THE PRODUCTION OF WORKERS'CONSENT:
BETWEEN FREEDOM AND COERCION

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A mi madre

Abstract

The present research deals with a phenomenon empirically observed between 2017 and 2019 at River High Tech[1], a German medium-sized Electronic Manufacturing Services company: Despite sensing a too big uncertainty about the outcome of their work, workers tried very hard to meet impracticable targets, even resorting to creative solutions and self-organizing informally, that is, outside the orders of the executive staff. This contradicts an important aspect of Michael Burawoy's *Manufacturing Consent* (1979) on workers' motivations to work (which I have termed "legitimation contradiction") and raises a number of questions from the perspective of indirekte Steuerung (i. e., Peters 2001 2003, Peters and Sauer 2005) on workers' self-organization ("organizational contradiction"). Aiming to solve both contradictions, I propose a conceptual approach that highlights the multiple interconnections and mediations shaping workers' consent. From this perspective, the question of workers' active engagement in an externally determined order is an expression of a fundamental question not only for the sociology of work, but for sociology in general, namely: the tension between coercion and freedom and the interconnection between structure and subject.

Kurzzusammenfassung

Die vorliegende Untersuchung befasst sich mit einem Phänomen, das zwischen 2017 und 2019 bei River High Tech[2], einem deutschen mittelständischen Unternehmen für elektronische Fertigungsdienstleistungen, empirisch beobachtet wurde: Trotz des Gefühls einer zu großen Ungewissheit in Bezug auf das Ergebnis ihrer Arbeit bemühten sich die Beschäftigten sehr darum, unmögliche Ziele zu erreichen, wobei sie sogar zu kreativen Lösungen griffen und sich informell, das heißt außerhalb der Anweisungen der Führungskräfte, selbst organisierten. Dies widerspricht einem wichtigen Aspekt von Michael Burawoys Manufacturing Consent (1979) über die Arbeitsmotivation von Arbeiter*innen, von mir als Legitimationswiderspruch erachtet, und lässt aus der Perspektive der indirekten Steuerung (z. B. Peters 2001, 2003, Peters und Sauer 2005) eine Reihe von Fragen zur Selbstorganisation von Arbeitern*innen aufkommen (Organisationswiderspruch). Um beide Widersprüche aufzulösen, schlage ich einen konzeptionellen Ansatz vor, der die vielfältigen, die Zustimmung der

[1] Fictitious name.
[2] Fiktive Name.

Arbeitnehmer*innen prägenden Zusammenhänge und Vermittlungen hervorhebt. Aus dieser Perspektive ist die Frage der aktiven Teilnahme der Arbeiter*innen an einer fremdbestimmten Ordnung Ausdruck einer grundlegenden Frage nicht nur der Arbeitssoziologie, sondern der Soziologie im Allgemeinen – der Spannung zwischen Zwang und Freiheit und der Verbindung von Struktur und Subjekt.

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1. Introduction

Between April 2018 and May 2020, I had the opportunity to participate in the SOdA research project[3], run by the Institut für Sozialwissenschaftliche Forschung[4] (ISF) in Munich. As part of the project, we visited three medium-sized companies (two in the electronics industry, and one in the metalworking industry) in Germany on several occasions. On-site at the company locations, we observed production processes and conducted 75 extensive semi-structured interviews – concerning the digitalization strategies introduced in the companies and their impact on employees – with different groups of actors. The interviews addressed production workers from different departments, technologists in charge of designing the production process according to technical criteria, sales and human resources managers, executive staff, works council chairmen, and management staff.

Our research team pursued a twofold objective: on the one hand, to determine which operational strategies motivated the digitalization of (parts of) production processes and, on the other hand, their relation to workers' control. In other words, we asked whether digitalization in the companies we examined served to deepen the control of the workforce. In this context, *control*[5] refers to the restriction and subordination of workers' agency to the goals and interests of the company, as argued by digital Taylorism. The exploration further examined whether there were additional motivations beyond this aspect – without prejudice to the fact that control could indeed be one motivation among others. For this purpose, expert interviews were conducted with executive and management staff and members of the works council. We also sought to assess the impact of introducing digital technologies in the labor process on workers' control/autonomy, assuming that both the former (understood as a restriction of agency) and the latter (as an instrumentalization of agency) can be embedded in relations of domination within a company. To this end, we used the method of Subjektinterviews (more information on the methodological aspects of the research is provided in Chapter two).

[3] The acronym SOdA stands for Selbständigkeit in Organisationen der digitalisierten Arbeitswelt, which in English means Autonomy in Organizations in the Digitalized World of Work.
[4] Institute for Social Scientific Research.
[5] As in Kontrolle, in German, instead of Steuerung.

In one of the three companies, we were able to carry out a more in-depth investigation by visiting the company on several occasions and conducting more interviews than in the other two. I will refer to this company here as River High Tech (RHT) (fictitious name).

During our fieldwork at RHT, I learned that the company operated in a context marked by fierce (inter)national competition. As a result, the company developed several strategies to remain competitive, which resulted in a great deal of production pressure for workers and significant uncertainty regarding the continuity of the company, and thus of their jobs (for a description of the operational context and the company's responses to it, see Chapter five).

The high pressure on production was partly the result of a company strategy to win new customers and keep the existing ones, almost at any price. In its attempt to secure customer orders, the company would tighten production times to minimize production costs, thereby attempting to enhance its price competitiveness. Additionally, it would commit to tight delivery dates in an attempt to enhance customer satisfaction. Such a customer-oriented strategy resulted in the management setting performance targets (delivery dates and production times) that the workers themselves described as too tight, unrealistic, and impracticable.

The production pressure on workers was further exacerbated by RHT's strategy of using the workforce as a flexible resource to compensate for fluctuations in the market. In other words, RHT employed workers flexibly depending on the volume of orders. This could result in workers having to work on Saturdays at short notice in times of high order volumes, or staying at home when orders were scarce. In the worst case, management could even order mass lay-offs due to declining revenues because of a lack of customers, as had happened a year before we first visited the company.

Among the production workers at RHT, there was a widespread sense that the success or failure of the company did not depend on their performance, and both positive and negative outcomes were beyond their control. This was due to a combination of factors, namely the workers' confrontation with an unpredictable market, coupled with recurrent unforeseen events in the labor process – which in turn were due to the organizational deficits on the part of management – and the restriction of their room for maneuver imposed by the mode of control operating in the company. Despite sensing the high levels of uncertainty, the workers still tried very hard to meet impracticable targets, even

resorting to creative solutions and self-organizing informally, that is, beyond the orders of the executive staff.

The question that then arose in my mind, and which gave rise to the present research, is: why is it that employees showed high levels of commitment and motivation, even when the outcome of their performance was uncertain? This observation, moreover, contradicted a fundamental thesis of Michael Burawoy's *Manufacturing Consent* (1979), which I use here as the main theoretical and conceptual framework, and which I critically develop. According to Burawoy (1979: 87-88), excessive uncertainty concerning the outcomes of workers' performance can jeopardize their motivation and lead to them withdrawing their cooperation in the labor process (see Chapter four). However, this is a situation – which I have termed the legitimation contradiction, and which is further explored in Chapter seven – that markedly diverges from the reality on the ground at RHT.

Moreover, the fact that the workers at RHT organized themselves informally (i. e. without responding to an explicit management strategy) raises several questions from the perspective of indirekte Steuerung (i. e., Peters 2001, 2003, Peters and Sauer 2005). According to this conceptual approach, workers' autonomy is instrumentalized in post-Fordist organizations in favor of the objectives and interests of capital. It is thus not a question of workers internalizing external domination, but of them *intrinsically* acting in accordance with these very objectives and interests, which become their own. For this to happen, the management has to explicitly favor workers' autonomy as a main productive resource. However, this was not the case at RHT, where we found instead a more or less direct system of control in which Fordist and post-Fordist elements coexisted, but which was far from the indirekte Steuerung. It is therefore questionable why the workers at RHT organized themselves not necessarily against, but outside the existing mode of control to secure the productivity conditions of the company. I termed this situation the organizational contradiction and explore it in more depth in Chapter six.

The aim of this research is to address these two contradictions using an empirical-conceptual approach. The approach used is thus based both on a) the analysis of part of the empirical material collected in the framework of the SOdA project in the light of these research questions, and b) the theoretical-conceptual framework provided by Michael Burawoy (1979) concerning the question of legitimacy, and Klaus Peters and Dieter Sauer with regard to the organizational issue. The ultimate aim of this research is to explore

workers' consent and their cooperation in the labor process as an expression of a fundamental question, not only for the sociology of work but for sociology in general, namely the tension between coercion and freedom and the interconnection between structure and subject.

This work is organized as follows: after having delimited the empirical-theoretical problem in this introductory Chapter, the case study is presented in Chapter two before the methodology used for the collection and analysis of the empirical material is described. In order to account for the method of data collection, I will refer to the research design used in the SOdA (theoretically based case study research[6]) and its theoretical underpinning, the Betriebsansatz (Altmann et al. 1982).

The aim of Chapter three concerning the state of the art is to explain the theoretical relevance of my main research topic, namely, the (re)production of workers' consent as a main aspect of class relations in capitalist workplaces. To this end, I embed the problem of workers' consent in its theoretical framework, providing an overview of how critical work sociological approaches have dealt with this issue in relation to the transformation of labor power into profitable labor. I thereby differentiate between those stressing the coercive mechanisms of capital and those focusing on capital's instrumentalization of workers' agency.

In Chapter four, I present Michael Burawoy's empirical and conceptual work on the production of workers' consent (Manufacturing Consent, 1979). After discussing why Burawoy is relevant to my research question (Chapter 4.1), I present Burawoy's account of the production of workers' consent at Allied (Chapter 4.2) in relation to the three main elements of his analysis, namely: the game of 'making out', the internal labor market, and the internal state. Later (Chapter 4.3), I engage with his notion of consent and the work process as a game, both of which I critically discuss in Chapter 4.4. Here, I focus on why workers engage in games and on the tension between freedom and force in shaping workers' consent. Finally, I highlight the contradictions between the results of my empirical work and Burawoy's, which I address in the subsequent Chapters (especially Chapters six and seven).

In Chapter five, I justify the empirical relevance of workers' consent for my research case study. In order to do so, I place the research problem within the broader company's

[6] In German: theoriegeleitete Fallstudien.

economic and organizational context. In other words, I explore the conditions of production" of workers' consent at RHT and their connection to key managerial strategies for capital's securement of profit.

In Chapter six, I address the organizational contradiction" at RHT, namely, the fact that production workers at RHT self-organize without the management explicitly requiring or enabling them to do so. I explain why this empirical observation is puzzling from the perspective of indirekte Steuerung and provide suggestions for how to navigate this contradiction.

The mediated motivations that further help us decipher the organizational and the legitimation contradictions are examined in Chapter seven. Thus, I analyze the impact of different factors beyond the labor process, including workers' normative claims, (labor and sales) market dynamics, workers' previous experiences of (un)employment, the local labor market, etc.

In the conclusions, I summarize the main aspects of my work, discuss its socio-political and social scientific implications, and identify future lines of research.

2. Method

2.1 Preliminary Considerations

As indicated in Chapter one, in the present work I deal with the following question, namely: Why do production workers at RHT work so hard (that is, overworking, improvising, anticipating, self-organizing beyond managerial instructions, etc.) to achieve productivity targets that are not defined based on what is *possible/feasible* from the point of view of production, but on what is desirable from a sales perspective?

Thus, my research aims to account for the production of workers' consent to actively contribute to securing the conditions of productivity at the company under investigation. Further, I address the related problems of the definition of possibility/desirability in the company and the formation of workers' interests and motivations, both inside and outside the labor process.

To accomplish the research objectives, I explore the connections between managers' interests, strategies, actions, and constraints together with those of the workers, in conjunction with how these connections are expressed and reproduced in the organization of the labor process. Further, I address factors beyond the labor process, such as the regional labor market, previous (un)employment experiences, etc., that also play a role in

the production of workers' consent. The research outlined in this dissertation thus addresses the question at hand from multiple perspectives, both within and beyond the framework of the labor process, and examines different actors in the labor process.

While it is important to note that the empirical material was originally gathered for another research project (for a description of SOdA, see Chapter one), a key advantage of the approach used is the close connection between SOdA's research topic (namely, labor control) and my work. However, since my research question was not yet defined when the SOdA project was being designed, my research interest was not incorporated into SOdA's conceptualization.

However, this did not limit the adequacy of the empirical material for answering my research question because my research focus developed in parallel with the SOdA project – in which I took an active part shortly after it started and remained actively involved until the project's completion. Moreover, due to the approach taken, I had a research question that perfectly matched my empirical material, because it emerged from it, as opposed to having to adapt the empirical material to my research question.

Due to my active participation in SOdA and its fieldwork, the current research cannot be qualified as a form of secondary analysis since a secondary analysis of qualitative data is the use of existing data to derive answers to research questions that differ from the questions posed in the original research (Hinds et al. 1997).

Qualitative data analysis is normally evaluated by reference to the context in which the data was originally produced (Fielding 2004: 102), which is not an aspect of qualitative secondary analysis unless the researcher is personally involved in the data-gathering process[7]. This is the main difference between my research approach and secondary analysis: I was involved in most of the data production process, and my relation to the empirical material thus extends beyond the raw interview data.[8]

By the time I came to formulate my research question, I knew the company that was being investigated (RHT), its context and challenges, and the strategies developed by the

[7] It is on these grounds that Mauthner et al. (1998) and Blommaert (2001) develop an epistemological critique of secondary analysis. They suggest that only through a personal involvement in data production, and the reflexive relationship between researcher and researched, can a researcher grasp the relevant context that is required to interpret interview transcripts, due to this limitation, secondary analysis should be restricted to "methodological explorations" only (Long-Sutehall et al. 2010: 342).

[8] However, to be exact, there is a mode of data sharing in qualitative secondary analysis known as auto-data (Heaton 2004) which is defined as a further exploration of a qualitative data set by (part of) the primary research team.

management to face them. Further, I knew what this context, challenges, and strategies implied for production workers in the company and the ways they dealt with them. It was precisely the combination of all these factors which I had known by the time I could define my research interest that was crystallized in my research question.

Nonetheless, for my research interest to become a research problem – that is, something requiring an explanation and whose relevance exceeded the specific case study – I had to look beyond my empirical material. Otherwise, the question would run the risk of becoming too specific and even self-referential (that is, both question and answer would arise from the empirical material). By referring to Burawoy's work Manufacturing Consent (1979) and the sociological and philosophical reflections behind the indirekte Steuerung (i. e., Peters and Sauer 2005) I was able to identify interesting inconsistencies between my empirical observations and those presented in the respective works. These inconsistencies further sharpened my research question and gave it an empirical and conceptual relevance beyond the specific case study.

Therefore, not only did I not face any interpretative limitations because of the connection of my research work to SOdA, but, on the contrary, my research benefited from its conceptual and interpretative results, thereby gaining additional depth.

Before presenting further details concerning the research, I would like to name and thank each member of the SOdA team, both at the ISF Munich (Prof. Sarah Nies, Prof. Nick Kratzer, Konstantin Klur) and the Cogito Institute (Josef Reindl and Jörg Stadlinger) for their invaluable contribution to my work. In the following pages, each author is explicitly mentioned whenever feasible and pertinent. At times, however, delimiting personal authorship is not possible due to the very nature of team research.

In the remainder of this Chapter, after introducing the empirical case study, I present the approach informing SOdA's research design, namely, the theoretically based case study research. Although this approach is not as relevant to my research as it was for SOdA, it is significant to the overall context of my work and is thus addressed briefly.

Subsequently, the qualitative methods employed by SOdA for data collection that are relevant to my research are also briefly presented. These include, on the one hand, expert interviews (addressing managers, technologists, and the works council) concerning the managerial strategies and the organization of the labor process. Additionally, data was gathered using subject interviews or Beschäftigteninterviews addressing workers

concerning their actions and interpretations, in addition to the overall labor process, to further understand its organization.

Lastly, I refer to the method used for the qualitative data analysis.

2.2 Presentation of the Empirical Case

RHT manufactures complex Printed Circuit Boards (PCB) and components, as well as control cabinets for the safety, medical, and industrial control industries. The company specializes in (cost-intensive) custom-made products and technical solutions including development and production (Electronic Manufacturing Services – EMS). According to their self-description, they are a leading EMS company (Exp03, management). RHT has evolved from a classic manufacturing company to a Joint Development Manufacturing (JDM) partner. In general, the company not only does production but also development work, in other words, it is (also) a development service provider. This means that it operates at the interface between ideas and implementation, not only supporting customers in the production of electronic assemblies and customized systems but also with product development. According to the managing director, RHT is ultimately "a factory that can be rented for a limited period of time" (Exp03, management).

The current branch had been a lead plant for a conglomerate since 1970 and it was not until 2010 that it was separated from this, and RHT was founded. RHT operates in a highly competitive market: according to the managing director, there are 300 to 400 ESM service providers in Germany alone, with which the company competes. Based on its size, the company is in the midfield of EMS service providers. In order to prove itself in the market, it decided to establish additional assembly areas in 2010 focusing on the construction of switch cabinets and the complete assembly of devices. At the time the empirical research was conducted at RHT (2017-2019), it employed approximately 150 people, including trainees.

In the years 2010 to 2014, business at RHT was good and new credit-financed investments were made. The company had a credit line of 7 million euros, of which it had used 4 million euros until the respective banks demanded the redemption of the liabilities, which was not possible at that time. The banks then provided a "really great restructuring advisor" (Exp03, managing director, ironically), who demanded, e. g., the outsourcing of production to Bulgaria (which took place to a lesser extent) and the reduction of staff. Because the managing director largely resisted the restructuring measures, there was also

talk that he would have to give up his shares. Eventually, however, the debts were repaid. Since then, banks have hardly been involved in the GmbH. At the time of the fieldwork, there was only a credit line of €130,000, which is vanishingly small for the industry, according to the managing director. The company shares are currently divided as follows: 30 per cent are held by the managing director and 70 per cent are divided between two other persons (19 per cent and 51 per cent, respectively), one of whom joined during the aforementioned bank round.

Company structure

Corporate structure of RHT	
Management	
Sales	Technology
Production	

Table 1: General corporate structure

Production structure			
BU1 PCB assembly (SMD – Surface-Mount Device = automatic assembly) Mostly women More highly qualified than BU2	BU 2 THT (through-hole technology = manual assembly) Mostly women	BU3 System (assembly/box build) Mostly men	BU4 Industrial assembly (purely mechanical) + control cabinet construction (higher qualification requirements) Mostly men
Cost centers	Cost centers	Cost centers	Cost centers

Table 2: Structure of the production departments

Production at RHT is divided into four Business Units (BUs), each of which has its own technologists, quality control system, etc. and acts independently (self-controlling) as "a small company within the company" (Exp04, production manager). The main purpose of this type of organization was to minimize communication and delivery channels and to simplify coordination. The four BUs were split between two production managers before the current production manager (Exp04) took over the management of all four production areas by the time the fieldwork at RHT was completed (2019),

Production is divided into the following areas: BU1 is for automatic PCB assembly (SMD[9]) and BU2 is for manual through-hole assembly (THT[10]), i. e. for assembling PCBs that cannot be assembled automatically. In BU3, the system assembly (box build) takes place, in which the PCBs prefabricated in BU1 or BU2 are assembled with all other mechanical components. The output of BU3 comprises the finished, packaged product while the control cabinet construction takes place in BU4. In the latter, the quantities produced vary from one to X depending on the order and the customers are, e. g., large solar companies. Each BU has between five and eight employees in administration and between eight and 20 in production.

The BUs are in turn divided into cost centers, whereby each work step and each material order must be assigned to a specific cost center. For this purpose, there are lists of which activity is to be stamped for which cost center. According to the production manager, the cost center is often circumvented, especially when hiring out staff, and employees are exchanged between BUs without the corresponding stamps. This problem is now being addressed with the introduction of cost center terminals (see Chapter six).

Although the BUs are largely autonomous and have their own developers, technicians, etc., there is also an independent technology department upstream of production (see Table 1) which can rather be located on the entrepreneurial side and fulfils a cross-function. It does the preliminary work for the individual BUs and ensures that the production manager is provided with all the necessary information. This includes, in particular, analyzing customer requests for technical and organizational feasibility, developing technical solutions, providing the necessary information for preparing

[9] SMD is an electrical component mounted using Surface-Mount Technology (SMT). This is a method in which the electrical components are mounted directly onto the surface of a printed circuit board (Source: Wikipedia. URL: https://en.wikipedia.org/wiki/Surface-mount_technology. Last visit: 08/07/2024).
[10] Conventional assembly, also known as Through-Hole Technology (THT), is, unlike SMT assembly, largely performed by hand according to customer requirements (Source: eso.electronic.com).

customer offers, and supplying the BU manager with the relevant information for implementation. Subsequently, the BU manager has to balance when and where what kinds of capacities are available for the production of the requested goods. The calculation and decision of whether new employees or machines are necessary for the implementation of the project also take place within the BUs. The evaluation of customer enquiries and the corresponding planning/development in the technology department occur in constant cooperation with the BUs. Nevertheless, it is ultimately the technology department (in consultation with the sales department, which prepares and sends out the customer offers) that determines, e. g., the time required (time specifications for the individual work steps), to which production must then adhere. This circumstance increasingly leads to conflicts between technology and production, as shown in the following Chapters.

2.3 Theoretically Based Case Study Research

As indicated, the empirical material used in this research was collected in the context of SOdA between 2017 and 2019. SOdA's research design was based on an approach called a Theoretically Based Case Study (TBCS). Therefore, to methodologically account for the research that constitutes the departing point of this work, I commence by introducing TBCS, in general, and the specific theoretical and conceptual framework underpinning SOdA's research.

Following Sarah Nies (SOdA's project leader) and Dieter Sauer, TBCS is not only "a theory-based approach to empiricism", but "also the prerequisite for generating theoretical statements from the empiricism" (Nies and Sauer 2010a: 121).

The analytics followed by the theory-led case studies, i. e. the instruments for mediating between theory and empiricism are both deductive and inductive: the analytical categories arise, on the one hand, from theoretical approaches and concepts, while on the other hand, they are also developed from an initial knowledge of the empirical object (ibid: 131). In this respect, analytical categories should make it possible to structure empiricism in such a way that the statements obtained can be referred back to the theoretical approach (ibid: 129).

SodA's research design is based on the Betriebsansatz (Altmann et al. 1982) as a theoretical approach, which focuses on companies' interests and strategies. Its central assumption is that the design of production processes is not economically or techno-

organizationally determined, but rather is an expression of the company's action and thus of company strategies (ibid: 122).

The decisive factor for the Betriebsansatz is not *what* companies do, but *why* they do it (ibid: 125) and this was also reflected in SOdA's research interest in the company's strategies and objectives in the use of digital technologies.

According to this approach, corporate strategies are not immediately recognizable and therefore cannot simply be interrogated but can only be reconstructed by the researcher from the company's actions (ibid: 128–129). This requires considering all conditions that are relevant to the operational strategy, namely grasping the company as a whole, including its operational problems and strategies, social and legal influencing factors (such as collective agreements), the different markets, available technologies, etc. (ibid: 126).

Following Nies and Sauer, the company case study thus represents the best methodological option (ibid), since it can analyze complex structural relations and processes within and between companies while integrating different actor perspectives (Pflüger, Pongratz and Trinczek 2010: 5). This approach is thus relevant to both the SOdA project and the research presented in this dissertation.

2.4 Data Gathering

One difference between SOdA and the earlier workplace case studies is that the former focuses on the relationship between operational strategies and workers' subjective perceptions. The earlier company case studies were not especially interested in the individual workplaces and also not primarily in the perception of the employees, but rather in the "objective side of the conditions of company action – always from the perspective that company action is an expression of strategies". This aspect explains the importance of expert interviews with company decision-makers in the earlier works (ibid: 128).

For SOdA, on the other hand, it is about the connection between both levels and thus, in this respect, expert interviews were combined with so-called subject interviews. This is connected to the assumption that the subject and his or her lifeworld context have a qualitatively new role in the context of the subjectification of work, in which they are no longer excluded from the work process as far as possible as a disruptive factor. Instead,

the various potentials and resources from the private sphere of the individual's life are increasingly valuable to companies (ibid: 139).

Expert Interviews

As already mentioned, managers, technologists, and the chairman of the works council were interviewed concerning the managerial strategies and the organization of the labor process at RHT. The method of choice here was guided oral expert interviews.

Following Liebold and Trinczek (2009: 34–35), the addressees of expert interviews are functional elites within an organizational and institutional context. These functional elites are characterized, on the one hand, by the fact that they are responsible for the design, implementation, or control of a problem solution. On the other hand, these individuals are considered experts who have privileged access to information regarding groups of people and decision-making processes (see Meuser and Nagel 1991: 443).

Guide-based expert interviews are thematically structured to motivate the interviewees' self-presentation through narrative-generating questions. To ensure that the content is focused and that the narration runs smoothly, an open and unbureaucratic interview guide is used, which leaves sufficient room for interviewees to speak freely, focusing on whatever topics they consider especially relevant (Liebold and Trinczek 2009).

The interviewees' specific function provides a thematic focus to the expert interview that pre-structures it. When selecting the experts, but also during the interview itself, the researcher must take this thematic focus into account. In addition, the loosely structured and flexibly applicable interview guide is already an expression of initial (theory-led) hypotheses that are subsequently confronted with social reality. However, due to its relative openness, the expert interview is also suitable for discarding conceptual considerations, so that the generation of theory by the interviewees remains intact. The findings concerning the field generated in the expert interview modify the further investigation. This double orientation of the expert interview can be described as closed openness since conceptual considerations structure the field while the structuring of meaning by the interviewee is maintained through the narrative principle. Deduction and induction thus go hand in hand (ibid: 37).

In this context, the parallelisms between expert-guided interviews and TBCS (see above) should be considered, which speaks for the complementarity of both method and research

design. This applies to guided interviews in general and also to expert interviews as a subtype.

The interview guide is the result of the researcher's preliminary theoretical and scientific considerations during the fieldwork preparation, whereby the emphasis on openness and flexibility as basic principles means that an expert interview does not involve closed questions, i. e. no answer categories are specified. The level of detail of the questions is low, they are adapted to the interview situation and are not to be used in a pre-formulated manner. The key questions motivate the interviewee to engage in a dialogue, in which he or she decides where to set the accent. Further, they are intended as memory aids to ensure that the interviewer does not forget about the various dimensions of the research interest (ibid: 37–38). The latter point is crucial since a guided interview (regardless of whether with experts or not) has the advantage that it does justice to the thematic focus of the research interest.

Thus, open expert interviews offer the possibility to make the respective expertise of the interviewees usable for answering the research question. The advantage of such open procedures compared to standardized procedures of written or oral interviews is that even points of view that are not known in advance but are nevertheless relevant to the project question can be identified. In addition, the dialogue character of the interviews offers the possibility to ask questions, to deepen topics and to present them in a differentiated way.

At the same time, the conceptual preparation of the topic allows the interviewers to familiarize themselves with the field of research in advance of the actual interview. The content-related work that informs the development of the interview guide makes it easier for the interviewer to formulate the various dimensions of the research interest freely, i. e. without closely adhering to the guide. On the other hand, such content-related preparation limits the danger of getting lost in topics that no longer have anything to do with the research interest (ibid: 39).

Just like, according to the Betriebsansatz, corporate strategies are not immediately recognizable and therefore cannot just be interrogated but must be reconstructed by the researcher from the company's actions, expert knowledge cannot simply be interrogated as received knowledge since not everything that influences their thoughts and actions is part of the conscious knowledge repertoire of the experts themselves. Rather, it is ultimately the task of social science interpreters to reconstruct the implicit background of experts' knowledge and actions (ibid: 35).

However, by definition, expert interviews are not interested in experts as persons, but as carriers of knowledge. Experts therefore merely represent structural contexts; they embody organizational and institutional decision-making structures and problem solutions (ibid: 37). This hinders the researchers' interpretative work of contextualizing the interviewees' accounts, thereby rendering it difficult to critically make sense of them.

In this sense, expert interviews are based on a premise which is fundamentally different to the one informing the other method of data gathering employed by SOdA, namely, the subject interviews. Whereas the former exclusively focuses on interviewees' function within an organizational context – ignoring or, at best, disregarding their subjectivity – subject interviews, as shown in the following Section, direct their attention towards the interplay of workers' subjectivity and the organization's structures.

Thus, the following question arises: Why do workers' subjectivities matter for grasping corporate processes and dynamics, but managerial subjectivities do not?

Subject Interviews

The subject or employees' interviews were used to address workers' self-interpretation of their actions within the labor process and the broader corporate context. Like the expert interviews, subject interviews are also guided, oral interviews with a flexible and open, dialogue-liked character. Moreover, subject interviews are also thematically structured (here the notion of closed openness also applies) to gather information that is relevant to the project's research question.

