focus groups have contributed to the knowledge of how inequality is experienced on the worker's level.

The Systematic Literature Review

The systematic literature has been conducted within the project framework of Retail 4.0, as we early in the project identified that there was a lack of publications giving an overview of the expressions of inequality (gender and race/ethnicity) and their effects on working conditions in warehousing.

Data base searches were performed in Scopus and Web of Science. While the results in Article 5 are based upon searches that were conducted in February and November 2021, we did also do several test searches from August 2020 onwards. What we learned from this was that a focus on *online retail* warehousing and inequality would be too narrow, given the few publications to date, and hence we decided to broaden our focus to inequality in warehousing more generally. Initially, we had a specific emphasis on grocery, as the grocery segment in online retailing was the starting point of the Retail 4.0 project. This focus was also something we came to broaden.

The search string (see Appendices) did not include any inequality-specified search terms. Instead, we identified contents related to gender and race/ethnic inequality manually while reading abstracts and full texts during the screening process. Here we looked for studies that referred explicitly to gender, race, or ethnicity in the study aim, findings, or discussion. We also looked for studies that implicitly assessed inequality in relation to their findings by using terms such as men, male, women, female, white, non-white, migrant, immigrant. The screening process, the assessment of risk of bias, and the data extraction process is described in Article 5.

Of relevance for the dissertation, given that the systematic literature review was a collaboration, is to clarify my responsibilities and tasks. I wrote a project plan for the review, did the final database searches, administrated the sorting of records to the online review tool Rayyan. I

also screened the records through part- and full-text readings (parallel readings of each article were done by my project colleagues), assessed the risk of bias of the qualitative studies included in the review (together with one of my project colleagues) and conducted data extraction and organize the text in summary tables (two of my project colleagues guided me in the data extraction of the quantitative studies). Furthermore, I provided an article draft, which we then completed collaboratively. We also worked collaboratively on revising the article in the review process, although I had the main responsibility for it.

Knowledge Contributions

In having provided me with a summary of previous research-based findings on working conditions and inequality in warehousing, the systematic review has contributed to the dissertation with knowledge on different ways in which inequality can expressed. For example, in differences between groups of workers in employment types, wages, and division of work tasks.

Production, Transferability and Credibility of Knowledge

Producing Knowledge of Inequality

I began this chapter with naming my approach to research as an ethnographic, feminist, and anti-racist one. I will now get back to this, in discussing the knowledge production. In particular, I will focus on how knowledge of inequality has taken form through my research. In my understanding, knowledge is never neutral, in the sense that it would present an objective truth of a single reality out there (see, for example, Harding 1986; Haraway 1991; Hill Collins 2000; Mohanty 1984; Skeggs 1997). I understand the reality as multiple (Mol 2002) and I agree with Haraway (1991) that our visions of it is always partial and, therefore, knowledge is always situated. In line with Ahmed (2006), I would theorize our partial visions, and the situated knowledge it holds, as the result of/expression for our orientations in the world.

The situated knowledge I produce in my research can be understood as related to, for example, my classed, gendered, and racialized being – that is, how I am orientated around and by, for example, capitalism, (hetero)sexism, Eurocentrism, and whiteness. Those who have participated in my research, such as the online retail warehouse workers, have produced situated knowledges that relates to how they are oriented by/in the world, in the same way (cf. Ahmed 2006). How our orientations – expressed in our respective partial visions and situated knowledges – mattered for the research process and knowledge production cannot be delimited to static categories with determinative effects. To state that I am a Swedish-born, white woman says little about the knowledge production of this dissertation, without knowledge of the context, or knowledge about the research participants and how they are orientated. I understand our orientations – and partial visions and situated knowledges – as relational. They have come into being and been given

(more or less) significance, in the relations between myself and the managers, workers and other research participants. Sometimes our orientations have made us similar to each other and at other times they have made us differ. I will take class as an example to illustrate this point:

On one hand, class made me different from (several of) the research participants. I have already described how the warehouse manager at *Homeware*, Jenny introduced me to the warehouse worker Nils the first day, and the joke they made of them having to 'put the shirt on!' when I was there (see page 57). This was a simultaneous classifying of me and a classifying of Jenny and Nils: me as a university employee situated higher up in a class hierarchy and Jenny and Nils as online retail employees situated further down in a class hierarchy. 'I feel so grounded in the non-academic world that it bothers me when people take me to be... well, whatever they think I am' as I wrote in my field diary. Yet, with some distance to it, I realized that I am precisely the fancy-pants person they implied. This situation made me change how I perceive myself in terms of class. It made me aware that my academic situatedness provides me with additional markers to the middle-class position that I have always identified myself with. Class similarly came to matter at *Grocery*, the last of the online retail warehouses where I conducted research. Warehouse workers who my project colleagues and I talked to let us know that they were critical against us coming there, as I have already described in *Chapter 1. Introduction*. A note from my field diary imply that we were perceived as belonging to the same category as manager: 'He said something like "you are sitting in your nice clothes up there, come down here and see what it's like" and I was not sure if he meant us or the managers' (field notes, *Grocery*, 2022). I was also told that there were warehouse workers who found our roll-up, which held information about the research and how to participate, to be silly. Our clothes and the roll-up appeared like symbols of our assumption that we would contribute to improve the working conditions in online retail warehousing, and how it opposed (some of) the warehouse workers perceptions.

On the other hand, class also made me similar to other research participants. There were warehouse workers that I talked to – in focus groups and on the warehouse floor – who had an educational background similar to mine. Some of them had university degrees and a couple of them had studied within similar research fields as I have. One of the online retail warehouse workers was pursuing a PhD at the time. He was working at *Recreational* to finance his doctoral studies and livelihood. Not only does it illustrate how messy class is, but it also shows that the researcher and the research participants can be both alike and different at the same time. Moreover, while my class position in many cases seemed to be (perceived as) closer to managers' than to the warehouse workers,' in meeting with managers I sometimes felt out of place. More specifically, what I felt was an uncomfortable feeling of subordination when having 10-20 years older men sitting in front of me. My feelings say very little about these specific managers; none of them pointed out my gender or age by what they said or did (cf. Moser 2006) and they were nice to me. Rather, these feelings came from within, from my experiences of being a girl and a woman. What it suggests is that class sometimes matter less than other aspects, such as gender and age.

In discussing how knowledge of inequality took form through my research, I also want to say something about the inequality theme in relation to the interview guides that were used in interviews and focus groups. As the interview guides make clear, the interviews and focus groups contained few pre-written questions explicitly focused on inequality (see Appendices). The research participants were asked if they could describe and reflect over the demographic patterns at the online retail warehouses. My strategy was to ask this question relatively early on, so that I could return to it during the conversations. I also believe my transparency about the research aims and my research interests contributed to the fact that our empirical material tells us a lot about inequality. In the interviews at *Homeware* and *Electronic*, I mostly focused on gender in this regard, whereas questions pointed in the directions of both gender and country of birth in the interviews and focus groups at

Recreational, Pharmacy and Grocery. It is possible that the interviews at *Homeware* and *Electronic* could have deepened my understanding of racialization if I would have asked the research participants to reflect over the workforce demographic in terms of country of birth. Yet, the fact that I did not ask about it, I believe, at least partly has to do with how whiteness becomes visible in relation to the non-whiteness (and vice-versa). The racialization processes at *Homeware* and *Electronic* became visible to me in relation to the other online retail warehouses.

Furthermore, as already described, I did not ask the research participants ‘what is inequality to you?’ and this is unfortunate. I do not believe that the research participants would have told things to me that differ a lot from what they did tell me. However, I imagine that asking this question could have contributed with knowledge of what aspects of inequality that they found the most important, and as such provided them even more agency in this dissertation.

How knowledge of inequality is produced, and what type of knowledge that is, also relates to what type of materials can be accessed. Much of the information concerning the demographics of the workforces at the studied warehouses that I use in this dissertation is based on research participants descriptions of it. Especially with regards to country of birth and racialization more broadly. This is something I have thought a lot about in the Retail 4.0 project, where my LTU colleagues and I had the role of studying the practices and processes behind (potential) differences in working conditions and musculoskeletal health among warehouse workers. While we perceived gendering and racialization to be similar – by the fact that both gender and race/ethnicity functions as bases for inequality – we soon became aware that the studies of them differ. While the online retail warehouses could provide quantitative data on how many men and women are employed, I have no such numbers clarifying how many of the employees are born in Sweden and how many are born in other countries. In line with ethical guidelines on sensitive personal data, I have not asked research participants about their racial -or ethnic identity (Etikprövningsmyndigheten n.d.). This type of quantitative

information is not by any means enough to fully grasp inequality in the context of online retail warehousing, but it does bring with it relevant information.

I will use warehouse workers' career opportunities as an example to illustrate this. First, with regards to gender, I have been able to use quantitative materials – employee data on the workplace level and occupational data on the national level, stating how many of the warehouse workers and managers are (defined by legal gender as) men and how many are women – together with qualitative materials from the interviews and focus groups, in trying to understand men and women's possibilities to advance from warehouse worker to manager. Second, the material I have with regards to practices shaped by racialized processes is mostly qualitative, from focus groups, interviews, and observations, in the form of workers and managers talking about the possibilities to be promoted or hired on different positions. While I have information on the number of Swedish-born and foreign-born online retail employees in Sweden (see Article 1), what I have with regards to the studied online retail warehouses are the descriptions of the demographics of the workforce. Thus, it would not be possible for me to claim that X percent of warehouse workers are hindered by a racialized glass-ceiling. However, the qualitative material that I have – for example, the foreign-born warehouse worker who angrily told me that managers would never choose someone 'like him' for the team leader position, or the worker who hesitantly told us they experience that team leaders only approach 'Swedes' to encourage them to apply for open positions – is still 'enough' to make the claim that racialization matters in online retail warehousing (see Hill Collins 2000: 263, on emotions). Whether or not statistics can be a help in researching the origins, effects and realities of racialization is a debated topic in Swedish context (see, for example, Hübinette and Mählck 2015; Manga et al. 2022; Rastas 2019) and my point is not to pick a side. Rather, my point is that there are different ways to produce knowledge about a phenomenon, and the phenomenon will also take different forms depending on the knowledge production.

Transferability and Credibility

In line with my understanding of knowledge as situated, I do not claim that the knowledge produced and presented in this dissertation would be generalizable. The knowledge about the organization of work and inequality in online retail warehousing is the result of a knowledge production specific to the research context that I have been part of and the orientations of myself and the research participants (as well as the orientations of my colleagues in the Retail 4.0 project). However, following Bryman (2008), I am arguing that the knowledge is transferable. With *transferability*, I am referring to the possibility of using the present knowledge to understand, for example, the organization of work and inequality in other contexts. I hope that the ‘thick description’ that I have strived to produce is helpful for other researchers in trying to make a judgement of the transferability to their specific contexts (cf. Bryman 2008: 378). Considering that ‘gender’ and ‘race/ethnicity’ (like any concepts) holds multiple meanings, it is my hope that I have been explicit enough of what they mean in the context of my study of online retail warehousing, for others to be able to use the knowledge in future research or other fora.

Another criterion by which to judge the trustworthiness of research is whether the research is credible or not. Bryman (2008) explains that *credibility* has to do with how the research has been carried out and with how the research participants would agree with the descriptions and analysis of the research context (Bryman 2008: 376). Given that the dissertation is the result of my interpretation of the organization of online retail warehouse work and inequality, I do not imagine that every research participant will agree with all things stated in it. With this said, I have still strived to produce knowledge that the research participants will find to be true. In addition to how my mix of research methods has made triangulation possible, I consider my collaboration with other researchers within the Retail 4.0 project as beneficial in this sense (cf. Bryman 2008: 379). The differences between Tiziana and I, in terms of

researcher juniority/seniority, birthplace, and age, were advantageous in how it provided us access to a greater variety of realities than would likely have been the case if I had conducted all the research alone. This became clear to me in one of the focus groups, where a research participant raised criticism against ‘the younger generation’ – she looked at me and excused herself when saying it. I believe that Tiziana’s presence made this research participant feel comfortable in sharing her opinions. In how she turned to Tiziana, she seemed to feel like Tiziana could relate to what she was talking about, while I was seemingly part of the phenomenon she criticized. My collaboration with Tiziana has also forced me to really think through my own views. One part of how we are differently orientated in the world is found in our academic interests – Tiziana is a sociologist who mostly focuses on leadership and organizations in her research, and less often inequality. In discussing the empirical materials and theoretical perspectives, Tiziana and I sometimes had the same interpretations and sometimes we differed in our views. This was helpful in deepening our understanding of similarities/differences between the research participants as well. In my understanding, the collaboration between Tiziana and me, as well as with our Retail 4.0 project colleagues, has strengthened the credibility of my research (cf. Bryman 2008: 377-379).

Ethical Considerations

There are different approaches to handle ethics in research. To me, the question of the role of the researcher vis-à-vis the research participants is an example of an ethical issue. It has to do with my treatment and representation of them. Thus, the knowledge production that I have discussed involves several of the ethical considerations that I have made throughout the research process. In more explicit terms, I have also approached and handled ethics in my research via the use of formal guidelines. The Retail 4.0 project has undergone an ethical review, as it involves sensitive personal data related to the health of research participants, and it has been approved by the Swedish Ethical Review Authority (reference number 2020-03237). Furthermore, I have also taken use of the Swedish Research Council's (2017) publication 'Good Research Practice,' as I will develop below.

A central part of what I interpret as a good research practice is to ensure that participants are informed about the study and what it means to be part of it, which is then confirmed by their consent to participate. In my contact with the online retail warehouses, and in the interviews and focus groups, I have followed a few steps: (1) I have presented myself as a Ph.D. student in Human Work Sciences that is to conduct research and write a dissertation about online retail work and inequality; (2) If asked, or if I reckoned that the person did not relate to what I was saying, I have clarified what pursuing a Ph.D. means (*I am hired to study to become a researcher*), what scholars in Human Work Science do (*it is a broad and interdisciplinary research field which includes both engineers and social scientists*) and that I belong to the gender research part of it (*which means that I am interested in inequalities related to, for example, class, gender and country of birth*), and/or what a dissertation is (*it is similar to a book, although it contains research and not fiction*) and that I will be writing academic journal articles as part of it; (3) I have presented my study in more detail by also explaining the narrowness in the previous research on the topic of online retail work, and the need for more studies, especially so concerning my interest in

inequality. Therein, I have underlined my will to contribute to filling this academic knowledge gap. I have also emphasized that the fact that the online retail employees are the experts that I can learn from. Compared to the interviews and focus groups, it was more difficult to share all this information with each person that I observed on the warehouse floors, or in the lunchrooms, etcetera. Sometimes I observed people from afar. Here it became important for me to try to sense when someone did not want me there observing. I also asked people who I wished to observe on a closer distance if it was ok and, if they agreed, I told them that they could tell me to stop observing at any time. This happened in a few cases, which also meant that I have been more careful in the way I have written them into the articles and dissertation. I have respected those who did not agree to be interviewed or participate in focus groups, and I never asked people more than once. Concerning those who did agree to participate in the interviews and focus groups, I told them that they are free to withdraw their participation before, during, and after the interview/focus group, without having to give any explanation.

In addition to the need for information and participant consent, I have also considered the confidentiality of those partaking in my research. This requirement by the Swedish Research Council (2017) asks the researcher to not unthoughtfully share information about the participants, and that the information shared as part of the research should not be able to track down to individuals. The first aspect herein concerns the information flow during my studies. I knew already when I conducted research at *Homeware*, that I would later conduct research at *Electronic*. As part of telling the participants at *Homeware* about my research I also mentioned that they were not the only online retail warehouse contributing to it. In the same way, when I was at *Electronic*, I was transparent with the fact that I had already been doing observations and interviews at another warehouse. Both online retail warehouses showed an interest for the other. I got questions about, for example, where it was located, what type of goods they handled, who worked there and how the work was organized. To make sure that they would not be

able to identify each other, I did not go into more details than I do in the dissertation, and at most times even less so. I had the same approach when conducting research at *Recreational*, *Pharmacy* and *Grocery*. Moreover, at all the participating online retail warehouses, I was also careful not to share information that one participant had told me with someone else in the organization. I had imagined beforehand that the managers would want to know what the warehouse workers had told me; this never became an issue, as the managers showed no such interest. A second aspect with regards to confidentiality refers to what is shared outside of the study context, that is, what information you as readers of this text get. I have pseudonymized both the names of the online retail warehouses and the names of participants, and I have not provided specific details on their geographical locations. I do believe that including more geographical descriptions would have contributed to deepening the knowledge brought forward by this dissertation. It would have made it possible for me to analyse and problematise the aspect of place, in relation to the organization of work and inequality, to a greater extent (cf. Fuchs et al. 2023). The fact that I have been restrictive in this sense is the result of an ethical consideration. I have also been careful with the extent to which I describe the technology in the respective online retail warehouse, as too many details could have compromised their anonymity. For a similar reasons, I have also not illustrated the *Homeware* store space in *Chapter 5. Results*; while warehouse spaces are rather invisible to the public, stores are open to anyone and thus I found it problematic to include such illustrations.