However, there are two main differences between both methods of data gathering. First, compared to expert interviews, subject interviews present a stronger focus on the subjectivity and orientations of the interviewees, namely, the employees. This methodological orientation entails a turning point in the research tradition of the ISF Munich (for a detailed explanation, see Nies and Sauer 2010b) and questions that were primarily analyzed from the structural level in previous company case studies are now *also* viewed from the subjective perspective of the employees.

Second, following Nies and Sauer (2010b: 19), subject interviews should not be understood as a mere method for data gathering. Instead, they constitute a reflexive method that aims to initiate a process of reflection among the employees themselves (a description of the application of such methods can be found, e. g., in Kratzer and Dunkel 2009 and Boes and Trinks 2006).

The stronger focus on the subject, however, does not imply that the structural level is now completely lost in the analysis. Thus, for instance, in the case of SOdA, the subject question is linked to operational control and rationalization processes, whereby the structural level of the company as an analytical unit retains a central role. However, the focus is no longer solely on the company or company strategies, but also on the connection between the two levels of the company and subject (see e. g. Kratzer 2003).

In the following, the steps necessary for the preparation (sampling), implementation (survey methods), and evaluation (evaluation methods) of the expert interviews and the methods used are described.

Sampling

The interviewees were not selected using random sampling, instead a targeted selection of a total of 27 interviewees was made.

Twelve expert interviews (both individual and group interviews) were carried out RHT, including:

- One individual interview with an employee of the technology department and the current head of the automation project (Exp01)
- One individual interview with the head of the technology department (Exp02)
- One individual interview with the managing director (Exp03)
- One individual interview with the BU manager[11] (Exp04)
- One individual interview with the head of training (Exp05)
- One individual interview with the works council chairperson (Exp06)
- One group discussion with the managing director, commercial managing director, deputy chairperson of the works council, BU manager, and personnel manager (Exp07)
- One individual interview with a trainee in the technology department (Exp08)
- One group discussion with a sales manager and technologist (Exp09)
- One individual interview with the technologist responsible for production technology (Exp10)
- One individual interview with the manager of all four BUs (Exp11)

[11] From 2019, manager of all four BUs.

- One individual interview with the person responsible for production equipment (Exp12)

In addition, the expert interviews, 15 individual interviews with production workers were conducted, including:

- Twelve individual interviews with employees from the BU THT. Three of them were with manual assembly workers, five with workers from the paint shop, two from the selective soldering, one with an employee working in the test bay, and one in milling)
- One individual interview with an employee from the BU system assembly
- One individual interview with an employee from the BU automatic PCB assembly (SMD)
- One individual interview with an employee from the BU control cabinet construction

The following table (Table 3) provides an overview of the interviewed workers, including their job title, formal qualification status, information on their employment status (full/part-time, temporary/permanent contract, years employed in the company/current department), age, gender, and information related to their union and/other workers council activity.

Identifier	RHT_ W01	RHT_ W02	RHT_ W03	RHT_ W04	RHT_ W05	RHT_ W06	RHT_ W07 RHT_ W14
Function/ job title	Unit assembly	THT manual placement	THT test field	Manual placement	THT milling	SMD automatic assembly	THT paint shop
Qualification	Skilled	Semi-skilled	Skilled	Semi-skilled	Semi-skilled	Semi-skilled	Semi-skilled

Full-time (FT) /part-time (PT)	FT	PT	FT	FT	FT	FT	FT
Permanent/Temporary contract	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent
Years in the company	13	6	13	13	13	12	3
Years in the current department/ function	13	6	13	13	13	10	2
Gender	F	F	M	F	F	F	M
Age	From 55	45–54	35–44	45–54	From 55	35–44	23–34
Group spokesperson/ union rep./ works council	No	No	No	No	No	No	No
Trade union member	Yes	Yes	Yes	No	Yes	Yes	No

Identifier	RHT_ W08	RHT_ W09	RHT_ W10	RHT_ W11	RHT_ W12 RHT_ W13	RHT – W15

Function/job title	THT man. mounting	THT selective soldering	THT selective soldering	Switch cabinet construction	THT paint shop	THT paint shop
Qualification	Semi-skilled	Semi-skilled	Semi-skilled	Skilled	Technician	
Full-time/ Part-time	FT	FT	FT	FT	FT	
Permanent/ temporary contract	Permanent	Permanent	Permanent	Permanent	Temporary (3 Y)	
Years in the company	38	8	4	6	2	
Years in the current department/ function	38	8	2	6	1	
Gender	F	F	M	M	M	
Age	From 55	From 55	25–34	45–54	25–34	
Group spokesperson / union rep./ works council	No	No	No	No	No	

Trade union member	No	Yes	No	Yes	No	

Table 3: Overview of interviewed workers

Further, a workshop was organized at RHT to explore the specific problem performance management in greater depth, with the participation of three technologists, a shift supervisor (SMD), the production manager, and three production workers (two from the paint shop, one from the SMD department). Quotations from the workshop appear in the text under the identifier WS. The list of questions can be found in the appendix (Appendix six).

Survey Methods

As indicated, SOdA's research interest was primarily focused on which operational strategies motivated the digitalization of (parts of) production processes and their relation to labor control. In other words, we asked whether digitalization in these companies aimed to deepen labor control (meaning the restriction and subordination of workers' agency to the goals and interests of the company) or whether, on the contrary, there were further motivations beyond this – without prejudice to the fact that control could indeed be one motivation among others.

To conduct the expert and subject interviews, several interview guides were developed in which the topics relevant to the research question were collected and translated into interview questions. This allowed the specific function of the interviewee in the company to be considered and reflected in the interview guide. During the interviews, the interviewees were asked to give (and explain) their assessments on each topic based on their knowledge and personal experience.

The questions posed during the interviews revolved around the following thematic areas:

i) the status of technical innovation in the company,
ii) the implemented forms of management,
iii) the managerial strategies behind digitalization (in the case of interviews with technologists and managers), and
iv) the perception of working conditions and one's scope of action in digitalized production processes (in the case of the interviews with workers).

Therefore, some topics were common to both expert and subject interviews while others were specific to each group. Further, specific interview guides were designed for the different groups of experts to adapt the questions to the position of the interviewee (for instance, manager, technologist, works council member, etc.).

Each of these topics was further differentiated in the interview guide, which can be found in the appendix (Appendix one to five).

The interviews differed according to which topics were dealt with and in what detail, and the decisive factor here was the relevance that the interviewees themselves set. As a result, the course of the interviews, although oriented towards the list of topics of the study, showed an individual dynamic in each case. This was to ensure that the interviewees were given the opportunity to develop their narration without hindrance. The philosophy of "as much openness as possible, as much structuring as necessary" applies as the "basic idea regulating action in situational-practical qualitative interviewing" (Kruse 2015: 262).

As indicated previously, to preserve the conversation-like nature of the interview, the topic-centered interview guides only served as a guide, from which it was possible to deviate depending on the dynamics of the interview and its ability to promote the generation of narratives. The interviewers were only required to address all important dimensions in the course of the interview to ensure the comparability of the results. The interviews were recorded on tape and then transcribed in full. Following Liebold and Trinczek (2009: 40), for the expert interview – unless the explicit interest of the interviewee precludes this – an audio recording is mandatory. It is well known that the process of preparing and analyzing empirical material is a process of systematic and controlled data destruction, however, the process should be controlled and systematic and not be due to the respective memory of the interviewer or recorder.

All interviews with the selected managers, technologists, and works council members took place on-site at RHT, except for one interview with the manager of all four BUs (already interviewed a few times before in person) and the interview with the person responsible for production equipment (which was a brief, update interview).

The expert interviews were conducted at different times:

- 4 to 5 December 2017 (Exp01 to Exp06)
- 8 March 2018 (Exp07)
- 20 February 2019 (Exp08 and Exp09)

- 6 August 2019 (Exp10 to Exp12)

All interviews with workers took place in the company at different times:

- 15 to 16 October 2018 (W01 to W12)
- 26 February 2019 (W13)
- 6 August 2019 (W14 and W15)

The timing of the interviews did not affect the quality of the empirical work as, in contrast to statistical evaluations of quantitative data, a complete data set does not have to be available to begin the evaluation. On the contrary, it is even methodologically imperative to start the evaluation after the first interviews so that the insights gained can be incorporated into the subsequent interviews.

2.5 Data Analysis

Data Preparation

In the first step, the audio recordings of the interviews were prepared in such a way that they could be subjected to an interpretative qualitative analysis. The research institute leading the original project (ISF Munich) has been cooperating for many years with transcription agencies that deliver high-quality transcriptions and have concluded data protection agreements with the ISF. The agencies transcribed the audio recordings verbatim and in full, which also greatly benefitted my research.

The transcriptions were transferred to the text analysis system MAXQDA, which enables the intensive processing and clear handling of the empirical data. These transcriptions formed the data basis for the following evaluation steps.

Evaluation Step 1: Coding of the Transcribed Interviews

All interviews were first analyzed using MAXQDA, following the chronological structure of the interview.

For this purpose, a code tree was developed containing the essential dimensions or topics needed for the evaluation (codes). Each topic (code) had several subtopics (subcodes): e. g., a code with the name ‘Organization of the labor process’ was created, which included a subcode called ‘Direction of tasks’. The interviews were coded case by case and several codes were often assigned to one text sequence, including references to different topics, e. g., if an interview passage contains something about Technology, Market dynamics, and Fears of job loss.

In accordance with the TBCS approach, the codes were neither obtained purely theoretically nor purely empirically. Rather, they represent the specific relevance settings of the interviewees in a topic area that was to a certain extent pre-structured by the research team through the construction of the interview guides. The dimensions are theoretical insofar as they emerge from the theoretical-conceptual work of the researchers before the fieldwork commenced. This includes the identification of a series of research-relevant topics through literature research, explication of previous empirical knowledge and theoretical reflection. On the other hand, the dimensions can also be described as empirical, as they reflect the selections, preferences, and emphases of the interviewees in the field.

In the next step, a company profile was created, into which the company-related information from all interviews was incorporated. In this brief eight-page text, all the essential information about the company, its actors, and the characteristics relevant to the research interest were briefly summarized using the categories essential to the research question[12].

Using the original transcripts, the code tree and the company profile, a detailed company case description of approximately 50 pages was created and served as the basis for contextualizing individual relevant aspects of the company.

Evaluation Step 2: Interpretation of the Codings

In the second evaluation step, text passages from different interviews on a specific topic were compared and interpreted. In the process, particularly substantial text passages were selected as quotes for this research. Close attention was paid to passages pointing in a certain direction, highlighting different aspects, and perhaps also contradicting each other. In this way, each relevant research topic was analyzed across interviews.

Evaluation Step 3: Interpretation of the Correlations between the Individual Topics

In this last step, the material was both empirically and conceptually interpreted across research topics, thereby establishing links between the individual topics and the empirical and conceptual/theoretical interpretations. These are presented in Chapters five, six, and seven, in which the empirical findings and theoretical discussion appear interconnected and in dialogue with each other.

[12] Note at this point that SOdA considered two more case studies than the one I explore here. Thus, the company profiles served as an orientation aid for the cross-dimensional evaluation in the original project.

3. The Tension between Coercion and Consent Underlying Labor Control in (Neo)Marxist Approaches

In this Chapter, I elaborate on the theoretical significance of my research topic: the formation of workers' consent to engage in the capitalist labor process. To accomplish this, I rely on the insights of Marx and neo-Marxist scholars regarding the capitalist labor process, the transformation problem, and the inherent conflict between coercion and consent that characterizes labor control.

3.1 Marx on the Labor Process

Marx (2004: 283–284) identified "three simple elements of the labor process", independent of any particular social formation:

1. Purposeful activity of man, directed to work
2. The object on which the work is performed, in the form of natural or raw materials
3. The instruments of that work, most often tools or more complex technology

The latter two elements are referred to by Marx as the means of production. Together, these components form the general preconditions of all production. It is further emphasized that the human and technical aspects of the labor process are interconnected. Thus, "technology, or any other productive force, embodies relationships between people. Technology in particular provides a manifestation of the relations between social classes" (Thompson 1983: 38–39).

Burawoy, drawing on Marx (Capital, volumes 1 to 3), puts this idea similarly: "The capitalist mode of production is not just the production of things but simultaneously the production of social relations and of *ideas about these relations*, a lived experience or ideology of those relations" (Burawoy 1985: 36, emphasis in the original). Therefore, labor is both a material and social process – an activity through which people transform their circumstances and themselves.

The three elements of any labor process identified by Marx collectively constitute what Burawoy calls the relations in production. This refers to the labor process irrespective of the mode of production, defined by the social relations into which individuals enter with one another and with nature to produce goods. Burawoy distinguishes these from the relations of production, which are specific to the mode of production. Social relations of production include a) relations of exploitation between capital and labor, through which

surplus is extracted from the direct producer, and b) relations among the units that organize exploitation (Burawoy 1985: 13–14).

Following Marx, the capitalist mode of production is defined by two main features:

Firstly, labor is free in a dual and contradictory sense. The worker is free to sell their labor power to a particular capitalist, yet because they lack ownership of other means of production besides their own labor force, they must sell their labor power to some capitalist. Their freedom is thus relative:

> *For the transformation of money into capital, therefore, the owner of money must find the free worker available on the commodity-market, and this worker must be free in the double sense that as a free individual he can dispose of his labor-power as his own commodity, and that, on the other hand, he has no other commodity for sale, i. e. he is rid of them, he is free of all objects needed for the realization [Verwirklichung] of his labor-power.* (Marx 2004: 271)

Second, capitalists are not required to sell their labor power because they, as a class, hold a monopoly over the means of production. However, they are not monopolists over sections of the means of production as individuals. This means they must compete with other capitalists over the means of production, compelling them to accumulate capital individually – although they may wish to accumulate regardless.

> *The development of capitalist production makes it necessary constantly to increase the amount of the capital laid out in a given industrial undertaking, and competition subordinates every individual capitalist to the immanent laws of capitalist production, as external and coercive laws. It compels him to keep extending his capital, so as to preserve it.* (Marx 2004: 739)

Thus, under capitalism, workers are compelled to sell their labor power, and capitalists are driven to accumulate capital. The freedom of both the capitalist and the worker within the capitalist mode of production is therefore relativized. However, it is important to note that the lack of freedom is not equally distributed between the two classes. While capitalists are not free vis-à-vis the market, the relation of forces (of production) places them in a position of domination over the workers. These characteristics of the capitalist

mode of production are key to understanding the different approaches and the case study presented in this work.

The production of commodities with use value is not the sole, nor even the main, goal of capitalists. They aim to exchange those commodities for a price greater than the cost incurred in production. Following Nichols, "the process of production must therefore combine the labor process with the creation of value. Hence the labor process becomes inextricably linked to the struggle for profitable production" (1980: 35). This is why production time is a key matter in capitalist labor processes in general (see, for instance, the following Section on Taylor's Scientific Management), and at RHT in particular (i. e., Chapters five, six, and seven).

"Inextricably linked" is key here, as it would be misleading to think of the labor process and the creation of value as two separate moments of the capitalist production process. Instead, as we shall see in Chapter four regarding the game of 'making out', relations in production and relations of production are connected, representing two different aspects of the same production process (MacKenzie 1984: 481) or in Burawoy's terms, "the transformation of nature as defined by the labor process" (that is, the relations in production) "reproduces the relations of production, and at the same time conceals the essence of those relations" (Burawoy 1985: 31).

When capitalists purchase labor power, they are acquiring only potential. To generate profit, they need to turn this potential into actual labor performance (Braverman 1974). This is known in the German-speaking critical work sociology as the transformation problem. Turning labor power into labor for profitable production requires systematic control by capital over the labor process. The specific form of that control is variable and, as we shall see throughout this Chapter, depends on multiple factors. Control over the conditions under which the speed, skill, and dexterity of the worker operate is essential. To ensure profitability, "it is vital that in the work of transforming the product into a commodity for the market, no more time is consumed than is necessary under the given social conditions" (Thompson 1983: 40-41).

When Marx referred to the labor power of workers as variable capital, he was not merely using an economic category. Only living labor can create value, and the surplus varies according to "the relative strengths of the combatants in the production process" (Nichols 1980: 35).

Another expression of labor as variable capital is its ambivalence, as noted by Friedman (1977: 6). Labor power is both a "potentially malleable commodity" that can benefit management's interests and a "commodity controlled ultimately by an independent and often hostile will", which is less advantageous for management. This ambivalence is crucial to understanding the transformation problem.

The need for capital to exert control over labor's performance in the production process for profitability is a common ground among major writers on the labor process and systems of control, such as Braverman (1974), Friedman (1977), Edwards (1979), and Burawoy (1979, 1985). Differences arise regarding how control is acquired and maintained and the relative importance of workers' consent (or cooperation) versus capital's coercion for labor control.

The theme of coincident conflict and cooperation is another key topic in the labor process literature, often addressed by referencing the structural interdependence of capital and labor or the control-engage dilemma (Cressey and MacInnes 1980, Friedman 1977, Manwaring and Wood 1985, Edwards 1986). For example, Thompson and Bannon (1985) note how capital's dependence on workers' exercise of control over their labor activity for profitable production ensures that management seeks to actively involve them in the labor process. This is counterposed by the requirement to minimize labor costs through the intensification of management control. Accordingly, a range of "overlapping worker responses" or involvements, from resistance to consent, are accounted for (1985: 98–99).

3.2 Marx Accounts of Coercion and Consent

So far, I have referred to the labor process in general and to specific features of the capitalist labor process, particularly the transformation problem, which is most relevant to my research interest. Now, I will focus on a particular aspect of labor control: the different forms it might take to fulfill its main capitalist purpose of extracting surplus from living labor. The central theme here is the relative importance of consent and coercion in the different historical and economic contexts considered by each author or group of them.

I shall start with Marx's coercive regime of factory or market despotism[13] before discussing the consent-producing effects of different forms of fetishism in capitalist modes of production.

[13] Both terms are not found in Marx's writings but are employed by Marxist authors.

3.2.1 Factory Despotism and the Subordination of Labor

An expression of the tension between freedom and coercion, which I address throughout this work as a defining aspect of workers' consent to work, can be found in Marx's notion of free labor, mentioned above.

Workers in capitalism are free in a double sense: free from the means of production apart from their own labor power (a form and outcome of dispossession) and free to sell their labor power to any capitalist in the labor market to buy the means for their own subsistence in the capitalist commodity market.

For Marx, free labor is not defined by the voluntary nature of work, as liberal perspectives might suggest (Banaji 2003), but by a historic shift in the forms of coercion used in the exploitation of labor. It is from this perspective that we must understand why Marx speaks of free labor. In Marx's discussion of the origins of capitalism, or so-called primitive accumulation, he notes:

> *The starting point of the development that gave rise to both the wage-laborer and the capitalist was the enslavement of the worker. The advance made consisted in a change in the form of this servitude.* (Marx 2004: 875)

As Bernards notes in his article "The Global Politics of Forced Labor" (2017), the process of freeing labor is underpinned by often violent transformations in the legal and political framework of property relations: "The expropriation of the agricultural producer (...) from the soil is the basis of the whole process" (Marx 2004: 876). Free labor thus consists of substituting violent coercion with more indirect forms of compulsion, workers are "compelled to sell themselves voluntarily" (ibid: 899). In short, free labor is a peculiar form of coercive exploitation in which overt violence is increasingly displaced by more subtle forms of "silent compulsion" (ibid).

This account of 'primitive accumulation' highlights the contingent and political nature of freedom and unfreedom. Even the nominal freedom in the labor market is contrasted with the coercive discipline necessary in the process of production itself. Referencing the enslavement of workers as the origin of today's waged worker, Marx notes:

> *In the factory code, the capitalist formulates his autocratic power over his workers like a private legislator, and purely as an emanation of his*

> *own will* (...) *The overseer's book of penalties replaces the slave-driver's lash.* (Marx 2004: 549–550)

As Friedman notes (1977: 79), such hard disciplinary procedures to enforce managerial authority over the majority in factories were further enabled by the pressure of the industrial reserve army of labor or, as Marx himself puts it:

> *The overwork of the employed part of the working class swells the ranks of the reserve, whilst conversely the greater pressure that the latter by its competition exerts on the former, forces these to submit to overwork and to subjugation under the dictates of capital. The condemnation of one part of the working class to enforced idleness by the overwork of the other part, and the converse, becomes a means of enriching the individual capitalists, and accelerates at the same time the production of the industrial reserve army on a scale corresponding with the advance of social accumulation.* (Marx 2004: 788–789)

Burawoy, commenting on Marx, referred to this factory code as market despotism. By that, he meant a despotic regulation of the labor process constituted by the economic whip of the market (Burawoy 1985: 123). Market despotism is the "counterpart within production of the market pressures which compel capitalists, on pain of extinction, to compete with one another through the introduction of new technology and the intensification of work. Anarchy in the market leads to despotism in production" (ibid: 89).

According to Thompson (1983: 125–126), despotism requires a hierarchical chain of command. That command finds a material framework in capital's use of science and machinery to control labor through the production process itself. Hence, Marx's notion of real subordination or subsumption of labor under capital points to the "complete (and constantly repeated) revolution" in the mode of production, "in the productivity of the workers and in the relations between workers and capitalists" (Marx 2004: 1034) to produce as much surplus value as possible.

Following Burawoy (1985: 89), the real subordination of workers to capital, along with competition among firms, is a condition for market despotism. For Marx, real subordination is the later stage of the historical process of workers' subordination to capital, characterized by workers' loss of control over the labor process. This means that

mental and manual labor are systematically separated, and the labor process is subject to fragmentation, mechanization, and deskilling, thus stripping workers of their capacity to resist arbitrary coercion based on their skill and specialized knowledge. This logic finds its maximal expression under Taylor's scientific management, as we will see below. As a result of real subordination, the worker is transformed from a subjective into an objective element of production, an appendage of a specialized machine. In Marx's own words, "in this way, not only are the expenses necessary for his reproduction considerably lessened, but at the same time his helpless dependence upon the factory as a whole, and therefore upon the capitalist, is rendered complete" (Marx 2004: 547).

Workers' dependence on the sale of their labor power for a wage represents for Burawoy a further condition of market despotism (1985: 89). However, as we shall later see in relation to RHT, this does not apply exclusively to despotic factory regimes.[14] In consent-based regimes, too, labor dependence on wages is a key element for producing workers' consent. In fact, we need to grasp the co-dependency of capital and labor to understand the importance of producing workers' consent.

As Thompson (1983: 55–56) notes, methods of control were often more varied than allowed for in the concept of factory despotism. While the extension of technical and bureaucratic means to subordinate labor is not in doubt, this still left considerable room for different 'control strategies'. He presents a series of reasons for that:

First, direct control was to some extent precluded by sub-contracting and outwork (i. e., domestic production) in some circumstances. Second, even in the mature factory system of Marx's time no systematic theory and practice of management existed. Therefore, new forms of control were inevitably slow, uneven and subject to struggle, particularly with skilled workers (Littler 1980). Third, what control strategy is implemented depends on the context of workers' organization and the wider economic and class relations (Thompson 1983: 137). Fourth, there is another dimension to control that the despotism concept tends to hide or underplay. This is what Burawoy (1979, 1985) refers to as securing control and profitability through the organization of workers' consent of workers. Even in the nineteenth century, when Marx was writing, mechanisms for creating consent ran parallel with coercive measures connected with increasing the

[14] Burawoy's concept of the factory regime encompasses the political apparatuses of production, which reproduce the social relations of production by regulating struggles, such as those found in the internal labor market or the internal state. It also addresses the political and ideological effects of the labor process (Burawoy 1985: 11, 122).

intensity to work. Part of this process was the creation of a new breed of workers appropriate to the discipline of the factory system. Several historians have shown how this necessitated an emphasis on transforming the workers' character, both inside and outside the workplace (Pollard 1964, Thompson 1967):

> *The widespread concern with sexual morals, drinking habits, religious attitudes, bad language and thrift was an attempt on the one hand to destroy pre-industrial habits and moralities, and on the other to inculcate attitudes of obedience towards factory regulations, punctuality, responsibility with materials and so on*. (Salaman 1981: 31)

Let us now turn to the consent-producing mechanisms analyzed by Marx in relation to the capitalist general system of production, specifically the different forms of (wage and commodity) fetishism.

3.2.2 Fetishism and the Production of Consent

Marx did not theorize the organization of consent in the workplace. However, his writings on ideology and work provide useful conceptual tools for understanding this phenomenon. In works such as the Grundrisse (1973 [1857–8]), Theories of Surplus Value (2010 [1861–3]), and Capital (1976 [1867], 1978 [1885], 1981 [1894]), Marx consistently argues that the appearances arising from the capitalist mode of production give rise to forms of consciousness that conceal its fundamental features, making capitalism seem like an immutable order. He also suggests that these appearances form the basis of bourgeois legal and political ideology.

As Joseph points out (Joseph 2003: 21), the production of consent becomes an issue for the ruling class when cohesion breaks down, that is, when its particular interests can no longer be articulated as the general or universal interests. Quoting Marx and Engels, Joseph argues that each new ruling class is compelled, in order to occupy the position of the one before it, to represent its interests as the common interest of all members of society. This means expressing these interests in ideal form: the ruling class has to give its ideas the form of universality and represent them as the only rational, universally valid ones (Marx and Engels 1965: 62).

This idea, originally developed in relation to Marx's theory of history, also applies to the inner workings of the capitalist workplace, even though Marx did not specifically analyze

the production of consent in the labor process. Therefore, Burawoy's argument that Marx dealt with the expenditure of effort solely in terms of coercion is not entirely accurate (Thompson 1983: 154). In fact, Burawoy himself drew on the core idea of Marx's commodity fetishism to further develop his own theories.

> *The production of things is simultaneously not only the production and reproduction of social relations but also the production of an experience of those relations. As men and women engage in production, they generate a world of appearances*. (Burawoy 1979: 16)

Marx's greatest advantage was his refusal to accept things as they appeared, criticizing political economists like Adam Smith for taking "the conditions of the existing system of production for the necessary conditions of production in general". Consequently, the critique of the fetishized attitude toward work relationships lies at the heart of his analysis (Thompson 1983: 56–57).

Marx's distinction between essence and appearance, which underpins his notion of ideology, is a central theme of "Capital" and key to understanding his implicit conceptualization of consent. As Gose and Paulson (2017: 107) have noted, "Capital in all of its three volumes systematically addresses the incongruities between appearances and underlying relations".

In the first volume of "Capital", published in 1867, the fetishism of commodities is defined as:

> *nothing but the definite social relation between men themselves which assumes here, for them, the fantastic form of a relation between things. In order, therefore, to find an analogy we must take flight into the misty realm of religion. There the products of the human brain appear as autonomous figures endowed with a life of their own" – a phenomenon anthropologists termed "animation"-. As such, commodities "enter into relations both with each other and with the human race. So, it is in the world of commodities with the products of men's hands* (Marx 2004: 165).

Fetishistic appearances are a consequence of underlying material-historical conditions and reflect people's experience of work. The fetishism of money and commodities

ideologically obscures the social foundation of these objects, arising from the alienating split between people and the products of their labor.

> *The Fetishism of commodities has its origin* (…) *in the peculiar social character of the labor that produces them.* (…) *Since the producers do not come into social contact with each other until they exchange their products, the specific social character of each producer's labor does not show itself except in the act of exchange.* (…) *To the producers, therefore, the social relations between their private labors of one individual with that of the rest appear, not as direct social relations between individuals at work, but as what they really are, material relations between persons and social relations between things.* (Marx 2004: 165)

As Gose and Paulson (2017: 109) put it, "appearances matter because they affect how people act on underlying conditions, whether by disclosing, displacing or outrightly obscuring them"[15]. Therefore, although commodity production and circulation in capitalism are based on definite relations of ownership and exploitation, these are hidden by the workings of those same processes, whose characteristics appear natural and inevitable.

This is particularly clear in the case of the wage relation between wage labor and capital[16]. At the level of circulation where that exchange takes place, the relationship appears to be merely that of an ordinary commodity exchange in which purchaser and seller freely come to an agreement that is to the mutual advantage of each. Specifically, "the wage of the laborer appears as the price of labor, a certain quantity of money that is paid for a quantity of labor" (Marx 2004: 675). The reality, however, is that workers perform both necessary labor-time, in which they produce a value equivalent to the exchange-value of their labor-power, and surplus labor time, in which they produce a value for the capitalist (surplus

[15] The obscurement of capitalist social relations of production is a key theme in Burawoy's work on the production of workers' consent, which will be explored in detail in Chapter four. Burawoy's notion of ideology is closely linked to Marx's, though he does not specifically rely on fetishism as a tool of analysis. Instead, Burawoy focuses on the ways in which the labor process itself generates consent, drawing from and extending Marx's ideas on how capitalist production relations are masked by their appearances.

[16] As we shall see with regard to RHT, the detachment of the social nature of labor from the conditions that produce it is also reflected in the appearance of technology as an external and unalterable power over workers (Thompson 1983: 48). Therefore, it is not only commodities and wage relations that are fetishized under capitalist relations of production and exchange but also technology and the market. The social relations constituting these elements are obscured behind the appearance of natural and inevitable forces and are represented as a "factual constraint" (Menz 2009).

value) without receiving any equivalent. During necessary labor-time, workers produce a value equivalent to that of their own wage, although the money-form of the value of their product helps to conceal this fact by making it appear that both surplus and necessary labor time are paid for. Marx argues that it is the illusions arising from such phenomenal forms that produce not just the basis of political economy but bourgeois ideology in general – in Marx's own words:

> *We may therefore understand the decisive importance of the transformation of value and price of labor-power into the form of wages, or into the value and price of labor itself. This phenomenal form, which makes the actual relation invisible, and, indeed, shows the direct opposite of that relation, forms the basis of all the juridical notions of both laborer and capitalist, of all the mystifications of the capitalistic mode of production, of all its illusions as to liberty, of all the apologetic shifts of the vulgar economists.* (Marx 2004: 679)

However, if fetishism is relevant for the production of workers' consent, it is because it gives rise to mystification not only among capitalists and "vulgar economists" but among workers too, as Marx explicitly states. Carol Johnson (1980) argues that Marx failed to consider the implications arising from mystifications of work for proletarian consciousness, thus leaving his theory of work and class intact despite the power of his analysis of commodity fetishism.

Nonetheless, even if Marx's theory was not without flaws, his ideas remain relevant today and still help us make sense of current capitalist dynamics, as Thompson (1983: 56) put it: "What was remarkable about Marx's analysis was just how many of the trends he identified came to figure so prominently in future developments. The legacy he left was (…) a series of conceptual tools with which to unlock the problems of the changing nature of work." (Thompson 1983: 56) These concepts, along with Marx's general political economic framework on the functioning of the capitalist system, constitute the basis of Labor Process Theory, to which we now turn.

3.3 The Labor Process Theory

After a long period when work had been largely overlooked, the mid-1970s marked a resurgence in studies of the labor process. Key figures in Labor Process Theory (LPT) such as Braverman (1974), Friedman (1977), Edwards (1979), and Burawoy (1979)

offered varied analytical perspectives, yet shared a common commitment to critically examining capitalist politics and advocating for change. They emphasized the formation of class within everyday practical circumstances (Hales 1980: 44, 12).

Grounded in Marxism, a labor process perspective situates work within the dynamics of capitalist production and antagonistic class relations. This framework analyzes how those who control economic resources seek to appropriate surplus value, shaping working conditions significantly (Thompson 1983: 3–4).

This renewed focus on the labor process was driven by both theoretical inquiries and practical challenges that arose during the time. Post-World-War-II-capitalist-developments brought about profound changes in work dynamics and class formation. By the mid-1960s, workplace conflicts surged in several industrialized countries, dispelling the notion of industrial consensus (ibid: 67–68).

Therefore, the labour process debate initially focused less on changes in the labour process than on the emergence of a new working class. As capitalist societies underwent significant transformations in production and organization, the orthodox Marxist view of the working class as increasingly homogeneous and unified through capitalist production, except in discussions related to labor aristocracies, was increasingly contested. The growing diversity within the working class demanded explanation, prompting even Braverman's initial study of work to begin as an exploration of occupational shifts. This historical context sheds light on the subsequent theoretical evolution towards a Marxist perspective on work.

Advancing this discourse necessitated a detailed examination of the productive process. Braverman pioneered this approach in his seminal work "Labor and Monopoly Capital" (1974), deliberately avoiding explicit theories of class consciousness and social change (ibid: 69, 71). Braverman's systematic investigation underscored the significance of Marx's analysis of the labor process, sparking theoretical debates that would spawn diverse currents within LPT.

Central to Braverman's contribution was his thesis that "technology is developed by management to improve control over the work process and the workers" (Briken et al. 2017: 4). This proposition linked the analysis of the labor process in LPT with questions of control and corporate strategies. Drawing from Marx, Braverman viewed technology not merely as a tool for enhancing productivity through automation, but also as a

mechanism for intensifying the exploitation of labor by subjugating workers to more stringent forms of work discipline.

The development phases of LPT subsequent to Braverman have been categorized variously in the literature. According to Thompson's framework, the first wave of LPT consists of works that extensively elaborate on Braverman's foundational theses (Thompson and O'Doherty 2009: 100). Central to this phase was Braverman's proposition that the increasing use of technology inevitably leads to a process of deskilling. As Vidal (2018) underscores, Braverman's ideas were influential in sparking critiques that intensified debates and spurred a wealth of publications.

Thompson categorizes the second wave of LPT as a critical reassessment of Braverman's theories. These first two waves collectively characterize what has been termed the Bravermania-phase (Littler and Salaman 1982), marked by rigorous scrutiny of Braverman's theses. Briken et al. (2017: 4) similarly argue that Braverman's "universalist thesis of deskilling" faced significant challenges, highlighting that the adoption of new technologies often became a locus of potential conflict. Adler (2007) and Vidal (2018) also critique Braverman for disproportionately emphasizing moments of deskilling while neglecting the dialectic between deskilling and the promotion of responsible autonomy and coercion versus consent, a dichotomy present in Marx's work.

The second wave of LPT, therefore, includes approaches that critique Braverman by focusing on instances of upskilling. According to Briken et al. (2017), this divergence polarized discussions in the 1970s and 1980s into debates over whether technology led to upskilling or downskilling. Over time, however, scholarly approaches evolved to move beyond simplistic diagnoses and instead engaged in nuanced empirical analyses that highlighted the complex dynamics and polarizations within qualifications.

Among the significant critical responses to Braverman, Friedman (1977) and Edwards (1986) stand out for their exploration of how corporate strategies, such as fostering responsible autonomy, can serve corporate objectives more effectively than mere coercion (Vidal 2018: 8). Criticisms of Braverman's deterministic view of deskilling prompted the second wave of LPT to shift towards a greater emphasis on conflicts within the work process, rather than viewing changes as solely driven by technological determinism (Vidal 2018: 7). This shift was essential in moving beyond simplistic dichotomies of upskilling versus downskilling.

“Job enrichment” (Vidal 2018: 8) emerged not as a straightforward outcome of technological advances but as concessions made in response to labor unrest, which necessitated struggle. Michael Burawoy also played a pivotal role in the second wave by challenging Braverman’s one-sided and objectivist perspective.

In the next Section, I will first introduce the core principles of Taylor’s Scientific Management (1988), which formed the basis of Braverman’s theories on deskilling, and subsequently delve into the more recent concept of Digital Taylorism.

3.4 Taylor’s Principles of Scientific Management

In his seminal work “The Principles of Scientific Management” (1911) Taylor distinguishes between ordinary management and scientific management. Under ordinary management, managers rely on workers’ skill and subjectivity. Taylor emphasizes that managers aim to encourage each worker to utilize their initiative and knowledge to maximize output, driven by goodwill and ingenuity (Taylor 1911: 31).

Taylor recognized that his methods primarily targeted a specific form of worker resistance known as systematic soldiering. This involved deliberate and organized reductions in work pace by groups of workers in response to the risk of reduced piece rates after initial productivity gains (Taylor 1911: 31). Consequently, Taylor’s scientific management sought to suppress workers’ subjectivity, viewed as a disruptive factor in maximizing capital’s profit extraction from labor. To exert control over every aspect of the labor process, Taylor prescribed meticulous observation and measurement of work through time studies and stopwatch use, alongside a clear separation of execution and planning.

Taylor proposed three fundamental principles of scientific management:

1. Management should gather and systematize all traditional knowledge held by workers (Taylor 1911: 33)
2. “All possible brain work should be removed from the shop and centralized in the planning or layout department.” (Taylor 1903: 98–99)
3. Management must specify work in comprehensive detail, including task methods and allotted time, and issue this information to workers as written orders (Taylor 1911: 34). “This task specifies not only what is to be done, but how it is to be done and the exact time allowed for doing it.” (Taylor 1911: 34)

These principles underscore Taylor's systematic approach to enhancing efficiency and control in industrial settings, marking a shift towards mechanization and regimentation in production processes.

Following Friedman's analysis, Taylorian scientific management represents an advanced form of direct control through the division of labor. In this system, the movements and tasks of individual workers are segmented and redistributed among different workers. Each worker is conceptualized as a versatile machine capable of performing a predetermined number of motions within a specified timeframe (Friedman 1977: 93).

Marx's perspective on mechanization during the Modern Industry phase highlighted how workers began to be treated as mere extensions of machines (referred to as real subordination). With the implementation of time and motion studies in scientific management, this concept extends further: workers are now perceived as human machines irrespective of their physical proximity to actual machinery (Friedman 1977: 93).

3.5 The Coercion Theses: Braverman's Deskilling Thesis and Digital Taylorism

3.5.1 Braverman's Deskilling Thesis

In "Labor and Monopoly Capital" (1974), Braverman seeks to renew Marx's theory of the labor process and apply it to a new historical context. He places a special focus on the erosion of skills under the impact of capital's new uses of science and technology. Additionally, Braverman analyzes the development of systematic management and control of the labor force through Taylorism. Frederick Taylor's Principles of Scientific Management (1911) synthesized disconnected ideas and experiments concerning the capitalist organization of work, rendering conscious and systematic the formerly unconscious tendencies of capitalist production regarding the control and uses of skill and knowledge (1974: 121).

Braverman's main thesis posits that the separation of execution from control represents the fundamental strategy of management (1974: 89), consequently leading to the progressive deskilling of work (1974: 118). Despite its extensive – if uneven and varied – spread, Taylorism faced several constraints, as Braverman acknowledges. He notes that "Taylorism raised a storm of opposition among the trade unions" (1974: 136), since they recognized it as an effort to relieve workers of their job autonomy and craft knowledge. However, because Braverman consciously omits any reference to labor subjectivity,

organization, and struggles, workers' resistance is only briefly mentioned. It is cited merely as an example for understanding the consequences of scientific management rather than as a substantial limit to its development (Thompson 1983: 77–78).

As already mentioned in the previous Section on the LPT's waves, subsequent research on the labor process has either developed alternative perspectives independently of Braverman or through direct criticism, particularly of his central thesis. These criticisms have largely focused on questioning the extent, timing, and variation in the processes of deskilling and Taylorism. Alternatives have emphasized far more complex and differentiated layers of skill, combined with the variability of other strategies for the exercise of managerial authority in the workplace, and workers' attempts to retain control of job tasks and rewards.

In fact, a major objection to Braverman's argument is that Taylorism represents just one of many strategies employers adopt to exert control over the labor process (Wood 1982). In other words, while Taylorism may have been – and in some instances clearly still is – an approach adopted by employers, it is wrong to assume that this is the only strategy available (Marchington 1992: 149). The contributions of various authors in the book "Labor Process Theory", edited by Knights and Willmott (1990), highlights that employers, while adopting different strategies for the management of labor, are not always or necessarily obsessed with questions of labor control. This point remains relevant today, as we shall see in the next Section, when critically examining Digital Taylorism. Furthermore, they criticized some of the 'management strategy' literature for its (implicit) assumption that employers are both omniscient and omnipotent in their actions (Edwards 1990: 125–152, Littler 1990: 46–94). Third, they encouraged scholars to treat the subjectivity of labor in a more theoretically sensitive and comprehensive manner, focusing specifically on why employees actively contribute, that is, offer their consent, to the production and reproduction of the capitalist labor process (Knights 1990: 297–335, Willmott 1990: 336–378). This links to the criticism that more attention needs to be given to the 'missing subject', that is, to the worker and their contribution to the creation of specific labor processes (Manwaring and Wood 1985).

Underlying this point is a further critique of the general methodology used by Braverman. The root of the problem is seen as stemming from Braverman's deliberate exclusion of the dimension of class struggle and consciousness. While he prioritizes this exclusion to present an objective picture of the working class in work as it really is, it is argued that

this neglects the significant effects of worker resistance and organization on technology and the labor process. The separation of objective and subjective factors is fictitious and misleading, as capitalist control cannot be separated from and understood outside the subjective work experience. This refers not only to managerial strategies but also to the issues of ideology and the degree of consent workers give to their exploitation and alienation. This perspective, as we will see in the next Chapter, is central to Burawoy's "Manufacturing Consent" (1979). Despite these critical aspects, Braverman's work has provided a focal point for a series of important debates, constituting the wider body of labor process theory (Thompson 1983: 87–88).

3.5.2 Digital Taylorism and Managerial Strategies Beyond Labor Control

Digital Taylorism refers to the application of Frederick Taylor's Principles of Scientific Management (1911) to digitalized labor processes, aiming to maximize productivity and efficiency. It involves breaking down complex digital tasks into smaller, standardized units and is often associated with the automation and algorithmic management of digital work.

Digital Taylorism has become more prevalent with the rise of digital platforms, online gig work, and the increasing use of algorithms to monitor and manage workers. Platforms like Uber, TaskRabbit, and Amazon Mechanical Turk have incorporated Taylorist principles by dividing work into smaller, repetitive tasks that can be easily measured, monitored, and controlled.

Some critics of digital Taylorism depict an extremely negative scenario for workers, particularly in logistics (Barthel and Rottenbach 2017, Staab 2015), as well as in platform companies and crowd working (Altenried 2017, Cant 2020, Nachtwey and Staab 2020, Woodcock 2020). These companies are seen as pioneers whose influence extends far beyond the platform economy (e. g., Dolata 2019, Nachtwey and Staab 2020, Srnicek 2017). Amazon, in particular, is often cited as a symbol of digital Taylorism (e. g., Barthel and Rottenbach 2017, Butollo et al. 2018, Cattero 2018, Moore and Robinson 2015), frequently referenced for empirical observations in various fields, areas, and companies.

In these companies, the use of digital technologies, analogous to traditional Taylorist modes of control, is seen as aimed at the renewed expropriation of subject-bound production knowledge, the extended fragmentation of work, and the permanent control and monitoring of employees. If successful, employees in digitalized companies would

be deprived of their scope for action through flexible data-based real-time control, the digital connection of all work processes, and the use of digital assistance systems. This would eventually lead to the devaluation of their qualifications and, not least, their experience. Simultaneously, the automated generation of real-time data and visualized feedback systems would enable a radical control regime in these companies. Deprived of their specific and subject-bound qualities, larger groups of employees are then (once again) replaceable and exposed to precarization.

Focusing on other economic sectors, primarily production, (single) case studies highlight the limits of Tayloristic standardization, monitoring, and control, as well as the contingent and often ambiguous effects of digital technology in the labor process (i. e., Apitzsch et al. 2021, Ittermann et al. 2019). Other authors point out the limitations of automation and digital Taylorism inherent in the specific qualities of interaction-based labor processes (i. e., Boccardo 2021) and human labor, which resist complete formalization (Huchler 2017, Pfeiffer and Suphan 2015). Complementarily, others focus on the fundamental limitations of algorithm-based intelligence of technical artefacts (Brödner 2015), highlighting the potential to break or suspend algorithmic rules (Bronowicka and Ivanova 2021, Chen 2018). However, as Nies (2021) points out, these critics do not challenge the central argument of the digital Taylorism debate: the assumption that companies strive for seamless control and rigid process specifications, even if they cannot easily implement them, and orient their performance management strategies toward this goal.

This assumption is questioned by approaches to labor control that emphasize the importance of workers' subjectivity for the reproduction of capitalist social relations of production. It is to these approaches that we now turn.

3.6 The Consent Theses: Friedman's Responsible Autonomy and Burawoy's Hegemonic Factory Regimes

3.6.1 Friedman's Responsible Autonomy

In his work "Industry and Labor. Class Struggle and Monopoly Capitalism", published in 1977, Andrew Friedman challenges Braverman's (and other Marxists') theses that Tayloristic control and deskilling constitute "*the* theory and practice of capitalist control over productive activity" (Friedman 1977: 7, emphasis in the original). Friedman perceives the one-sided emphasis on forms of direct authority, such as Taylorism, as a legacy of neglecting the effects of worker resistance, a trend originating in Marx and reproduced in Braverman and other contemporary Marxists (ibid: 48–50). Instead, he

emphasizes the need "to examine how the capitalist mode of production has accommodated itself to worker resistance, rather than simply how the capitalist mode of production might be overthrown through worker resistance" (ibid: 48). Friedman thus criticizes Marx for not closely examining the means by which capital accommodates contradictions through reorganizing production to sustain its dominance (ibid: 49).

Against the skewed focus on direct control, Friedman argues that, especially under monopoly capitalism, labor control adopted another form. In particular, he distinguishes strategies of "responsible autonomy" from those of "direct control", defining them as follows:

> *The Responsible Autonomy strategy attempts to harness the adaptability of labor power by giving workers leeway and by encouraging them to adapt to changing situations in a manner beneficial to the firm. To do this, top managers give them status, autonomy and responsibility, and try to win their loyalty to the firm's ideals* (*the competitive struggle*) *ideologically. The Direct Control type of strategy tries to limit the scope for labor power to vary by coercive threats, close supervision and minimizing individual worker responsibility. The first type of strategy attempts to capture benefits particular to variable capital, the second tries to limit its particularly harmful effects and treats workers as though they were machines.* (ibid: 78)

Following Friedman's analysis, the increasing prominence of responsible autonomy is attributed to several factors: i) the rise of monopoly capitalism and the concurrent adoption of managerialism within corporations, ii) the limitations of direct control mechanisms, particularly Taylorism, which have historically led to collective forms of organized worker resistance and inefficiencies in labor process organization, and iii) the resultant need for a combination of diverse labor control strategies within firms.

According to Friedman, the advent of Monopoly Capitalism, spanning from 1870 to 1914, witnessed a significant surge in managerialism. This involved the theoretical advancement of strategies aimed at maintaining managerial authority over workers, alongside substantial financial investments in methodologies like Taylor's scientific management. As monopolistic corporations expanded in size, top management felt

increasingly emboldened to experiment with new approaches to labor control, with reduced concerns about financial jeopardy in case of failure (ibid: 79).

The proliferation of direct control mechanisms precipitated severe and progressively organized forms of worker resistance during the 1920s and 1930s, particularly in industrialized regions such as Britain and the USA. Friedman underscores Taylor's failure to anticipate collective worker opposition to scientific management due to his bourgeois, individualistic perceptions of workers as homo economicus (ibid: 94). Taylor's premise was that workers' motivation stemmed from rational calculations of self-interest, leading him to devise a scientific framework for labor organization based on the motivational and disciplinary impacts of anticipated higher earnings for first-class workers, at the expense of their job satisfaction.

Taylor's managerial strategy assumed that trade unions would become obsolete if workers could be persuaded to prioritize earnings over job satisfaction and disputes regarding labor's equitable share. This strategy relied on the stratification of the working class into first-class and ordinary workers and remained effective only as long as workers operated as individuals, with the majority not becoming first-class workers. However, once workers united in organized resistance, this division weakened the effectiveness of Taylor's system.

Friedman critiques Taylorism for viewing workers merely as machines controlled by centralized planning departments, where their minds and wills could be alienated and constantly subdued to economic self-interest, as if that were their sole motivation (ibid: 93–94). He argues that stripping away any intrinsic interest workers might have in their work activities only increased their dissatisfaction. Furthermore, widespread deskilling, extensive division of labor, and centralized control minimized differences among workers based on skills, thereby consolidating the labor process and facilitating organized collective resistance among workers in monopolistic companies where scientific management was implemented (ibid: 94).

Taylorism not only faced growing organized resistance from workers but also contradicted capital's interests. Suppressing worker subjectivity often led to inefficiencies in the labor process, particularly as correct procedures for operating new machinery could not always be predefined, and new equipment typically involved initial operational challenges. Consequently, with the increasing mechanization of production and rapid

technological changes, capital became increasingly dependent on workers' skills, adaptability, and goodwill (ibid: 95).

Friedman further argues that direct control mechanisms hindered efficiency from a capitalist standpoint. As monopoly capitalism led to larger firm sizes, it created coordination challenges, necessitating a substantial increase in record-keeping and supervisory personnel due to advances in managerialism. This expansion resulted in a significant rise in white-collar employees, ranging from managers and professionals to middle managers, supervisors, inspectors, clerks, typists, and office cleaners. However, this deployment of personnel became burdensome during periods of sudden demand decline (ibid).

During the transition to monopoly capitalism, top managers increasingly valued white-collar workers over blue-collar workers for their specialized knowledge or contributions to managerial authority. According to Friedman, responsible autonomy applied to these white-collar workers, who enjoyed higher levels of job discretion, responsibility, employment security, pay rates, and working conditions compared to manual workers (ibid: 97–98).

Friedman explains that abrupt shifts between strategies of responsible autonomy and direct control would severely disrupt capitalist production processes. Therefore, workers were categorized into groups subjected to either responsible autonomy or direct control (ibid: 108).

According to Friedman, workers are classified into central and peripheral categories based on the essentiality of their skills and contributions to achieving high, long-term profits, as well as the mode of labor control applied to them. Central workers possess skills or contribute to managerial authority in a way that is considered crucial for securing high profits over the long term. They typically experience responsible autonomy. Additionally, central status can also stem from their collective resistance strength, compelling top managers to recognize their importance. In contrast, peripheral workers are viewed as non-essential or even detrimental to consistent high profits, making them more vulnerable to job insecurity during financial downturns. In terms of labor control strategy, peripheral workers are more likely to face direct control (ibid: 108–109).

Broadly, peripheral workers identified by top managers typically include unskilled and semi-skilled manual workers (and to a lesser extent, skilled manual workers), along with

lower-level administrative staff like clerical and secretarial personnel. However, it is noted that in large firms, through strong organizational efforts, even unskilled and semi-skilled workers can become central workers. Women, blacks, and immigrants are generally categorized as peripheral due to perceived lower potential for collective resistance, often exacerbated by lack of solidarity from male, white, native workers reflecting societal biases. Nevertheless, these workers are directly marginalized by limiting their access to peripheral job opportunities (ibid: 111–112).

Within this strategy of labor control, internal labor markets serve as mechanisms for the co-option of predominantly male white-collar workers, demonstrating that conciliation is more effective than blanket coercion for this group. Particularly in large firms, financial incentives and other concessions have been offered to motivate workers' efforts and ensure their alignment with the company's goals. The aim of such a strategy is to achieve compliance with changing managerial directives with minimal supervision (ibid: 79).

Control of labor is thus pursued by granting some job control back to workers, in anticipation of their co-option (ibid: 106). However, the manipulative nature of responsible autonomy gives rise to contradictions (ibid: 108), as workers may exploit their autonomy in ways unintended or undesirable for management.

As Marchington (1992: 172) critically notes, because Friedman locates the roots of responsible autonomy in worker resistance and the power to force managers to loosen control, he overlooks the possibility that top management might find responsible autonomy strategies attractive when labor is relatively weak. In such situations, management may take a more proactive stance in generating worker consent. It is important to recall that the control strategy implemented depends on the context of workers' organization and the broader economic and class relations (Thompson 1983: 137).

3.6.2 Burawoy's Hegemonic Factory Regime

Burawoy (1979, 1985) offers perhaps the most well-known effort to introduce subjectivities into LPT. He foregrounds the issues of consent and workers' cooperation as key factors in reproducing capital's domination in the workplace. By connecting labor organization and its inherent problem of labor control with the production of a specific type of consciousness or ideology at the production site, he develops a materialist reading

of workers' identity and interest formation. This approach links macro structures of political economy with micro-level practices on the shop floor.

Burawoy argues that "now management can no longer rely entirely on the economic whip of the market. Nor can it impose an arbitrary despotism. Workers must be persuaded to cooperate with management. Their interests must be coordinated with those of capital" (Burawoy 1985: 126).

The relationship between the organization of the labor process and workers' interest formation is central for Burawoy: How are social relations in production organized to preserve their capitalist essence, specifically by obscuring and securing surplus value (Burawoy 1985: 35)? How are workers' interests and ideology constituted in the labor process to elicit their consent to cooperate with management? These are the questions he addresses in his work "Manufacturing Consent" (Burawoy 1979), a main reference for the present work, which will be discussed in greater detail in the next Chapter.

Burawoy bases his approach on Marxist hegemony theory. It is important to recall that, even for Marx himself, capitalism was not simply a coercive context, rather, it was normatively secured via the norm of equivalence and through ideological moments (as described in the theory of commodity fetishism, introduced above). However, Marx paid little attention to questions of legitimacy or ideology in the workplace. Even Gramsci's dictum that hegemony springs from the factory (Gramsci 1934: 2069) was initially hardly pursued in the Marxist tradition. It was only Burawoy (1979) who systematically analyzed the production of consent in the practice of the industrial labor process from a Marxist perspective (Menz 2009: 89).

As mentioned briefly before, Burawoy criticizes Braverman's (1974) one-sided and objectivist view of the labor process for missing the importance of consciousness in mediating the control exercised by the objective factors of labor organization (particularly technology).

> *The point is that capitalist control, even under the most coercive technology, rests on an ideological structure that frames and organizes our lived relationship to the world.* (Burawoy 1985: 36)

Despite Marx's attention to the role played by ideology in capitalist domination, Burawoy argues that Marx failed to acknowledge the relevance of workers' consent for the conversion of labor power into actual labor activity.

> *In other words, Marx had no place in his theory of the labor process for the organization of consent, for the necessity to elicit a willingness to cooperate in the translation of labor power into labor. […] Accordingly, coercion must be supplemented by the organization of consent.* (Burawoy 1979: 27)

Following Burawoy (1985: 59), Braverman's adherence to Marx prevented him from grasping the centrality of workers' consent in the reproduction of capitalist domination within the labor process. As Thompson notes, Braverman is not alone in this oversight, the objective and subjective factors that legitimize social relations in the workplace have often been neglected in LPT. This neglect arises either from an emphasis on structural changes in work or from a focus on traditions of resistance at the expense of examining the day-to-day reproduction of consent (Thompson 1983: 154).

In contrast, Burawoy highlights the production of consent as a critical factor explaining the widespread, albeit variable, acceptance of the capitalist labor process (Thompson 1983: 153). He treats the production process as an inseparable combination of its economic, political, and ideological aspects. First, the organization of production relations produces political and ideological effects. Second, these relations are regulated by distinct political and ideological apparatuses of production, which address struggles over pay, conditions, and status. Burawoy encapsulates these political moments in the notion of a factory regime, defined as "the means used to regulate struggles around the relations of domination in any workplace" (Burawoy 1985: 87).

By focusing on workers' subjectivity and their consent, Burawoy distinguishes between coercive and hegemonic forms of control. Coercive control relies on the direct exercise of coercion, whereas hegemonic control depends on workers' acceptance for the implementation of a production regime. According to Vidal (2018), this distinction is likely Burawoy's central contribution to LPT.

Burawoy's concept is pivotal to discussions on the subjectivation of work and 'indirekte Steuerung', which will be introduced in Chapter six. This concept posits that the expansion of workers' autonomy does not necessarily undermine capital's control and domination. Instead, these can be exercised precisely through autonomy, termed 'control through autonomy' (Sauer and Döhl 1994) or 'domination through autonomy' (Moldaschl 2001). Consequently, employee subjectivity, previously considered the bastion of autonomy in labor process debates, should be integrated into the organizational context

and the company's control system (Menz 2009: 84). Burawoy reflects on his experience at Allied:

> *We participated in and strategized our own subordination. We were active accomplices in our own exploitation. That, and not the destruction of subjectivity, was what was so remarkable.* (Burawoy 1985: 10)

By focusing on workers' consent, Burawoy not only addressed the early neglect of subjective action in labor process literature but also countered the subsequent ideologically driven preoccupation with worker conflict and resistance (Thompson 1983: 154). According to Sturdy (1992: 117), the principal contribution of „Manufacturing Consent" was demonstrating how a form of self-disciplinary and cooperative involvement in work – essentially, consent – is produced not through ideological inculcation or socialization but through participation in workplace practices or 'games' such as 'making out'.

Criticism of Burawoy's "The Politics of Production" mirrors the critiques provoked by "Manufacturing Consent". His ongoing emphasis on increasing hegemony and consent has been challenged for its neglect of the significance and persistence of resistance (Thompson 1989 and 1990, Littler 1990, see Sturdy 1992). Additionally, it has been criticized for underestimating the influence of external factors such as culture, race, and gender, as well as social institutions like schools, media, and family, in shaping the organization of the labor process (Knights and Willmott 1990). Other contributions to the debate have highlighted the interpenetration of internal and external factors, particularly gender, and have sought to account more adequately for individual workers' susceptibility to discipline while also recognizing their exercise of power through skill and control (Knights 1990, Knights and Sturdy 1990).

Furthermore, Thompson challenges the independence of the production of consent in the workplace from other instances, arguing that "the ability of capital to organize consent depends in reality on the context of productive activity". This question is crucial not only for illustrating the limits of consent but also for understanding its origins and sources (Thompson 1983: 168) and will be considered in the present research.