Chapter 5. Results

Presenting the Five Online Retail Warehouses

Information about the type of work, what the workplaces are like and who the workers are, is relevant if we are to be able to understand the organization of work and inequality. While all of us have at least some knowledge about in-store retailing, fewer of us are aware of what it is like in the warehouses belonging to online retailing. This is the reason for why I have included ethnographic descriptions of *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* in this first part of the chapter. How I describe them vary, which is a result of the fact that my participant observations at *Homeware* and *Electronic* differed in its format from my direct observations at *Recreational*, *Pharmacy* and *Grocery*. I have included illustrations of the workplaces *Homeware* and *Electronic*, yet I have decided not to do it with *Recreational*, *Pharmacy* and *Grocery* as it would compromise the anonymity of the three. After having presented each of the five online retail warehouses, I will summarize the warehouse and workforce size, workforce demography and level of technology of each of them in Table 8 on page 117.

Homeware

Homeware was the first online retail warehouse I visited, in 2021. *Homeware* sold – not very surprisingly – homeware, including a range of utensils for cooking and baking. The goods varied in size and weight, from small-sized light-weight muffin liners to large pizza stones weighing a couple of kilos (I packed a pizza stone once, and it was super heavy to handle). While the main part of sales was made online, additional retailing took place in a small store adjacent to the warehouse. *Homeware* was a small organization with 6 permanent employees apart from the CEO Harry. Harry had the overall responsibility for the business and the

employees. Jenny, who was employed as warehouse manager, had a responsibility to make sure, on a daily basis, that the handling of goods progressed as planned. Jenny also took care of the customer service. The warehouse workers Josefin and Nils usually worked with handling incoming goods, picking, packing and other related tasks in the warehouse, and in-store tasks in the store space. Julia and Karin were employed as marketing assistants which entailed work with the website and social media via different online platforms, and they regularly helped with picking. Nils was employed at 75 % and the rest of them worked full-time. Amira was also hired by *Homeware* to work part-time, and I only met her a few times during the weeks I spent at *Homeware*. Amira combined her job at the warehouse with another job, as her partner was studying, and they needed the money. Amira, who was born abroad, was currently learning Swedish and spoke mostly English with me and the other workers.

In addition to the regular employees, *Homeware* had various part-time workers employed via *Samhall*, an agency work actor owned by the Swedish state, who facilitates employment for people with functional impairment (Samhall, n.d.). *Homeware* had at least one, often two and sometimes three *Samhall* employees to work mainly with packing, but also picking and other tasks in the warehouse, on Mondays, the busiest day of the week. Fewer *Samhall* employees were working at *Homeware* the other days of the week, although it always depended on the number of orders to handle. During my weeks at *Homeware*, I primarily met with 4 workers from *Samhall*: Annika, Hanna, Susanne, and Katarina. I also met with Beatrice, who was doing work training at *Homeware*. Beatrice performed different work tasks in the warehouse and the store from morning until lunch, approximately, every day. In December 2021, I spent an extra day at the warehouse to observe the rush before Christmas, which the employees had told me about beforehand. Then there was a total of 16 workers who performed picking and packing, many of whom were seasonal staff from *Samhall*.

Homeware, as I mentioned, consisted of both a warehouse and an adjacent, small store – the latter was described to be ‘warehouse store.’ The customers who did in-store shopping shared the space with workers picking goods for the online retail customers. The actual warehouse comprised three different parts. The first part of the warehouse was furnished with wooden shelves in the size of a bookshelf you would have at home. It also held the warehouse manager Jenny’s office station (a desk and a computer) and packing desks. Next to the packing desks was a screen, showing how many orders were left to pick and pack that day, in total, as well as statistics on the number of packed orders per day/week/month broken down by person. Adjacent to the first warehouse room were the staff bathroom and a lunchroom. The second and third warehouse rooms contained more shelving; both the second and third rooms had high metal shelves where one had to use a kick step stool to reach the upper levels. At the inner part of the second room were more packing desks, and next to it some storage space for extra packing materials. Incoming and outgoing goods were delivered/shipped from there, and to the left when walking from the second to the third warehouse room were mesh role cages where the ready-packed goods were placed. The third room of the warehouse contained, in addition to shelving, the computer station where order- and picking lists were printed and an office room where Karin and Julia worked. Their office room was built into the warehouse room and had windows overlooking the high metal shelves. The warehouse at large was quite dark as it lacked windows, and it was lit up only by lamps in the ceiling.

Based on how the employees described the *Homeware* demographics, I understood everyone apart from Harry and Nils to be women. None of the permanent employees had a formal university degree, although some of them had taken courses at the university level. Some of them was born and raised in the same town as they now lived and worked in, whereas others had moved there from other parts of Sweden or from abroad. Some of them had kids – to my knowledge a minority – and several of them had pets. The latter is relevant to mention considering

that there were dogs who shared the warehouse space with the employees. To me, the dogs contributed to making it feel homely. I was told that being able to bring one's dog to work was appreciated by the employees, and that they considered it to be a working benefit. The dogs had a corner in the warehouse where they could lay down.

Many of the work hours were spent at the packing desks, putting homeware in boxes and boxes onto mesh role cages. One of the things that struck me the most the first days, was the noise from the paper that was used as wrapping for the goods. I had not imagined beforehand how loud it would be. The crackling sound from the paper combined with the squeaking noise from the tape dispenser, ringed in my ears. Days later, I realized I had not reflected over the sounds as much as I did in the beginning. I might have gotten used to it, I thought to myself, because when I actively listened to the space around, the noises still disturbed me. Handling all the paper and carton resulted in paper cuts, especially in the beginning, before learning the tricks on how to do it. 'I've had to put on two band-aids today' I told Josefin and Hanna. 'Only two!' they replied at the same time, and added with a laugh, 'then you have not worked hard enough.' The body also became visible in the packing process through Josefin's focus on ergonomics; she told how to use my body in performing the packing and she reminded me to stretch when I had been standing still for a longer period. Most days, the workers took a short break before lunch and then a short break after lunch, when they sat down in the lunchroom with a coffee and often some fruit. The exception was the payday when order levels were high and no one appeared to rest, apart from at the lunch break.

Usually, one or two or people took their lunch break at the same time. During one of the breaks, although I cannot remember how we got into it, workers described to me that Harry, the CEO, had authority but that he also listened a lot to his employees. I asked, 'in what way?' and they replied that they had the possibility to come up with suggestions on how improvements. They also gave examples of things that they were

currently implementing in the warehouse, based on their suggestions. ‘In what way does he have authority then?’ I continued. They told me that ‘he always has the last word’ and, they added, ‘he is the CEO after all’ which I interpreted as if they found it perfectly reasonable. Although I could sense that employees and managers did not always agree, there was a clear sense of community at *Homeware*. This was not only expressed in the daily collaboration at the workplace in performing the work tasks, but also in more informal aspects such as the socializing during breaks. The CEO often had lunch together with the workers. One of the days he bought sushi for them. At first, I wondered if he was extra nice towards them because I was there, that he wanted his company to come across as a good one, but I was told it was not an unusual event. The employees seemed to enjoy their job, not only because of these social aspects but some also expressed that they liked the variation in tasks and others that they enjoyed providing a service for customers.

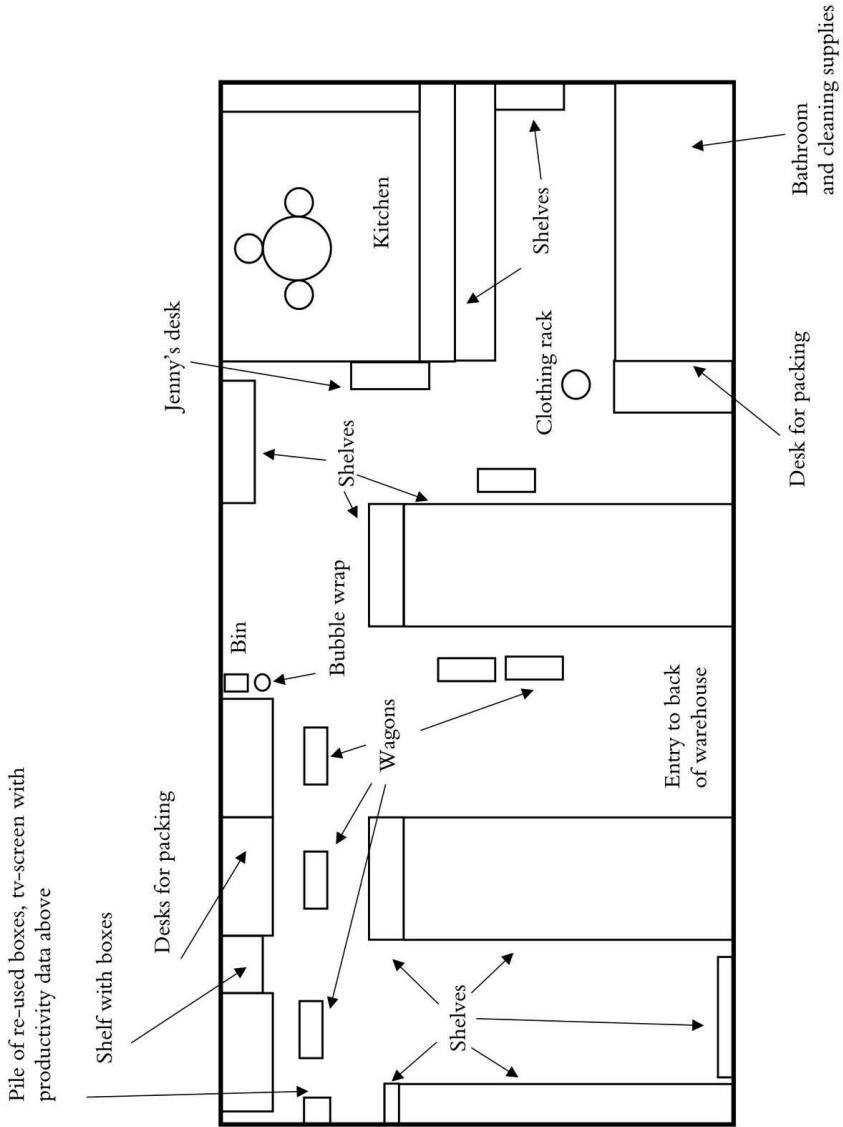


Figure 2. Illustration of *Homeware* warehouse.

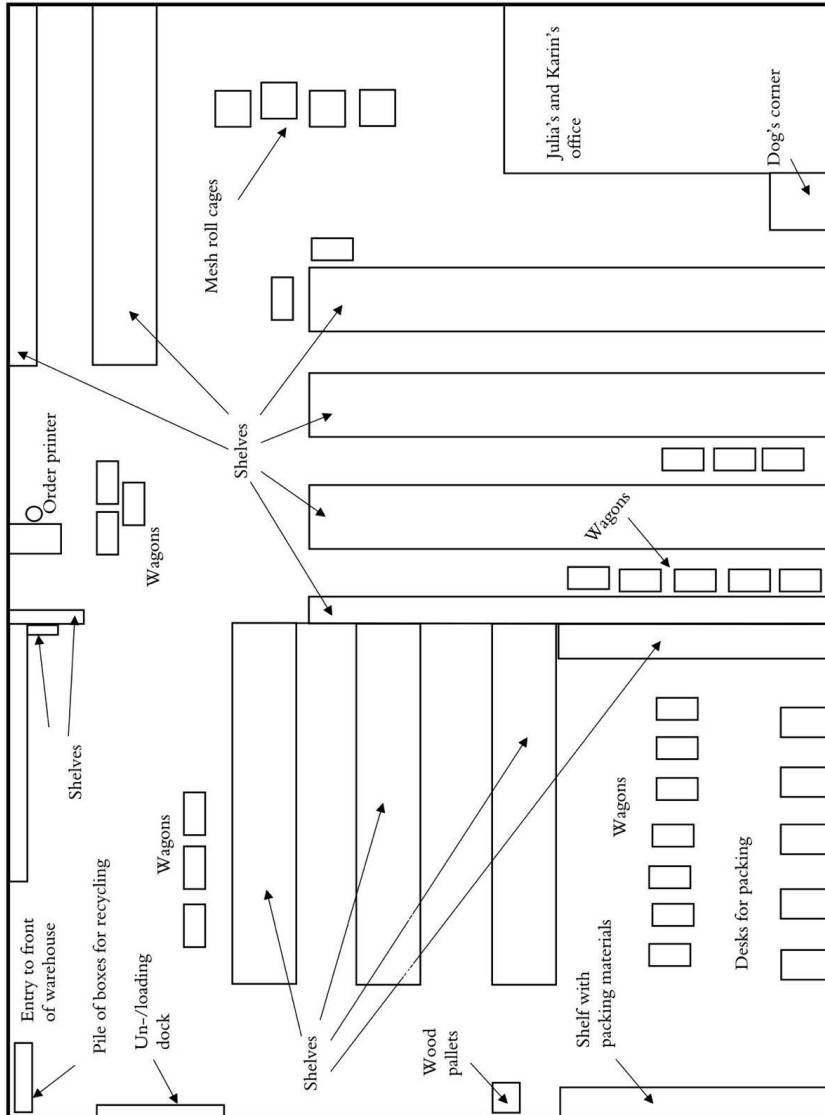


Figure 3. Illustration of *Homeware* warehouse.

Electronic

The second online retail warehouse that I visited, *Electronic*, sold electronic accessories and gadget. The vast majority of the products were small and light weight; many products were approximately 20x10 cm in size and possible to carry in one hand. The *Electronic* warehouse had three workers with permanent employment apart from the warehouse manager Sofia: Lilly, Wilma, and Moa. They all worked full-time performing picking, packing and similar tasks, for example, handling of incoming goods and doing inventory. There was also Majken, who worked the same hours and with the same tasks as the others, although she formally had a part-time contract on 20 hours per week. In addition, there were three workers who had part time employment at the warehouse, and who was scheduled during peaks such as Black Week or Christmas. Pelle and Vanja, both whom I met during my weeks of observing, and Lisa, who did not work during this period. Based on how managers and workers described the *Electronic* demographics, I understood most of them to be women, Pelle excepted. The warehouse manager and the warehouse workers represented an age span from the early 20s to the mid 30s. Most of them had been growing up in the same city as they were currently living. Both Sofia and Lilly held a university degree, and Moa and Majken told me they planned to study in the future. Among the part-time workers that I met with, Vanja was currently pursuing a university degree, while Pelle was combining working at *Electronic* with another part-time employment.

A couple of stairs up from the warehouse was the head office. Here more employees were located: the CEO Fabian, the founder Simon, who together with the employee Christian, worked with the product segment and marketing, Magdalena who worked with personnel and administration, and Milla, Elin and Eveline, the customer service. *Electronic* had a common lunchroom for the office and warehouse workers, which was located at the office floor.

The warehouse was entered through a heavy metal door, from which one first walked into a windowless room adjacent to the un-/loading dock. From there one entered the main warehouse space, which was room with white walls and several windows. The warehouse shelves, which were placed around the walls and in the middle of the room, resembled regular bookshelves (made of metal, not wood). On the one side of the room was a small kitchen, which was mostly used for making and drinking coffee. Next to the kitchen was a bathroom and a room which was a combination of the warehouse manager Sofia's office, the employees' cloakroom, and a space where extra packing materials were stored. Next to this room was the desk from where order- and picking lists were printed, and above it was a whiteboard where they wrote everyday how many orders they had received and fulfilled. They used a pick-by-paper method, instead of scanning each product during the picking, which meant that the statistics was only available on a group level and not on the individual worker level. The desks where packing took place were located below the windows, and the windows and white walls make the space appear bright. The soundscape included conversations between the workers, the doorbell ringing when the incoming goods were delivered and music playing from the speakers. The first day I wrote in my field diary: 'My ears are not tired as at *Homeware* and I really felt the sound level to be more reasonable. This entire warehouse is nice; it's bright, it smells good, and everything is in order.'

At *Electronic*, the design of the warehouse space together with the varying levels of orders made conversations between workers common. One of the days I performed packing at a desk next to Vanja. We talked about her previous experiences from working on online retailing. Vanja had been employed at several different online retail warehouses, among them one where groceries were handled (not *Grocery*, the online retail grocery warehouse as part of my study, I should add). Vanja had quit that job after only three months, because she found it to be too physically demanding. 'There you walked all day' she said and 'once I had to take a taxi home from work because of the pain in my feet.' At another online

retail warehouse where Vanja had used to work, there had been a gendered division of labour as the manager only let men warehouse workers pick and pack part certain goods, 'because once there had been a bodybuilder-girl hired and not even she couldn't handle it, said the manager,' Vanja continued, 'but it was not even that heavy!' Vanja told me that she enjoyed working at *Electronic*, but she would not manage to continue her whole working life as an online retail warehouse worker. It would be too of a monotonous job in the long run, she said. I felt I could understand Vanja based on the pain in my neck from repeatedly turning to the left when putting the ready-packed boxes in the mesh role cages. I wrote in my field diary: 'Something that I feel is positive here is that you can alternate between standing and sitting when packing. They never did that at *Homeware*.' A similarity between *Homeware* and *Electronic*, however, was the paper cuts in my fingers from packing.