4. Informal Self-Organization of Workers for Productivity: The Case of Allied Corporation

In this Chapter, I present Michael Burawoy's empirical and conceptual work on the production of workers' consent as detailed in "Manufacturing Consent" (1979) as the main theoretical framework for my research. First, I discuss the relevance of Burawoy's work for my research question (4.1). Then, I examine Burawoy's account of the production of workers' consent at Allied (4.2) in relation to the three main elements of his analysis: the game of 'making out' based on the company's piece-rate system, the internal labor market, and the internal state. Subsequently (4.3), I engage with Burawoy's notion of consent, which, despite being the cornerstone of "Manufacturing Consent", lacks an explicit and systematic definition. A discussion of Burawoy's concept of consent inevitably leads to his notion of the work process as a game, both of which I critically analyze in Section 4.4. Here, I focus on why workers engage in games and the tension between freedom and force that shapes workers' consent. Finally, I highlight contradictions between the results of my empirical work and Burawoy's findings, which I will address in the following Chapters (especially Chapters six and seven).

4.1 Why Burawoy Remains Relevant

Over forty years ago, Michael Burawoy explored the dynamics of labor exploitation and the securing and obscurement of surplus value in his work, "Manufacturing Consent" (1979). Conducted at Allied, a Chicago engine manufacturing company, Burawoy's research relied on interviews with management and, primarily, his own observations, experiences, and conversations during a ten-month period in which he worked as an operator at Allied. He sought to answer the question: why did workers at Allied, including himself, consent to actively participate in their own exploitation?

Burawoy's research was driven by a concern similar to my own. Specifically, it aimed to understand why workers act in ways that appear to contradict their class interests (and, in the case of RHT, against their own definition of what is possible or realistic). The core issue in both cases is the construction of interests, the definition of reality, and the notions of possibility and desirability within the labor process. Ultimately, this leads to an examination of the very definition of consent – its meaning and limits – vis-à-vis concepts such as coercion/force and autonomy/freedom/agency.

As a scholar interested in exploring the production of workers' consent from a critical perspective, Burawoy's work is an essential reference. His research offers the most notable effort within LPT (see Chapter three) to conceptualize workers' consent and analyze its production within the labor process.

Interestingly, not only are our research interests alike, but the empirical phenomena we both observed, over forty years apart, bear significant similarities. Despite differences in the organization of production (piece-rate system at Allied vs. time pay without a bonus system at RHT), both cases involve production workers self-organizing informally – often against or beyond the rules of senior management – to secure the company's productivity conditions. This underscores the relevance of Burawoy's work for my research and highlights the continuity of certain capitalist dynamics over time.

However, there are several differences between Allied and RHT, which will be discussed in the following pages. The most notable of these relate to the historical and economic contexts of both companies.[17] These contexts influence each company's relationship to the market, which in turn affects the relations in production. Despite these divergences – or perhaps because of them – the comparison between the two cases is highly productive for understanding the production of workers' consent in the RHT case. In particular, the mechanisms described by Burawoy for individualizing workers – making them 'free and equal' individuals rather than members of the same class – coordinating their interests with those of managers/capital – and redistributing the conflict between capital and labor provide an important analytical framework for studying RHT (see Chapter six).

Moreover, the comparison between the two cases serves another, secondary purpose for my research[18]: illustrating the changes experienced by capitalist labor organizations over time. Allied in 1975 exemplifies a monopolistic firm within a Fordist regime, employing mechanisms to insulate itself from market dynamics. In contrast, RHT between 2017 and 2019 represents a company where Fordist and post-Fordist elements coexist, heavily influenced by strong (inter)national competition and entirely permeated by market dynamics.

[17] This topic is extensively discussed in the upcoming Chapter.

[18] Michael Burawoy pursues a primary goal in his work "Manufacturing Consent" (1979) by analyzing changes in capitalist production systems. In doing so, he draws comparisons between Allied and its predecessor, Geer, based on Donal Roy's doctoral thesis "Restriction of Output in a Piecework Machine Shop", published in 1952. Geer, akin to RHT, operated in a competitive sector, while Allied held a monopolistic position in its industry.

4.2 Unbalanced Balances and The Production of Workers' Consent

4.2.1 'Making Out': Producing Consent Through the Organization of The Labor Process

The reward system at Allied in 1975 was based on piecework rates. For each production operation, the methods department established a benchmark effort level, expressed in X pieces per hour, representing the 100-%-standard. Operators who did not meet this benchmark received a base rate for the job, regardless of the actual number of pieces produced. This is a crucial aspect of Allied's reward system: Operators were not penalized for not reaching the standard production rate, the base earning, determined by the job's labor grade, was guaranteed. However, if an operator exceeded the standard rate (i. e., 'made out'), they received the base rate plus an additional bonus or incentive corresponding to the number of pieces produced beyond the 100-%-standard.

The following diagram summarizes how earned income per hour was calculated at Allied (Burawoy 1979: 49):

- Base earnings (determined by job's labor grade)
- Base earnings x (% Rate – 100 %) (if rate is greater than 100 %)
- Override (determined by job's labor grade)
- Shift differential (25 cents for second and third shifts)
- Cost-of-living allowance

For example, if an operator produced at 125 % (25 % more pieces than the base rate), they would earn an incentive bonus that added approximately 15 % to the amount earned when producing at 100 % or less. An output rate of 125 % was defined as the anticipated rate, which – according to the contract – was the amount "a normal experienced operator working at incentive gait" was expected to produce (ibid: 49). The highest possible rate recognized by all participants in 'making out' was 140 %, although this was not approved by higher management. Output exceeding 140 % would lead to rate increases, making 'making out' more difficult and potentially resulting in punishment by other operators (see Section 4.4). Therefore, 'making out' involves not only increasing output but also restricting how much output is turned in. Operators at Allied often produced more than 140 % but reported only 140 %, keeping the excess as a kitty (also known as banking) for operations where they could not 'make out'. Shop managers were concerned with actual output and overlooked the discrepancy between recorded and actual completed output.

Consequently, the practice of banking was recognized and accepted by everyone on the shop floor, even if not approved by higher management (ibid: 58).

When Burawoy refers to the games of 'making out' (discussed further in subsequent Sections), he means the activities on the shop floor where operators aimed to achieve production levels that earned incentive pay (ibid: 51). Thus, the practice of 'making out' at Allied involved operators manipulating – circumventing, ignoring, or subverting – the rules set by higher management on organizing activities and social relations in the labor process to achieve incentive pay. They formed informal alliances with auxiliary workers – "by jumping into an idle truck, by entering the crib to get their own fixtures, by filling out their own cards, by looking through the books for rates or to see whether an order had been finished, and so on" (ibid: 66). Foremen either tacitly (as in the case of banking) or actively supported these games – showing operators the best angles, getting frustrated with the methods department's tight rates, using the idiom of 'making out' to defend operators' performances to their own superiors etc., all for the sake of 'making out' (ibid: 80).

It is worth recalling the distinction introduced by Burawoy (1985) between relations in production – the social relations into which individuals enter with one another and with nature to produce goods – and relations of production, which are specific to the mode of production. In Burawoy's account, social relations of production include: a) relations of exploitation between capital and labor, through which surplus is extracted from the direct producer, and b) relations among the units that organize exploitation (Burawoy 1985: 13–14). With this distinction in mind, 'making out' can be understood as an informal organization of the social relations in production, whose effect is to ensure and obscure the capitalist social relations of production.

As exemplified in the case of 'making out', relations in production and relations of production are interconnected, representing two different aspects of the same production process (MacKenzie 1994: 29). In Burawoy's own terms, "the transformation of nature as defined by the labor process" (or the relations in production) "reproduces the relations of production, and at the same time conceals the essence of those relations" (Burawoy 1985: 31).

Obscuring the exploitative essence of capitalist relations of production is, for Burawoy, a necessary precondition for securing surplus value and a defining characteristic of capitalist production processes, "common to all [its] forms" (Burawoy 1985: 35).

Moreover, it is vital for extracting workers' consent to work, and thus for the reproduction of the capitalist system, which, as Burawoy argues (Burawoy 1985: 126), can no longer rely exclusively on coercion for its functioning. From this perspective, the relationship between the organization of the labor process and the formation of workers' interests becomes central.

Burawoy finds that the obscuring and securing of profit via labor's exploitation is achieved by the "expansion of the area of 'self-organization' of workers as they pursue their daily activities" (Burawoy 1979: 72). It is, therefore, not direct and coercive control, but workers' active cooperation in production, achieved through a shop-floor induced game of making-out – in other words, workers' consent[19] – that ensures high levels of productivity.

In the game of 'making out', the expansion of workers' self-organization is held within the strict limits set by the capitalist logic and imperative of profit. This point is key to understanding the production of consent in the labor process and beyond. Throughout Manufacturing Consent, Burawoy illustrates how the production of consent involves balancing the tension between different forms of uncertainty and definiteness, choice and force at various levels. Producing consent is about the simultaneous restriction and expansion of possibilities within well-established limits. It is an unbalanced balance aimed at the reproduction of capitalist relations of production.

We shall see another expression of this balance between uncertainty and security when referring in the last Section of this Chapter to what Burawoy terms the legitimation crisis. Similarly, Allied's internal labor market and internal state also operate based on this unbalanced balance of forces. It is to both of these aspects that I now turn.

4.2.2 The Internal Labor Market: Producing Consent by Enhancing Workers' Commitment to The Company and Its Survival

Allied's seniority system, a central feature of the company's internal labor market, exemplifies the balance between uncertainty and security on which the production of workers' consent depends. The benefits of seniority, such as better jobs, fringe benefits, job security, and social status, foster a commitment to the enterprise and its continuity.

[19] I use the term consent here, despite not having defined it yet (a discussion of the term follows in the next Section). However, so far, we can infer from the explanation of 'making out' that consent, for Burawoy, is somehow a synonym for active cooperation in production. This cooperation results from the shop-floor induced game of 'making out' (that is, from the organization of the labor process) and is key for capital's obscuring and securing of profit.

The longer employees remain at Allied, the stronger their allegiance to the company becomes. These seniority-based rewards discourage workers from seeking employment elsewhere (Burawoy 1979: 103).

Allied's internal labor market serves to insulate the company – or more precisely, "the relations in production, the expenditure of effort, and their covariation both over time and among different worker groups" (ibid: 125) – from the external labor market. Consequently, Allied could mitigate the impact of employment fluctuations and, paradoxically, even promote consent during recessions and cutbacks (ibid: 132).

According to Burawoy, the function of any labor market, whether external or internal, is to allocate individuals to positions based on specific rules (like the seniority system at Allied). Thus, any labor market defines (a) a range of positions (occupations), (b) a population of individuals (workers), and (c) a set of transformation rules that map the one onto the other. These transformation rules involve matching the formally free preferences of workers for jobs with the preferences of jobs for workers. The outcome of this allocation process results from the relative scarcity of jobs and workers (ibid: 96).

Burawoy identifies six conditions or aspects of the internal labor market: a differentiated job structure, an institutionalized means of disseminating information about and submitting applications for vacancies, non-arbitrary criteria for selecting employees for vacancies, a system of on-the-job training, mechanisms to generate commitment to the firm making jobs in other firms less attractive and maintaining employee allegiance even after layoffs (ibid: 98).

The internal labor market thus promotes mobility within the firm while reducing mobility between firms. As in the game of 'making out', the key lies in the ability of workers' choices – albeit within defined limits – to generate consent. The choice available to employees between different positions within the firm fosters the same competitive individualism typically associated with the external labor market. In this way, the internal labor market acts as an individualizing mechanism.

However, consent can only be produced if management does not arbitrarily dictate choices to workers – if, e. g., transfers are always initiated by workers and follow the allocation rules, and if punitive sanctions are limited to the transgression of choice limits, such as when workers decide to stay home instead of coming to the factory. Moreover,

similar to the case of ‘making out’, when restricted to violations of the rules that define the limits of choice, the application of force becomes an object of consent (ibid: 120).

Furthermore, it has a significant impact on the patterns of conflict on the shop floor. The opportunity to move between jobs diminishes conflict between workers and the lower levels of management – the foreman and the industrial engineer. Because employees can transfer with relative ease and at will to other jobs with easier rates, they no longer have the same vested interest in fighting the methods department on any particular operation. Moreover, they even have a diminished interest in protecting existing productivity rates. Equally, when operators resent the treatment they receive from their foremen, they can quite easily move to another section or department. However, foremen have an interest in limiting workers’ mobility in and out of their sections especially because of the costs and frustrations of training new operators. Therefore, foremen have been known to try to obstruct such transfers. Just as mobility mitigates conflict in a hierarchical direction (between workers and managers), it tends to generate conflict in a lateral direction, both among operators and between operators and auxiliary workers (ibid: 104–105).

Shortages in the number of auxiliary workers (crib attendant, inspector, trucker, and so on), along with operators’ pressures to ‘make out’, frequently result in conflict between production and auxiliary workers when the latter are unable to provide some service promptly. During Burawoy’s time as an operator at Allied, the number of operators on the second shift expanded, yet the number of auxiliary workers was often half of what was needed. Thus, there was only one truck driver instead of two, for most of the time, there were only two inspectors instead of four, there were only two foremen instead of four, and there was only one crib attendant instead of two or three. This merely accentuated a lateral conflict that was already endemic to Allied’s organization of work (ibid: 65–66). In other words, the internal labor market acted as a mechanism for the redistribution of conflict between capital and labor at Allied.

Summing up, by rewarding seniority and workers’ commitment to the company and its survival with material concessions in the form of employee benefits and wage increases, the internal labor market concretely coordinates the interests of capital and labor in the expansion of profit (ibid: 119). Moreover, it redistributes conflict between capital and labor (horizontal conflict is mitigated and lateral conflict is fostered instead) and promotes competitive individualism of ‘free and equal’ laborers (ibid: 107). Thus, the interests of the workers are constituted as those of one individual agent against other individuals

rather than those of one class opposed to another class (ibid: 107). This way, capitalist relations of production in the labor process are obscured.

We shall see in the next Sections how the alignment of interests between capital and labor at RHT follows the exact opposite logic of Allied's. Thus, it is not through employment rewards but through the precarization of labor. However, the fear of job loss is, for Burawoy, not a source of consent. In his own words, "consent organized at the point of production is the immediate source of cooperation on the shop floor, not fear of unemployment" (ibid: 131). In that sense, he introduces an important distinction between 'coming to work' and 'working'. His data suggest that while coming to work may result in part from coercion – that is, the fear of losing one's job – activities on the shop floor are more likely to be the object of consent (ibid: 132).

4.2.3 The Internal State: Producing Consent Through the Creation of the Industrial Citizen

Burawoy's concept of the internal state[20] refers to "the set of institutions that organize, transform, or repress struggles over relations in production and relations of production at the level of the enterprise" (Burawoy 1979: 110). According to Burawoy, the internal state is not a new phenomenon, although it takes on a radically different form under monopoly capitalism. With the rise of large corporations and trade unionism, the institutions of the internal state become disentangled from the managerial direction of the labor process and embodied in grievance procedures and collective bargaining (ibid). This relative autonomy of the internal state is crucial to produce workers' consent. Just like the organization of the labor process (i. e., the game of 'making out') and the functioning of the internal labor market (keyword here, seniority system), Allied's internal state was also based on the principle of unbalanced balance.

Burawoy describes an invisible system of checks and balances in place at Allied, aimed at limiting the power of both the union and management to ensure the reproduction of the status quo. For industrial relations within the company, the emerging internal state meant a delimitation of managerial discretion. This was intended to provide the management's

[20] In his later work "The Politics of Production" (1985), Burawoy dismisses the concept of the internal state and substitutes it with political apparatuses of production. Critiquing the internal state, he argues that it had to go because it obscured the role of the state as the decisive nucleus of power in capitalist societies, including the factory. Additionally, it unjustifiably focused on the factory (Burawoy 1985: 11). Political apparatuses of production cannot be detached from their material base, the labor process, and refer to the ideological and political elements regulating struggles over production, or the politics of production (ibid: 122).

prerogative to fashion and direct the labor process with the necessary legitimacy, thereby preserving it. In return, the union was awarded the status of legitimate bargaining partner vis-à-vis management, which recognized the need for a legitimate union with which to negotiate and thus accepted the appropriate constraints on its discretion (ibid: 112). Similar to how breaking the rules of the game of 'making out' or the internal labor market and subsequent punishment served to restore or reinforce the commitment to the rules, occasional violations of the contract by management were to the advantage of both management and the union. On one hand, the internal state helped the union preserve its legitimacy and appearance of autonomy in the face of management. On the other hand, management benefited from such corrective delimitations of its discretion, which enhanced its legitimacy to continue setting the rules of the labor process. Therefore, the internal state – like the game of 'making out' and the seniority system – concretely coordinated the interests of management and workers (representatives) through their joint use of grievance machinery and collective bargaining (ibid: 119).

Regarding workers, the internal state integrated them into the political process as industrial citizens, endowed with a set of contractually defined rights and obligations. In this way, the internal state, with its social contract designed to guarantee equality of treatment and industrial justice, set the framework for the possibilities of their action (ibid: 110–113). Here again, we find a situation similar to the one observed in relation to the game of 'making out'. Workers were granted a realm of limited managerial discretion to act, but without defining either the rules of the game or the scope of their realm of action. Issues among workers arose regarding whether different actors in the labor process were respecting the rules of the game (in the case of 'making out') or the laws of industrial government, in the case of the internal state. However, the very rules/laws themselves and the interests they served remained unexplored, let alone questioned.

Like the internal labor market, the internal state serves to individualize workers and coordinate the interests between capital and labor. The individualizing logic of the internal state is expressed in that it constitutes workers as individual citizens with rights and obligations, instead of members of a class.

A good example of the individualizing logic of the internal state and its core figure of the industrial citizen is provided by the grievance machinery. During the monthly union meetings, grievances are discussed between union members and union executives. At times, union members raise collective grievances and issues of principle outside the

contract, affecting the entire membership or a section thereof. In those cases, the president of the union dismisses complaints that are not filed individually or are not stipulated in the contract.

Moreover, the internal state, with its main instrument of collective bargaining, dilutes conflict between different agents of production by displacing it from the shop floor, where it can lead to work disruptions. On the other hand, it reconstitutes conflict within a framework of negotiation (ibid: 115).

As in previous examples, collective bargaining revolves around marginal changes in the capital/labor relations, which leave their essential nature unaffected. Not only does collective bargaining not affect social relations of production, but on the contrary, it generates consent to them. Thus, the relative autonomy of the internal state ensures that coercion plays a more restricted role in the regulation of production, in favor of consent (ibid: 120).

As with the game of 'making out', the context that defines the rules of collective bargaining is, as a result of playing the game (be it 'making out' or collective bargaining), taken as given (ibid). Moreover, similar to the above-mentioned examples of how breaking the rules, whether of 'making out' or the contractual obligations, reinforces those same rules, violations of the established rules of collective bargaining are likely to reinforce commitment to collective bargaining.

4.3 Deciphering Burawoy's Notion of Consent

As already stated, Burawoy is the major labor process theorist concerned with consent at work. However, he does not provide an explicit and systematic definition of consent, unlike his clear definitions for other terms, such as mode of production, relations of production, labor process, relations in production, reproduction, politics, ideology, and interests (Burawoy 1979: 14–20). Nonetheless, throughout his work „Manufacturing Consent", Burawoy offers various implicit explanations of what he understands by consent.

For Burawoy, consent is: – the willingness to cooperate in the translation of labor power into labor (ibid: 27), – expressed through, and the result of, the organization of activities (ibid), – to be distinguished from the specific consciousness or subjective attributes of the individual who engages in those activities (ibid), – the other of conflict (e. g., "I shall show how both conflict and consent are organized on the shop floor" [ibid: 4], "Conflict

and consent are not primordial conditions but products of the particular organization of work" [ibid: 12]), – the outcome of choices/decisions made by workers (e. g., "Within the labor process the basis of consent lies in the organization of activities as though they presented the worker with real choices, however narrowly confined those choices might be. It is participation in choosing that generates consent" [ibid: 27]), – something to be controlled and subject to a shared framework of norms and rules, – somewhat synonymous with harmony, harmony of interests, consensus, compliance, and cooperation, – a key concept in Burawoy's theory of interests, which is "a theory of how interests are constituted out of ideology" (ibid: 19), and as such, an expression of ideology.

By ideology, Burawoy means "the way people experience relations" (ibid: 18). Ideology mediates both conflict and the lack thereof (consent). It is important to note that ideology, for Burawoy, "is rooted in and expresses the activities out of which it emerges" (ibid). Ideology is not something manipulated by agencies of socialization – such as schools, families, churches, or workplaces – in the interests of a dominant class. On the contrary, the ideological effect of these institutions is mediated through their effect on social praxis. In Burawoy's words, these institutions "elaborate and systematize lived experience and only in this way become centers of ideological dissemination" (Burawoy 1979: 17).

4.4 The Labor Process as Game

When Burawoy frames the labor process as a game[21], he uses the concept not only as a tool of explanation but also as a tool of critique (ibid: 92). As a tool of explanation, it highlights the unfree nature of the rules and choices individuals face in their daily life under capitalism and their often not intended effects: "The game metaphor suggests a 'history' with 'laws' of its own, beyond our control and yet a product of our actions." (ibid: 93) As a tool of critique, the game metaphor implies and is constructed against a notion of an ideal, emancipated society in which people make history themselves, for themselves, self-consciously and deliberately, without unintended consequences, and where conflict and contradiction are resolved through political discourse (ibid: 93–94).

The constitution of the labor process as a game contributes to the production of consent and the obscuring and securing of surplus value for several reasons (ibid: 92–94):

[21] Burawoy's notion of game is, as he explicitly states, the opposite of play as commonly used in critical theory, where it is counterposed to work. In his usage of the term, "game is assimilated to work rather than play" (ibid: 231–232).

First, it generates consent to externally promulgated rules. As Burawoy puts it, "one cannot play the game and at the same time question the rules" (ibid: 81). What is important here is the logical and empirical priority: consent is the outcome and not the precondition for the game. In other words, the game does not rest upon consent, rather, consent is constructed through playing the game. It is precisely the confrontation with a set of choices, even within narrow limits, that constitutes the basis of consent, as seen through multiple examples in the previous Section. This applies to 'making out' and, more broadly, to the whole system of capitalist relations: "It is by constituting our lives as a series of games, a set of limited choices, that capitalist relations not only become objects of consent but are taken as given and immutable." (ibid: 93)

Secondly, the games establish specific goals (such as achieving pay incentives in the case of 'making out'), thereby creating corresponding interests (like maximizing productivity) and cultural values. These goals and values, akin to the game rules, are accepted as given and reinforced through participation. Playing the game aligns the interests of workers and management, as previously discussed.

Burawoy emphasizes that these interests and values do not exist prior to the game, they emerge from the specific relations in production. This is one aspect of Burawoy's concept of the relative autonomy of Allied's labor process: engagement in the game (which includes the formation of interests, values, and adherence to norms) is somewhat independent of prior socialization experiences, whether related to class or gender.[22] This idea will be further explored and critically examined in the upcoming Section on "Workers' motivations for playing the games".

Thirdly, playing the game legitimizes the conditions that define its rules and objectives – the relations of production presented as natural and inevitable. Violating these rules and the subsequent punishment serve to restore or reinforce adherence to them. As discussed earlier in relation to the labor process, internal labor market, and internal state, this dynamic is evident at Allied's shop floor.

For instance, although 140 % was the recognized maximum output rate in 'making out', there were occasional rate busters (workers exceeding this rate) or individuals submitting proposals to increase machine rates to the methods department (in exchange for personal

[22] The other aspect of the labor process' relative autonomy is to do with Burawoy's account on the functioning of Allied's internal labor market and internal state (see previous Sections) as mechanisms for controlling or containing uncertainty in the company's environment.

bonuses if successful and cost-saving). Such infractions of the ‘making out’ rules would provoke widespread disapproval from operators and shopfloor managers, often leading to the ostracization of the offender on the shop floor (ibid: 168). In some cases, increased rates resulting from rate busting or proposals would complicate the game of ‘making out’ further.

Thus, breaching the norms of the shop floor had dual consequences: it led to social exclusion of the offender and triggered rate increases on a machine. This dual punishment served to reinforce both the norms of ‘making out’ and the social relations of production: “As long as managers restrict themselves to increasing only those rates well beyond the 140 % ceiling, their action, far from generating a cohesive opposition, strengthens consent to their domination.” (ibid: 170)

The functioning of the labor process as a game can be summarized as follows: Workers encounter externally imposed rules and desirable outcomes that define their goals, interests, and scope of action. While their choices are constrained by these rules, they still perceive a degree of agency. Adherence to these rules reinforces their legitimacy and perpetuates the relations of production.

4.5 Workers’ Motivations for Playing Games

So far, I have explored how consent is generated in Burawoy’s framework, examining the organization of activities in the labor process, as well as the structuring of social relations through the internal labor market and internal state.

Burawoy focuses on analyzing productivity games, particularly how they are structured and their role in obscuring and securing profits. He acknowledges the question of why workers participate in these games, which is central to my research, although he considers it secondary. However, he does pose the question of “how are workers persuaded to cooperate in the pursuit of profit?” (note the use of ‘persuaded’). This issue forms the focus of this Section.

Burawoy explicitly dismisses monetary incentives as the primary factor influencing workers’ cooperation, noting that, as previously discussed in Section 4.2.1, ‘making out’ does not affect workers’ base income. Instead, he emphasizes that workers’ participation is driven by the specific relations in production and their alignment with the broader social relations of production – specifically, management’s imperative to generate profit. This alignment explains the prevalence of ‘making out’ within shop-floor culture.

More precisely, Burawoy explains workers' motivations for engaging in the labor process through the rewards associated with 'making out'. These rewards can be categorized into two main groups: firstly, those directly linked to the labor process itself, such as reducing fatigue, passing time, and alleviating boredom. Secondly, rewards tied to social and psychological aspects, including individual satisfaction and social recognition for excelling in challenging tasks, as well as the social stigma and psychological disappointment of failing in seemingly easy jobs (ibid: 85).

To grasp the significance of the latter set of factors, it's crucial to recognize that 'making out' constitutes a foundational element of the shop floor culture at Allied. As Burawoy asserts, "it was in terms of the culture of 'making out' that individuals evaluated one another and themselves. It provided the basis of status hierarchies on the shop floor, and it was reinforced by the fact that the more sophisticated machines requiring greater skill also had the easier rates" (ibid: 64).

Burawoy demonstrates that 'making out' serves as the structural cornerstone of the shop-floor culture, shaping the intersubjective construction of operators' identities and statuses.

Burawoy encapsulates workers' motivations for engaging in the game of 'making out' under the concept of relative satisfactions, akin to what Herbert Marcuse terms repressive satisfactions. Participating in this game "represents a need that is strictly the product of a society whose dominant interests demand repression" (Marcuse 1964: 5). Burawoy puts, "the source of the game itself lies (...) in historically specific struggles to adapt to the deprivation inherent in work and in struggles with management to define the rules" (ibid: 82).

Therefore, according to Burawoy, workers' cooperation does not hinge on Friedman's notion of responsible autonomy, which emphasizes praise, rewards, or loyalty to the company. Rather, it stems from a desire to alleviate the negative physical and psychological burdens associated with the labor process.

In my perspective, this explanation falls short. Repression, even when accompanied by elements of voluntariness and compensatory satisfaction, fails to fully explain workers' motivations and aspirations. Nor does coercive – as Burawoy terms it (ibid: 65) – apply to the dynamics of the culture at Allied. Instead, 'making out' acts as a productive power in the Foucauldian sense, shaping subjectivities and social relations within the production context (see Foucault 1976, 1978). In other words, Allied's shop-floor culture of 'making

out' shapes subjectivities and social relations *in* and *of* production, by molding conducts, forging social relations among individuals and shaping their self-perceptions.

4.6 Limits of Burawoy's Notion of Consent

Burawoy's concept of consent has faced criticism from other LPT authors (see Littler 1982, Thompson 1983, Knights and Collinson 1985, Joyce 1987, Edwards 1990) and from scholars in Critical Management Studies (CMS), notably Knights (1990) and Willmott (1990).

Within LPT, a significant critique of Burawoy's notion of consent revolves around its positioning between coercion and choice. Critics question the extent of agreement or acceptance implied by the term regarding the rules, relations, and structures that shape the labor process. As discussed earlier (Section 4.2.1), since workers at Allied can only enhance their income through 'making out' – achieving bonus output targets – it has been argued that compliance might be a more fitting term than consent (Knights and Collinson 1985, Thompson 1983). However, due to Burawoy's lack of an explicit and precise definition of consent, distinguishing between consent and compliance in his work proves challenging. Yet, differentiating between these terms is crucial. As Thompson argues, "consent implies some level of agreement, in this sense to a set of work relations. Compliance indicates that workers give way to the structure of power and control inherent in capital's domination of the labor process" (Thompson 1983: 176).

Sturdy (1992: 117) suggests that Burawoy derives the term consent from the limited element of worker's choice as opposed to compliance. However, Burawoy does not clearly delineate this distinction.