At *Electronic*, the relationship between the warehouse manager and the warehouse workers appeared to me as a good one. This was expressed not only in the daily conversations about things other than work, but also in how they collaborated in solving issues and making improvements in the goods handling process. The formal hierarchy between the warehouse and office employees appeared more explicit, also in informal aspects. The office employees participated in the warehouse work when called upon by high order levels, and the CEO did come down to the warehouse a couple of times just to check how things were going and have a chat with Sofia and the workers. Yet, I also noticed a social division between the two floors; I rarely saw Fabian, Simon, and Christian, talk to the warehouse workers at lunch. Not even when they shared the table. I wrote in my field diary: 'Another such detail is that they have a coffee machine in the office and a brewer in the warehouse. Maybe it's a coincidence. It might be that the warehouse workers do not want a coffee machine in the warehouse, but I perceive it as a possible symbol of a hierarchy.' Sofia, the warehouse manager, seemed to be in-between the warehouse floor and office; not only in her work tasks but also in how she ran up and down the stairs, spending time in both places.

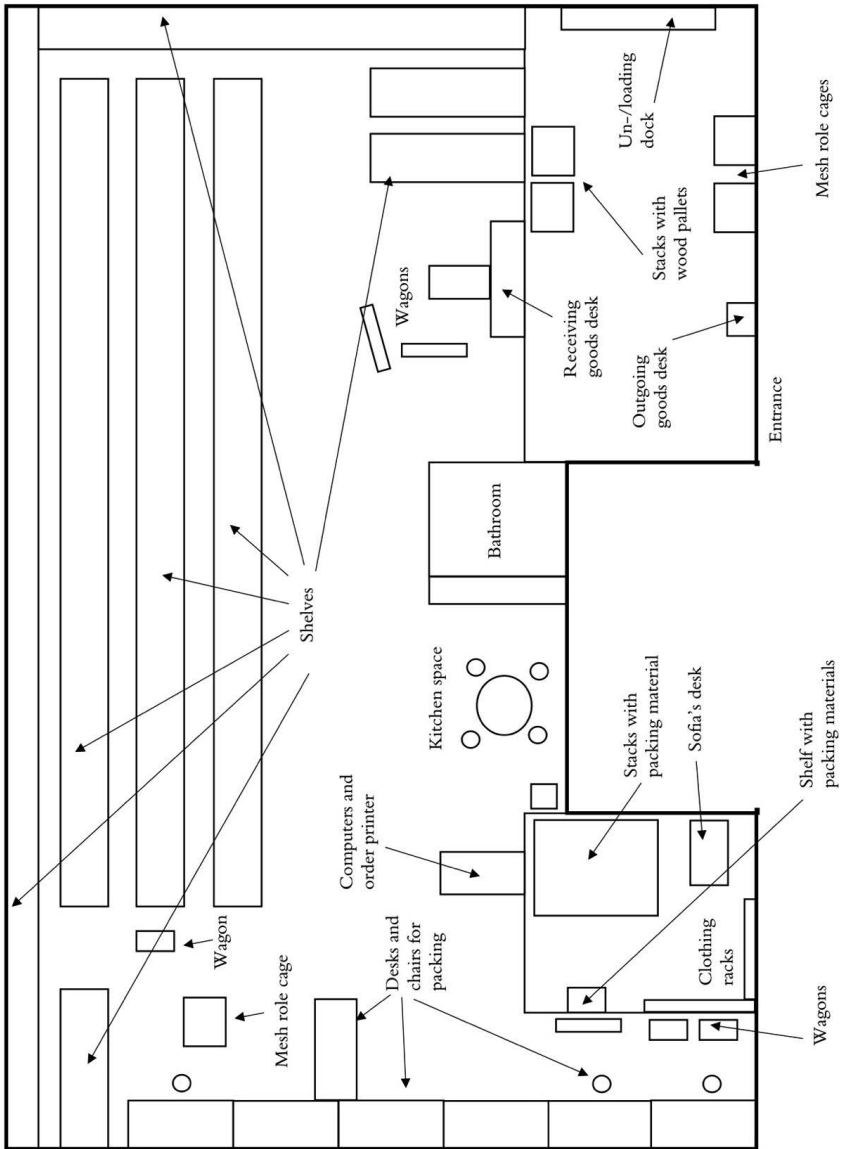


Figure 4. Illustration of *Electronic* warehouse.

Recreational

Recreational was the first warehouse that I visited together with my colleagues in the Retail 4.0 project. We were sitting in the car, getting closer and closer to the address that we had put into Google Maps and then suddenly the warehouse building appeared – ‘Wow, look it’s huge!’ I felt like we were a bunch of kids entering Disneyland after having dreamt about it for a long time. In a sense this was true – we were a bunch of researchers (and me, the researcher-in-becoming) who had struggled during the COVID-19 pandemic with finding online retail warehouses that would want to participate. Finally, we had found one.

Recreational took care of the handling of goods for several online retailers. In one sense, then, warehouse workers were belonging to the same organization in working at *Recreational*. Yet, in another sense, they were organizationally divided into three sections: a first group of warehouse workers were handling the goods for Online Retailer 1 (OR1), a second group for Online Retailer 2 (OR2), and the third group was assigned to work at Outbound, where outgoing goods from both OR1 and OR2 were sorted before being pick up for transportation to the customers. The OR1 and OR2 warehouse workers had the operations manager as their closest manager, whereas Outbound warehouse workers had an outbound manager. In addition, there was a warehouse manager, a deputy warehouse manager, and team leaders who also worked close to the warehouse workers. In total, *Recreational* employed ca 70 warehouse workers (58 % men / 42 % women) and 4 managers (75 % men / 25 % women). OR1 and OR2 had two team leaders each whereby one was assigned the short-term responsibility over picking- and packing and the other made sure that inbound (the handling of incoming goods) went by smoothly. Among the total of four team leaders, the 25 % were men and 75 % women. All warehouse workers received the same wage (around 26 000-27 000 SEK a month) and the wage for team leaders was slightly higher.

Spatially speaking, the *Recreational* warehouse was located on the ground floor of the building that I previously compared to Disneyland. Although I thought of it as Disneyland, it did not look like Disneyland. It looked like a big box without windows. After having stepped out of the car and entered through the main door, we walked up some stairs and came to a large floor comprising of office spaces for managers, the customer service and employees working with human resources, the locker rooms for warehouse workers, a common lunchroom, and meetings rooms. Windows at this floor overlooked the warehouse below. Standing next to one of these windows, the warehouse appeared in front of me as a huge room partly filled with products, partly holding empty space. *Recreational* had quite recently moved to this bigger warehouse, and its size was enough to meet the future (hopeful) growth and expansion; until then *Recreational* rented out part of the warehouse space to other actors in online retailing. The warehouse was airy, but the shelves looked crammed. I soon learned that the large space could be divided into different sections. OR1, OR2 and Outbound were found in different parts of the warehouse, although there were no walls separating the three. The line of packing stations, where goods from both OR1 and OR2 were handled, was what separated them. The picking sections in both OR1 and OR2 were marked by taped arrows on the floor, marking the picking direction in-between the shelves and wood pallets filled with goods. Some products segments were shared between the companies, which meant that workers picking goods for OR1 were sometimes working in the OR2 space, and vice-versa.

During the week we spent at *Recreational*, my colleagues and I were free to move around in the building, and everyone responded nicely when I asked if I could observe when they were working. I observed people picking and people packing. Some of the workers listened to podcasts while picking. One of them told me they had listened through the textbook for taking the driver's licence several times. I also spent time together with the workers at Outbound (all of them appeared to be men). One of them showed me how to pick up the package, look at its waybill

and place it on the right wood pallet. The manager at Outbound, who told me that he spends most of his time together with the workers on the floor, described that stacking one box after another is like a game of Tetris. The music that was playing from the speakers (Jimi Hendrix' 'All Along the Watchtower' and Motörhead's 'Ace of Spaces,' among others) contributed to making the vibe energetic and fun, although there was little room for small talk. Next to Outbound was a section of the warehouse where 'heavy goods' were handled – the heavy goods section, as employees defined it. It was not uncommon for a product at the heavy goods section to weigh around 15kg and the handling was performed manually – I could not do it with my Betty Spaghetti-arms (bendable but without muscles). Based on how these 'heavy goods' workers appeared to me as muscular men, and based on that one of them was dressed in a t-shirt with a metal band logo matching the music coming from the speakers (here it was not Motörhead or Hendrix, it was something rarer), I expected them to be bit 'macho' but they were not. Instead, they came across to me as very soft and reflexive, and talkative. The workers told me that the 'heavy goods' section was exempted from the regular job rotation at the warehouse, as few of the warehouse workers wanted to work there. They, on the other hand, enjoyed working there – they said it was a 'freedom with responsibility' and that it was nice being able to plan their days on their own, in a different way than the other workers in the warehouse. One of them said that he, however, thought he would not work here all his life – he believed he would end up as a teacher. He had previously been working at kindergarten, and I could tell he was interested in pedagogy from the way he explained and demonstrated the work tasks to me.

Pharmacy

Next, the Retail 4.0 project brought my colleagues and myself to *Pharmacy*. I was excited to go there as I expected it to look different from the others. At *Pharmacy*, the warehouse workers performing the handling of goods did it in collaboration with pharmacists, who were educated to handle prescription medicines. I wondered if the organization of the work at *Pharmacy* would differ a lot from the other online retail warehouses, and what the relationship between warehouse workers and pharmacists would be like.

Pharmacy was organizationally divided into three sections: (a) Pharma, who worked with prescription medicines, (b) Inbound, who worked with unpacking incoming goods, and (c) Outbound, who was responsible for the goods picking and packing, except the packing of prescription medicines, which was performed by Pharma. Inbound and Outbound had one warehouse manager each, with several team managers below, and warehouse workers below the team managers. The team managers' responsibility was divided into parts of the goods handling processes and into groups of warehouse workers. The team leaders, who were in-between team managers and warehouse workers in the organizational structure, overlooked the daily production and assigned tasks to the warehouse workers. The organizational structure at Pharma correspondingly consisted of a pharmacy manager, team managers, team leaders and pharmacists. Both pharmacists and warehouse workers were hired by *Pharmacy*. Pharmacists' wages were higher than the warehouse workers' as the jobs had different requirements on competencies and consisted of different (yet connected) work tasks. In being a pharmacy online retail warehouse, *Pharmacy* differed from *Homeware*, *Electronic*, *Recreational* and *Grocery* in that all employees at *Pharmacy*, including the warehouse workers, were considered 'white collar employees' by the union and in their collective agreement (most often, warehouse workers are categorized 'blue collar employees'). In total, *Pharmacy* employed ca

100 warehouse workers¹⁷ (44 % men / 56 % women) and 11 managers (45 % men / 55 % women, Pharma managers not included).

What my colleagues and I first met when coming to *Pharmacy* was a front office desk where we had to present ourselves and be let in by the receptionists. As it came to close to Christmas, the reception was decorated with a Christmas tree and other decorations. Located on the same floor as the reception were the highest managers' offices, conference rooms, the locker rooms for warehouse workers and the common lunchroom. The lunchroom had free coffee and fruits available to employees. The warehouse was located one floor down, and the two floors were separated by a stairs and locked doors where you needed a key card to enter. The warehouse consisted of three main sections: Inbound, Outbound and Pharma. The Inbound section, was where incoming goods were received, unpacked, and registered into the system. The Outbound section comprised several parts, including one part where goods were picked from shelves, one part with desks where the goods were packed, and one part where outgoing goods were sorted and then picked up by transport drivers (this latter part also had a freezer room where the perishable goods – that is, certain medicines – were handled). The Pharma section consisted of one part where goods were picked from shelves or from a freezer room (by warehouse workers) and controlled (by pharmacists), and an adjacent office space where the pharmacists worked with tasks involving customer contact and administration. Warehouse workers belonging to Inbound and Outbound rotated between tasks within their respective section. The warehouse workers who belonged to Outbound also rotated to work with picking in the Pharma section, hence the warehouse workers and pharmacists partly shared their workspace. The team managers had their offices in rooms on the warehouse floor.

¹⁷ These numbers include team leaders as well.

During the days at *Pharmacy*, I could move around freely in most parts of the building. Like anyone spending time on the warehouse floor, I had to wear safety boots. I was told that many pharmacists had expressed resistance towards wearing them; why would they need safety boots, they do not walk around the warehouse as the warehouse workers do but they mostly stand next to their desk, pharmacists told me. The pharmacists' desks were located on the warehouse floor, which meant that they must wear them, even though it hurt their feet, they said. I found the safety boots to be quite comfortable and thought of their resistance as a class marker, a buffer between the pharmacists with a university degree and the warehouse workers who did not necessarily have one. The fact that pharmacists wore regular clothes, and the warehouse workers wore working clothes, was also something I noticed. The pharmacists experienced it in different ways; some said the differences in clothing did neither from nor to, while others said it contributed to the creation of boundaries between the pharmacists and the warehouse workers. To me, it was interesting that they worked so closely together and shared the same space, yet their appearance seemed to symbolize their differences.

When I moved around the warehouse, I found that the part of Outbound where goods were picked from shelves made the heart of the warehouse. Not only because picking was talked about as the most important task for the business to function, but also because it was located in the middle of the warehouse. Warehouse workers walked the aisles with wagons in front of them, often picking goods at eye level but sometimes they had to raise their arms or bend their legs and backs. I found it difficult to approach these workers as they were in constant movement. Instead, I asked two workers, who were cleaning the shelves, if I could spend some time with them – and they said I could. I never asked about their age, but assumed they were 55+ years. Both were born in a country outside of Sweden, they told me. None of them participated in the focus groups, as they were employed by *Samhall*, which I could tell from their black working clothes with the colourful *Samhall*-logo. This differed from how at *Homeware*, the employees from *Samhall* were dressed

in the regular clothes, just as the other employees. The two *Samhall* employees at *Pharmacy* described that they performed tasks that was associated with the regular picking and packing tasks, such as cleaning the shelves every third month. It was a demanding task to do; one product was not very heavy, but all products combined meant that there were many kilos per day that were handled. One of them told me he had a lot of pain in his body from having had this job for many years. While they appeared not to love the work tasks, it seemed like they enjoyed working together. From the way they conversated and collaborated in cleaning those shelves, I could tell they knew each other well. A warehouse worker who I had walked around with previously, had explained to me that they were ‘the nicest guys in the warehouse.’

If the shelves where I met with these *Samhall* employees made the heart of the warehouse, then there were other parts of the warehouse that were located more on the outskirts, like finger- or toe tips on the warehouse body. Inbound, as an example. It was mostly the warehouse workers assigned to work at Inbound who spent time there or passed this section, given its location in the corner of the building. The part of Outbound where the perishable goods were sorted and picked up for transportation also appeared to me as a bit separated from the rest of the warehouse. It was located next to where goods were picked and packed, but it was hidden in a corner. I was told that most of the warehouse workers in this part of Outbound was men. The part where packing was performed appeared to me as more mixed in gender terms. The physical closeness between the packing desks meant that the warehouse workers could socialize when putting goods into bags and boxes. The handling of goods that were to be transported in boxes was finalized in another part of the warehouse, part of it with the help of automated technology. I wrote in my field diary: ‘How it roared and rumbled. I felt like I was going crazy after just a couple of minutes. The workers I spoke to (one of them who wore headphones) said that they were very exhausted after a day. The woman told me that ‘all you want then is silence.’ Spending time in this part was nevertheless a nice experience, both in how the

warehouse workers showed me how to perform the work tasks and in how a guy (who I assumed was a team leader) stopped by and gave us candy, he was ‘a real mood booster’ as I noted in the field diary.

Grocery

The last online retail warehouse to visit was *Grocery*. In total, *Grocery* employed ca 200 warehouse workers (72 % men / 28 % women). Its organization consisted of a warehouse manager with several team managers below, and then the warehouse workers below the team managers. The team managers’ responsibility was both divided into processes, for example packing or outgoing goods, and into groups of warehouse workers. *Grocery* employed around 30 ‘white-collar employees’ – which include the warehouse workers’ team managers, as well as other categories of managers and employees at the warehouse, and managers at the transport section – among which 72 % were men and 28 % were women. I have not been able to get any more detailed information from *Grocery* on the exact number of managers who were managing warehouse workers in specific. *Grocery* also employed team leaders, who worked close to the warehouse workers without having no formal responsibility over personnel.

After having been to four warehouses, I thought I had a good understanding of what an online retail warehouse is like, but *Grocery* proved to be different – mostly with regards to its physical size. *Recreational* and *Pharmacy* had appeared to me as large warehouses, but they appeared smaller in comparison with *Grocery* (yet all three were significantly bigger than *Homeware* and *Electronic*). The warehouse floor at

Grocery comprised four sections: chilled goods; colonial goods¹⁸; frozen goods; and outgoing goods.

The first section was where chilled goods, such as dairy products and fruit and vegetables were unpacked, sorted, picked, and packed. When having entered it for the first time, I soon realized why we had to put on a thick jacket before entering the warehouse. I got used to the cold temperature, yet it made *Grocery* differ from the online retail warehouses I had visited previously. This first section of the warehouse was where bags were prepared before being sent to packing – which involved the task of opening bags and put them into a bin – and where boxes having been brought back to the online retail warehouse by the transport drivers were handled and put back into the goods handling process. The later task meant that warehouse workers loaded the boxes – which had been delivered by the transport drives – on a conveyor belt and removed any empty bags that might still be left in the boxes. Adjacent to the first section was another (warmer) section where the so-called ‘colonial goods’ were handled. For example, flour, oils, and cans with crushed tomatoes and beans. Tasks in the ‘colonial goods’ section included unpacking and sorting of in-coming goods, picking, and packing. The third section was much colder than the first to, as this was where frozen goods were handled. Because of the temperature, work in the freezer was excepted from the regular job rotation at *Grocery*. Instead, warehouse workers got to sign up for it. Those working in the freezer rotated between tasks within the actual freezer room, where they stacked and picked goods in/from boxes on shelves, and tasks that was performed outside the freezer, where they stripped the boxes that the goods arrived in and put lids on the boxes where the already picked goods were placed. Adjacent to the freezer was a smaller breakroom, where the workers could go whenever they needed to warm up. These three sections – the one where chilled goods were handled, the one for ‘colonial goods,’ and the freezer

¹⁸ ‘Colonial goods’ is an old and outdated term that refers to goods imported from the European colonies. I use the term here because it was used at the warehouse.

– made the main parts of the warehouse floor together with a section for outgoing goods. In the outgoing goods section, warehouse workers shared the space with forklift trucks in performing the task of moving the finalized bags, which were gathered in boxes, to the loading dock where the transport drivers took over and put them into their trucks.

The size of *Grocery* made it initially difficult for me to grasp how the four warehouse sections belonged together, in spatial terms. It was both once and twice that I felt lost in trying to get from one section to another. The sound level was high in several of the sections, and warehouse workers had the possibility to wear earplugs when performing tasks in the noisier ones. The earplugs seemingly did not affect the social work environment much given that there was already a far distance between the workers performing the tasks. The warehouse walls were high, and the rooms were lit up by lamps as there were no windows to let daylight in. Some workers I talked to on the warehouse floor told me it was like a prison.

My Retail 4.0 colleagues and I were allowed to move around freely in the warehouse, but the many locked doors to get there from the main entrance made me understand the prison-analogy. What also contributed to my understanding of it was a day when the fire alarm broke. My colleagues and I were having our lunch when this happened and noticed that one warehouse worker after another entered the lunchroom. We were told they had to leave the warehouse in waiting for the fire-fighters to come and look at what had happened. The workers sat down and talked to each other, and some of them had coffee or a fruit (which was available in the lunchroom as a benefit for workers). After some time, one of the managers came up to the table where my colleagues and I were sitting. As we chit-chatted about what had happened, the manager looked around and expressed something along the lines of ‘we have to get things going, the workers are just sitting there and doing nothing.’ If I were to put myself into the perspective of the manager, I assume that the manager felt stressed because each minute that went by was another customer order that should have been picked and packed. Yet, my instant

feeling was that the manager's comment was crude. The way the manager said it, it sounded if they found the workers to be lazy. Yet the real reason for why they were 'doing nothing' was the fire alarm – not that they were slacking. It made me feel uncomfortable. I interpreted that the manager's comment might be illustrative of the organizational hierarchy with its power relations. Managers high up and workers further down – all struggling to cope with the demands of the market, in different ways. Soon the fire-fighters had done their work, and the workers could go back to theirs, on the warehouse floor.

In addition to thinking about hierarchies between managers and workers, spending time at *Grocery* also made me reflect about racism and racialization. One of the workers I met on the warehouse floor was Adnan, who had come to Sweden at an adult age. The Swedish Migration Agency had asked if Adnan wanted to change his name, and he had been asked the same thing when he went to make an ID card at the police station. 'Fuck! I don't want to give up all my identity!' he said (cf. Bursell 2012; Bursell 2014). Adnan had come to work at *Grocery* when he lost his previous job; he seemed to hate being an online retail warehouse worker. Sometimes he just stopped working, he told me, as a protest I suppose. During the week we spent at *Grocery*, we were told they were starting recruitment for a new type of team leader position. Adnan explained to me they would never choose someone like him for this position over someone born in Sweden. The day before I talked to Adnan, I had spent time with the warehouse worker Jonatan. Jonatan was most often working in the freezer, which he enjoyed. Because of the temperature, working in the freezer gave a wage increment, but Jonatan told me that the higher wage was not enough motivation given the struggles of working in the cold. He enjoyed the physical aspects of it, to use his body in performing the work tasks, and he felt the other workstations were more monotonous. Working in the freezer also meant that he was never scheduled to work at Saturdays, as most warehouse workers outside the freezer had to. Others, who worked Saturdays, had told me that there was always a mess around the coffee machine and that

there was no fruit available on Saturdays. Jonatan explained that he had applied for the new team leader job, and he seemed positive that he could get it – he gave me examples of people he knew who had developed from working on the warehouse floor to becoming managers. I do not know where Jonatan was born, perhaps in Sweden, but either way, his experience stood in bright contrast to Adnan's.

I am not claiming that all Swedish-born workers enjoyed their job and all foreign-born workers hated it. The realities are far more manifold. Another warehouse worker I met with was Hassan. Like Adnan, Hassan was also a migrant to Sweden and like Adnan, Hassan was angry. He stressed that there was a relation to be found between the problematic working conditions and the relatively high quota of foreign-born warehouse workers at *Grocery*. However, there was also aspects with the job that Hassan really enjoyed, for example how it was fulfilling to work with groceries. To Hassan, the problem was hence not the picking and packing of groceries for customers, but rather the working conditions under which the work was performed.

Table 8. on the next page provides an overview of the online retail warehouses, where they are compared with regards to workplace size, workforce size (measured in the number of warehouse workers employed by the online retail warehouse), workforce demography (again, referring to warehouse workers), and an estimation of the level of technology implemented in the goods handling process (referring to, for example, scanners, screens, automated picking- and packing technologies). How these are described – small(er)/large(r) and less/more – are relative measurements in comparing *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery*, and should not be read as absolute measurements.

<i>Online Retail Warehouse</i>	Warehouse and Workforce Size	Workforce Demography	Level of Technology
<i>Homeware</i>	Smaller-sized warehouse Small-sized workforce (3 warehouse workers)	33 % men 67 % women Smaller quota of workers with a 'foreign background' ¹⁹	Less digital technology in goods-handling
<i>Electronic</i>	Smaller-sized warehouse Small-sized workforce (7 warehouse workers)	14 % men 86 % women Smaller quota of workers with a 'foreign background'	Less digital technology in goods-handling
<i>Recreational</i>	Large-sized warehouse Large-sized workforce (ca 70 warehouse workers)	58 % men 42 % women Smaller quota of workers with a 'foreign background'	More digital technology in goods-handling
<i>Pharmacy</i>	Large-sized warehouse Large-sized workforce (ca 100 warehouse workers)	44 % men 56 % women Larger quota of workers with a 'foreign background'	More digital technology in goods-handling
<i>Grocery</i>	Large-sized warehouse Large-sized workforce (ca 200 warehouse workers)	72 % men 28 % women Larger quota of workers with a 'foreign background'	More digital technology in goods-handling

¹⁹ As mentioned in *Chapter 4. Methodological Framework*, the online retail warehouses have not been able to provide me with any statistics with regards to employees' birthplace. Neither have I asked the research participants about their racial- or ethnic identity, as that would be to overstep the ethical regulations on sensitive personal data (see Etikprövningsmyndigheten n.d.). The information in this regard is based on how the research participants describe their workplaces to me - for example 'there are a lot of immigrants here' or 'a lot of white girls.' The difficulties in trying to deal with race/ethnicity are not unique to this study, I would like to emphasize, but rather illustrative for a broader issue of 'colour-blindness' in Sweden (Hübinette and Mähle 2015; Manga et al. 2022; Rastas 2019). With this said, I am aware of the vagueness of the concept of 'foreign background' and I have chosen to use it in lack of a more precise and accurate term.

Summarizing the Articles

This second part of *Chapter 4. Results* provides a summary of the appended articles. I highlight their background, aim, and results. In doing this, focus is on the contribution of each of the five articles to the overarching exploration of the organization of warehouse work and inequality in online retailing, as furthered in the next and final chapter of the dissertation.

Online Retail Warehouse Work, Backstage and Downstairs

Johansson, K. Rydström K., and Sardiello, T. Bortom servicefronten. E-handelsarbetets platser och ojämlikhetsmönster. *Unpublished manuscript. Accepted for publication in Tidskrift för Genusvetenskap, in April 2024.*

Article 1 is authored together with Dr Kristina Johansson and Dr Tiziana Sardiello. The aim of the article is to deepen the understanding of the intersection of warehouse work in online retailing, gender and racialization and meanings of place therein. It is based on the materials from the interviews, focus groups and observations at *Recreational, Pharmacy* and *Grocery*, and the observations and interviews at *Homeware* and *Electronic*. The article also uses employment data from Statistics Sweden (*SNI 47. Retail trade, except of motor vehicles and motorcycles* and *SNI 47.91 Retail sale via mail order houses or via Internet*), divided into workplace size and into occupations groupings (*SSYK 2012*). The employment data has been summarized and analysed by Kristina.

The article's empirical and theoretical focus on place transpires from a recognition of the shifts and changes in retailing, with the frontline service work in retail stores now being re-allocated to online retail warehouses. The warehouse differs from the store in that workers and

customers do not share the space, but instead they are connected via technology. In-store retail staff provide a service to customers by stacking shelves and racks and doing cashier work, among other tasks, and the customers perform the unpaid work of picking goods from shelves and racks and pack them in bags after having paid. Differently, online retail work performed by the warehouse staff comprise both the picking and packing of goods for customers as a service. The online retail warehouse work also resembles the work having been performed by warehouse workers in mail order warehouses. A main difference though, is that the timespan from the customer has placed their order to the order having been shipped from the warehouse is much more compressed in online retail warehousing than in mail order warehousing. The service for customers of having their order delivered fast and smoothly also seems to implicate on the geographical location of the online retail warehouse workplace, i.e., the warehouse location is decided with consideration to what is the most favourable place with regards to transporting the goods to customers. At the same time, from the customers point of view, the online retail warehouse is at a distance from the customer as the warehouse work is performed beyond the service front of stores, that is, 'backstage' behind closed doors.

The theoretical framework of the article is made up of theories focused on work, place, and inequality. This refers to previous research having explored material and symbolic boundaries within organizations and how they reflect and (re)produce a gender-coding of work and workers (for example Halford and Leonard 2003; Tyle and Cohen 2010; Johansson 2015). With regards to the inequality theme, the article makes use of Acker's (2006b) conceptualizing of inequality regimes and Ahmed's (2006; 2011) queer phenomenological approach to gender and racialization to analyse how access to a certain workplace is conditional. In other words, our focus in the article is both on places within the online retail warehouses and the online retail warehouse as a place embedded in a broader context.

The results from the summary of employment data and the qualitative material from the studied warehouses are presented in separated and interlinked parts:

First, the employment data show inequality patterns between retailing and online retailing, in that the percentage of men employees in online retailing (50 %) is higher than in retailing (38 %) and the percentage of Swedish-born employees is lower in online retailing (77 %) than in retailing (83 %). The employment data further make clear that Swedish-born men are more often found among the managers in online retailing (54 %) than in online retailing at large (37 %). The quotas of Swedish-born women and foreign-born men and women are lower among managers in online retailing than among retail employees at large. Swedish-born women constitute 35 % of managers and 40 % of online retail employees at large. Foreign-born men constitute 8 % of managers and 13 % of online retail employees at large, and foreign-born women constitute 5 % of managers in online retailing and 11 % of the total number of online retail employees. Among foreign-born employees in online retailing, men are more often born outside of Europe (9 % of all employees in online retailing) than within Europe (4 %) while women are either born in Europe (6 %) or outside of Europe (5 %).

Looking at the size of online retail workplaces, the employment data show that the majority of employees in online retailing are found in either small or large workplaces – 34 % in workplaces with less than 20 employees and 31 % in workplaces with more than 200 employees. The percentage of Swedish born is lower at the workplaces with 200+ employees (68 %) than generally in online retailing (77 %). At workplaces with less than 20 employees, 79 % are Swedish born. 16 % of employees at the workplaces with 200+ employees are foreign born men born outside of Europe, while this demographic group only constitute 6 % of the employees at the workplaces with less than 20 employees. The numbers for women born outside of Europe are more similar when

comparing the workplaces with less than 20 employees (6 %) with workplaces employing more 200+ employees (4 %).

Second, the qualitative material shows inequality patterns with regards to experiences of who could choose to work elsewhere and who was more closely bound to the online retail warehouse to secure their livelihood. One warehouse worker described that the reason for why they are still working at the warehouse is that they must earn an income to support their family, and if it was not for this, they would never agree on working so far from home. Others also experienced long distances from home to the workplace. Warehouse workers born outside of Sweden explained that many Swedish born people rather get an education and a job other than online retail warehouse work, and the difficulties of getting a job in Sweden as a migrant. The racialized class position of those working on the warehouse floor was further seen in a description of migrant workers hard work to get access to permanent employment in the warehouse and thereby increase the possibilities for permanent residence permit in Sweden.

Third, inequality patterns were also visible within the workplaces, horizontally between sections and workers on the warehouse floor and vertically between the warehouse floor and the offices. Beginning with the first, the horizontal patterns, some sections were numerically dominated by men – that is, the heavy goods section and the section where outgoing goods was handled, at one of the warehouses. Work at the heavy goods section involved more variation than the general tasks of picking and packing that most warehouse workers performed, hence suggesting gender difference related to places on the warehouse floor. Furthermore, a comparison between the smaller and larger warehouses makes visible differences in that the smaller ones allowed for social relations between the warehouse workers in a way that was more difficult in the large workplaces with its long distances and loud sound environments. That workers at one of the larger warehouses experienced that the scheduling meant that they rarely had their breaks with the same

group of co-workers further suggests that it is a combination of the physical design of the workplace and the organizational practices of the employers that affect the possibilities for social interactions, and in the longer run well-being, among workers. Looking at the vertical inequality patterns, many warehouse workers at the larger warehouses complained that managers tended to spend too much time in their offices and too little time on the warehouse floor. At the smaller warehouses, managers worked much more closely with the warehouse workers, and this was experienced as positive by all.

To conclude, the employment data shows that online retailing employs more men and foreign-born people, and especially foreign-born men, than the retailing. This aligns with assumptions that the movement from the service front of the stores to the backstage of warehouses affect assumptions of who makes the 'ideal worker' (cf. Acker 1990). The necessity of considering variations between warehouses, as hidden by the aggregated data, is seen in the varying demographics of the qualitatively studied online retail warehouses. What the qualitative empirical findings suggest is that different types of warehouses (small ones versus large ones) orientate different groups of workers (Ahmed 2006; 2011) and hence (re)produce different inequality patterns. How different sections in the warehouses were male-coded and numerically dominated by men warehouse workers further makes visible gender patterns at the studied workplaces. The article further concludes, with regards to racialization, that spatiality matter for the boundary-making around and between workplaces in online retailing. Different from retail studies, where young, feminine women have been shown to be desired for the frontline service work, what this online retail study suggest is that the online retail warehouse workplace gives access to certain racialized workers, that risk getting stuck on the warehouse floor as they are provided with less mobility than the general 'Swedish' worker.