Edwards argues that Burawoy overemphasizes the role of necessity and coercion in achieving active consent or choice beyond mere compliance with formal rules (e. g., bonus schemes) to secure surplus value (1990: 141). Similarly, I perceive Burawoy's emphasis on force over choice in his concept of consent as reflecting ideologically constituted interests. According to Burawoy (quoting Agnes Heller), "the very concept of interest reflects the standpoint of capitalist society, in which individuals become slaves to motives beyond their control" (Burawoy 1979: 20).

Thompson's critique centers on Burawoy's excessive focus on capital's coercive power, which, according to Thompson, underestimates the challenge posed to management control by labor resistance (Thompson 1983: 165–70). Sturdy qualifies this critique by

noting that control structures generate both conflict (crises) and cooperation (Burawoy 1979: 12 and 89). Even within the most subordinate control forms, the potential for choice or autonomy preserves the fundamentally conflicted and unstable nature of the capitalist labor process (Sturdy 1992: 117).

Overall, the ambiguities within Burawoy's concept of consent complicate its full integration into a theory of the capitalist labor process (Thompson 1983: 176). As Edwards suggests, "the analytical task is to explore its nature and constituent parts" (1990: 141) – a task that the current research seeks to contribute to.

In CMS, Knights and Willmott criticize Burawoy's theory of subjectivity as essentialist. According to both authors, Burawoy perpetuates a prevalent dualism in LPT between capitalist objective and constraining structures on one hand, and subjective, creative, and voluntaristic actions of labor on the other (Knights 1990, Willmott 1990).

Willmott critiques Burawoy's presentation of consent as universally desirable and its erosion as universally resented, calling instead for a consideration of historical situatedness. He argues that historically specific forms of subjectivity formation, such as individual liberalism, hinge on choice and the capacity to choose as constitutive elements. In such cases, the absence of choice can be perceived as a "threat or affront to the sense of identity or self-image", thereby increasing the likelihood of expressions of resentment and resistance (Willmott 1990: 365). Drawing on Foucault, Willmott advocates for an analysis that addresses the historical, discursive, and material conditions shaping subjectivities, moving beyond assumptions of universality regarding the nature of choice and freedom.

Knights acknowledges Burawoy's insight in recognizing that interests and ideology are formed within the shop floor context rather than being solely a result of class structures or external socializing forces (as previously discussed in characterizing the labor process as a game). However, Knights critiques Burawoy for not applying the same analytical caution when theorizing about management. He argues that Burawoy attributes a shared interest in securing and obscuring surplus value to all management, despite the existence of competing factions within management ranks (Burawoy 1979: 190). Knights suggests that for consistency, Burawoy should have explored how such interests and ideologies are generated and sustained within the everyday practices of managerial work, akin to his examination of Allied's operators (Knights 1990: 310–311).

Wolfgang Menz (2009: 88) highlights the limited generalizability of Burawoy's concept of the game, which forms the core of his analysis on the production of workers' consent. Menz attributes this limitation to the highly specific conditions under which Burawoy details the dynamics of 'making out', including his ethnographic research at Allied in South Chicago between 1974 and 1975, Donald Roy's earlier study at the same company (then named Geer) 30 years prior, and a comparative case study of Jay's, a Manchester electrical engineering firm with overseas divisions, conducted by Tom Lupton in 1956 (Burawoy 1985: 128–129).

Menz argues that the specific characteristics of the companies Burawoy studied – such as one-off or small-batch production, piecework wage systems, and low technical-organizational integration – were typical of a subset of Western industrialized firms during that period (Menz 2009: 88). He suggests that Burawoy's concept of the game, illustrated through the example of 'making out', may be too specific to serve as a basis for explaining broader "hegemonic factory regimes", as Burawoy attempts (Menz 2009: 88).

Notwithstanding these limitations, certain aspects of the informal self-organization observed by Burawoy at Allied, central to his concept of the game, share similarities with my research case and offer a valuable starting point for critically reflecting on the production of workers' consent. Despite the noted differences between Allied and RHT – such as market position (monopolistic versus highly competitive), organizational structure (piecework versus time pay with a bonus system), and the historical contexts of capitalist development[23]– we can identify important commonalities between them.

Firstly, both production systems rely on informal self-organization to ensure productivity conditions. This means that while direct control mechanisms are in place, they necessitate workers' self-organization and subjectivity without formally permitting or enabling it. Secondly, in both cases, workers' self-organization and deployment of their subjectivity are crucial to resolving organizational contradictions within the labor process and ensuring productivity conditions. At RHT, this strategy that I have termed 'getting by' (see Chapter seven), involves compensating for organizational deficiencies by working faster or longer and self-organizing informally, without explicit management instruction or support. Similar phenomena occur at Allied, where workers organize against

[23] Please refer to Chapter six for further insights on the transition "From Fordism to post-Fordism".

management rules to address managerial resource misallocation, such as insufficient auxiliary workers like truck drivers and inspectors. Finally, workers' informal self-organization in both contexts reflects their agency within externally defined limits set by company control mechanisms, market pressures, and other dynamics.

However, Burawoy cannot fully explain workers' motivation behind their active engagement towards externally determined goals, particularly in situations like RHT where workers assert limited control over their work outcomes. Despite this lack of control, they strive to achieve productivity goals, a phenomenon I have termed the legitimation contradiction.

As previously discussed, framing the labor process as a game by Burawoy offers workers choices within constrained parameters. These constraints are pivotal for reproducing social relations at various levels. At the company level, choices are circumscribed by minimum wage and profit thresholds. While participation in the game of 'making out' does not directly threaten base wages, it can potentially impact profits, leading to what Burawoy terms a system crisis.

On the workers' level, a delicate balance of uncertainty is necessary to maintain their engagement in these games. Excessive or insufficient uncertainty regarding the attainment of 'making out' can trigger what Burawoy calls a legitimation crisis. Too much uncertainty renders outcomes entirely beyond workers' control, while too little diminishes the game's absorptive capacity for players (Burawoy 1979: 87–88).

However, production workers at RHT consistently cooperate to maintain productivity conditions, even when they perceive the outcomes of their work as beyond their control. This challenges Burawoy's assertion regarding workers' motivations for engaging in these games. As I will elaborate in Chapter seven, understanding this contradiction requires consideration of additional factors beyond the organization of the labor process, such as workers' normative claims, past labor experiences, and the local labor market dynamics.

Aligned with other scholars (e. g., Pollert 1981, Thompson 1983, Warde 1992), I argue throughout this study that comprehending the complexity of consent necessitates integrating various external factors with a specific organization of the labor process. Furthermore, as Chapter seven will discuss, the operational context and the structure of the labor process can sometimes complicate and even impede workers' consent. This

challenges the notion that the labor process alone is the predominant or singular determinant of workers' consent.

5. The Production of Workers' Consent at River High Tech

In this Chapter, I delve into RHT's operational context to elucidate why it is crucial for the company to cultivate workers' consent in order to ensure profitability. I specifically examine the managerial challenges and strategies that explain the significance of eliciting workers' consent for the company. However, I refrain from attributing the production of workers' consent solely to the operational context or the organization of the labor process due to two primary reasons: Firstly, other factors influencing workers' involvement in enhancing productivity are explored in Chapter seven. Secondly, as Chapter seven reveals, the operational context and labor process organization can sometimes pose challenges or impediments to workers' consent.

RHT faces a challenging market environment. According to the executive director (Exp03), the EMS sector in Germany alone hosts several hundred competitors, and RHT struggles to match the pricing competitiveness of Asian counterparts due to higher labor costs. The overall market dynamics have increasingly disadvantaged RHT since 2010, with companies preferring in-house production over outsourcing to EMS providers. RHT's strategy pivots on differentiating through quality, flexibility, punctuality, and fostering strong customer relationships.

Production workers bear the brunt of price pressures, coupled with stringent productivity and time constraints dictated by market demands. In this challenging market situation, marked by uncertainty, a highly flexible workforce is the most important productivity resource for the company. Special measures like overtime, Saturday shifts, short-time work, and reassignments between BUs are frequently implemented at short notice to adapt to market fluctuations. Consequently, eliciting and securing workers' consent becomes strategically imperative for RHT – defined preliminarily here as their willingness to actively contribute to meeting the company's productivity[24] targets.

In the context of international market competition, the company views solutions such as automation, particularly collaborative robotics, and real-time transparency as opportunities to defend its market position against competitors from low-income

[24] Preliminarily, I adopt Burawoy's implicit definition of consent, as outlined in Chapter four, which I intend to critically expand upon in the conclusion, drawing on my own interpretation of the empirical data gathered from RHT.

countries. However, this managerial strategy has significant limitations, including order fluctuations and the need to adapt to specific and evolving customer demands. Therefore, due to its high flexibility, human labor remains the primary source of surplus value for the company, underscoring the critical importance of generating and maintaining workers' consent.

5.1 Company Responses to Market Pressure and the Ever-Present Threat of Entrepreneurial Failure

5.1.1 Customer Loyalty through Quality, Flexibility and Adherence to Deadlines

According to a member of the technology department (Exp01), customers ordering products from RHT, and German companies in general, expect exceptionally high quality and strict adherence to delivery schedules, often expressing unrealistic expectations. As quoted: „Of course there is also this attitude like 'I told you about the change this morning at ten o'clock, why can't you deliver it tomorrow?'" (Exp01, pos. 171) This places significant pressure on the company due to its high reliance on customers amidst a challenging market environment.

In response to this intense market pressure and elevated customer demands, cultivating strong relationships with customers is pivotal to RHT's operational strategy. The company undertakes various measures to retain customers, such as engaging in joint development projects to gain insights into customer processes and priorities. Long-term relationships with customers lead to path dependency, requiring products to be tailored to RHT's production lines during development phases. Maintaining a "proper relationship" (Exp02, Head of Technology Department) is crucial, although challenging, given the often short-term and occasionally unrealistic expectations of customers.

Moreover, amidst the competitive market landscape, retaining existing customers assumes paramount importance for RHT. Regular communication and staying updated on developments, projects, and challenges at customer companies are standard practices. In cases where production cost reductions alone cannot meet market price expectations due to prior optimization efforts in production and procurement, RHT sometimes operates near cost limits to accommodate key customers' needs ("sometimes the coverage limit is scratched", Exp02, Head of Technology Department).

Customer acquisition at RHT sparks ongoing debate among company managers, particularly concerning which orders to accept – a pivotal aspect of corporate strategy.

Currently, there is a practice of accepting small orders repeatedly to attract new customers and potentially secure future business. However, this approach remains contentious within the company and hinges on speculative assessments of the customer companies' future trajectory.

According to the managing director, even early-stage start-ups are not outright dismissed ("not sent away directly", Exp04), but rather evaluated for their growth potential before a decision is made.

5.1.2 Reducing Production Costs: Shortening Production Times and Investing in Industry 4.0

Shortening Production Times

In addition to prioritizing quality assurance, cost minimization is crucial at RHT due to significant price pressures. The company continually evaluates its in-house production and material procurement processes to identify opportunities for cost reduction. For instance, they negotiate "quantity contracts"[25] when purchasing materials to achieve savings.

Similar to most EMS-service providers, RHT operates with narrow profit margins. To avoid operating at a loss, cost reductions primarily focus on material procurement and labor hours. While RHT adheres to collective bargaining agreements, its wage structure slightly lags behind the industrial wage agreement, limiting potential cost savings in this area.

Materials typically constitute 70 to 80 % of production costs for many products at RHT. Therefore, optimizing material procurement is critical for achieving substantial savings. When further price reductions are necessary to secure orders, RHT adjusts its target production times accordingly.

> *... because you often think you want to win orders, then you calculate something, pass it on to the customer, the customer says, but you're 10 per cent too expensive for me. Then – where can you make another adjustment? We've already done materialization, nothing more can be*

[25] A quantity contract is an agreement wherein a customer commits to ordering a specific quantity of a product from a company over a defined period. The contract includes fundamental details about quantity and pricing, but it does not specify particular delivery dates and quantities (Source: SAP. URL: https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE/7b24a64d9d0941bda1afa753263d9e39/4a65b65334e6b54ce10000000a174cb4.html. Last visit: 16/01/2024)

> *done, so we move on to production. Production has to be five minutes faster.* (...) *We are a service provider. Our margin is very low. That means we don't have the option of saying, okay, then we'll go down a bit and squeeze our margin. Mm–hm. That means that if we go down somewhere in the calculation, then we have to recoup it somewhere. That's service.* (Exp04_Production management, pos. 180)

This situation frequently results in discrepancies not only between the invoiced and actual working time needed to complete a contract, but also between managers in the sales/technology and production departments. As detailed in Chapter two, the technology department, in collaboration with the sales department which formulates and sends customer offers, ultimately determines the necessary time specifications for each work step, which production must follow. Despite these interdepartmental discrepancies, all managers ultimately align on their shared objective: profitability.

> (...). *There are small fights, you have to admit. But at the end of the day, we're fighting for the same goal, so from that point of view.* (...) *The goal is actually always the same. Either to win orders, increase quantities, make a profit from the products, so it's always the same.* (Exp09, pos. 33)

Generating profit stands not only as the shared overarching goal for managers, but also as their primary metric of performance under scrutiny by executive management, who closely monitors them. As articulated by the head of the technology department (Exp02), executive management is "breathing down the neck" of both BU managers and the technology department. Consequently, this pressure to perform trickles down to production employees in the form of stringent productivity demands and tight deadlines.

In this context, it is pertinent to recall Marx's depiction of the capitalist labor process from Chapter three, where he describes it as governed by "external and coercive laws" that subordinate every individual capitalist (Marx 2004: 739). Thus, when discussing the coercive aspect of consent, we must consider how market forces exert domination over individual capitalists, which then filters through middle management and ultimately impacts workers.

Reducing production times serves not only to cut costs but also to meet delivery deadlines, which are crucial for customer satisfaction and reflect the pervasive influence of the market within the company.

Given the often unrealistic expectations of customers, adherence to delivery dates is viewed by workers as both the greatest pressure factor and as very important due to the company's challenging market position.

Beyond being a pivotal performance metric for workers, meeting delivery dates also underpins various operational strategies: it guides work performance monitoring, motivates the company's automation initiatives, and shapes labor planning and utilization within the production process.

The coordination of production and capacity calculation is primarily managed by the technology department and within the BUs. As previously discussed, the significant fluctuation in demand and the strategy to accept as many requests as possible often lead to overloads, sometimes necessitating additional Saturday work. The production manager is responsible for communicating the decisions of the executive management and technology department to the production employees. Although the works agreement stipulates that mandatory Saturday work must be announced one week in advance, in urgent cases, it also occurs on a 'voluntary' basis without prior discussion with the works council. Overall, both the managing director and the production manager emphasize that they do not wish to authoritatively enforce employees' flexibility. Given this backdrop, ensuring workers' consent is of vital importance for the company. However, willingness should not be mistaken for the absolute absence of force. Regarding the aforementioned Saturday work, widespread job security concerns likely exert a disciplinary effect among RHT workers, as we will explore in the following pages.

In addition to delivery dates, productivity is a key target for RHT workers, closely influenced by the managerial strategy of reducing production times. Productivity is measured by comparing the planned working hours for an order with the actual time spent until the order is completed. Recording the actual time is also crucial for creating realistic customer offers, as the target time is based on the estimated working hours in the customer quotation. Therefore, if the planned working times for completing an order are reduced to secure the order, the production process must indeed work faster, or the corresponding productivity will not be achieved. This situation represents the empirical starting point for my research question: Why do production workers at RHT work so hard (i. e.,

overworking, improvising, anticipating, self-organizing beyond managerial instructions, etc.) to achieve productivity targets that are often not calculated based on production feasibility but on what is desirable from a sales perspective? In Chapter seven (Sections 7.3 and 7.4), I explain what workers' efforts to achieve these impossible targets look like and why they undertake such efforts (Sections 7.5 and 7.6).

Investing in Industry 4.0

In this context of international market competition, the company – aligned with the politically motivated Industry 4.0 discourse[26] – sees solutions such as automation and real-time transparency as opportunities to defend their market position against competitors from lower-income countries. Industry 4.0 is perceived as a powerful means against international competitors – especially China – increasingly representing a major threat, not only because of their price competitiveness but also in terms of quality, in the words of a member of the technology department:

> *I'll be honest, the quality we're getting from China is getting better and better. And we have to somehow see how we can keep up. I don't think we'll be able to avoid it.* (Exp08, pos. 180)

Industry 4.0 is not only seen as a means for companies to stay competitive and make profits but also for workers to keep their jobs (according to the official motto 'Preserving Germany as a production location'), as explained by the executive director in the following interview excerpt:

> (*If robotics didn't exist, we would*) *outsource the labor content to low–wage countries. I believe that Germany, as a production location, can hold itself for much longer. This will also make us competitive with Eastern European countries and China. But we have to be careful that the Chinese don't overtake us. They are much more aggressive in this area. They didn't buy KUKA for nothing.* (Exp03, pos. 196–199)

The director of all four BUs shares a similar view with the executive management: Industry 4.0 offers an opportunity for modernization and enhancing their competitiveness, thus preventing the outsourcing of production to lower-income countries.

[26] Following Pfeiffer, the actual drivers of the discourse are not technical experts, but globally powerful and economically motivated players (Pfeiffer 2015).

> *The whole thing* (*in relation to collaborative robotics*) *naturally also has the charm or the reason that we have to position ourselves somehow in relation to our competitors, our market companions, which means that if we want to continue doing everything manually here, we will eventually run out of time or orders here, because we will no longer have the best chance with our wage structure here in Germany. And since we don't necessarily want to go abroad, we will first try to remain active here in* (*place where RHT is based*) *and also to be able to retain customers or expand, we just have to make sure that we modernize our production a bit.* (Exp11, pos. 27–29)

One advantage over the competition is the traceability of all production steps and potential errors through the Manufacturing Execution System (MES), which was implemented with the modernization of the production lines in 2010. The modernization of the machinery was one of the first strategic measures after RHT was founded. The acquisition of new machines not only reduced maintenance costs but also increased product quality and ensured the traceability of each component. According to an interviewed technologist and automation project manager, this traceability offers customers more security and is increasingly expected. However, the managing director notes that some customers have no interest in actual traceability and only require the signature as confirmation to their contractual partners.

The idea that Industry 4.0 is a means for the company to stay competitive or even enhance its competitiveness is well-established at all levels of the company (management, works council, production workers). For the workers council (Exp. 06, pos. 209–210, 217–218), it is about market innovation, ensuring a predominance, enhancing their attractiveness vis-à-vis competitors, and keeping up with the competition.

> *Further development is now simply being driven by the buzzword 4.0, regardless of whether it's labor or industry or, or, or. 4.0 is just the thing that pulls.* (Exp06, pos. 218)

A worker from the paint shop refers to Industry 4.0 at one point of the interview as "the future":

(...) *this is the future, I always say to myself. It will come. It has to come.* (...) *So that you ... I think, so that you remain more marketable* (W15, Pos. 303)

Interestingly, when the interviewer inquired deeper into this view and pointed out that the current reality in the company looks different ("*It doesn't look like you could really have more productive, more effective production processes with a robot so far*" [W15, pos. 306]), the interviewed worker offered a new perspective:

> *B: Yes, that's what you're taught.*
>
> *IV: You have to somehow show that you're there?*
>
> *B: Exactly.* (...) *Yes, a lot of that comes from outside. What you also hear from our management. They always say that machines are the future. They always say that 4.0 is the future. Of course, no one who has been doing this manually for years can imagine whether it will work out that way. It's a bit difficult to imagine saying, okay, a robot will do it somehow.* (W15, pos. 307–311)

As this example shows, there is a widespread and established discourse within the company, propagated by higher managerial levels, which aligns with the official Industry 4.0 discourse. As Pfeiffer (2015: 1) notes, the institutionalization of such discourse aims to suggest that this is a global, technically induced development coming from outside that cannot be stopped, but that it can be shaped politically and socially in the national context.

However, the reality in the company diverges from this discourse. There are significant limits to the practical implementation of Industry 4.0 solutions in the labor process and their potential for generating added value. So far, living labor remains the main source of surplus value for RHT, as we shall see in the next Section.

Moreover, there is another, more indirect way in which digital technology is crucial for generating profit in the company. The acceptance of (a certain discourse on) digital technology is key for the production of workers' consent and the reproduction of the relations of production at RHT. This will be explored in greater depth in Chapter six under the Section "Technological Mediation."

5.1.3 The Human Factor Beyond Objective Market Pressure: Deficiencies in the Organization of the Labor Process

The view of the market as a factual constraint is widespread among managers, who see themselves as service providers with very little room for maneuver in the face of other market actors (clients and competitors), in the words of the director of the technology department:

> (...) *So as I said, that's service providers, yes, it doesn't really matter where you go, you're always a bit the last in the chain somewhere and yes, you don't have that much freedom to act. Sometimes you are really driven or driven by the competition, how can I compete against that?* (Exp02, pos. 218)

However, some managers and, more clearly, the chairman of the works committee recognize human agency in the form of organizational deficits as an important factor behind the productivity pressure on workers. What the company or managers refer to as pressure generated by objective market dynamics or factual constraints is often a combination of market competition and deficiencies in the organization of production.

Organizational deficiencies take multiple forms and have different sources:

- **Delays from previous steps in the production process (generally in production planning)**: For instance, if the technology department is six days behind schedule, this delay is passed on to the sales and production departments. By the time the latter receives the order and the material, the delivery date could already be in the past. Deficiencies in planning the working process (primarily the responsibility of the technology department) lead to conflicts between the managers of the technology and production departments. It is the production department that must deal with delays in planning or material delivery: "It's always like this, the devil takes the hindmost."[27] (Exp04, pos. 75)
- **Material unavailable because it is not delivered on time**: According to the executive manager, some of these organizational deficiencies are related to power imbalances in the international market, which are detrimental to the company. He complains that they do not receive as many goods as other, bigger companies producing in Asia, where most of the material comes from, and they keep their

[27] Original in German: „Das ist immer so, den Letzten beißen die Hunde."

hands on it. As an example, he explains that at the beginning of the year, Samsung and Apple bought up entire contingents of production for their mobile phone production. Companies that specialize in industrial electronics, such as RHT, on the other hand, "only get allocations. Always just a few crumbs that fall from the edge of the plate. That's how it's distributed. You're just a very small light. (...) The market power is again with the other party" (Exp03, pos. 203).

- **Problems with ERP used for organization of production**: Following the chairman of the works council, some of the problems resulting from the structural use of the labor force as a flexibility resource (short working-time or, in the extreme scenario, redundancies) could be solved with better organization of the labor process. Thus, it is not (only) a question of market factual constraints but also of deficiencies in the organization of the labor process.

> *Yes, well, in the system I can see the capacity for the next few months, or not see it. And if I don't look at everything and don't see anything, then we end up in a situation where, oh, we have nothing to do. Everything is fine. We don't need people. And three days later – oh, there was a system error, we have to work overtime.* (Exp06, pos. 23)

In other words, he argues that the short-time working between August and mid-October 2018 could have been avoided if changes made in the system by one department (in this case, sales) that are relevant for other departments were immediately visible to them. Because the figures create a pseudo-objectivity, it is difficult to argue against them. As the works council says, "the numbers are there and you've already lost, because a numbers person is not influenced by emotions" (Exp06, pos. 171).

According to the works council, to solve organizational deficits, there would need to be an exchange of information about the technical problems, but due to the tense situation in the company, there is often a lack of calm and freedom for the individual to close this information gap (Exp06, pos. 106–127).

- **Short-term, unsystematic planning and constant adjustments to last-minute changes from the customer**: According to interviewed workers, the constant adaptation of the labor process to last minute customer requirements (in a context of extreme customer dependency) leads to unproductive and inefficient organization of production. This situation is criticized by workers and constitutes

an example of the violation of their rationality claims (Nies and Menz 2021), which shall be introduced in Chapter seven. A varnisher speaks about it:

> *I mean, it's fine for him* (*the department manager*) *to say that something is coming, but then to say that we're going to push it in because customer XY has something else to do, that's not possible.* (...) *And the machine only runs productively if it can process a part. Not if it's constantly being retooled, they sometimes don't understand that either.* (W15, pos. 265)

5.2 Industrial Relations at River High Tech

According to Marchington (1992: 163–165), many employers believe that achieving consent among shopfloor workers is more likely through cooperation and support of their union representatives rather than confrontation and direct undermining. Furthermore, he argues that employers are more concerned with issues other than those relating to trade unions, and as long as the latter do not present too great an obstacle to achieving more strategic goals (such as customer service), their presence can be tolerated. This is especially relevant if trade unions are not engaged in continual struggle with employers but rather see cooperation as a more appropriate stance in difficult economic circumstances (Batstone 1984).

As Terry (1986: 177) suggests, the interests of workers and managers may be temporarily aligned, and both worker and management power may be directed along the same lines, e. g., to ensure company survival or avoid compulsory redundancies. Finally, competitive product markets may actually reduce rather than enhance employer strength because companies become even more dependent on continuity of production or service to ensure orders are delivered on time (Kelly 1987: 279). This description perfectly applies to the case of RHT, as we shall see in the present section.

The works council at RHT is made up of nine members, elected by personality election (Persönlichkeitswahl). This nine-member body existed because the company had a constant workforce of over 200 and up to 280 employees in previous years, allowing the works council to elect a committee of nine, according to the Works Constitution Act. However, its membership will be reduced to a seven-member body due to the declining number of employees. Currently, it is a pure IG Metall works council, but non-organized

employees are expected to join at some point, "who may then bring a completely different perspective" (Exp06, pos. 103).

The chairman of the works committee and the executive director describe their relationship as partner-like. This is the declared aim of both sides. The works council claims that it makes no sense for the council to be too employer-friendly or too pro-union (Exp06, pos. 105).

Despite the partnership situation, the fronts are hardening, and reaching a common denominator is no longer as easy as it was in the past. According to the works council chair, this tension is related to the influence of the employer (Exp06, pos. 107–109) and the tense overall mood caused by the competitive market situation.

> *I've realized that in the last year or two it's become a bit more difficult to get in because of the overall mood, I think.* (...) *hm, now they have a quiet minute, now I can talk to them properly. That's not always an option. So, you can see that there's a lot of tension in those places* (...) *And you have to see, can I catch them at the right moment? You need a bit of sensitivity. Sometimes I have it, sometimes I don't." [laughs]* (Exp06, pos. 61–63)

There are two main points of conflict between the union and management: the use of the labor force as a flexibility resource (a detailed explanation follows in the next section) and wage agreements.

RHT is bound by collective bargaining agreements, whereas many of its competitors do not pay collectively agreed wages. The executive director argues that these wage agreements harm their competitiveness compared to other companies in the market sector. On the other hand, the works council fights to maintain the wage agreement, even though it has lagged behind in some respects.

Despite these conflicts, both points are often downplayed due to the difficult market situation and the primary shared goal of both the union and management: ensuring the company's survival.

In the following interview excerpt, the managing director discusses the works council's position on the issue of production planning decisions, such as overtime, Saturday work, short-time work, and re-staffing between BUs, often being announced at very short notice:

> *The employees support this, and the works council supports it too. However, we are clearly always very much at loggerheads. That has to be said. So,* (*name of the works council chairman*) *and myself. That's just the way it is. I think I know that he understands that too. He also knows why it's like that*. (Exp03, pos. 211)

Thus, the executive director implicitly references the aforementioned customer dependency and intense market competitiveness ("he also knows why this is the case") to justify that, despite their differences ("we are also clearly always very much at odds"), the chairman of the works council understands the situation and accepts the "need" to take such special measures.

This is corroborated by the chairman of the works council himself. The following interview extract shows that he understands and accepts the company's responses to market pressure, even when they negatively impact labor, as long as they help ensure the company's survival and avoid (mass) redundancies:

> *Yes, well, first and foremost* (*our task is to*) *secure the location that we have at the moment, because due to the overall situation it is very difficult to go one step further and get a bit closer to the regional collective agreement. That was actually our declared goal six years ago, when we launched the in–house collective agreement.* (Exp06, pos. 11)

This positioning, however, presents its contradictions: How far is the works council willing to go for the sake of the company, upon whose existence the jobs of RHT workers depend? More concretely, faced with the dilemma between labor precarity and job losses, what stance should it take? To put it bluntly: is it better to have a precarious job than no job at all?