Gendering in Online Retail Warehousing

Rydström, K. Good Girls? Ideal Workers in Online Retail Warehousing. *Unpublished manuscript. Re-submitted to Gender, Work & Organization after revision #3, in April 2024.*

Article 2 is based on the material from the observations and interviews at *Homeware* and *Electronic*, and it aims to explore the organization of work and gender, with a focus on what makes the ideal worker and how this can be understood in relation to the warehouses as material-discursive spaces. My focus on the latter is inspired by previous research in in-store retailing that has shown that the workplace spatiality matters for the gender-coding of work (see Johansson, 2015; Johansson and Lundgren, 2015). Theoretically, in the article I use a combination of Acker's (2006) inequality regime theory and Ahmed's (2006) queer phenomenology – and the 'capitalist space' concept as developed by Vitry (2020) with a basis in Ahmed's theorization – to analyse the empirical material. I also take use of organizational studies having unfolded and applied the concept of 'good girls' in exploring and analysing gender and work in a Swedish context (see Mattson 2015; Regnö 2013; Sjöstedt Landén 2012). In Sweden, the 'good girl' term (Swedish: *duktig flicka*) is often used in relation to work, and it hence differs from how it in the US is applied to label women who comply with ideals of purity culture, in comparison to 'bad girls' having sexual intercourse outside the monogamous, heterosexual relationship (Armstrong et al. 2014).

The results are structured in three sections. The first section is focused on the work tasks and explains how the unpacking and sorting of incoming goods, and the picking and packing of goods for customers was organized and carried out by the workers at *Homeware* and *Electronic*. Taken together, the work tasks requested from the workers to be focused and service-minded, and to have good knowledge of the product assortment, both to avoid picking errors and to make the finalized packages durable and attractive for the customers while also keeping the shipping cost down. The second section is focused on the workers and

discuss the numerical dominance of women workers at *Homeware* and *Electronic*. The managers and workers explained that, in their experience, women were better at, for example, taking instructions (from women managers), paying attention to details, and doing things right, than men. The warehouse manager at *Electronic* used the ‘good girl’ term to label the women workers, and women more generally, and stressed that the way they have been brought up to become overachievers meant that women ‘so fucking badly want to do the right thing’ and ‘if they do wrong’ then the women would ‘get so ashamed that they never do wrong again.’

The third section of the findings is focused the workplace and shows that the numerical dominance of women was (re)produced not only through the match between (constructs of) the work tasks and women workers, but also in social relations between the employees and how the jargon and conversations extended to people assigned female at birth and feeling desire towards men. What I do not discuss much in the article is my understanding of how the collegial community between the employees was a result of a social and emotional work performed by the warehouse managers and workers. The social relations did not just appear out of nowhere, but the women valued spending time and energy talking with each other and getting to know each other. Furthermore, although the managers and workers agreed that women were better than men at performing the work tasks, and many of them seemed to enjoy being part of a ‘women workplace,’ they also stressed to me that generalizations between genders are problematic and that it is not like all men are unwished for at the workplace. ‘A broader range of personalities, or backgrounds’ was asked for to balance the ‘white girls’ majority on the warehouse floor.

The article concludes that these workplaces orientated their workers around a capitalist and heterosexual background. The ideal worker held a body whose direction aligned to the online retail production and profit: *manual small-goods handling in online retail warehousing > requires workers who are continuously service-minded and attentive to details > women, who are hard-working*

and driven by an underlying shame of doing wrong, meet these requirements. I argue in the article that such ‘good girls’ can be interpreted as embodying a femininity that keeps with norms of productivity, which likely does not profit women as much as it profits capitalism (Acker 2006b). I also stress in the article that the women at *Homeware* and *Electronic* enjoyed being part of a workplace numerically dominated by women – femininity does not inevitably come with (only) subordination (cf. Dahl and Sundén 2018). The ‘good girl’ professionalism – which is then built on the threat of the shame women would feel if not performing to standards – was not considered by the managers and workers as affecting the work environment negatively; rather it (re)produced sameness and, through the sameness, a sense of being a collective that strengthened the women. In other words, not only did *Homeware* and *Electronic* extend to women in that women were thought of as enhancing the online retail warehouse's profit, but the women were also allowed to extend into these spaces in a way that profited them in social and emotional terms.

What this article is centred on, is knowledge about the organization of warehouse work and gender. What I do not focus on in the article is the organization of warehouse work and race/ethnicity - I only mention it briefly in the ‘white girls’ majority that the warehouse manager at *Electronic* concludes is characterizing the workforce. I further suggest that *Homeware* and *Electronic* are not only capitalist and straight spaces that orientates workers around a capitalist and heterosexual background, but they are also white spaces that orientates the workers around white background (Ahmed 2006; 2007). The fact that I did not ‘see’ race/ethnicity at *Homeware* and *Electronic* to the same extent as I ‘saw’ it at *Recreational*, *Pharmacy* and *Grocery* likely has to do with my own whiteness (cf. Lewis 2004) and how it allowed me to extend into the space without much reflections, whereas I was confronted with my whiteness to a larger extent at other online retail warehouses.

Racialization in Online Retail Warehousing

Rydström, K. 'There's Nothing Strange': Racialization in Online Retail Warehousing. *Unpublished manuscript. Submitted to Journal of Intercultural Studies, in April 2024.*

Article 3 is based on the material from my observations and the interviews and focus groups at *Recreational, Pharmacy, and Grocery*, and it contributes to the dissertation with knowledge about the organization of work and race/ethnicity. The article takes as a contextual starting-point the racialized inequality in the Swedish labour market – that is, the disparities between Swedish-born people and foreign-born people, people of colour and people racialized in other ways, when it comes to access to jobs and vertical career progression (see Wolgast, Molina and Gardell 2018; Wolgast and Wolgast 2021) – and in working life (see, for example, Boreus, Neergaard and Sohl 2021; Gavanas 2013; Mulinari 2012; Sohl 2021). The aim of the article is to explore the role of language in racialization processes, and it zooms in on managers and workers descriptions and experiences of a 'language policy' that had been implemented at one of the online retail warehouses. The language policy was a written document communicating that Swedish is the official language – i.e., the language everyone should speak – during work hours.

The theoretical framework in the article is mainly a phenomenological one based on Ahmed's theories on racialization. In particular her theorization of strangers: a stranger is not a stranger because they are unfamiliar to us – rather, we approach people as strangers because we recognize them as strangers (Ahmed 2000). I also read the descriptions and experiences of the language policy together with Ahmed's (2012) theory on equality policies, wherein she argues that policies can do things apart from what they intend to do. Previous research in warehouses has shown that a one-language-only policy does not necessarily result in that workers increase their use of this particular language, given how easy the

warehouse work is to perform without using any particular language (see Lønsmann and Kraft 2018).

It was explained to me that the language policy had been implemented in the first place to solve a problem that managers had seen – that workers had felt excluded from the group when standing next to others who spoke a language that they did not understand. The policy was also referred to by managers as way to create better conditions for workers with limited knowledge in Swedish, both with regards to being able to perform the warehouse work and with regards to their possibilities other jobs. While workers appeared to agree with managers in parts, in how they expressed the usefulness Swedish proficiency to be able to perform some of the work tasks, a language policy did not seem to be the preferred way forward according to many of those I talked to. Workers described that they were ‘annoyed’ with the language policy, that ‘it does not feel good’ and that ‘it’s weird’ having it. It was further expressed that mixing languages was sometimes necessary to be able to improve one’s Swedish skills – if there were words a worker did not understand in Swedish, then a co-worker speaking the same language could explain it in their mother tongue. The article also gives examples from the two other online retail warehouses, where language and proficiency in Swedish were dealt with in other ways. These warehouses had also experienced issues with language differences among workers, but, different from the warehouse who had implemented the language policy, they had found solutions that did not entail a prohibition of non-Swedish languages.

The article concludes the language policy did things beyond what it aimed to do (cf. Ahmed 2012). The policy might have resulted in people more often speaking the same language (Swedish) at the workplace than before. It is, of course, also possible that the language policy did contribute to improving the language skills among workers with limited knowledge in Swedish. I do not know this based on the material I have. The conclusion I can make is that the policy (re)produced an Othering

of warehouse workers who did not have Swedish as their native language. These workers can be understood as ‘strangers’ in how they were treated as different and familiar at the same time (cf. Ahmed 2000) – different due to their language skills, familiar in how they are known from the Swedish labour market and from other parts of Swedish working life. In how the language policy controlled the use of languages at the warehouse, the policy also seemed to function as a means of control to keep the strangers from getting too close (cf. Ahmed 2000).

The language policy was described to cover the workplace at large but seemed, in practice, to mostly be directed at workers. It can be understood as a practice that (re)produced racialized class relations at the warehouse between managers, as the ones who had implemented the policy, team leaders, as the ones assigned the responsibility to control the workers, and the warehouse workers, those who were to be controlled (cf. Acker 2006a). This makes the language policy appear as a tool for racialized class control.

Online Retail Warehouse Work, Handling of Goods On-Demand

Rydström, K., Johansson, K., Sardiello, T., Jackson, J. and Mathiassen, S. On Precarity in Online Retail Warehousing. *Unpublished manuscript. Submitted to Work, Employment and Society, in December 2023.*

Article 4 is authored together with Dr Kristina Johansson, Dr Tiziana Sardiello, Dr Jennie Jackson and Prof. Svend Erik Mathiassen. It is based on the materials from the interviews, focus groups and observations at *Recreational, Pharmacy and Grocery*. The article aims to contribute with furthering the knowledge about working conditions in online retail warehousing and inequality, with an emphasis on the ‘on-demand’ market that online retail warehouses are part of and where digital technology binds together customers and workers, the latter whose purpose becomes to provide a service upon the customer’s request. Here, we have taken inspiration from van Doorn’s (2017) study of platform work and workers (Uber, as an example) and how it concludes that ‘inequality is a feature rather than a bug’ (page 907) in the on-demand market. The fast deliveries, short deadline, time pressure and control, as part of the on-demand market, asks for workers who are subordinated through their gendered and racialized class situatedness (van Doorn 2017). In building our article on the argument that online retail warehousing is part of the same on-demand market, we also put it in conversation to studies who theorize platform/gig work as (re)producing precarity in different ways (see for example, Vallas and Schor 2020; Baber 2023; Graham, Hjort and Lehdonvirta 2017; Popan 2021). In addition to exploring how working conditions in online retail warehousing be understood in relation to organizational practices and processes, the article also sets out to explore how the empirical example of working conditions in online retail warehousing can contribute to the theories of precarity.

The article's theoretical framework refers to theories of precarity, which we divide conceptually into 'precarious employment,' 'precarious work' and 'precarious workers' (cf. Gauffin 2020). All three point towards uncertainty, instability, and vulnerability (see Kalleberg and Vallas 2018; Lorey 2015) on different levels/in different areas: 'precarious employment' as referring to the employment contract and the relationship between employer and employee. 'Precarious work' as referring to the actual work performed. 'Precarious workers' as referring to people holding a precarious employment/performing precarious work, as well as conceptualizing the situatedness these people are put in because of the employment and/or the work (Gauffin 2020). Furthermore, we state in the article that it is a bit blurry in the literature how these different concepts are interpreted and applied in practice, particularly with regards to the 'precarious work' concept. 'Precarious work' is seemingly often used in a way that makes it appear similar to how we understand the content of the 'precarious employment' concept, i.e., as referring to employment- and income insecurity, limited benefits, and a lack of regulation through legislation or policies (see Campbell and Price 2016; Hewinson and Kalleberg 2012; Kalleberg 2009) among other aspects. In the article, we try to show that the 'precarious work' concept can be used to more clearly pointing towards uncertainty, instability and vulnerability of the work tasks and the work environment, as well as the workers' experiences of doing the work in that environment.

Our findings show that online retailing was perceived by managers as a force of nature. The individual customer was assigned power over the goods handling process in how managers expressed difficulties with making accurate forecasts on order levels and staffing levels. How customers could place their orders at any time, and assumptions of them expecting to have their orders delivered instantly, and the tight deadlines followed from it, seemed to be perceived by most managers as facts that had implications on the organization of work in the warehouses. However, one of the managers stressed that it is not the customer but the

‘competitive situation in online retailing’ that is the driving force in this process. The article’s main finding and argument is that the organizational practices that *Recreational*, *Pharmacy* and *Grocery* took on to deal with the on-demand market (re)produced and legitimized precarious work and (to an extent) precarious employment of (oftentimes) precarious workers, and inequalities therethrough.

The organizational practices that we found (re)produced precarity and inequality at *Recreational*, *Pharmacy* and *Grocery* are thematically structured in four parts: *work tasks and technology*; *scheduling and work hours*; *wage and wage development*; and *career opportunities*. The technology contributed to a routinization of the warehouse work; the span from ‘person-to-goods’ to ‘goods-to-person’ digital technologies (see Wrangborg and Söderberg Talebi 2023: 16) gave instructions, in different ways and to different extents, to the workers on how to perform the handling of goods. For example, what and where to put the product that was picked/packed. The digital technology was interlinked with the argument held by most managers and workers that ‘anyone’ can perform the work. The same digital technologies also meant that the online retail warehouses could control the workers, as it facilitated managers with productivity data in the forms of picking and packing rates, that was then reported back to the workers. An emphasis on productivity data, especially at Pharmacy and Grocery, resulted in that the embodied aspects of performing the picking and packing, and other tasks, was often overlooked – and these aspects contributed to make the work a precarious one. We argue in the article that how the physical and mental demands was approached – for example, the repetitive bodily movements and lengthy time spent in performing picking and packing of goods; the many steps taken on hard concrete floors; and the lifting of heavy bags and boxes – together with the wage level and lack of wage development for warehouse workers, exemplify and materialize constructs of the warehouse work as a job that one does not have for a longer period – the poor working conditions are normalized in this way. That the workforce was partly dealt with as a mass of non-human beings – they were perceived as ‘numbers’ as the

workers put it – rather than a group of individual humans, was also seen in how the scheduling made it difficult for workers to combine their work life with their private life. Varying work hours outside the ‘8 to 5’ norm became a problem for workers having a partner whose schedule clash with theirs, as well as for workers living far away from the workplace. The limited opportunities for warehouse workers to make a career in the online retail warehouses, as well as the warehouse workers *experiences* of such limitations even if there would be opportunities, further contributed to that some of the workers appeared to be stuck on the warehouse floor. Based on an understanding of precarious employment as a scale or matrix that includes various interrelated aspects related to, for example, income level, rights and protection, and employment insecurity (cf. Gauffin, 2020; Kreshpaj, et al. 2020; Vosko, MacDonald and Campbell, 2009), we conclude that the issues of scheduling, wages and lack of wage development and limited career opportunities at *Recreational*, *Pharmacy* and *Grocery* could arguably represent, at least to some extent, aspects of precarious employment.

The constructs of online retail warehouse work as an unqualified and easy job contributed to provide the online retail warehouses with an always available workforce (at least in theory). In our understanding, this functioned as a way for them to cope with the (constructed) force of nature of online retailing. At the same time, it was not just ‘anyone’ who performed the warehouse work, but many of the workers appeared to have limited options to get a (better) job elsewhere. We conclude in the article that online retail warehouses have a possibility to contribute to improve the classed, gendered and/or racialized situatedness of many warehouse workers – as is (re)produced via the poor working conditions – by recognizing their own role in the on-demand market and considering the opportunities to organize work differently.

Warehouse Working Conditions and Inequality

Rydström K., Jackson, J., Johansson, K. and Mathiassen, S. (2023). A Systematic Review of Work Organization, Work Environment and Employment Conditions in Warehouses, in Relation to Gender and Race/Ethnicity. *Annals of Work Exposures and Health*, 67(4): 430-447.

Article 5 is authored together with Dr Jennie Jackson, Dr Kristina Johansson, and Prof. Svend Erik Mathiassen. It is based on a systematic literature, wherein we started from a recognition that previous research has shown evidence of gender and racial/ethnic inequality in working conditions at workplaces belonging to the goods supply chain outside warehousing. The aim of the systematic literature review was thus to identify, summarize, and discuss research focused on the expressions of inequality and their effects on working conditions in warehousing. Therethrough we also aimed to identify knowledge gaps and possible areas for future studies in the field.

We defined ‘working conditions’ as including the work organization, work environment conditions, and employment conditions. ‘Inequality’ was delimited to issues concerning gender and race/ethnicity, following Acker’s (2006b) inequality regime theory. While Acker (2006b) differentiates between race and ethnicity, we chose to talk about race/ethnicity. This was based on our understanding of the two as often interacting in studies of working conditions and, hence, there is a conceptual difficulty in keeping them apart.

Searches in the databases Scopus and Web of Science yielded 4910 articles, that were screened by readings of title-abstract-keywords and then in full texts. The final article contains a selection of 21 peer-reviewed articles addressing gender and/or racial/ethnic inequality in various warehousing sections. Eight studies addressed gender and race/ethnicity respectively, and five studies addressed both. 17 of the articles were published in 2010 or later. Ten studies were conducted in

North America, ten in Europe, and one in Asia. Only two of the 21 articles were based on studies of online retail warehouses, and these were conducted in the United Kingdom (Briken and Taylor 2018) and the United States (Loewen 2018). The former addresses racial/ethnic inequality in working conditions, and the latter gender. The results of the systematic review were divided into three thematical groups: *gender*, *race/ethnicity*, and *gender and race/ethnicity*.

The first group – *gender* – makes visible inequality in *work organization* in the division of tasks along lines of gender, and that this was based on interrelated, preconceived ideas of (a) the character of the work tasks and (b) men’s and women’s (assumed) different abilities to perform those tasks. The included articles report that men in warehouses tended to work with operating machinery, driving trucks and forklifts, and tasks considered physically demanding. Women on the other hand were reported to perform order picking and packing. Only one of the studies was investigating *work environment conditions* (Gruchmann et al. 2020). What was reported with regards to *employment conditions* was wage disparities between men and women, which appeared not only where men and women performed different tasks but also where they performed the same.

The second group – *race/ethnicity* – demonstrates inequality in the *work organization* in that different types of tasks were assigned to different groups of employees, both among immigrant- and native-born workers, and among different migrant groups. A study that showed that migrant workers tended to work with packing, as compared to native-born workers who performed forklift tasks, also made visible a link between the division of tasks and *employment conditions* in that those performing goods packing earned less than the fork-lifters (Allison et al. 2018). Another study complicated the issue of income disparities in that Latino/as, who earned less than Latino/as, still experienced their wage as fairer than the non- Latino/a experienced their comparatively higher wage (Hoppe et al. 2010). In general, migrant- and racialized warehouse workers

appeared to be exposed to worse employment conditions, not only with regards to wage levels but also in being employed via temporary work agencies and thus be put in a more precarious situation than those employed directly by the warehouse. Moreover, it also seemed to be a relation between the work organization and outcomes of the *work environment conditions*, in that groups of immigrants versus native-born workers, and racialized groups, reports different health status.

The third group of results – studies addressing both *gender and race/ethnicity* – furthers the first two groups by acknowledging a relationship between gender and race/ethnicity in warehousing working conditions. Essentially, what these studies show is that racialized women (Latinas, immigrant women, and women of colour) were subordinated to other workers in warehousing both regarding *employment conditions* – wages in particular – and *work environment conditions*, in that they had limited possibilities to improve their situation at work. The results as such correspond with Acker's (2006b) emphasis on the intertwined characteristics of gender, race, and ethnicity in the *work organization*.

In conclusion, what we found in the systematic literature review was that gender and race/ethnicity influenced the work organization, work environment conditions, and employment conditions in warehousing, not necessarily in parallel lines but, as it seems, more likely as interacting aspects. This was expressed in the form of inequalities between gendered and racialized groups of workers. Moreover, although we applied a broad search strategy to include a comprehensive sample of studies addressing warehouse working conditions and inequality, what we found was a relatively small sample of articles on this topic.

Chapter 6.

Discussion and Conclusions

Practices and Processes Organizing Warehouse Work and (Re)producing Inequality in Online Retailing

The organization of warehouse work at the online retail warehouses (re)produced gendered and racialized inequality.

This is the first main result of the dissertation. In aiming to contribute with knowledge of how practices and processes to organize online retail warehouse work relates to inequality, my main empirical context has been *Homeware, Electronic, Recreational, Pharmacy and Grocery*. With inequality, I refer to ‘systematic disparities between participants in power and control over goals, resources, and outcomes; workplace decisions such as how to organize work; opportunities for promotion and interesting work; security in employment and benefits; pay and other monetary rewards; respect; and pleasures in work and work relations’ (Acker 2006b: 443) that often take the form of gendered and racialized class relations.

After having conducted observations, interviews and focus groups at these five online retail warehouses, I can conclude that inequality was (re)produced in practices of organizing the warehouse work, which were shaped by gendered and racialized processes. The inequality I saw took the form of gendered and racialized class relations between managers and warehouses workers, and other groups of employees. I also found inequality produced by class and shaped by gender and race/ethnicity between groups of warehouse workers. The inequality was expressed in the form of systematic disparities between managers, team leaders and warehouse workers, and other employees (such as pharmacists), and systematic disparities between groups of workers.

The inequality varied between the online retail warehouses.

This is the second main result of the dissertation. In having the workplaces of *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* as my initial point of entry to analyse the organization of work and inequality (cf. Acker 1999; Acker 2000), what I came to see was not only inequality at these workplaces. I also found the shape and the degree of the inequality to vary between the workplaces, and hence too how severe the inequality was for workers (cf. Acker 2006b). I avoid diminishing my conclusions to a ranking between the online retail warehouses from better to worse. Rather, the conclusion I make is that the variation of inequality between them seemed to be associated with their differences in the size and spatiality of the online retail warehouses, the size of the workforce, and the extent of technology applied in the goods handling process. With regards to these aspects, I found similarities in the organization of work and inequality between *Homeware* and *Electronic* and similarities between *Pharmacy* and *Grocery*, and differences between these two groupings, whereas *Recreational* appeared as somewhat of a middle-case.

The manifoldness of the inequality – how it was (re)produced and expressed – unfolded three analytical points of entry to understand and theorize the organization of work and inequality.

I have named these: *the workplace level*, *the field of work level* and *the worker level*. With the term ‘levels’ I am not referring to empirical levels in the form of, for example, the macro level, meso level, and micro level, whereby the highest level would refer to structures and processes and the lowest level to people and practices (cf. Acker 2006a: 48). Rather, with ‘levels’ I am referring to analytical points of entry to understand and theorize the organization of work and inequality, similar to the analytical points of entry found in Acker’s work (1999; 2000). This is the third main result of the dissertation, and it builds on the two results above – that inequality was (re)produced and that it varied.

How I empirically began my study by looking at *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* made me see *inequality between the management and employees, and between employees, at one and the same online retail warehouse*, as already explained above. I name this analytical point of entry **the workplace level**, in this dissertation. In thinking about these five warehouses together, I also came to understand that the shape and the degree of the inequality varied between them. What I saw was that different groups of people worked in different types of warehouses with different working conditions. I have named this second analytical point of entry **the field of work level**, which refers to *variations in the severity of inequality between workers at different online retail warehouses*. Herein other theories came to gain relevance together with Acker's theories on work organization and inequality, for example theories on on-demand, racial capitalism (see, for example, Bhattacharyya, 2018; Bhattacharyya 2024; Kundnani 2021; Melamed, 2015). Finally, my ethnographic approach to studying *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* is of significance for the third analytical point of entry that I have identified – **the worker level**. Having spent time in the five warehouses, I have come to understand the centrality that the body holds if we are to understand the online retail warehouse work in general and the inequality in particular. It is in the body that the online retail warehouse workers experience their work – for example, the commutes between home and the workplace, the aching feet, the noisy soundscape, the feeling of being a number in the production statistics, all the boring and all the fun of the work. These findings made me look beyond Acker's theories on the organization of work and inequality, to consider phenomenology (see, for example, Ahmed 2000; Ahmed 2006; Fanon 1986/1952; Marion Young 1980) and conclude that we can also understand *inequality as a lived and embodied reality*.

In this final chapter of the dissertation, I will discuss my results in more detail and draw conclusions. While the ethnographic descriptions and appended articles as part of my results chapter describe several practices that I have found to (re)produce inequality, I have here delimited my

focus to three of these to clarify my conclusions. The first, *the division of work*, primarily relates to the (re)production of inequality shaped by gender and the second, *the productivity data*, and third, *the language policy*, to inequality shaped by race/ethnicity. I have selected these as they exemplify how the shape and degree of the inequality varied between *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* in empirical terms, as well as how inequality vary depending on the analytical entry point that we take. I will get back to discussing those variations after having discussed each of the practices one by one. The chapter ends with a reflective summary of the dissertation's conclusions and contributions.

The Division of Work

How work tends to be gendered in terms of men and women performing different type of work or different work tasks being differently valued in relation to gender, has long been a central concern to gender and organization as a research field (cf. Abrahamsson, 2009; Acker 2006a; Baude 1993; Knocke 1994). How the gendered division of work tasks in retailing has been shown to partly be about the relative closeness to customers in performing the tasks (cf. Johansson 2015; Olofsdotter, Bolin and Mathiassen 2023; Kvist 2006) – does not apply to *online* retail warehousing, based on my findings, given that all work performed by online retail warehouse workers takes place at a physical distance from the customer. Or, close to all work, I might say – at *Homeware*, the warehouse workers also performed frontline service work in the ‘warehouse store’ space adjacent to the warehouse. The vast majority of the work tasks performed by warehouse workers at *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* took place backstage.

My findings of the gendered divisions of work at the five studied online retail warehouses partly corresponds to how previous studies have shown that women warehouse workers tend to perform work tasks that are

considered physically lighter and men warehouse workers' work tasks considered physically heavier (Gruchmann et al. 2020; Loewen 2018; see also Cockburn 1985; Gutelius 2016 for similar findings in warehouses outside of online retailing). Here I enter the analysis from the workplace level. There were no work sections at *Recreational*, *Pharmacy* and *Grocery* that were clearly dominated by women, and neither did I find that any work tasks were considered 'light' in this sense. However, I did see that gender shaped the division of work in how the heavy-goods section at *Recreational* and the outgoing goods sections at *Recreational* and *Pharmacy* were numerically dominated by men. At *Grocery*, the freezer section of the warehouse was described to be staffed by mostly men and few women. Among these sections, it was only the staffing of the outgoing goods sections at *Recreational* and *Pharmacy* that were based on a formal work division implemented by managers, whereas the staffing of the other sections – the heavy-goods section at *Recreational* and the freezer section at *Grocery* – were the result of warehouse workers' volunteering to work there.

The heavy-goods section at *Recreational* and the freezer section at *Grocery* remind us that gendering processes in the work organization are not always formalized, but gendering also takes place in informal divisions of work and workers (cf. Johansson 2015). At *Recreational*, the heavy-goods section had been exempted from the general work rotation simply because it was none other apart from this group of men who had shown interest in working there (cf. Kembro and Norrman 2023: 46).²⁰ Working in the freezer section at *Grocery* was similarly based upon warehouse workers interest to work there – as the online retail warehouse could not force anyone to work in such cold temperatures – and it came to be staffed by mostly men. These two examples suggest that gender is done in relation to our 'normative conceptions of gender' (Fenstermaker and

²⁰ When we presented the results from the Retail 4.0 project to *Recreational* in the Spring of 2023, one of the managers told us that they had change the way work was organized and added the heavy-goods section and the outgoing goods section to the general work rotation. This had resulted in that women warehouse workers performed the tasks as well.

West 2002) and that we turn in certain ways and reach for certain ‘things’ – in this case, work tasks – depending on what is ‘near’ to us (cf. Ahmed 2006). How gender was done at the heavy-goods section of *Recreational* reflects conceptions of gender as binary in the sense of *men = more physically able than women, women = less physically able than men* (cf. Butler 1999). It is likely that the numerical dominance of men at the outgoing goods sections of *Recreational* and *Pharmacy* reflects such gender doings as well, given that they involved work considered ‘heavy’ – although they were the result of a formal work division implemented by managers. The freezer section at *Grocery* differs in how the work there was not described as ‘heavy’ in the same way. It was, however, explained to be very demanding due to the cold. I see it as possible that working in the freezer was associated with gender-binary ideas of men's (relative to women higher) stamina of working in cold temperature, yet it is difficult for me to draw any such conclusions based on the empirical material. Another possible explanation is that it had to do with homosocial relations, and the freezer being a less attractive place for women to work in given its the numerical dominance of men workers. I conclude that the organization of work at the studied online retail warehouses was shaped by gender, and that this took place partly in the formal division of work implemented by managers, partly in an informal division of work.

What I see when entering the analysis from the workplace level of the online retail warehouses is that the gender division of work (re)produced inequality, at least in some cases. With reference to my understanding of inequality as taking the form of ‘systematic disparities’ between employees (Acker 2006b: 443) the gendered division of work at *Grocery* appears to be (re)producing inequality, given that working in the freezer section came with a wage increment. As we explain in Article 4, the wage was the same for all warehouse workers at *Grocery* – around 26-27 000 SEK per month – and this corresponds broadly to the average income for workers in warehousing and online retailing (see Handels 2023). I do not have more detailed statistics on the average income for warehouse workers at *Grocery* other than this. Considering that mostly men worked

in the freezer section, the wage increment can be understood as (re)producing the inequality in incomes between men and women workers (cf. Handels 2023). In my understanding, this is an inequality between employees that is produced by class and shaped by gender, through the (informal) division of work (cf. Acker 2006a).

Looking at the heavy-goods and the outgoing goods sections at *Recreational*, inequality appears less visible to me there than at *Grocery* and its freezer section. At *Recreational* there were no wage differences between the workers at the different sections. However, work at the men-dominated heavy-goods sections involved variation and freedom in a different way than in the general picking and packing sections, and workers at the outgoing goods section at *Recreational* expressed that the work at the other sections of the warehouse was more repetitive than theirs. Thus, it seems like the workers at these (men-dominated) sections had a different opportunity than the rest of the warehouse workers to construct their relation to their job in positive terms, as we argue in Article 1 (cf. Johansson 2015). Yet, it was not the case that other workers, at other sections, generally experienced their work as boring nor that they considered the task division as unfair. At *Recreational* in particular, many of the warehouse workers enjoyed their job – not only those men who were working in the heavy-goods section or the outgoing goods section. Although gender shaped the division of work at *Recreational*, and that it reflected and reproduced normative conceptions of men and women as different, I am not sure that this is representative for inequality in the form of systematic disparities between men and women warehouse workers (cf. Acker 2006a). It seems possible that the gendered division of work sometimes creates a gendered pattern, simply, rather than inequality.

If I look at *Homeware* and *Electronic*, and still keep the workplace level as my analytical entry point, the gender division of work did not appear an issue in the same way as it did at *Recreational*, *Pharmacy* and *Grocery*. At *Homeware* and *Electronic*, who hired mostly women workers to the

warehouse floor, the warehouse work was not associated with constructs of 'heavy work' versus 'light work.' Gender was instead given meaning in relation to ideas of women and men as differently suited for the work in how it required a service-mind and attention to detail. It was expressed that men were less suited for the work as they were less focused and more careless and easily bored than women, which I describe in Article 2. If I instead enter the analysis from the field of work level, and compare the five online retail warehouses, what I see is a work division shaped by gender in how different warehouses orientated different groups of warehouse workers (cf. Ahmed 2006) resulting in that some of them came to be numerically dominated by women. Thus, gender appears as part of what shapes the inequality between workers at different online retail warehouses – I will get back to this point later, when discussing the variations of inequality.

Gender becomes visible in yet another way if I enter the analysis from the level of workers. I can take the woman warehouse worker that we refer to in Article 4 as an example, Alice, who explained that men can handle the picking better than women. What Alice talked about does not primarily have to do with a gendered division of work tasks at Pharmacy. Rather, what is expressed by Alice is a clash between the paid work she performed at the warehouse and the unpaid work she performed at home (cf. Glucksmann 1995; Glucksmann 2005) and how it is gendered. When Alice mentioned the physical demands on the woman body – understood in terms of a body that menstruates, gives birth to children, and takes care of children – what she pointed at was her lived and embodied experience of being a warehouse worker. What becomes visible here, when I take the worker level as my analytical entry point, are inequalities between workers in how work makes them feel in their body and they can use their bodies at work (cf. Marion Young 1980). In this case the inequality was shaped by gendered processes, but, as I will soon discuss, it can also be shaped by racialized processes.

The Productivity Data

By taking the workplace level as an analytical point of entry, what my findings show is that the gathering of productivity data through digital technology constituted a practice to organize the warehouse work which (re)produced inequality between the management and employees, and between employees. These findings align with previous findings from other online retail warehouses, in other geographical contexts (see, for example, Delfanti 2019; Fuchs et al. 2023; Gautié, Jaehrling, and Perez 2020; Pottenger 2020; Struna and Reese 2020; Vallas, Johnston and Mommadova 2022; Pottenger 2020; Zanoni and Miszczyński 2023). *Homeware, Electronic, Recreational, Pharmacy* and *Grocery* were all gathering productivity data and monitoring workers' performance – if yet in different ways, as I will get back to soon. At all the five online retail warehouses, the monitoring of workers' performance was legitimized by an idea of its relevance given the 'consumer goods on-demand'/'handling of goods on-demand' characteristics of online retailing (cf. Li 2022; Shapiro 2018; van Doorn 2017). Managers approach to online retailing generally entailed an idea of the on-demand capitalist market as a force of nature that needed to be dealt with, as we explain in Article 4 – the gathering and reporting of productivity data was one such a way to deal with it. However, with this said, there were also managers I interviewed who talked about the productivity data as a double-edged sword in how it risked concealing the workers' well-being. For example, one of the managers at *Grocery*, who we quote in Article 4, and the warehouse manager at *Electronic* who I quote on page 2, and who expressed that she was torn between what the manager above her wished to do, based on information from the productivity data, and what she felt was fair to warehouse workers. If we think from the perspective of managers more generally, the productivity data gave a direction and a sense of control in a (constructed) world of uncertainty, where, over a night, customers' consumption behaviour could change due to news about a pandemic, economic recession, or other global and local events.