As we shall see in the next Section, the temporization of labor, alongside short-notice extra/minus hours, re-staffing, and, in the worst cases, redundancies, is employed as a measure to flexibilize the use of labor and cope with order fluctuations. In fact, various employees at RHT were not taken on permanently even after two or three years of temporary contracts. The chairman of the works council speaks in the following terms about this dilemma between precarity and unemployment:

(...) *It's just a bit difficult for me, also in terms of planning for the future. Now we're back to the question of how long can I keep someone on, how long can I play with the employees, how long can I keep them on tenterhooks and say I'm only going to extend your contract for two months, for another two months, for another three months. Here, too, we as the works council actually have the opportunity to pull the ripcord at some point. But now comes the question of conscience again: What do I prefer, to keep the person on board or to say no, we won't play the game. Either he's on an open-ended contract or you stop this crap. And at the end of the day, it's about allowing things that don't necessarily conform to the rules. And you're increasingly being pushed into a corner to do things like that.* (Exp06, pos. 41–43)

5.3 Living Labor as the Main Source of Surplus Value or Why is Workers' Consent Vital for Securing Profit at River High Tech

At RHT, one fundamental problem that brings with it several other challenges is the strong fluctuation in orders. The difficult market situation is reflected in the lack of basic continuity. For instance, it can happen that one line operates in three shifts, while other lines are at a standstill.

As we saw before, given the strong customer dependency, RHT follows the strategy of securing as many customer orders as possible, even if these are not always profitable for the company. To achieve this, RHT relies on workers' overwork and short-term contracts during peak order periods, followed by short-working time, forced free time, or even redundancies once the peaks are over. The director of the technology department explains the situation:

> *You try to drain everything you can and tip it all in and then you try, I know, it's like pushing a lot through a funnel. But down there it only comes out drop by drop. And then you're standing there. Yes, what are we going to do? A little longer, something on Saturdays. What else do we have, who else can do what?* (Exp02, pos. 117)

5.3.1 The Flexibilization of Labor

Flexible Working Time and Temporary Contracts

Workers are employed on a 35-hour week and a 6-day week. Until about two years ago, before conducting the interviews, employees had the option of "adding or reducing up to 150 hours plus or minus" (Exp03, Executive Director, pos. 217). However, many employees reached the minus 150-hour limit due to a lack of orders, while others accumulated overtime despite the poor order situation and lack of work. Consequently, working hours were fixed at "35 hours plus/minus" (Exp03, pos. 2017). Although this change eliminated the polarization between employees with plus and minus hours, it increased the urgency to deploy the employees on-site in a meaningful way.

RHT has a flexible shift model agreed upon with the works council. While two-shift operation (early and late shift) is the norm, in emergencies, "up to 18 shifts a week" (Exp02, Head of Technology Department, pos. 65), including Saturday work, can be implemented. Two Saturdays a month are mandatory but must be announced one week in advance according to a works council agreement. If team meetings with all employees reveal a discrepancy between the working hours required to fulfil an order and the actual working hours available, special measures are introduced. These measures include employees foregoing holidays or postponing them until the new year, or additional short-term Saturday work.

According to the management and executives, short-term Saturday work only takes place on a voluntary basis and is remunerated with an additional 25 %. As mentioned earlier, managing directors and production managers emphasize that they do not want to authoritatively enforce employees' flexibility. However, the widespread concern for their jobs is likely to have a disciplinary effect. According to the works council, there are hardly any employees who would refuse to work overtime or on Saturdays without a "valid reason" (Exp06, Works Council, pos. 67). The chairman of the works council criticizes the fact that the works council and the actual regulation of Saturday work are circumvented in the case of short-term Saturday work. The executive director explains the situation as follows:

> (...) *We normally have, according to IG Metall guidelines and agreement with the works council, that you have to give a week's notice if you're going to work on Saturday.* (...) *But that is often not practicable, because then I don't know until Tuesday whether the material will be there. But I have fixed delivery dates. And one customer doesn't understand that. Now you've got the material, why don't you*

> *deliver it to me?* (...) *And yes, that's also bad for people. It's also unplannable. But what do I want to do?"* (Exp03, pos. 208–213)

In this interview excerpt, we see the strong dependence on the customer ("fixed delivery dates", "the customer does not understand it") and the executive director's sense of powerlessness vis-à-vis the market ("It's also unplannable. But what do I want to do?"). Temporary workers are also utilized as an additional means of flexibly using labor to handle peak order periods. In fact, various employees were not taken on permanently even after two or three years of temporary contracts, as the works council states:

> *We still have a workforce with permanent contracts of, I would say, more than 80 per cent. But ultimately, we are reluctant to take on employees who have done a good job over the last two or three years on permanent contracts in order to offer them security. After all, anyone with a temporary contract can't get a loan from the bank, they might not be able to get a rental flat, they have no chance at all of making a decent living as long as they have a temporary contract. That's also a huge problem here in the region.* (Exp06, pos. 51)

Flexible Allocation of Labor

Since the introduction of the BUs, team organization has been replaced by assigning employees to specific BUs. Employees can be borrowed if individual areas are overloaded or underloaded, depending on their qualifications. The executive director notes that absences in the SMD process (BU1) are difficult to substitute due to the high level of apprenticeship qualifications required. His goal is to enable greater mobility between groups, which would require all employees to master the SMD process and invest more time in training.

At RHT, alongside individual workstations, there are production lines involving two to five employees. Employees independently rotate within these lines to ensure substitution in the event of absences, such as illness. The ease of swapping or transferring employees to different workplaces or lines within the BUs varies. In BUs 1 and 2, involved in PCB assembly, the necessary production steps are similar across different product types, making it easier to transfer employees. However, short training sessions on specific assemblies due to special customer requests are still necessary. These training sessions

are typically conducted by technologists in the respective BUs. Basic production instructions are available to employees in both digital and paper form.

BU1 requires a higher level of training qualification, making it challenging to switch employees from BU2 to BU1. Since production in BUs 3 and 4 is more complex and varied, redistributions within these BUs and from BUs 1 and 2 to BUs 3 and 4 are more problematic.

The basic allocation of employees to activities is organized via an order wall (order plans in paper form) and the shift supervisors. Shift supervisors fine-tune these plans by checking the order wall to see which orders are available with specific delivery dates and then scheduling their employees to specific activities accordingly. At the time of the interviews, production managers organized the reallocation between individual BUs, production lines, and activities in consultation with the involved employees and depending on the order situation in various areas. For longer-term changes between the BUs, production managers consult with each other and then give the employee a choice. Temporary assignments in other cost centers or even BUs are often informal. Employee interviews reveal that in some areas, employees themselves are responsible for these assignments, thereby avoiding control planning via the cost center. When switching between individual activities within a production line, employees are generally required to rotate continuously to qualify for all steps, ensuring staff shortfalls can be substituted. However, the exact timing and sequence of this rotation are left to the employees themselves.

Given the strong fluctuations in orders, the distribution of employees between the BUs is a central task. According to the managing director, it is not so much the frequent changes between business areas, but rather job insecurity in the face of falling sales and employment figures that causes stress for workers.

In this context, labor becomes the most important flexibility resource. The interviewed works council chairman (Exp06) criticizes that the “entrepreneurial risk (...) is clearly passed on to the employee”. He notes that while long-term business plans are drawn up, the company is not prepared to plan production for longer than two to three months or to lay off employees on fixed-term contracts. In his view, the management desires employees who can be called in at any time and who only turn up for work when necessary. He argues that the company would like to go even further in terms of flexibilization, but this is limited by the "hurdle" of having to win over the works council:

> (...) *we go from one side into a situation where we need a lot of labor, but we don't have it, which then leads to an overtime situation, and days, weeks, maybe even hours later we are told, 'No more today. You can go home. Yes, the possibilities. Preferably employees on call. If I need you, then you'd better work 24 hours. If I don't need you, then please go home and wait until I call you.* (Exp06, pos. 65)

Flexible allocation of the labor force not only serves as a mechanism to compensate for fluctuations in clients' orders. It also addresses deficiencies in the organization of the labor process (for a more detailed description, see "The Human Factor behind Objective Market Dynamics"), as we will explore in greater detail in Chapters six and seven.

As mentioned in the previous chapter, the alignment of interests between capital and labor via the internal labor market follows diametrically opposed logics at Allied and RHT. While in the former case, it operates through the use of seniority benefits and employment rewards (see Section 4.3), in the latter, it works via the precarization of labor.

5.3.2 The Limits of Industry 4.0.

The company's reliance on labor is further exacerbated by the limitations of digital technologies as productivity resources. Despite efforts to implement various technological solutions to enhance production quality, reduce costs, attract clients, and remain competitive, real limits to Industry 4.0 exist. As Nies (2021: 480–481) notes, Industry 4.0 does not refer to an empirically observable phenomenon, but to an industrial policy blueprint for the future of Germany as a production center, initiated by the German government in the mid-2010s. The optimistic forecasts in economic and political discourse promised increased efficiency, securing Germany as an industrial hub, and developing a more humane working world with greater autonomy for employees (Plattform Industrie 4.0 2014). However, social science debates painted a more nuanced – and sometimes gloomier – picture from the outset.

Like strong customer dependency and fluctuating customer orders, the limits of automation are addressed by increasing the workforce's flexibility and performance requirements. Especially in automation (whether collaborative robotics or full automation), the labor force's degree of precision, speed, and flexibility remains higher than that of technology.

Automating production lines is a core element of the corporate strategy given the high labor costs compared to international competitors (see previous Section “Investing in Industry 4.0”). However, this potential is severely limited by planning uncertainties, order fluctuations, and sometimes low quantities. Before purchasing new machines, the company must be certain that higher quantities will be demanded in the long term. This applies primarily to BUs 3 and 4, where specialized machines rather than collaborative robotics (which can be repurposed with little effort) would be required for automation. From the company’s perspective, comprehensive automation is necessary due to price pressure and the wage gap between Germany and Eastern European and Asian regions, only the “constant of commissioning” (Exp04, Production Manager, pos. 369) prevents this or in the words of the head of the technology department:

> (*Automation*) *has a certain difficulty, because in order to do something like that with robotics or production cells, as we have it here a lot, you also have to have the right quantities. In other words, you also have to have the customer spectrum somewhere. In other words, you have to be sure that I have a high number of units, so to say, so that it’s profitable for me to run such a thing.* (Exp02, pos. 63)

Fully automated machines would be cost-effective if there were higher continuity and predictability in RHT’s customer orders. However, due to the fluctuating nature of these orders, such machines are not profitable. On the other hand, collaborative robotics are cheaper and could theoretically be used flexibly for PCB assembly because of the similarity of the work steps across different products and the versatile programmability of the robots. Nevertheless, at the time of the interviews, it was uncertain whether the accuracy of the robots was sufficient for assembling boards with delicate components. Moreover, the failed attempt to automate the gluing workstation at RHT demonstrated that implementing automation with collaborative robots is more challenging than the company and robot designers initially anticipated. This difficulty is particularly pronounced when production workers are excluded from the design and implementation process, as observed during the fieldwork at RHT.

For these reasons, living labor remains the primary resource for the company’s production of surplus. In its strategy to survive in a highly competitive market, labor power presents a significant advantage over automation technology in dealing with changing, often unforeseeable market requirements: its flexibility. The fact that labor represents the main

flexibility resource for the company is not only argued by the works council chairman, as we saw before, but is also shared by management, as expressed in the following interview excerpt with the director of the technology department:

> *So, I'd say that if things go wrong and something comes in here that has to be pulled off somewhere as quickly as possible, then he's the first to be asked, can you work longer? Schedule Saturdays, ramp up shifts.* (...) *And that sometimes requires a high degree of flexibility from people. And especially when you rush into the flu season, you're missing one or two people somewhere, or maybe even a third, and then things get stuck. You don't have so many staff that you have them sitting double somewhere. That can be difficult sometimes.* (Exp02, pos. 62–65)

The flexible use of the labor force to mitigate market fluctuations and high productivity pressure on workers to shorten production times, thereby reducing costs, constitutes the primary strategies employed by RHT. In this way, the company translates market pressures and risks into job uncertainty and high productivity demands for its workers.

6. The Organizational Contradiction at River High Tech

In this chapter, I address a contradiction within RHT that I term the organizational contradiction. This contradiction arises from the empirical observation that production workers at RHT self-organize informally, independent of explicit management instruction or facilitation. This contradicts the thesis of indirekte Steuerung, which posits that worker self-organization responds to a managerial strategy of indirect control. Instead, at RHT, self-organization emerges within an organizational context dominated by direct control, despite the unsystematic presence of activating elements typical of indirect control.

Moreover, there exists a contradiction between RHT's direct control organizational system and its corporate challenge: heavy reliance on a fiercely competitive global market, which permeates every level of the company. This fundamental contradiction leads to inefficiencies jeopardizing productivity conditions, which workers strive to safeguard through their informal self-organization.

Workers' motivations to cooperate in maintaining productivity conditions are shaped by various mechanisms that individualize workers, coordinate interests and dilute conflicts between capital and labor. However, a comprehensive understanding of these motivations

cannot be achieved solely by focusing on the organization of the labor process and capital's interests, as advocated by both the indirekte-Steuerung-approach and Burawoy's approach.

The indirekte-Steuerung-approach predominantly scrutinizes the labor process, rendering workers' informal self-organization at RHT contradictory within its framework. Instead, it is essential to consider other factors interacting with the labor process to comprehend why workers self-organize informally to secure favorable conditions for profitability.

6.1 Performance Management is the Management of Contradictions

Capitalist organizations – whether at the level of workplaces or at a broader, societal level – grapple with a fundamental contradiction encapsulated in Marx's concept of 'boundlessness within boundaries' ('Schrankenlosigkeit in Grenzen') (Sauer 2013a). This contradiction lies between the boundless drive for value realization and the material limits of productive resources, which must be continuously overcome.

As discussed in Chapter three, labor power, as variable capital, exhibits ambivalence: it is both a potentially moldable commodity beneficial to management's interests and a force driven by an independent and sometimes adversarial will, which poses limits to its exploitative potential (Friedman 1977: 6). Consequently, management has developed various strategies over time within operational contexts to address these limitations, termed in German-speaking work sociology as the 'transformation problem'. This problem pertains to the conversion of abstract labor capacity purchased by capitalists into concrete labor performance that yields profitability. It is a challenge because labor power is inherently tied to its carrier, the worker as an individual with agency.[28]

The above introduced dilemma of contradictory rationalities must in principle be dealt with in some form in every enterprise in every historical phase of capitalism (Nies 2015: 133). I would even argue that managing labor means managing labor's relationship with the contradictions that are typical of each mode of production in each historical moment.

Therefore, a crucial aspect in every historical manifestation of labor control is the formal role assigned to workers in managing contradictions and uncertainties within the labor

[28] Linked to this concept is the thesis of ‚unorganisierter Haufen' (the 'disorganised heap'), as articulated by Peters and Sauer (2005). A significant and complex aspect of organizing people stems from the fact that individuals possess consciousness and autonomous will. A group of people, each pursuing their own desires and objectives, inherently forms what is termed a *disorganised heap* – precisely due to this characteristic (Peters/Sauer 2005: 36, emphasis in the original, my translation).

process. Despite the historical fact that labor has always been involved, formally or informally, in addressing these issues (Sauer 2013a), the specific expectations and permissions regarding how workers should manage these contradictions and uncertainties vary across different modes of control.

In the following sections, I explore how capital's contradictions are expressed and managed in Fordist (6.2) and post-Fordist companies (6.3). In the latter case, I focus on the model of indirekte Steuerung for two main reasons: Firstly, this approach is pivotal in understanding the shift in how capital exerts its dominance in capitalist work organizations since the 1990s. Secondly, examining RHT through the lens of indirekte Steuerung raises several compelling questions and criticisms that enrich our understanding of worker consent.

6.2 The Expression and Management of Capital's Contradictions in Fordist Companies

According to regulation theory[29], Fordism denotes the socio-economic development model that emerged in Western societies following World War II. This model represents a temporary stable formation resulting from the interaction of a new economic accumulation model (emphasizing the transformation of production processes) and a new social regulation model (focusing on the transformation of labor power reproduction) (Nies 2015: 125, my translation).

This dual transformation encompassed various institutional elements: productivity-based wages, collective bargaining agreements, a defined social consumption standard (stemming from the link between industrial mass production and mass consumption), socially safeguarded regular employment for men, gender-specific divisions of labor within families, low female employment rates, compromise-oriented labor relations, and an expanded welfare state (Peter and Sauer 2005: 26, my translation).

The concept of Fordism as a socio-economic development model is rooted in the premise that capitalist production inherently contains contradictions, and that achieving relative stability necessitates explanation (Nies 2015: 125, my translation). Stability arises from

[29] Regulation theory, derived from Marxism, represents a principal approach to governance. Marx posited that capitalism is inherently unstable due to tendencies toward capital overaccumulation and class struggle. Regulation theorists analyze how various types of capitalism endeavor to manage these instabilities. They explore forms of governance in relation to evolving strategies for mitigating these inherent instabilities. (Source: Britannica. URL: https://www.britannica.com/topic/governance/Regulation-theory. Last visit: 15/07/2024)

the alignment between economic and social structures, bridging the macro-level of social regulation with the micro-level of work organization (Sauer 2013a, my translation).

6.2.1 Performance Management in Fordist Companies

Performance management[30] (Leistungssteuerung) refers to the methods, instruments, and mechanisms that aim, more or less intentionally, to align employee performance behavior with the principles and goals defined by the organization for the specific job or worker (Menz et al. 2011: 143, my translation). Typically, the Fordist definition of labor performance is based on human effort, meaning what is possible under technically optimized conditions and a system of direct detailed control (keyword: Taylorism).

In addition to the methods, instruments, and mechanisms for performance management, some authors have identified the so-called contextual conditions of performance management (Menz et al. 2011). This concept includes other factors and conditions not necessarily implemented with performance management in mind and partly beyond management's control, but which nonetheless influence employee performance behavior. For example, labor market conditions and associated fears of precariousness can discipline employees, a phenomenon further intensified using temporary agency work within the company (see Dörre 2007, Kratzer et al. 2008, Marrs 2007, Kämpf 2008). Similar effects can result from the threat of site closures, relocations, or reorganizations. Even if these measures are not specifically employed for their performance management effects (which cannot be entirely ruled out, especially in the case of relocation threats), the performance-managing side effects of these processes and conditions can be strategically utilized by the company (Nies 2015: 134, my translation).

This phenomenon applies well to RHT, as we will see in Section 6.5, and raises an important question: to what extent is the confrontation with market risk (for instance, in the form of the threat of site closure) a context condition of labor control or a defining aspect of the mode of control operating at RHT?

[30] The term performance management is a direct translation from the German term Leistungssteuerung and is therefore not commonly found in most academic literature in English. As Nies (2015: 136) notes, the term control, which is widely used (especially in Anglo-Saxon debates), appears insufficient or at least misleading in the context of the definition of performance employed here. It creates the reductionist impression that performance management is primarily about monitoring and sanctioning, i. e., preventing performance restraint. According to Menz et al. (2011, my translation), performance management involves not only strategies for achieving quantitative performance improvement but also the definition of performance and the underlying concept of performance, i. e., determining which work performance is desired and acceptable.

The organizational mode based on the direct detailed control characteristic of the Fordist production regime has been termed by Klaus Peters (2002) as a command system or a system of command and control. In this form of organization, structure arises through the subordination of one's will to another's (keyword: command and obedience). This method only functions effectively if accompanied by coercion, meaning the presence of a threat of punishment. Additionally, it requires that the individual who is supposed to obey has a certain leeway in which they can comply with the command (Peters 2002: 5, my translation).

The counterpart to command and obedience is praise and reward. The complementary effects of both the *carrot and stick*-approach reinforce the internalization of the commander's will by the subordinate. Thus, the command system can integrate the independent actions of those bound by instructions and use them to enhance its own efficiency. This is achieved by granting freedom of action and decision-making (Peters and Sauer 2005: 36-37, my translation). Managerial approaches such as responsible autonomy (Friedman 1977), discussed in Chapter three, exemplify how the carrot mechanism operates within the direct mode of control, facilitating employees' internalization of their employers' will.

6.2.2 Capital's Contradictions in Fordist Companies

The concrete contradictions found in Fordist companies include:

i) Contradictions within the Logic of Production

As mentioned in Chapter three, every capitalist production process must combine the labor process with value creation. Hence, the labor process becomes inextricably linked to the struggle for profitable production (Nichols 1980: 35). This is why production time is a crucial factor in capitalist labor processes, as it strongly influences productivity (i. e., the ratio between invested time and finalized products). Production time, as we saw, is influenced by several factors, such as labor skills, the organization of the labor process, and the potential for worker resistance.

Another potential limit to time- and cost-effective production is product quality, as there is a tension between the two. The pressure to meet volume targets and strict schedules might conflict with quality goals, which aim to ensure flawless, compliant products. If time and volume targets take precedence, product quality may suffer, leading to counterproductive scenarios where production must be halted to address quality issues.

This problem is particularly evident in piece-rate production. It represents an organizational problem inherent to most capitalist production companies, especially Fordist ones, since they are primarily oriented towards production principles and logic (as opposed to post-Fordist ones, which are more influenced by and oriented towards market dynamics, which we will discuss later).

Performance management methods in Fordist organizations often responded to this problem with solutions aimed at technical optimization. These methods sought not only cost-related efficiency in the production process but also the suppression of workers' subjectivity as an unproductive factor. To achieve this, they relied on the aforementioned Taylorist rationalization principles: a strongly hierarchical organization of work, a clear division of labor between intellectual and manual labor, and the standardization of products and work processes through progressive mechanization and the use of assembly line work.

The conflict between production and quality is exemplified in the case of Allied, where Burawoy observed that production took priority over quality:

> *While it is impossible to assess the actual amount of scrap produced in any period* (*since it is unrelated to* reported *scrap*)*, it seemed from my own observations that quality was declining. Below–standard parts would sometimes get through, sometimes be scrapped. Excessive overtime, the use of new, inexperienced operators, and the persistent pressure to produce inevitably led to a decline in quality.* (Burawoy 1979: 126)

ii) Contradictions between the Logic of Production and the Logic of the Market

Even though Fordist companies experience these contradictions in a milder form compared to marketized organizations, they too grapple with conflicting logics at the core of their operation. Mass production relies heavily on stability and predictability (such as consistent levels of customer demand, and stable supplies of materials and labor) to ensure efficiency and productivity. In contrast, markets are characterized by contingencies and uncertainties, presenting an unfavorable environment for production-oriented companies, particularly those in competitive sectors. Therefore, insulating the organization's technical core (the labor process) from environmental changes becomes

crucial for Fordist companies. This issue is addressed in James Thompson's seminal work, "Organizations in Action" (Thompson 1967).

The managerial approach to this contradiction involves separating internal organizational processes (focused on production and economic aspects) from market contingencies. Mediation between the production process and the market occurs in a distinct step, managed by upper management and company boards. As discussed in Chapter four, insulating the technical core influenced both the operation of Allied's internal labor market and its production organization. In this case, insulation was facilitated by the company's monopolistic position, allowing it to externalize costs by raising product prices (Burawoy 1979: 133).

ii) Contradictions between Value Realization and Labor Control

While the contradiction between value realization and direct labor control is more explicitly expressed in post-Fordist companies, the suppression of workers' subjectivity also challenged capital's valorization in earlier regimes. It is important to recall the limits to direct control identified by Friedman (1977) and presented in Chapter three, which eventually led to inefficiencies in the labor process, worker dissatisfaction, and organized resistance.

To overcome such limitations, Fordist companies like Allied relied on workers' subjectivity to ensure the reproduction of capitalist production relations (as explained in greater detail in Chapter four). At Allied, overly strict direct control by senior management via middle management would be counterproductive to the consent and profit-generating game of 'making out'. This dependency of capitalist domination on workers' consent becomes more pronounced with the progressive development of the market economy in the late 1980s, as we will explore in Section 6.3.

6.2.3 From Fordism to Post-Fordism

The transition from Fordism to post-Fordism was a gradual, non-linear process beginning in the 1970s with the crisis of Fordism. After a period of incubation in the 1980s, where various adaptation strategies were tested, this transition finally crystallized in the 1990s into a new economic and labor model. Organizational responses to the crisis, introduced in the 1980s and accelerated in the 1990s, included systemic rationalization (Altmann et al. 1986) and a new division of labor characterized by flat hierarchies, participative management methods, technologically supported networking of corporate processes, and

labor flexibilization (particularly employment relationships and working time). These changes signaled a new stage in the delimitation (Entgrenzung) of corporations, employment relationships, labor and life, and even within living labor.

The geographical and organizational demarcation of corporations relates to a secular process that experienced a qualitative boost (Beck 1989), specifically the globalization of value-added chains. Marketization, or the increased penetration of the market into companies (and society in general), is another aspect of corporate demarcation (e. g., Brinkman 2003, Dörre et al. 2003, Kratzer et al. 2008, Moldaschl and Sauer 2000, Sauer and Döhl 1997, Sauer 2005a, Schumann 2008). As Sauer notes, the market has always acted as a general management, organization, and allocation principle of capitalist companies and societies. What characterizes this period is a new step in the process of marketization, its radicalization. Instead of the Fordist isolation of the technical core from market processes and dynamics, the market now becomes the main reference point for all company processes (Peters and Sauer 2005: 31).

With the progressive marketization of companies, the hierarchical-bureaucratic system of corporate governance eventually proved to be a barrier to productivity development (e. g., Sauer 2013a). This can be seen as another expression of the Marxist notion of boundlessness within boundaries (Schrankenlosigkeit in Grenzen), previously introduced. The limits set by the technical and organizational foundations of the Fordist production economy – and thus also the limits to the use of labor power – were defined as barriers that must be overcome (keyword: informatization) to ensure capital's valorization (Sauer 2005b). Another key form of delimitation instrumental to capitalist valorization was the dissolution of the use of labor power from its institutional and motivational limits (keyword: subjectivation).

With the crisis of Taylorism since the 1980s, new forms of control have emerged in companies that do not seek to suppress subjective potential and personal responsibility in the labor process as sources of resistance. Instead, these forms of control strategically utilize them for entrepreneurial purposes. This shift marks a significant change in performance management, closely linked to the increased penetration of market criteria and mechanisms into internal organizational processes (Nies 2019: 8–9, my translation). The crisis of the command system and the transition to indirect control have been described as "a historical upheaval in the social organization of labor" (Peters and Sauer

2005: 41). In the next section, we explore this change in the form of capital's domination, which constitutes an organizational revolution (Sauer 2013b).

6.3 The Expression and Management of Capital's Contradictions in Post-Fordist Companies

6.3.1 Performance Management in Post-Fordist Companies

Since the 1990s, there has been a general shift in corporate management, interpreted as a transition from direct control through instructions or command systems to indirect control (indirekte Steuerung) through goals and framework conditions. Authors from the COGITO Institute, such as Klaus Peters and members of SOdA's research team, Josef Reindl and Jörg Stadlinger, have theorized this shift as an attempt by corporate management to develop new methods that simulate a performance dynamic among dependent employees similar to that of independent entrepreneurs.

To achieve this, the complementarity of disciplining and motivating mechanisms (carrot and stick) effective in the command-and-control-system is replaced by the polarity of threatening entrepreneurial failure and promising entrepreneurial success. This new form of control highlights the limitations of the English term, suggesting management as a more accurate description. In the command-and-control-system, workers were obliged to follow instructions and carry out specific activities. In this new system, task determination (activities, instructions, defined work steps) is increasingly replaced by specifying work results, goals, and purposes to be achieved under existing framework conditions (inside and outside the company). By confronting dependent employees with entrepreneurial tasks and economic constraints, this form of control generates in them their own entrepreneurial interests and motives for action, which the company uses to achieve its goals.

Thus, in this new logic of performance management, the will and autonomy of employees, as well as their subjective abilities and potentials, become the main instruments employed by capital to secure its profitability. Managers must explicitly enable workers' self-organization within a given framework of targets, staffing, budgets, etc. (keyword: decentralized project organization) (Peters and Sauer 2005: 41). Self-organization thus becomes the organizing principle in this new system.

This highlights a fundamental distinction between the command system and indirekte Steuerung. Despite capital's inherent contradictions and the imperfect control over the

labor process, workers have always managed indeterminacies in the labor process. However, this was often an unofficial or even illegal task during the era of scientific management. In contrast, indirekte Steuerung introduces a new dynamic: Beyond their qualifications and physical labor capacity, the individual, as the bearer of labor power, is now put into operation (Sauer 2013a). This phenomenon, known as labor subjectivation, is crucial for understanding indirekte Steuerung in corporate organizations.

Labor subjectivation manifests in two significant ways:

1. Workers as Subjects of Their Own Management: Workers are no longer mere objects but also subjects of their own management. The solution to the transformation problem, once the entrepreneur's central task, is now the responsibility of the workers themselves (ibid).
2. Market-Oriented Deployment of Labor: In marketized organizations, the deployment of the labor force is oriented towards the market and customer requirements. Workers are given the self-responsibility to manage their labor force in line with market dynamics and customer needs. They must control their availability, performance, and rationalization of the labor process. This adaptability is crucial for handling contingent and variable demands.

This shift necessitates specific organizational changes and policies:

- **Dismantling of Hierarchical Levels**: Flattening organizational structures to transfer organizational and decision-making power to groups or individuals.
- **Flexible and Open Forms of Work**: Implementing work forms that enable self-organization, such as project work and group work, to handle variable demands.
- **Results-Oriented Performance and Remuneration Policy**: Utilizing target agreements to focus on outcomes.
- **Organizational Flexibilization of Work Deployment**: Introducing flexible employment, new working time models (e. g., needs-based personnel adjustment and individual working hours, termed as 'breathing factory'), spatial flexibilization, and virtual workforce arrangements.

These changes reflect the strategic integration of workers' autonomy and subjectivity into corporate operations, aligning them with market and customer demands (Peters and Sauer 2005).

Second, workers' subjective potentials and resources, such as their creativity, problem-solving skills, communicative abilities, motivation, commitment, and emotions, are increasingly valued. In dealing with indeterminate and contradictory demands, these qualities are particularly crucial, often surpassing the importance of purely formal professional expertise (Sauer 2013a).

Excursus: Differences between Indirekte Steuerung and Responsible Autonomy

As we have previously seen, Friedman's concept of responsible autonomy was integrated into Taylorist work organizations, particularly in areas where direct labor control was impractical, primarily among white-collar workers. Like indirekte Steuerung, it moves away from process specifications and detailed control but for different reasons and following a different logic. Responsible autonomy is grounded in a relationship of loyalty and identification with the company, secured through privileges granted to a specific group of employees. This makes direct control redundant for these employees because they have internalized the will of their superiors – a mechanism of control and discipline we have already seen in relation to the command system (keyword: praise and reward).

Indirekte Steuerung, by contrast, does not rely on the internalization of an external will but rather on the instrumentalization of one's will (Peters 2001, 2003). According to the theorists of indirekte Steuerung, employees' alignment with company goals, even within the framework of self-organization, is not a matter of loyalty, motivation, or company identification. Instead, it arises from the pressure to achieve results (Nies 2019: 9) based on the performance definitions set by management. Ideally, employees do not act out of loyalty to the company but because the company's conditions and frameworks force them to develop an interest in their own performance behaviour (Nies 2015: 140, my translation).

A discussion of this idea and its limitations in understanding why RHT workers cooperate and organize themselves to achieve performance results defined by managers follows in Section 6.5.

6.3.2 Capital's Domination in Indirekte Steuerung

First, it is important to note, as the theorists of indirekte Steuerung do, that this change in the form of capital's domination and in the logic of the conflict of interests between capital and labor does not mean that either has disappeared. They have simply evolved to fit the new conditions of capital realization, as the older model became inadequate. Capital's domination and class antagonism remain defining elements of capitalist workplaces.

As Nies emphasizes, granting autonomy does not represent a control problem for management, rather, it is part of an effective control and domination mechanism (Nies 2019: 9, my translation).

Now, what do the theorists of indirekte Steuerung mean by autonomy? The autonomy of dependent entrepreneurs within the enterprise consists in the fact that they are not supposed to follow direct orders. Instead, they are expected to react autonomously to the framework conditions set by management. By pursuing the entrepreneurial motives for action and the interests generated by indirect control, dependent employees now act on what they themselves want. However, their will and scope of action are fundamentally shaped by the changing economic conditions of their work. To avoid imminent failure, they must adapt flexibly to these conditions.

In their relationship to self-dynamic processes, such as market dynamics, lies the specific heteronomy associated with entrepreneurial autonomy, which they experience as drivenness. This is why the theoreticians of indirekte Steuerung speak of heteronomous autonomy.

The dependent self-employed in this sense also include managers, as they too are affected by a kind of heteronomy at the top of the hierarchy – namely, the market's heteronomy. The market, created by people and embodying the reciprocal behavior of people towards each other, cannot be dominated and controlled like a machine or a company department organized along command lines. The market does not heed commands, and one cannot negotiate with it. It develops autonomously in relation to people (Peters 2003: 18, my translation).

The heteronomy of the entrepreneur is the counterpart and result of the autonomy of social framework conditions, such as the laws of capital utilization, the market, and competitive relations (ibid, my translation). This aligns with Marx's characterization of the capitalist labor process (see Chapter three), which is marked by the unfreedom of individual

capitalists in the face of the dynamics of the capitalist mode of production, perceived as external and coercive laws.

The heteronomy of the market at the top of the hierarchy, however, differs from the heteronomy within the hierarchy. Entrepreneurs face constraints of a different kind than those they impose within their enterprises. They are subject to the market, yet, unlike dependent employees, they possess the decision-making power to set the decisive parameters and goals for the company and themselves (Breisig 2010, Menz 2009, Nies 2015, Nies 2019, Peters and Sauer 2005). Workers' autonomy under indirekte Steuerung is externally determined in a dual sense: not only is it subjected to the heteronomy of the market as a framework condition (like the entrepreneur's autonomy), but also to the entrepreneur, who sets the parameters and goals of workers' performance (Peters 2001).

Mechanisms of control exist in the system of indirekte Steuerung, but they are directed towards the market rather than the labor process. Thus, enterprises are assessed on market-oriented ratios (accounting and controlling systems). Workers are subject to results and success-oriented performance policies, where performance and pay are increasingly detached from human effort and linked to market results. Instruments for this include target agreements, variable pay, performance differentiation, and permanent feedback on the status of goal achievement, exposing employees to constant pressure to justify themselves (Nies 2019: 9, Peters and Sauer 2005: 41). Personnel control and permanent monitoring of the labor process become (in principle) obsolete. Under conditions of market-oriented control, domination does not manifest as an authoritative relationship but rather emerges as an objective factual constraint mediated by market and production-economic constraints (Menz 2009, Nies 2019: 9, my translation).

6.3.3 Capital's Contradictions in Post-Fordist Companies

The concrete contradictions in post-Fordist companies include:

i) Intensification of the Conflict between Market and Production Economy

In the Fordist regime, management traditionally bore the responsibility for translating market demands, return expectations, and similar factors into the production process. However, in the post-Fordist era, this responsibility now partially shifts to the workers themselves. Performance requirements are no longer solely measured by the amount of work to be completed but are primarily derived from market-related objectives. As discussed earlier regarding subjectivation, the resource aspect of labor, particularly

human labor, has become a variable that ideally should be adjusted by employees themselves to meet profit targets and perceived or actual market demands. Employees are directly confronted with market-based indicators and ratios and are held accountable for achieving them. Consequently, employees not only manage the challenge of optimizing their labor force but also navigate the tensions between limited resources, production-economic requirements, and often unmanageable market demands (Nies 2019: 9, my translation). Therefore, post-Fordist companies are characterized by the sharpening of the conflict between market and production economy, specifically between techno-functional rationality and economic rationality (Nies and Menz 2021), as discussed further in the upcoming chapter on RHT's case. Additionally, there emerges a contradiction within workers' perspectives concerning the logic of use value versus the realization of economic value (for an extensive exploration of this issue, refer to Nies 2015).

ii) Contradictory Souls within the Worker

Another contradiction impacting workers' subjectivities is the tension between their entrepreneurial self – their actions and thoughts as entrepreneurs, promoted and instrumentalized by indirect control – and their identity as workers. According to Sauer (2013a, my translation), while pursuing their entrepreneurial role, workers may find themselves in conflict with their personal interests or what they truly desire: the unfettered development of their individuality as an end in itself. The capitalist entrepreneurial role can be perceived as hindering their personal development.

However, based on the case of RHT, I argue that capital instrumentalizes workers' subjectivity not only in their capacity as entrepreneurs, as suggested by indirekte Steuerung, but also in their role as workers. This assumes a distinction can be drawn between these two aspects of the worker's identity, as indirekte Steuerung proposes.

Before delving into a discussion of this issue in Section 6.5 ("Mediated fear of entrepreneurial failure"), let us first explore the mechanisms for managing workers' performance at RHT and the contradictions they entail.

6.4 Informal Self-Organization to Address Multiple Contradictions: The Case of River High Tech

Generally speaking, RHT is centrally controlled and planned from the top down. The division into BUs does not indicate decentralization because these units – automatic assembly, manual assembly, system assembly, and control cabinet construction – do not

operate with economic autonomy. Instead, they serve technical differentiation purposes (see Chapter two and five on the company's internal organization). Executive orders take precedence at the top, followed by prioritization lists determined by sales and production management. Specifications are passed down to production and shift supervisors, who then assign tasks to employees based on specified target times and delivery dates.

Production workers at RHT receive clear guidelines on tasks, timing, and methods of execution. At the BU level, there are no true groups or teams, individuals are simply grouped together. Degrees of freedom within the BUs vary: they are greatest in control cabinet construction and system assembly, and least in the assembly departments where technical procedures leave little room for maneuver. It is incorrect to suggest that different control methods are applied across different strata at RHT, however, the autonomy in technical deployment varies among departments.

Managers sometimes clash with workers in departments with greater technical autonomy when attempting to restrict their freedom of action. This leads to conflicts over work claims (see limits to 'getting on' in the next Chapter) and inefficiencies in production processes that workers must navigate and resolve – a phenomenon I refer to as 'getting by' in Chapter seven. A worker from the paint shop describes the confrontations with their boss on this issue:

> *That's right, there's the occasional clash. I've already had lively discussions with the boss.* (...) *And I've also spoken a bit louder to him a few times, saying that it can't be like this, that he's always falling into our steps.* (W15, pos. 261–263)

Moreover, there are some sporadic elements of labor activation management at RHT that do not constitute a system of indirect control per se. The mechanisms of self-regulation and coordination of interests between labour and capital rather reflect internal disagreements among management factions advocating for different control methods.

Despite RHT's profound dependence on a highly competitive national and international market, this reality is not mirrored in the company's internal organization. In essence, market pressures permeate RHT at all levels, yet without the presence of indirect control. The pervasive influence of the market – manifested through performance demands and job insecurities – undoubtedly exerts a form of control, albeit distinct from the previously described indirect control. Consequently, production employees experience the market as

an additional pressure within a framework of direct control, without being afforded expanded autonomy akin to entrepreneurial autonomy.

From the perspective of RHT workers, elements of the command system predominantly prevail. They perceive little evidence of indirect control and struggle visibly to distinguish between the two (or, as COGITO scholars aptly phrase it, between crocodiles and pistols representing threads of indirect and direct control, respectively). When differentiation does occur, workers tend to downplay the threat of economic failure, which they see as a softer form of control: “When it’s really urgent, it’s the pistol, when it says we have air, it’s more likely to be the crocodile” (WS). Workers perceive an intertwined relationship between the two forms of control, a sentiment echoed across numerous interviews and observations conducted during the workshop on performance management modes at RHT.

Participants in this workshop repeatedly stress that not only does the command system currently dominate, but historical practices have also curtailed employee autonomy in the past. They thus missed opportunities to learn and exercise autonomy in their work actions.

Workers at RHT are hindered from achieving the necessary autonomy for indirect control not only because the organizational prerequisites are lacking, as previously outlined, but also due to the lack of mental resources. This refers to a deficit in trust from RHT’s management towards its employees, coupled with employees’ insufficient information and understanding of the overall production process.

Despite these challenges, RHT exhibits varying management factions: some favoring direct control methods (including elements of digital Taylorism), while others advocate for organizational systems more aligned with indirect control. This dual approach is reflected in the coexistence of tools like stopwatches alongside mechanisms aimed at fostering consent (e. g., smileys).

For instance, the production manager emphasizes a reluctance to continuously monitor workers’ performance, advocating instead for flexible working hours that empower employees to organize their own workday, provided they meet production targets. The objective of nurturing entrepreneurial thinking as a means of self-regulation is underscored by the following statements from the production manager and the training manager:

> *I don't want to have employees under constant observation. I don't want that. I don't want someone watching my back myself, and that's why people are given the target, that's the objective we have. How they achieve them is partly up to them.* (Exp04, pos. 250)
>
> *You try to bring this entrepreneurial spirit into it a bit more, so that people are aware that if I'm ill, e. g., or can't come to work because I'm a bit ill, then others have to do my job ...* (Exp05, pos. 177)

Thus, managers at RHT have implemented or are planning a series of activating measures aimed at enhancing productivity among workers. These include a stamp system for workers' self-regulation, which serves as a mechanism for coordinating interests between capital and labor. Additionally, there is a group pay bonus designed to intensify group performance, thereby promoting intra-group competition and redistributing conflicts between capital and labor. Let's delve into each of these measures in greater detail.

6.4.1 Direct Employee Involvement and Communications

Direct employee involvement and communication represent primary strategies through which management seeks to secure consent from workers. According to Marchington (1992: 166–167), employee involvement is driven by organizations grappling with increasingly competitive global product markets. These markets prioritize quality goods, customer service, prompt delivery, and worker flexibility. Consequently, employers are placing greater emphasis on ensuring that employees understand the competitive environment and are ready to contribute fully to achieving organizational goals. This description resonates well with the situation at RHT, as discussed in the previous chapter.

While not explicitly named, Marchington's strategy indirectly references a historical phenomenon central to indirekte Steuerung: the marketization of work organizations[31].

Certainly, according to RHT's production manager, the economic environment remains a constant presence for workers. This persistent market pressure is one of the factors driving their readiness to participate in "special measures" such as forgoing holidays or working overtime. These mechanisms, as Marchington categorizes under direct employee involvement and communication, include managers sharing company performance

[31] A parallel concept appears in the works of Coriot (1980) and Glenn and Feldberg (1979), where they explore organizations characterized by control mediated directly by market dynamics (where bosses are replaced by clients). However, their emphasis is on fostering self-discipline through autonomy rather than on cultivating workers' entrepreneurial will and agency, as seen in the concept of indirekte Steuerung.

metrics and market conditions with workers. This serves as an activating mechanism to align workers' interests with those of capital and management[32].

The production manager discusses team briefings and the process of gaining workers' consent for implementing exceptional measures (which, at RHT, are more commonplace than exceptional) to handle fluctuating order situations:

> (...) *But now, for our year-end business, the week before last, in the team meeting with all employees, whether productive or administrative, I used a diagram to show where we currently stand, what we still need to achieve and how much we are still able to achieve. In other words, we have a production order intake of, let's say, X thousand hours, but I have only a capacity of employees present until the end of the year of just a few hours. And then I show them this and they realize that there is a gap and that we need to do something about it. And then it goes in the direction that the employees realize, okay, that's not going to be enough. It can only be done with special measures. The special measures are now that employees give up their holidays, take them into the new year and then have to plan them again. That way we gain hours, and we can still keep everything.* (Exp04, pos. 93)

The perception of the market as an uncontrollable factual constraint permeates various levels of the company, consistent with Menz's (2009) analysis. Market competition, both nationally and internationally, establishes the framework for aligning shared interests and goals between workers and capital. Additionally, the proximity to the market and the ever-present threat of entrepreneurial failure justify, for both workers and managers, the productivity pressures imposed through "unrealistic" key performance indicators. Moreover, it serves to legitimize certain managerial decisions, such as flexible labor force utilization, thereby helping to prevent or mitigate conflicts between workers and managers. Thus, the market acts not only as a mechanism for aligning interests but also as a mechanism for redistributing or externalizing conflicts.

The following interview excerpt with an employee from the THT department (manual assembler) illustrates how potential conflicts over productivity demands and job security

[32] Certainly, it's important not to confuse this with the sharing of individual or group performance data. The latter also serves as an activating strategy, potentially strengthening the alignment of interests between workers and capital or managers.

are neutralized, as responsibility for the increased pressure to perform is attributed to customers and the order situation rather than the company:

> *B: The pressure on productivity has increased, yes, yes.*
>
> *IV: Can you attribute that to anything?*
>
> *B: New customers. Yes.* (W02, pos. 133–135)

Similarly, another manual assembler explains why they have to work overtime:

> *It may also be partly due to the market, that the market now or the customers we work for say we absolutely need this now. So, it also depends on the customers we have, yes.* (W08, pos. 149)

Even employees who attribute their performance pressure to the company ultimately view the market or the customers as the primary reason for the "need" for overtime, as expressed by this worker from the paint shop:

> *Actually, the management* (*puts the pressure on*). *Sometimes they have no idea what we do or how it works, where the problems are.* (...) *If it's necessary, yes* (*I work overtime and on Saturdays*). *If we see that delivery deadlines are tight.*
>
> *IV: But would it be avoidable the other way round?*
>
> *B: It's always difficult when customers come and absolutely want something painted. Then ... so then delivery dates overlap.* (W07, pos. 297–307)

Market constraints such as national and international competition are conveyed to workers and translated into performance pressure, as illustrated in the following interview excerpt with a tester:

> *I know that we also have competition* (...) *we have also had meetings, how do you say? Works meetings. Of course, we also talk about what the market is like and that we have to be competitive. And that you also have to be productive accordingly.* (W03, pos. 389–391)

A circuit board assembler shares a similar perspective:

> (*If the target times or productivity is reduced*) *then the product becomes more expensive, right? And then it could be that the customer drops out.*

> (...) *It's always such a stupid vicious circle.* (...) *Because there is competition.* (W02, pos .449–453)

These communication strategies, such as team briefings, have inherent limitations as tools to enhance employee commitment or boost productivity. According to Marchington (1992: 169–170), a significant challenge lies in the scale and structure of many large organizations, where employees often struggle to identify with the company as a cohesive entity. However, this challenge is less pronounced at RHT, a medium-sized company. Another factor contributing to the limited effectiveness of such communication schemes, as noted by Marchington, is the difficulty employees face in linking their individual efforts and performance directly to the overall organization. They may also find it challenging to engage with activities like new board appointments or financial dealings of the company.

In interviews, company performance indicators are rarely discussed, and when queried directly, employees generally express that these metrics are not pivotal to their work and have little direct impact on their work. Consistent with Marchington's observations, this could explain why abstract company performance indicators have a relatively modest influence on workers' motivation compared to the tangible pressures exerted by clients and competitors in the market.

Despite infrequent mention, company performance indicators do surface in interviews related to profit-sharing bonuses, although these bonuses have not been disbursed in recent years. Nonetheless, the potential for profit-sharing bonuses to align interests between the company and its employees is evident. Below is an excerpt from an interview with a production worker from the THT department, discussing why she considers it important for workers to receive regular updates on the company's financial numbers and competitive standing:

> *It* (*being informed about company figures*) *is interesting, yes, I mean ... how can I explain it? You also want the company to do well, or rather we have a bonus that we get. And we only get it if we have good figures.* (...) *No, I don't actually have the feeling that it* (*the good figures*) *is because of me. No.* (W02, pos. 295–297)

The sentiment expressed by this employee – that she has limited influence over company processes – is not unique but rather a shared perception among many employees. This

perception extends to concerns about job security and the overall company performance. This widespread feeling of lacking control over the outcomes of their work will resurface in discussions related to the group premium issue (as detailed below) and will be especially pertinent in the upcoming Chapter focusing on the 'legitimation contradiction'.

6.4.2 Smileys for The Coordination of Interests Between Capital and Labor

Productivity at RHT is primarily measured by productive time, which is the time spent on completing orders in relation to attendance time, rather than the number of pieces produced. Currently, individual productivity is not assessed at RHT, instead, the focus is on departmental productivity targets. Formerly set at 95 %, these targets have now been raised to 100 %, though there are variations in reported figures among employees (some cite 95 %, others 97 %, or even 100 %).

For instance, if an employee spends seven hours to complete a product that was scheduled to take seven hours, they achieve 100 % productivity by meeting the expected time. If the task takes longer (e. g., seven hours and X), productivity drops accordingly (e. g., 95 %). Exceeding the allotted time significantly reduces productivity (e. g., 50 %).

Another critical metric is first pass yield, which measures the %age of defect-free products produced without needing rework or additional material.

Both productivity and delivery reliability are crucial metrics at RHT, imposing significant performance pressure while being perceived as both unrealistic and highly important. Despite this, there have been no salary deductions for failing to meet these key performance indicators. Nevertheless, the continual focus on these metrics induces stress among employees.

The production manager, an advocate of managerial methods aligned with indirekte Steuerung, introduced a stamp system early in his tenure. Employees were required to stamp different symbols (e. g., smileys) next to their names based on their productivity levels. This initiative, though fostering ambition, occasionally sparked conflicts. Nonetheless, it succeeded in increasing productivity from 85 % to 95 %, as the production manager himself states:

> *And now you've already seen it downstairs in production, we have big boards hanging there where employees can stamp smileys. That means they don't have to do much maths. They just look and say, there were three of us today, there should have been three of us to do the job, did*

> *we do it? Yes, we did – green. Did we make one more? Gold. If we made one too few, we make red. And so, the employees can monitor themselves with a very simple tool to see whether we are productive or not. Now we do this in a team, but now the whole thing is also available for individual workstations. And then we'll see how that works out.* (Exp04, pos. 234)

Activating mechanisms aimed at rationalizing workers' performance often achieve their intended effect. This is evident in assembly lines where multiple workers are timed to complete each work step within a specified timeframe. According to the production manager, employees collaborate to adjust when someone cannot keep up, ensuring production flow continues:

> *Do it faster, maybe only smoke twice a day outside of break time instead of 18 times.* (Exp04, pos. 248)

A manual circuit board assembler finds it "interesting" to track the group's productivity using the smiley system:

> *You just look at it and are happy when you see a green smiley face.* (W02, pos. 125)

6.4.3 Group Pay Bonus for The Redistribution of Conflict Between Capital and Labor

It is clear that the shift from a group premium wage based on defect-free work products under the conglomerate in the 1990s to today's time-based pay without a bonus system has significant implications. Currently, a five % personal performance bonus is determined subjectively by supervisors. This system serves both to individualize workers, making them seem like free and equal individuals rather than members of a class (Burawoy 1979: 30), and to foster competition among them. In this way, vertical conflict between capital and labor is redistributed horizontally, creating tensions among workers.

The following interview excerpt from an automatic assembly worker on the system of labor performance evaluation illustrates this dynamic:

> (...) *we also talk, you shouldn't talk about it* (*the individual performance evaluation*)*, he* (*the boss*) *also says that to every employee. But of course, employees come down from the boss – yeah, yippie yeah, I've scored so and so many points. We all know what these points are worth.*

And then you think, aha, these points, what this person has got now, they've been deducted from me.

IV: Sure. There aren't unlimited points.

B: No. (W06, pos. 369–371)

In addition, there is a profit-sharing scheme, albeit formally, which has not been paid out in recent years due to RHT's inability to generate profits.

Overall, dissatisfaction with the current remuneration system is widespread among the experts interviewed. According to the general manager, the abolition of the group bonus has reduced employees' motivation to resolve issues promptly. He proposes a new bonus system combining the current performance bonus with an upcoming collectively agreed wage increase, totaling 10 to 15 %, to be based on group key performance indicators (instead of personal evaluations). This aims to reintroduce a monetary incentive for high performance (Exp03, manager). Key figures such as productivity and quality, including adherence to deadlines, would determine payouts.

Employees compensated based on performance and working in goal-oriented teams develop an interest in enhancing their colleagues' performance, independent of direct management influence (Peters and Sauer 2005: 47). Thus, incentive pay systems seek to tap into employees' performance potential and actively involve them in work rationalization efforts.

The works council strongly opposes reintroducing the group bonus, arguing it would merely amount to pay variability under the proposed conditions.

Furthermore, the reintroduction of the group bonus conflicts with RHT's prevailing control methods. Workers face productivity demands and enhancement systems without sufficient autonomy or influence over their productivity conditions, aligning with their self-perception of lacking control over their performance outcomes. Individualizing factors like pervasive job insecurity and the current individual performance assessment system counteract the rationale behind the group bonus, alongside formal restrictions on workers' autonomy imposed by direct control mechanisms.

In fact, the impression shared by some respondents that they have little influence on overall performance also argues against a group bonus, as can be read from this interview excerpt with a worker from the switch cabinet construction:

> *I say, if it doesn't cut the basic salary, okay, but if it now says, okay, then we'll make half the basic salary and then the rest on bonus, and I have no influence on how well it goes now, so I say, at the workplace I can see that it doesn't work here, I can't do more quantities here and I'm not allowed to change anything myself, then it's bad.* (W11, pos. 295.)

Production workers generally oppose the implementation of a group bonus proposed by the executive director. The primary concern voiced is that underperformers within the group could lower the average performance, potentially affecting all individuals in the group, including the highest performers.

> *No, I'd like it if it* (*the pay system*) *stayed the same. Unless there was, I don't know, like a piece rate, just for me. If I put in 97 per cent, I'd get this bonus and not if there are five, six or seven of us. And then we are always dependent on someone. And if I had to wait because of someone else, I think I would be angry.* (W02, pos. 495)

A further argument against the group pay bonus is the fear that the work climate will suffer from an increased competition among workers in the group, like these two manual assemblers argue:

> *There will be murder and manslaughter.* (...) *Because then some people think they have to look at how much the other people have made and then say, listen, if you think you have to chat here for a quarter of an hour and I'm working during that time – no, girl, you'll get my money? Up here! That's how it's going to be. I can already give you my seal of approval.* (W04, pos. 381–383)

> *Yes,* (*my main reservation is*) *that the elbows come out of it. I believe that the climate would be destroyed very quickly ... very, very quickly, because we actually have a very good climate. Yes, I think they would count how often you go to the toilet, whether you've had a chat or ... yes.* (W02, pos. 479)

6.4.5 Interim Conclusion

The market, perceived as a constantly changing force, exerts continuous pressure within RHT, significantly impacting work dynamics, stress levels, and behaviors across all

groups. This pervasive competitive pressure exposes everyone to a threat defined not by disciplinary measures typical of command systems, but by the potential consequences of entrepreneurial failure due to missed cost, quality, or deadline targets. Both labor deployment and productivity targets are oriented towards market and customer demands. However, this market-driven scenario clashes with the labor management logic prevailing at RHT, where elements of direct control dominate despite minor and unsystematic expressions of indirect control. This coexistence of conflicting performance management logics reflects differing visions within senior management ('old' versus 'new guard'). On the other, they evince the situation of RHT management 'getting by' (as in surviving, dealing with a difficulty with insufficient, unappropriated means) in a fiercely competitive market.

Indirect control is only subtly present at RHT, fundamentally, tasks are dictated by technical systems or supervisors rather than workers autonomously responding to market dynamics and customer needs, as seen in indirect control frameworks. This leads to two forms of organizational contradictions at RHT. Firstly, one between production demands and the technical and human resources available to meet them – illustrated by delays in material delivery and challenges in planning labor capacities (detailed in Chapter five under "The human factor beyond 'objective' market pressure"). These organizational shortcomings highlight the limitations of direct planning and technological or personal supervision.

Secondly, there exists a contradiction between market demands and the predominantly direct control approach. Production times, for instance, are calculated based on market-driven price competition and customer appeal, often disregarding feasibility from a production standpoint. These stringent production timelines are enforced via direct control methods, notably using the stopwatch – a quintessential Taylorist instrument. Faced with what they perceive as "impossible" targets from a production perspective, workers frequently attempt to get the times reviewed and adjusted. Yet, middle management often overlooks their requests, since these times are strategic for market competitiveness rather than mere errors. Consequently, workers devise informal self-organizational strategies in an attempt to meet – or at least approach – these demanding targets.

The same is true for organizational shortcomings in addressing production demands with available technical and human resources, such as delays in material deliveries and difficulties in labor capacity planning.

Therefore, both types of organizational contradictions are temporarily managed through occasional and informal – yet systematic – utilization of workers' autonomy. Workers' informal self-organization arises when managerial plans falter, sustaining a system that would otherwise collapse.

Importantly, these instances of worker autonomy aimed at enhancing productivity do not challenge the predominant mode of labor control, which, as mentioned earlier, is primarily direct control. Instead, they contribute to maintaining a system that relies on workers managing these fundamental contradictions through informal self-organization, albeit without resolving them. This informal self-organization persists because direct control systems like those at RHT and Allied require worker self-organization and subjectivity without formal endorsement.

At RHT, workers organize themselves to address contradictions, inefficiencies, and uncertainties, albeit without explicit instruction from management to autonomously achieve productivity goals. Key elements of work organization and personnel policies advocated by indirect control systems – such as decentralizing decision-making to groups or individuals, implementing flexible work arrangements responsive to variable demands, and promoting a results-oriented performance and remuneration policy – are largely absent.

Despite this, workers engage in informal self-organization, often exceeding work assignments and improvising to ensure productivity conditions set by management. This situation, where informal self-organization thrives in a predominantly direct control environment, diverges from the principles of the indirekte Steuerung-approach. In the next Section I address this paradox, which I have termed the 'organizational contradiction' within RHT.

6.5 Solving the Organizational Contradiction: The Importance of Mediations

Confronted with workers' informal self-organization at RHT, a mode of organization distinct from that envisioned by the indirekte Steuerung, the following question arises: why do workers organize themselves to resolve contradictions, inefficiencies, uncertainties, and other obstacles in the labor process that hinder productivity conditions?

Why do they engage in managing their own work and the labor process to ensure profitability conditions without explicit instructions to do so?

I argue that the motivational aspect is underappreciated by theorists of the indirekte Steuerung, to the extent that discussing motivations lacks relevance from this perspective. As Nies explains, within the logic of indirect control, employees aligning with company goals through self-organization is not about loyalty, motivation, or identification with the company, but rather a response to the imperative to achieve results (Nies 2019: 9, my translation).