The numerical information provided by the productivity data hence helped managers to make forecasts of order levels and (in the best of worlds) staff the warehouse according to the (constructed) reality of the on-demand market.

The monitoring practice can be understood in terms of what Acker (2006a) refers to as an issue of control and compliance in organizations, and it appears to me as a sliding scale with regards to the extent of the control and whether or not it has been internalized by workers. At all the five online retail warehouses, the monitoring practice organized the class relation between managers and sometimes the team leaders (the controllers) and the warehouse workers (the controlled). Thus, from the analytical entry point of the workplace level, it can be concluded that it (re)produced inequality at *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery*. However, the degree of inequality varied depending on how the productivity data was gathered and used – and this, based on my findings, appears to be associated with the level of technology implemented in the goods handling process (cf. Fuchs 2023).

The larger *Recreational*, *Pharmacy* and *Grocery* had implemented comparatively more digital technology than had the smaller *Homeware* and *Electronic*, and the digital technology made possible an intensified control by managers over workers (cf. Fuchs et al. 2023). At *Recreational*, *Pharmacy* and *Grocery*, scanners were used by the warehouse workers both when picking and packing, and in performing other tasks such as unpacking on incoming goods. Although there was no pressure to perform at a fast rate (cf. Struna and Reese 2020), I was also made aware of that the productivity data were reported back to the workers, and the numbers seemed to affect many of the workers. While the control appeared less intense at *Recreational*, warehouse workers at *Pharmacy* and *Grocery* expressed that they were perceived as numbers in the eyes of their employers (cf. Sohl 2021; Knocke 1994). The monitoring practice hence not only appears like a policing of time (cf. Mulinari 2021) in how it provided these warehouse workers with information about what they had

done/what they should do and when, but it also contributed to a dehumanization of their being. *Homeware* and *Electronic* differed from *Recreational*, *Pharmacy* and *Grocery* by the fact that the warehouse workers picked-by-paper, as I describe in Article 2. The absence of digital technology meant that managers could not gather information about who had picked what, where, and when. At *Homeware*, where workers picked-by-paper, each product was scanned at the time of packing and the productivity rates broken down on an individual level was presented in real-time, on a screen above the packing desks for everyone in the warehouse to see. Yet, despite this level of detail in how the productivity data was gathered and communicated, the warehouse workers at *Homeware* did not seem negatively affected by it. As I will get back to later, in discussing the variations of inequality, there seems to have been practices that ‘cushioned’ the severity of the inequality.

Thus, although warehouse workers are inevitably subordinated the managers in their class relation, I can conclude that there are variations in the severity of inequality between workers at different online retail warehouses. This I do from the analytical entry point of online retail warehousing as a field of work, where the above comparison between the different warehouses above makes visible inequality between the workers in the form of ‘systematic disparities’ with regards to ‘pleasures in work and work relations’ (Acker 2006b: 443). Some describe themselves to be like numbers in the productivity statistics whereas others are not really affected by any monitoring practice. In other words, the experience of being an online retail warehouse worker vary depending on the type of warehouse one is hired by, whereby the digital technology matters in how it can intensify managers control over workers at the workplace and hence (re)produce a more severe inequality.

Furthermore, if I instead enter the analysis of the productivity data and the control it brought with it from the level of workers, what becomes visible is a lived and embodied inequality shaped by racialized processes. First, I should clarify that it was not the case that *every* warehouse worker

compared themselves to being a ‘number’ in the production statistics – not even at *Pharmacy* and *Grocery* where the control was more intensified. Some of the warehouse workers were not bothered by the monitoring practice, and it appeared some could choose to ignore the productivity data whereas others could not do so easily. Second, race/ethnicity mattered herein, as producing high numbers held more significance for the workers who lacked official status as ‘Swedes’ (cf. Sohl 2021). As we mention in Article 1 and 4, to pick a lot, above the average, had been a strategy for migrant workers in their strive for permanent employment and, ultimately, residence permit in Sweden (cf. Sager and Öberg 2017). This finding is based on what a warehouse worker at *Pharmacy* told us about his co-workers, and I have not talked to those workers in person. Based on what this worker described, I interpret it as if the monitoring of workers’ productivity contributed to enforce a fast work rate for this particular group of workers, a rate that was not healthy for them. Indeed, workers in need of a permanent employment contract might feel a pressure to work just as hard in any online retail warehouse, irrespective of whether the employers gathered productivity data or not. Workers would likely have proven their hard work by other means if they had to (cf. Sager and Öberg 2017). Yet, how productivity data measure workers’ performance in numerical terms, makes it possible to distinguish between insufficient, acceptable, and outstanding work performances in a very straightforward way. It seems like such a differentiation was not only made by managers, but also in the informal relations between workers – it was described to us that the co-workers had felt a pressure to work harder, as the overall productivity statistics increased with the migrant workers’ fast pick- and pack rate. Based on my findings, I do not know whether this phenomenon only applied to *Pharmacy*, or to the other warehouses as well. I deem it possible that it applied to *Grocery*, given how they monitored workers’ performance and with reference to the relatively high quota of workers on the warehouse floor who were foreign-born or racialized otherwise.

The Language Policy

My findings show that capitalism operates through racism in the making of a workforce who is flexible and cheap enough for the online retail warehouses in the on-demand economy (cf. Bhattacharyya 2024; Kundnani 2021; van Doorn 2017). This is exemplified in how the warehouse workers without a permanent Swedish residence permit worked hard in the hope to get a permanent position and to be able to stay in Sweden, as already discussed. It is not an issue of citizenship alone, and neither is it simply about working conditions, but these two issues are interconnected (cf. Schierup and Jørgensen 2017). Hiring migrant workers to the warehouses, and in particular those who are not yet officially acknowledged as ‘Swedes,’ can be beneficial to the employer as these workers have more limited possibilities than the general ‘Swede’ to complain about the warehouse working conditions (cf. Gautié, Jaerhling and Perez 2020). In comparison to Swedish-born people who have more opportunities in the labour market and in the society, foreign-born people in general and migrants in particular are made into a desirable and hireable workforce through their vulnerability (cf. Mulinari and Neergaard 2017; Manga et al. 2023). At *Pharmacy*, when the warehouse workers finally got their residence permit, the problem was that they could not look for a better job, because they had not learnt Swedish due to having spent all their time and energy on picking. This kept them stuck on the warehouse floor.

How capitalism operates through racism is not only expressed in the issue of citizenship and residency, but my findings show that also language is given meaning in this process. This is seen in the above example from *Pharmacy*, as well as in the case of the Swedish language policy that had been implemented at one of the online retail warehouses. In Article 3, I explain that the language policy did other things than the employers had imagined it to do (cf. Ahmed 2021) – the policy had been implemented to unite the employees, through making Swedish the official and common language during work hours, but it seemed to divide them

through a racialization of the ‘non-Swedish’ others. By taking the workplace level as my analytical entry point, I can conclude that the language policy (re)produced inequality through the employer’s control of the workforce. In theory, the scope of the policy appeared to be the workplace at large yet, in practice, it seemed to mainly target the warehouse workers. Similar to the monitoring of workers through gathering of productivity data, the language policy organized the class relations between managers (those who had implemented the policy), team leaders (those assigned responsibility as controllers), and the warehouse workers (the controlled) (cf. Acker 2006a). The fact that the language policy aimed to stop the warehouse workers who spoke other-than-Swedish, can be understood as in terms of a racialization of these workers as ‘non-Swedish’ in relation to those workers which had Swedish as their native language (cf. Ahmed 2006). In other words, the language policy can be interpreted as a (re)production of class inequality shaped by race/ethnicity.

The issue of Swedish language skills is further associated with the issue of career opportunities for warehouse workers. Here I am still taking the workplace level of the online retail warehouses as my analytical entry point. The issue of limited opportunities for warehouse workers to make a vertical career progression was talked about at several of the studied warehouses and, in this sense, it appears to me as a general problem produced by class. The racialized shape of it is implied by the occupational data in Article 1 – whereby a lower quota of foreign-born online retail employees is found at the manager level than in the online retail workforce at large – and exemplified in the case of the migrant warehouse workers at *Pharmacy*, whose lacking Swedish proficiency hindering them from getting a (better) job elsewhere. The racialized shape of worker’s limited opportunities for a vertical career progression was also visible at the warehouse where the language policy had been implemented, where skills in Swedish was a requirement for jobs higher up in the organizational hierarchy. In line with this, managers talked about the language policy as something that would contribute to improve

the possibilities for foreign-born workers. Having language skills as a formal requirement for a certain job is not a problem per se, sometimes it might be needed. However, instead of the employers, for example, offering language courses (cf. Lønsmann and Kraft 2018) the language policy made proficiency in Swedish into a matter for the racialized, individual worker to deal with. In my interpretation, the language policy rested on a logic of this group of workers as undesirable and desirable at the same time. On the one hand, an undesirability in the constructed need for control – *foreign-born workers, or workers with a 'foreign background,' are a profitable workforce – diversity is good – diversity is only good as long as the 'Swedish' norm remains – when the 'Swedish' norm is threatened, then the workforce must be controlled*, as I argue in Article 3. On the other hand, a desirability by the same means, in how the racialized class inequality provides online retail warehouses with warehouse workers by keeping racialized groups of people on the warehouse floor. This appears illustrative for racial capitalism in the on-demand economy, where there has to be the 'precarious person' to serve the customers (cf. Bhattacharyya 2024: 144-145; see also Alimahomed and Reese 2021).

Although the limited opportunities for warehouse workers to make a vertical career progression appear to me as a problem produced by class and shaped by race/ethnicity, I do find it difficult to conclude that there were formal disparities in access to jobs between groups of warehouse employees (cf. Acker 2006b) – neither where the language policy had been implemented, nor at the other online retail warehouses. Here my analytical entry point is the workplace level. It might have been possible to find such differences by studying, for example, the recruiting processes in detail. However, as I describe in in discussing the knowledge production, on page 87, my understanding of racial capitalism and racialization is that these phenomena go beyond the 'objective' and 'measurable' to also refer to experiences and emotions (cf. Hill Collins 2000). If switch my analytical entry point from the workplace level to the worker level, I see this same issue in another light – inequality here become visible in the form of workers lived and embodied realities. The

language policy was talked about by the managers as something that would increase workers' language skills in Swedish and hence increase their possibility to get other (implicitly better) jobs in the online retail warehouse or elsewhere. In other words, it was thought of to enhance workers' mobility. However, thinking together with Ahmed's (2006) phenomenology of 'being stopped,' the language policy can be thought of as something that hindered workers' mobility. In banning other languages than Swedish during work hours, the policy did not simply hinder workers from speaking other languages, but it also stopped certain, racialized workers from using their bodies (or be themselves) in the same way as 'Swedish' warehouse workers were free to do (cf. Fanon 1986/1952). I see it as possible that this racialized act of stopping could have brought about experiences similar to Adnan's, the warehouse worker at *Grocery*, who expressed that the managers would never choose 'someone like him' for the team leader position.

Variations of Inequality, in Empirical and Theoretical Terms

So far, in using the examples of three practices that I have found at the studied online retail warehouses – *the division of work*, *the productivity data*, and *the language policy* – I have not only shown that inequality was (re)produced through the work organizations but I have also concluded that the inequality varied. The inequality partly took the form of gendered and racialized class relations between managers, team leaders and warehouses workers, partly the form of systematic disparities between groups of warehouse workers that were produced by class and shaped by gender and race/ethnicity. By entering my analysis of work and inequality not only from what I have defined as *the workplace level*, but also from *the field of work level*, I have shown variations in the severity of inequality between workers are different warehouses. By taking what I

define as *the worker level* as a third point of entry for analyzing work and inequality, I have also shown that inequality must be understood as a lived and embodied reality. Class, gender, and race/ethnicity have appeared as interacting, in considering the perspectives of all the three entry-points. Before ending this chapter with some concluding reflections, I will further my discussion of how the shape and the degree of inequality (cf. Acker 2006a) vary in online retail warehousing.

The on-demand economy where *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* are embedded have brought with it 'an expansion in the realm of logistical possibilities' (Bhattacharyya 2024: 142) not only through digital technology spanning globally (Van Doorn 2017; Shapiro 2018) but also through faster transport routes for goods (Bonacich and Wilson 2008). What this means is that online retail warehouses have the possibility to organize the work in such a way that customers can have their orders delivered fast and smoothly – yet the issue is that someone has to pay the price (cf. Bhattacharyya 2024; Glucksmann 2005). What my findings show is that the price is partly paid by the warehouse workers. Furthermore, by entering the analysis from the field of work level, it seems like workers at the larger and more technology-dense warehouses generally paid a higher price than workers at the smaller and less-technology dense ones (cf. Fuchs et al. 2023). I will compare *Pharmacy* and *Electronic* to illustrate my point further. *Pharmacy*, which was larger than *Electronic* both with regards to the warehouse and workforce size, had technology that made it possible for them to handle more goods more efficiently, and to monitor the warehouse workers' performances in the handling of goods. *Pharmacy* hence appeared to have both bigger 'needs' and more means to control their workforce than had the smaller and less technology-dense *Electronic*. Although the warehouse workers at *Pharmacy* and *Electronic* represent one group in how they are employed as warehouse workers in online retailing, their working conditions and their experiences of the job differ depending on which of the two warehouses they work in. For example, the 'white girls' at *Electronic* were put in a more privileged position than the 'migrant workers' at *Pharmacy* in how

they seemed to have more power over workplace decisions and more pleasure in their work (cf. Acker 2006b: 443) – this exemplifies how the severity of inequality varied between workers at different warehouses. What we see here is the workings of the on-demand, racial capitalism (cf. Bhattacharyya, 2018; Bhattacharyya 2024; Kundnani 2021; Melamed, 2015) whereby racialized processes shape the class practices of online retail warehouses in the making of a cheap and flexible workforce (cf. Alimahomed-Wilson and Reese 2021). Based on my findings, it seems that the larger the online retail warehouse, the larger the (constructed) needs for a cheap and flexible workforce.

In furthering my point that I found variations in the severity of inequality between workers at different online retail warehouses, and that it appeared to be associated with their size, it is notable that *Homeware* and *Electronic* were much smaller than the three other ones. Both in terms of the size of the buildings and in terms of the number of employees. Given the smaller size of *Homeware* and *Electronic*, the different sections of the warehouses were close in spatial terms and, similarly, so were the warehouse managers offices close to the warehouse floor. The managers at *Homeware* and *Electronic* spent much time next to the workers and they often participated in the handling of goods (cf. Olofsdotter, Bolin and Mathiassen 2023). The spatial closeness seen at *Homeware* and *Electronic*, appeared to me as an important factor as to why managers and workers were close to each other in social terms. In line with results from previous research (see Baude 1993) the social relations between employees seemed to balance the physical and mental demands from the handlings of goods. However, and I want to emphasize this, it was not only the spatiality of the workplace, and the limited steepness in the organizational hierarchy, that made workers at *Homeware* and *Electronic* feel ‘like family.’ What also contributed to the familiarity was the social and emotional work performed by the warehouse managers and the workers at *Homeware* and *Electronic*, in how they spent time caring for each other and building a social community (cf. Glucksmann 1995). The ‘good girls’ orientated by *Homeware* and *Electronic* were not only hard-working

with regards to performing the warehouse work tasks, as I am arguing in Article 2, but they also worked hard to make the capitalist warehouse spaces (cf. Vitry 2020) into welcoming workplaces. Although this social and emotional work seemed to pay off given the fact that most of the workers at *Homeware* and *Electronic* enjoyed their job, it must also be stressed that it was an informal work shaped by gender (cf. Johansson et al. 2019).

While the small size and spatiality of *Homeware* and *Electronic* contributed to making the social and emotional work possible for the women workers to perform, the larger size and spatiality of *Pharmacy* and *Grocery* seemed to work in the other direction (cf. Fuchs et al. 2023). There the physical distances between the sections on the warehouse floor were farther. Within sections where technology took up space, workers also tended to be distant from each other. In particular so when the technology was noisy. My point is not that employees at these warehouses did not enjoy working together. Rather, my point is that the spatiality of *Pharmacy* and *Grocery* did not contribute to improve the social relations. Shorter distances between packing desks and lower sound levels would have made it easier for warehouse workers to converse when performing the work tasks. Similar to *Pharmacy* and *Grocery*, *Recreational* was also large in terms of the warehouse size and in how they employed a rather large workforce. Here, I believe, how the managers prioritized spending time at the warehouse floor (cf. Olofsdotter, Bolin and Mathiassen 2023) seemed to ‘cushion’ the severity of the class relations between managers and workers at the workplace.

Nearness and distance similarly appear relevant to our understanding of the embodied and lived realities of inequality, which we see if we enter the analysis from the worker level. This is illustrated in various ways in my findings. For example, as we describe in Article 1, how two of the online retail warehouses had moved to the other side of the city to optimize the handling and transport of goods might not be optimal for the warehouse worker. As the distance between the home and the

workplace grew, there were warehouse workers who had no other choice than commuting daily and, in this, their job took unpaid time and money from them (cf. Sjöstedt Landén 2017). In Article 4, we refer to a worker who expressed that he had experienced racism on the bus when on his way to work, which illustrates that the class inequality come with a vulnerability shaped by race/ethnicity. It was his body that the co-passengers reacted towards, or rather, their perceptions of him based on his bodily markers. It was also in his body that he experienced the racism, and it was through his body the anger was expressed when he told me about it (cf. Fanon 1986/1952). The lived and embodied realities of the class inequality also become visible in how warehouse workers complained about demands on the body, such as long walks on hard floors and the aching feet it resulted in (cf. Struna and Reese 2020). Such experiences can be gendered, as previously discussed. Warehouse workers pay a price for the flexible workings of the on-demand, capitalist market (cf. Bhattacharyya 2024) and this cost is partly a bodily one (cf. Zampoukos 2021) shaped by class, gender, and race/ethnicity.

Concluding Reflections

What this dissertation contributes with to the previous research-based knowledge of work and inequality in online retail warehousing is that there are variations to it, both with regards to the warehouse work and the shape and degree of the inequality (cf. Acker 2006a). Studies have shown that online retail warehouse work tends to be routinized through the use of technology in the goods handling process (cf. Gautié, Jaerhling and Perez 2020; Massimo 2020; Vgontzas 2022; Zanoni and Miszczyński 2023) and that this means that the work is so easy that anyone can perform it (cf. Gautié, Jaerhling and Perez 2020; Massimo 2020). As such, it seems to be a job for people who have few choices to work elsewhere (cf. Vallas, Johnston and Mommadova 2020; Gautié, Jaerhling and Perez 2020). It appears as if online retailing would bring 'precarious work for all' (Zanoni and Miszczyński 2023) who are employed to pick and pack the goods for online customers. The knowledge brought forward by this dissertation both confirms such findings and nuances them.

With this dissertation, I make visible that there are different types of online retail warehouses and different groups of warehouse workers therein (cf. Fuchs et al. 2023). There are online retail warehouse workers who spend their days in large warehouses, where they pick or pack next to robots. There are also those who work in small warehouses, bright from its windows and white walls, where there is room for small talk and social relations. There are warehouse workers who find their workplace to resemble a prison and who feel there is no alternative. There are also warehouse workers who love their job, who really enjoy providing a service for customers and spending time with their co-workers – some workers may not want to work anywhere else even though they have an opportunity to do so. Furthermore, while national employment data shows a 50/50 division of men and women employees in Swedish online retailing, and that 77 % are Swedish-born and 23 % foreign-born, my findings from *Homeware*, *Electronic*, *Recreational*, *Pharmacy* and *Grocery* show

that there are warehouses therein with a varying demography. Some whose workforce consists of white women officially acknowledged as ‘Swedish’ and others who hires mostly racialized workers, of various genders, to perform the handling of goods on the warehouse floor.

The dissertation nuances Zanoni and Miszczyński’s (2023) argument that ‘global capital *un*makes socio-demographic borders to govern labour’ (page 17, emphasis in original) by showing that gender and race/ethnicity *do* shape the organization of work in online retail warehousing, hence it also shapes the class relations. However, rather than imagining that power operates through a universal worker ideal, we should recognize that different warehouses orientate different groups of workers differently (cf. Ahmed 2006). In this way, the dissertation agrees with how Acker (2006a; 2012) argues borders of work organizations are not set but they vary with time and in space. Online retail warehouse work is not only organized between managers, team leaders and warehouse workers, and other employees (such as pharmacists), within one and the same workplace. The organization of warehouse work in online retailing also has to do with how the online retail warehouses are linked to other warehouses and factories, transport companies of different kinds, delivery companies and couriers, and customers (cf. Bhattacharyya 2024; Bonacich and Wilson 2008; Glucksmann 2005) as well as to the broader society and politics therein (cf. Kundnani 2021; Schierup, Krifors and Slavmic 2015; Schierup and Jørgensen 2017). While acknowledging the complexity of it all, I humbly imagine that the three analytical entry points (cf. Acker 1999; Acker 2000) that I have identified in this study – *the workplace level*, *the field of work level*, and *the worker level* – can contribute to future studies of the organization of work and inequality in other contexts, in the form of being a theoretical tool for use and for further development.

The task of unpacking online retailing can be considered finished, for now and so far. Observing, interviewing, conducting focus groups and a literature review have unpacked the good and bad, the happy and sad, and everything and everyone in-between. I have laughed and I have cried during the process of working on this dissertation. It has made visible to me the bodies and minds, flesh and feelings, behind the carton boxes and plastic bags which leaves the online retail warehouses. It has made me aware of the classed, gendered, and racialized realities to on-demand capitalism, the workings of it and the work therein, and how we are all connected through it. I hope that reading this dissertation has provided you with the same.

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Appendices. Interview Guides

Pilot interviews.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

1. Varför ville du delta i en intervju?
2. Berätta om ditt jobb.
 - a. Vilken position har du?
 - b. Vad gör du en vanlig arbetsdag?
3. Kan du beskriva övriga positioner/yrkesgrupper på e-handelslagret?
 - a. Vilka samarbetar du med?
 - b. Kan du beskriva de olika yrkesgrupperna och dess fördelning i termer av män/kvinnor/andra, ålder eller andra relevanta aspekter?
4. Kan du beskriva arbetet i stort på e-handelslagret/på arbetsplatsen?
 - a. Hur många ordrar skickas?
 - b. När inträffar arbetstoppar/dalar? (årsvis, veckovis, dagsvis)
 - c. Hur samarbetar/kommunicerar lager och kontor?
5. Kan du beskriva hur ni följer upp verksamheten?
 - a. Gruppnivå?
 - b. Individnivå?
6. Vilka arbetsmiljöproblem kan du se utifrån din position som X?
 - a. Har dessa sett likadana ut/förändrats över tid?
 - b. Ser det olika ut för anställda på lager/kontor/andra avdelningar?
 - c. Ser det olika ut på X jämfört med hos andra e-handelsarbetsplatser?
 - d. Har särskilda problem uppstått i relation till Covid?
7. Kan du beskriva den teknik som används på arbetsplatsen?
 - a. Hur används tekniken?
 - b. Vem använder tekniken?
 - c. Vilka fördelar och nackdelar finns det med tekniken?
8. Är det något du vill lägga till eller fråga mig?

Homeware. Warehouse workers, marketing assistants, warehouse manager.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

- Varför jobbar du här?
- Nu vet jag ju vad ni gör en vanlig dag – men hur skulle du själv beskriva det?
- Vad motiverar dig i ditt jobb?

- Vad behöver man kunna för att jobba med det du gör?
- Hur har du lärt dig X och Y (exempelvis, hur man plockar när listan inte stämmer med verkligheten eller packar på ett sätt så produkterna håller i frakten)
- Vad är lätt och vad är svårt i ditt jobb?
- När är du stressad på jobbet?

- Har du några tankar kring att ni är fler kvinnor än män här - varför är det så?
- Hur tror det är att vara kvinna/man/ickebinär och jobba här?
- Hur skulle det vara om det var fler anställda av andra kön som jobbade här?

- Kan du beskriva relationerna mellan chefer, ansvariga och anställda? Mellan fastanställda, timanställda, anställda genom Samhall?
- Vem bestämmer vad ni gör/hur ni gör saker?

- Hur ser du på era arbetsvillkor?
- Hur ser du på din lön?

- Hur ser du på ditt framtida arbetsliv – hur länge tror du att du är kvar här och vad kommer du göra sen?

- Är det något du vill lägga till eller fråga mig?

Homeware. CEO, interview 1.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

1. Kan du berätta mer om företaget?
 - a. Varför startade du företaget?
2. Kan du berätta om ditt jobb idag?
 - a. Var jobbar du en vanlig arbetsdag? Kontor, butik, lager, etc.
 - b. Vad gör du en vanlig arbetsdag?
3. Kan du beskriva verksamheten i stort?
 - a. Hur ser varans väg ut från att de levereras till er, till att de skickas ut till kund?
 - b. Hur många ordrar skickas? (årsvis, veckovis, dagligen)
 - c. När inträffar arbetstoppar/dalar? (årsvis, veckovis, dagligen)
4. Hur organiseras och fördelas arbetet i verksamheten?
 - a. Vem gör vad och vem bestämmer vad?
 - b. Kan du beskriva fördelningen av män/kvinnor/andra och ålder?
 - c. Vad behöver man kunna för att arbeta hos er?
5. Vilken typ av problem kan uppstå en vanlig arbetsdag?
6. Kan du beskriva hur ni följer upp verksamheten?
 - a. Dagligen, veckovis, årsvis?
 - b. Gruppnivå, individnivå?
7. Vilka arbetsmiljöfrågor kan du se som aktuella på er arbetsplats?
 - a. Vad funkar extra bra och vad behöver förbättras?
 - b. Har dessa sett likadana ut/förändrats över tid?
 - c. Har särskilda utmaningar uppstått i relation till pandemin?
8. Kan du beskriva den teknik som används på arbetsplatsen?
 - a. Hur används tekniken?
 - b. Vem använder tekniken?
 - c. Vilka fördelar och nackdelar finns det med tekniken?
9. Är det något du vill lägga till eller fråga mig?

Homeware. CEO, interview 2.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

1. Kan du berätta mer om bemanningen av de olika områdena i verksamheten?
 - a. Hur har de rollerna som finns idag vuxit fram?
 - b. Hur har de olika anställningsformerna som finns idag vuxit fram?
2. Kan du berätta mer om hur du rekryterar?
 - a. Vart brukar du annonsera?
 - b. Hur har de som jobbar här idag blivit anställda?
3. Vad behöver man kunna för att jobba timmar / fast anställd butik & lager / fast anställd kontoret?
 - a. Vad tänker du kring tidigare erfarenheter och utbildning?
4. Hur tänker du kring upplärning – hur planeras och görs den?
5. Majoriteten har ju jobbat relativt länge här – varför tror du det är så?
6. Förra intervjun frågade jag hur många kvinnor och män ni var. Att det är fler kvinnor är något som kommit upp i mina samtal med de som jobbar här.
 - a. Varför har inte männen som blivit anställda fortsatt?
 - b. Hur skulle det vara om det var fler män som jobbade här?

Electronic. Warehouse workers.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

- Varför jobbar du här?
- Hur länge har du jobbat här?
- Nu vet jag ju vad ni gör en vanlig dag – men hur skulle du själv beskriva det?

- Vad behöver man kunna för att jobba med det du gör?
- Hur har du lärt dig X och Y?

- Vad motiverar dig i ditt jobb?
- Vad är roligast och vad är tråkigt i ditt jobb?
- Vad är lätt och vad är svårt i ditt jobb?

- Har du några tankar kring könsfördelningen här - varför ser den ut så?
- Hur tror det är att vara kvinna/man/ickebinär och jobba här?
- Hur skulle det vara om det var fler anställda av andra kön som jobbade här?

- Kan du beskriva relationerna mellan de olika avdelningarna?
- Kan du beskriva relationerna mellan chefer, ansvariga och anställda?
Fastanställda, timanställda?
- Vem bestämmer vad ni gör/hur ni gör saker?

- Om du inte jobbade här, vad skulle du göra då?
- Hur länge tror du att du är kvar här och vad kommer du göra sen?

- Är det något du vill lägga till eller fråga mig?

Electronic. Warehouse manager.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

1. Vad behöver man kunna för att jobba timmar på lagret / fast anställd på lagret / som lagerchef?
 - a. Vad tänker du kring tidigare erfarenheter?
 - b. Vad tänker du kring utbildning?
2. Kan du berätta mer om hur ni rekryterar?
 - a. Vart brukar ni annonsera?
 - b. Hur har de som jobbar här idag blivit anställda?
3. Kan du beskriva relationerna mellan lagret och kontoret?
4. Kan du beskriva relationerna mellan chefer, ansvariga och anställda?
 - a. Chefer på kontor, du som lagerchef
 - b. Fastanställda, timanställda
5. Vem bestämmer vad ni gör/hur ni gör saker?
6. Har du några tankar kring könsfördelningen här - varför ser den ut så? Lager och kontor.
7. Hur är det att vara kvinna/man/ickebinär och jobba här?
8. Hur skulle det vara om det var fler anställda av andra kön som jobbade här?
9. Har ni kollektivavtal? Vad tänker du kring det?
10. Någon nämnde att ni börjat mäta mer (vad som görs) än tidigare sen den nya VD:n kom - vad är dina tankar om det?
11. Om du inte jobbade här, vad skulle du göra då?
12. Hur länge tror du att du är kvar här och vad kommer du göra sen?

Recreational, Pharmacy, Grocery.

Focus groups.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter fokusgruppen.

- Namn, vilken avdelning jobbar du på?
- Varför jobbar du här och hur blev du rekryterad?

Social gemenskap i arbetet:

- Hur skulle ni beskriva arbetsgruppen utifrån ex. kön, ålder, härkomst – vem jobbar här?
- Hur skulle ni beskriva de sociala relationerna på lagret? Finns det en gemenskap i hela arbetsgruppen eller finns det uppdelningar? Är gemenskapen/uppdelningarna mellan de olika delarna av lagret? Eller är det inom respektive del?

Organisatorisk rättvisa:

- Hur ser era scheman ut? Upplever ni att det är fungerade? Kan ni själva påverka era scheman?
- Hur fördelas arbetsuppgifterna på lagret? Upplever ni att det är en rättvis arbetsfördelning? Vem/vad bestämmer vad ni gör under dagarna – kan ni själva påverka det?

Arbetstempo:

- Vad behöver man kunna för att jobba som lagerarbetare? Varierar det beroende på avdelning? Språkkunskaper?
- Hur mycket förväntas ni plocka och packa? Hur upplever ni det? Görs uppföljningar av ert arbete? På vilket sätt? Hinner man ta pauser och gå på toaletten under dagen?
- Känner ni att tekniken ger er mer eller mindre frihet i ert arbete?

Socialt stöd från överordnad:

- Upplever ni att ni får (praktiskt och psykiskt) stöd i ert arbete? Från vem och hur?
- Hur ofta och på vilket sätt får ni återkoppling från era chefer och teamledare?

- Finns det uttalade ömsesidiga förväntningar mellan er och era chefer?
- Är det något ni vill lägga till?

Recreational, Pharmacy, Grocery. Interviews.

Information om studien och dess syfte, konfidentialitet samt forskningsdeltagarens möjlighet att dra sig ur utan att behöva ange orsak, innan, under, efter intervjun.

- Namn, titel, varför jobbar du här? Vad har du för tidigare arbetslivserfarenheter?

Arbetsorganisation:

- Kan du beskriva organisationen – Vilka avdelningar finns och vilka ansvarsområden har de?
- Kan du beskriva organisationen – Vem jobbar här? Utifrån exempelvis kön, härkomst, ålder.
- Hur rekryterar ni era lagerarbetare?
- Vad behöver lagerarbetare kunna för att utföra arbetsuppgifterna? Varierar det mellan olika avdelningar?
- Vilka tidiga arbetslivserfarenheter är relevanta för en lagerarbetare?

Arbetsmiljö:

- Finns det en pack- och plocktakt som lagerarbetarna behöver förhålla sig till?
- Hur fördelas arbetet? Kan en lagerarbetare välja eller byta uppgift?
- Hur följer ni upp arbetet? Görs uppföljningar med lagerarbetarna?
- Kan du beskriva hur du (i din roll som chef/arbetsledare) för håller dig till dina medarbetare? Typ av ledarfilosofi.

Extra frågor:

- På vilket sätt brukar ni motivera och stötta era lagerarbetare? På vilket sätt brukar ni se till att de levererar?
- Vilka karriärmöjligheter finns det för lagerarbetarna? Finns det möjlighet för kompetensutveckling?

Digitalisering:

- Vilken typ av teknik använder ni på lagret? Hur används tekniken?
- Vilka möjligheter och begränsningar ger tekniken era anställda?
- Vilka möjligheter och begränsningar ger tekniken er som chefer/arbetsledare/facklig representant?
- Är det något du vill lägga till?

Appendices. Search String

Search string used in the systematic literature review:

(warehouse* OR {logistics sector} OR {logistics industry} OR {distribution center} OR {distribution centers} OR {fulfillment centre} OR {fulfillment centers} OR {packing center} OR {packing centers} OR {packing facility} OR {packing facilities} OR {distribution facility} OR {distribution facilities})

AND (work OR labor OR {work environment} OR {working environment} OR {work conditions} OR {working conditions} OR organization OR {job satisfaction} OR {work satisfaction} OR workload OR workplace)

AND NOT ({data warehouse} OR {data warehousing} OR {data mining} OR {data-mining} OR {fuzzy})

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