The indirekte Steuerung, as a theoretical framework, focuses more on the organizational rather than the motivational dimension, viewing motivation primarily as an organizational factor. It assumes that workers' willingness is both a result of and a condition for the functioning of indirect control as an organizational mode. In contrast to hierarchical-bureaucratic corporate management, this approach achieves coordinated action not by subordinating individual will, but by harnessing it for organizational purposes (Sauer 2013a).

However, this approach does not delve into why workers willingly cooperate with indirect control beyond their interaction with management-defined framework conditions. For proponents of indirekte Steuerung, while the command system coercively directs people's actions, indirect control exploits the fact that human will is influenced by modifiable conditions. By arranging these framework conditions suitably, employers can exert significant influence over their dependent employees' will, transforming themselves into 'biotechnicians of human capital' rather than mere commanders of subordinates (Peters and Sauer 2005: 38–39).

This alignment between the approaches of indirekte Steuerung and Burawoy underscores that worker subjectivity emerges directly from the organization of the labor process and is essential for capital reproduction. Sauer highlights that when individuals confront entrepreneurial challenges, they "spontaneously" develop motives for action (Sauer 2013a).

I argue that because indirekte Steuerung primarily views workers' subjectivity (their motivation and will) as a consequence and precondition of the organizational mode, it falls short in fully explaining why workers systematically engage in informal self-organization in settings different from indirect control, such as observed at RHT.

To enrich the conceptual framework of indirekte Steuerung, I propose focusing on the role of various mediations. These, in my view, are pivotal for addressing the organizational contradiction at RHT and can be summarized as follows:

1. Mediated confrontation with the market: Action upon action
2. Mediated fear of entrepreneurial failure: Fear of job loss
3. Technological mediation: Technology as a further actor in the relations of production
4. Mediated motivation: Factors beyond the organisation of the labour process

In the next Section, I delve into mediations one to three. The subsequent Chapter exclusively explores the fourth mediation.

6.5.1 Mediated Confrontation with the Market: Action upon Action

As previously noted, proponents of indirekte Steuerung emphasize that the transition from the command system to indirect control does not abolish capitalist power and property relations but transforms them. The external determination exerted by the market on entrepreneurial autonomy shifts to internal relationships within the enterprise. In this new paradigm, hierarchical command and control relations among company actors are replaced by market-like dynamics, turning superiors and subordinates into market competitors – both within and outside the company. The threat of sanctions gives way to the risk of entrepreneurial failure and defeat in competitive markets (Peters 2003: 19, my translation).

Earlier, it was observed that workers' autonomy under indirekte Steuerung is externally determined in a dual manner: subjected not only to the market's heteronomy as a framework condition (akin to the entrepreneur's autonomy) but also to the entrepreneur as an additional parameter setting goals for workers' performance (Peters 2001).

I argue that we should view managers' actions as mediations between the market and workers, rather than as further framework condition of workers' actions. By mediating, I mean something akin to Foucault's concept of power as "a way in which certain actions may structure the field of other possible actions. What, therefore, would be proper to a relationship of power is that it be a mode of action upon actions" (Foucault 1982: 791). Hence, the market – understood again as a network of social relations resulting from human actions yet beyond their direct control – structures the entrepreneur's sphere of action. In turn, the entrepreneur shapes the field of action for workers through their own

actions. Embracing this perspective on power, the market thus exercises influence over entrepreneurs, who in turn structure their employees' actions, thereby influencing both spheres of action.

The pressure on managers to meet key targets, such as quality standards, delivery reliability, and productivity, manifests in two main ways. Firstly, there are wage incentives tied to achieving these targets, though no penalties are imposed for failing to meet them. Secondly, managers face regular scrutiny and oversight not only from within the company but also from external entities like ISO. At RHT, these Key Performance Indicators (KPIs) undergo monthly evaluation by the management team. When targets are not met, department supervisors are required to complete PDCA (Plan Do Check Act) sheets, detailing reasons for shortfalls and proposing corrective actions. Annually, the management must justify any deviations to the certification body to maintain ISO certification.

According to management interviewed, these indicators lack flexibility to accommodate immediate issues such as ERP system malfunctions or shifts in market conditions. Like production targets set for workers, these KPIs are aspirational rather than reflective of current operational realities. The production manager noted that certification bodies are less concerned with the causes of malfunctions than with measures taken to meet expectations.

The pressure to achieve these market- and production-oriented targets is then transferred from managers to workers. A senior manager from the production department highlighted how deficiencies in one part of the labor process cascade downstream, complicating or making it physically impossible to meet targets like delivery deadlines. For instance, delays in the technology department impact the sales department, which subsequently affects production schedules. By the time materials reach production, deadlines may have already lapsed. The technology department is then tasked with resolving these issues, regardless of their feasibility, or facing the repercussions of failure, in the words of the senior production management:

> *First of all, I get the problem because, as I said, I am also measured by key figures, how I supply my customer, how satisfied my customer is and so on, and so forth, but it is my responsibility to see that the whole thing is patched up again. And then the only way to do that is improvising. Now we're back to how we were ten minutes ago, that the*

> *employees have to come in on Saturdays. Daily overtime or we shift from the left to the right, we also use trainees. These are the methods I have to use to somehow get the whole thing back on track. If it still works. Sometimes it's impossible even then. That can happen. If I adjust my delivery dates, push them back, the customer is dissatisfied, that can also happen.* (Exp04, pos. 77)

The way RHT handles market pressures should not be conflated with the internalization of market dynamics as described by the indirekte Steuerung (Peters 2001). According to this framework, market relations permeate corporate organization through the entrepreneur, transforming them from an authoritative figure (as in the command system) into a framework condition that guides entrepreneurial actions within the company (Peters 2001: 14).

However, RHT's response to market forces differs significantly. As detailed in Chapter five, senior managers perceive the company as a victim of intense market competition, positioning themselves as agents with limited choices. Consequently, they adopt a submissive stance towards external pressures, particularly from customers. They believe the company, primarily a service provider without proprietary products, cannot deceive clients because they could potentially replicate the services themselves. Moreover, senior management feels powerless in negotiations due to fierce competition among service providers, obliging them to adhere strictly to client demands or risk losing contracts. Therefore, even when realizing preset deadlines are unattainable, they avoid renegotiating terms with clients. This outward submissiveness contrasts with an inwardly dominant stance, where the company asserts top-down control, despite sporadic elements suggesting otherwise, as discussed earlier.

To understand how managers' actions shape the field of workers' actions, Burawoy's framework (1979: 30) provides valuable insights. He identifies three mechanisms that explain the production of workers' consent:

1. Mechanisms for individualization
2. Mechanisms for coordinating interests between labor and capital/managers
3. Mechanisms for redistributing conflict and competition

In Chapter four, I discussed the ways in which Allied's labor process, internal state, and internal labor market each contribute to the production of worker consent. Similarly, in

the previous section, we explored how RHT's management implements labor activation strategies that align with these mechanisms. Both Allied and RHT illustrate that while these different logics can be distinguished analytically, their empirical effects are often intertwined and complex. For example, consider the case of direct employee involvement and communication about the competitive environment, where the logics of individualization, interest coordination, and conflict distribution converge within a single strategy.

It's important to note that not only explicit labor activation strategies can have these effects individually or simultaneously. Managerial initiatives, such as the implementation of assistance systems for circuit board assembly, may not be explicitly aimed at eliciting worker consent, yet they can still produce this effect, as discussed in Section 6.5 under "Technological mediation". Furthermore, contextual factors such as the threat of site closure and potential job loss can also promote individualization, interest coordination, and conflict distribution. These mechanisms are not to be understood as explicit managerial strategies, but as capitalist logics arising from the capitalist relations of production. As such, they are imperfect, often unconscious, and subject to contradictions and contestations.

In contrast to Burawoy's framework, I propose viewing these three dimensions not as directly accounting for workers' consent, but rather as constituting the conditions under which worker consent is produced. This distinction is subtle yet significant. Asserting that these mechanisms directly explain worker consent overlooks the reality that workers possess agency and respond in diverse ways to these conditions. It also oversimplifies the complex interplay between domination and freedom, which I argue is at the core of consent.

Let usLet's now delve into the second mediation that I find crucial for understanding why workers at RHT engage in self-organization, even though they are neither explicitly instructed nor facilitated to do so: their fear of job loss.

6.5.2 Mediated Fear of Entrepreneurial Failure: Fear of Job Loss

As we observed earlier in Section 6.3, the indirekte Steuerung views workers' subjectivity as instrumentalized through their role as entrepreneurs. However, I contend that workers' subjectivity is also instrumentalized by capital for the functioning of indirect control in their position as workers, challenging the notion that one can distinctly delineate these

souls within the worker, as the indirekte Steuerung suggests. Put simply, workers at RHT indeed have a stake in ensuring entrepreneurial success defined by market standards (i. e., meeting customer expectations regarding quality, price, delivery times, etc.). Yet, this interest is profoundly influenced by their own dependency as waged workers under capitalism. Hence, their fear of entrepreneurial failure is closely intertwined with and mediated by their fear of job loss.

A workshop held at RHT on performance management, involving three technologists, a shift supervisor (SMD), the production manager, and three production workers (two from the paint shop and one from the SMD department), illustrates this perspective. Here, a production worker describes the influence exerted by the threat of punishment from superiors (symbolized as a gun) or the potential economic failure of the company (metaphorically portrayed as a crocodile) in the following manner:

> *The most important crocodile is the customer, that is, we know that if a) the delivery date is not right or b) the quality is not right, we risk that the customer was there once and then doesn't come again. That's the reason why there's extra work, that we say we can't avoid it, I want the customer to come back. The second crocodile is the fear of losing one's job. If I make an effort and the turnover is not right, then it is quite possible that the company will say at some point, sorry, I have to close now. Everybody is trying to keep the job and that is de facto not a gun, nobody says come tomorrow or I'll close the shop. Then I have to support my colleagues, many of us come to work not only with a cold but also with a severe cold, it always resonates that I don't want to leave my colleagues alone, people are already pulling themselves together to such an extent that they are already in this area of self–endangerment, not everywhere, but there are cases.* (WS)

From this workshop excerpt, we witness the motivational and disciplinary influence of the market, personified through the figure of the client: workers engage in 'unavoidable' extra work to prevent the risk of losing the customer's repeat business. Additionally, the pervasive fear of job loss ("Everybody is trying to keep the job") functions as a constant contextual factor ("that is de facto not a gun, nobody says come tomorrow or I'll close the shop"). There's also a strong sense of duty towards colleagues ("Then I have to

support my colleagues, many of us come to work not only with a cold but also with a severe cold."), which similarly shapes their behavior.

These conditions are so compelling that they drive workers towards a zone of self-endangerment.

This discussion recalls a point previously raised (see Section 6.2, "Performance Management in Fordist Companies") regarding the concept of contextual conditions of performance management. As mentioned earlier, this notion encompasses various factors and circumstances not necessarily designed for performance management purposes, yet significantly influence employees' performance behaviors. Examples include fears related to job insecurity, exacerbated by the use of temporary agency workers and the looming threat of site closures or company reorganization. These factors are evident at RHT (see Section 5.2, "The Flexibilization of Labor) and serve both disciplinary and motivational functions. As we will explore further in this section, they also individualize employees' experiences, align interests, and redistribute conflicts between capital and labor.

Therefore, I argue that concerns over site closures and job precariousness are not merely peripheral aspects of performance management at RHT but constitute its core elements. Confronting production workers with market uncertainty and shifting the company's risk to them stirs up a sense of precariousness: the company's survival is called into question, and so is one's job too. Managers and the works committee chairman assert that ensuring the company's survival is the primary driver motivating workers to cooperate with the labor flexibility strategy outlined earlier (see Chapter five). This strategy encompasses measures such as overtime, short-time, temporary contracts, deferring holidays until the following year, and, in extreme cases, layoffs.

In theory, working extra hours or extra Saturdays at short notice is supposed to be voluntary, as previously mentioned. However, in the reality of pervasive job uncertainty, the distinction between voluntary action and coercion becomes blurred. Faced with this uncertainty, almost every worker is willing to work extra hours, believing it will enhance their job security. This sentiment is particularly pronounced among temporary workers, as explained by the chairman of the works committee (Exp06, pos. 64–75).

The production manager also underscores the widespread fear of job loss and the consequent readiness of employees to accept special measures. According to the

managing director, employees are less apprehensive about job security during periods of overtime and more so during short-time work. It remains unclear whether he acknowledges a connection between job insecurity and willingness to work additional hours.

From the workers' perspective, the notion of voluntariness is diminished in the face of pervasive job insecurity. Redundancies are not merely abstract threats, they have become a harsh reality affecting colleagues multiple times, and sometimes even the interviewees themselves. During the interviews, one participant had already been laid off three times for operational reasons, only to be rehired after lodging a complaint.

Shortly before the interviews took place, 22 out of approximately 150 colleagues had been terminated. The criteria for selection were unclear to the interviewees, further reinforcing the belief that anyone could be next. Many workers share the impression that they have little control over retaining their jobs, instead, they perceive job security as being dictated by the market. This sentiment is echoed by a manual assembler discussing the recent dismissals:

> *They* (*the managers*) *have to, there's no other way to do it, economically very bad, loss, loss, loss. But as I said, I can ... it's bad. I would also like to do something about it, but I can't. Yes, what am I supposed to do?* (W04, pos. 229)

Against the backdrop of pervasive job insecurity, discussions about digitalization frequently provoke concerns about potential job displacement due to technology, specifically automation. Many times, when asked about robotics or digitalization in general, interviewees spontaneously link these topics with their anxieties about job security. Here is an example:

> *IV: Do you think there will be more and more robots?*
>
> *B: Yes, that's then, you never know or if there's another redundancy, will you be there? You never know. You always hold your breath. You never know how it will be, how is it?* (W09, pos. 248–249)

Many workers express abstract concerns about the future role of the human workforce, but few perceive their specific jobs as being in jeopardy. There is a prevailing conviction among them that their particular tasks either cannot be automated or would be very

difficult to automate. Moreover, there is a belief that automation primarily affects "less qualified" jobs, as described by a tester from the THT department:

> *I think that new areas or activities arise when a system like this is introduced. It also has to be maintained somehow or set up or maintained and so on, and you need staff for that. Of course, these are now different activities. They are probably more demanding.* (...) *My technician training has given me a technical background. So, I might have more opportunities to find work somewhere else than someone who is completely unskilled. So unskilled labor, so to speak.* (W03, pos. 325)

When discussing fears of job loss during the interviews, these concerns typically arise in direct response to the recent layoffs within the company. One manual assembler specifically mentions the relentless nature of technology and the potential threats it poses to the employees:

> *No* (*I'm not skeptical when new technology enters the company*)*, I think a healthy level is a natural part of it. Yes, technology never sleeps. And we need technology too, but we also need a healthy level so that it doesn't jeopardize jobs.* (W02, pos. 349)

Therefore, the threat of job loss is less attributed to technological advancements per se and more to the overall experience of rationalization and recent layoffs within the company. As mentioned earlier, workers interpret these layoffs not primarily as an expression of the inherent conflict of interests between capital and labor but rather as an inevitable outcome of objective market pressures. The following excerpts from interviews with three different production workers (milling, tester, manual assembler) illustrate this viewpoint:

> *A lot of people were made redundant because the orders weren't coming in as they had hoped.* (...) *Where it was said that a lot of people were being made redundant, nobody knew who was involved. So that was quite tense. I have to say, I was also scared, because I'm going to be 57 and I said, if I'm made redundant here now, who will take me?* (W05, pos. 229)

> *If the order situation is not so good, you have too many staff, the personnel costs are too high, then unfortunately you have to react accordingly. That's just, I guess, inevitable.* (W03, pos. 335)
>
> *IV:* (...) *When you say that you feel responsible for keeping things together. What would be the negative image if no one were to join in?*
>
> *B: Yes, dissatisfied customers and perhaps even customers who drop out because of it. That automatically jeopardizes your own job. So, we all know that there's a lot at stake.* (W02, pos. 318–319)

Fears of job substitution at RHT fuel comparisons among workers based on age, skills, and their willingness to adapt to new requirements set by technology. These comparisons can be seen as symptomatic of a latent competition for potentially scarce jobs. In this scenario, we observe how conflict between capital and labor (vertical conflict) is horizontally redistributed, leading to conflicts among workers themselves.

The fear of job loss serves not only as an activating mechanism but also as an individualizing one. For instance, one interviewed worker discusses the recent decision of the company to dismiss 22 employees in the following terms:

> *We made 22 people redundant here a few weeks ago. And when we heard the number, we mourned for everyone, but we said, thank God, it didn't get me.* (W02, pos. 351)

Note also the use of the pronoun we to refer to the redundancies ("We made 22 people redundant"), which suggests an identification with the management who made the decision to dismiss 22 workers. This reflects how fears of job loss not only have individualizing effects ("thank God, it didn't happen to me") but also contribute to the diffusion and horizontal redistribution of conflict between capital and labor at RHT.

6.5.3 Technological Mediation: Technology as a Further Actor in the Relations of Production

As we delve into this section, it becomes evident that perceptions of technology within the company – linked to external social discourses – reinforce workers' dedication to ensuring productivity conditions. Therefore, the technological mediation examined here must be viewed as another element within the organizational context, crucial for understanding workers' informal self-organization alongside other conditions. To illustrate this, let us examine examples from RHT.

Terminals for Individual and Group Productivity Tracing

The terminals for individual and group productivity tracking illustrate how elements of both direct and indirect control coexist at RHT. These terminals were introduced shortly before my empirical fieldwork began, initially piloted in BU four and later implemented across all units.

These terminals operate by allowing employees to check in via a chip at their respective cost centers, enabling managers to automatically track who worked where and when, including details about individual workers. The primary purpose of these terminals is to enhance monitoring of BU productivity, with potential extensions to monitor individual productivity, although the production manager indicates this is not currently the focus.

During the fieldwork, these terminals were still evolving, with plans to allow workers to register administrative or non-productive activities separately to prevent negative impacts on overall productivity. In the long term, employees are expected to access current key productivity metrics via the terminals – a feature aligned more with an indirect control logic – as well as receive personalized messages from supervisors.

Interestingly, workers at RHT do not appear to perceive either the technological constraints on their actions or the technologically supported instrumentalization of their agency with labor control. In other words, both the application of technology under direct control and as part of the unsystematic expressions of indirect control have largely gone unquestioned by workers at the company. This discovery prompted me to explore elsewhere (Casas González 2021a) the factors influencing workers' perceptions of control. It also underscored the importance of considering the subjective influence of technology as a significant factor in shaping how workers perceive labor control.

The fact that workers do not challenge the use of technology for direct performance control must be understood within the broader context of an ongoing, albeit latent, conflict between workers and managers regarding what constitutes performance and how it is rewarded. Technology is generally viewed as accurate and impartial, which makes tools like stopwatches and terminals welcomed by many workers as tools to validate and justify their performance, particularly in terms of their physical effort, to management. This perspective is particularly relevant in a corporate environment characterized by high productivity pressures and where managerial definitions of performance are closely tied to market requirements.

A common sentiment expressed by workers when discussing the new terminals is: "At least they'll know that I wasn't twiddling my thumbs during that time" (W05, pos. 277). These terminals are also expected to expose the numerous inefficiencies in the production process (detailed in Chapter five), which often make it extremely challenging, if not impossible, for workers to meet management's production targets:

> *I think it would be good if every deviation from productivity achievement could be systematically justified. Maybe then the problems would be fixed. To make them visible. Why, why, why has it come to a standstill.* (W02, pos. 268–273)

I want to clarify what I mean by technology and its subjective influence. Drawing on Roderick (2016), technology is not just an object but rather "a material confluence of knowledges, practices, beliefs and expectations that are unevenly distributed among social actors". In essence, technology is both material and semiotic, serving as a "contested terrain upon which social actors engage in struggles over values, resources and meanings" (Roderick 2016: 2).

In this context, the ideas about technology are as integral as its physical components. When discussing technology's subjective influence, I refer to how these ideas shape people's subjectivities and, consequently, the organization of production relations. To illustrate, let's examine a specific technological assistance system at RHT: How do ideas about technology affect the way workers perceive their agency in the interaction with digital assistance systems, and how do these perceptions in turn affect the organization of the labor process and the reproduction of capitalist relations of production?

Assistance Systems

Consider the case of a circuit board assembler at RHT, which exemplifies how technology, particularly assistance systems, can impose significant constraints on workers' actions, albeit not always perceived as such. The assembler mentioned feeling a greater sense of freedom compared to her previous job as a bakery saleswoman, where customer demands were beyond her control:

> *In my previous job as a bakery saleswoman, I just had to deal with customers all day.* (…) *I mean, there were a lot of nice customers, but also customers, with who you had to justify yourself for things you*

> *could not do anything about. Yes, it just was not fun anymore.* (…) *You don't have that here. I definitely feel freer here* (W02. pos.7–17)

Interestingly, when she described her interaction with the Royonic table, an assistance system used for circuit board assembly, it became evident that the process is highly technical and leaves no room for variations or improvisation in assembly:

> *Yeah, so I put my circuit board here like that. Then I have a screen, a beam of light at the top, and here I have my components in the table. There are so five different boxes in a row, and then I have a foot pedal here, or with my hand I can push further. On the screen I get to see with a beam of light where the component is going: top left. And this reference point shows me: right there. The beam of light then shines onto the circuit board. The box with the component opens, and then here the beam of light lights up on the corner where you have to place it. It also shows me the pole. If the component has polarity, then it flashes exactly where the polarity is, and if the component has no polarity, then it does not blink.* (W02, pos. 173–181)

This case serves as a prime example of technologically mediated direct control. Here, labor control is delegated to the technology itself, limiting workers' agency through their interaction with the assistance system. Yet paradoxically, this worker feels "definitely freer now". This seeming contradiction, akin to the productivity tracing terminals, stems from the rational and objective image attributed to technology. This perception can make technologically mediated control appear fairer and more accurate to workers than arbitrary and fallible directives, whether from customers or supervisors. Thus, it results from a combination of ideas and expectations about technology, alongside past labor experiences, such as her previous role as a bakery saleswoman where she faced daily customer demands.

However, the impact of ideas about technology extends beyond the subjective realm. Managers' expectations regarding technology, for instance, can shape the techno-organizational structure of labor processes. The assignment of specific qualities to both technology and workers, or the expectation that they exhibit these qualities, profoundly influences how technology and labor are integrated into the production process. This underscores not only the significance of ideas as constitutive elements of material reality

(technology and labor processes), but also blurs the distinction between subjective and objective realities.

The preceding examples underscore the pivotal role of technology as an active agent in the relations of production. Technology's interaction with human actors (workers and managers) in the labour process can camouflage labor control (as seen with the assistance system) or serve as a tool to defend workers' performance against managers in disputes on the definition and measurement of labor performance definitions and measurements (as with digital productivity tracing terminals). In both scenarios, the paradigm of productivity remains unchallenged. Instead, the perception of technology as precise, neutral, objective, and infallible reinforces this paradigm, thereby perpetuating and obscuring capitalist relations of production.

7. The Legitimation Contradiction at River High Tech

Here, I address the contradiction outlined in Chapter four, which I have termed the 'legitimation contradiction'. The participation of RHT workers in productivity games, despite outcomes being beyond their control, challenges Burawoy's thesis on worker motivation for game-playing, as discussed in Section 4.6[33]. To decode this contradiction, I delve into the impact of workers' normative aspirations and motivations that extend beyond the labor process, which I previously introduced in the preceding chapter as a further mediation explaining workers' informal self-organization. These factors encompass prior labor experiences, the local labor market conditions, and more. My contention is that their collective influences, as well as their inherent conflicts and tensions, elucidate why workers at RHT remain motivated to participate in the labor process despite a pervasive sense of lacking control over the outcomes.

By addressing this contradiction, my objective is twofold: to deepen the empirical analysis of the SOdA research and to broaden Burawoy's exploration of the motivations driving workers to uphold capital's profitability.

7.1 Burawoy's Legitimation Crisis

As elaborated in Section 4.6 on the limits of Burawoy's notion of consent, Burawoy characterizes the labor process as a game where workers are presented with choices

[33] According to Burawoy (1979: 87), a legitimation crisis arises when the uncertainty within the labor process, understood as a game, becomes either too pronounced, placing the outcome beyond the control of players (workers), or too minimal, allowing players to exert complete control over outcomes. In both scenarios, the game risks losing its capacity to engage the players effectively.

constrained within narrow limits unilaterally set by capital. This aspect is pivotal in Burawoy's analysis, where the reproduction of capitalist relations of production - via the production of consent - hinges on achieving equilibrium between uncertainty and security, and between choice and constraint across various levels.

This framework applies broadly to the organization of activities, the internal labor market, and the internal state, as detailed in Section 4.2 on unbalanced balances and the production of workers' consent.

At the organizational level, the game of 'making out' is circumscribed by multiple limits. Company-level choices are shaped by considerations such as minimum wages and profit margins. While engaging in the game of 'making out' at Allied does not directly jeopardize base wages, it can potentially impact profits under certain conditions, thereby risking a system crisis as termed by Burawoy.

Burawoy argues that maintaining a balance of uncertainty levels is crucial to ensuring workers' continued participation in this game. Excessive or too little uncertainty in achieving 'making out' can lead to a legitimation crisis: either when outcomes are entirely beyond workers' control, or when they exert full control over outcomes. In both scenarios, the game may lose its capacity to engage workers. Another circumstance where workers may disengage is when they become indifferent to potential outcomes, termed a motivational crisis by Burawoy (1979: 87–88).

Companies operating in competitive sectors like Geer are particularly vulnerable to system crises due to their focus on profit margins. To mitigate such risks, Geer adjusted production rules by increasing rates and reducing retooling costs. This strategic adjustment mirrors common practices observed both at RHT and Geer[34]: In both cases, the company's strategies for enhancing competitiveness involve altering social relations in production, thereby complicating efforts for workers to maximize productivity (recall that reducing production times is a primary tool at RHT to enhance market competitiveness and avert a system crisis). At Geer, such tactics contributed to a legitimation crisis, culminating in worker walkout (Burawoy 1979: 90). This contrasts with RHT, prompting the research question at hand.

[34] At Allied, the situation was different due to its monopolistic position. When the engine division incurred a loss in 1974, the corporation absorbed it or passed the loss onto the customer. Additionally, a new general manager was appointed for the engine division. Importantly, the loss did not affect the workers directly, as the rules and production rates remained unchanged (Burawoy 1979: 90).

Facing market uncertainties and impossible production targets at RHT generates among workers a sense of lacking control over the labor process outcome and the company's success (see Chapter six). Simply put, whether productivity goals are achieved exceeds individual worker performance and control. However, this uncertainty at RHT does not lead to a legitimation crisis where workers withdraw from the game, as theorized by Burawoy. This remains true even when combined with other labor-oriented strategies aimed at enhancing market competitiveness, such as labor flexibilization and suspension of wage incentives, which might be expected to undermine worker motivation.

To unravel this legitimation contradiction, my analysis diverges from Burawoy's focus, which views consent as a form of compensation or relative satisfaction. Instead, I shift towards a conception of consent that does not hinge on deprivation or coercion as defining factors but underscores the intricate and productive nature (as Foucault uses it in relation to power relations[35]) of the tension between freedom and coercion. Not as opposites that need to be balanced, but as necessarily concurrent and closely linked forces. So closely related that, although distinguishable analytically, it is impossible to differentiate them empirically. Consent is precisely a concrete and contingent expression of this complex tension.

Here, I critique Burawoy's separation between objective and subjective dimensions underlying his definition of consent as opposed to legitimacy. As discussed in Section 4.3, Burawoy sees consent generated through the organization of activities (objective dimension), while legitimacy is viewed as a subjective attitude.

However, this clear-cut division between objective and subjective levels is not consistently applied throughout Burawoy's conceptual framework. Certain aspects of his analysis acknowledge the interconnection between these dimensions, which raises questions about why other aspects do not follow the same logic. For instance, Burawoy, influenced by Marx, views the capitalist mode of production not only as the production of commodities but also as the production of social relations and ideas about them. Indeed, his understanding of "corresponding ideologies. His concept of ideology, introduced in Section 4.3 - as "lived experienced" states the connection between the

[35] For Foucault, relations of power have a directly productive role, wherever they come into play. This productive character of power is what creates acceptance to it. As Foucault puts it: "What makes power hold good, what makes it accepted, is simply the fact that it doesn't only weigh on us as a force that says no; it also traverses and produces things, it induces pleasure, forms knowledge, produces discourse. It needs to be considered as a productive network that runs through the whole social body" (Foucault 1976).

subjective and objective. In underscores how workplaces systematically shape lived experiences, thereby functioning as hubs for ideological dissemination (Burawoy 1979: 17).

Furthermore, Burawoy's notion of consent hinges on this linkage between objective and subjective dimensions: consent, as an ideological expression and a constituent element of worker consciousness, is fundamentally rooted in the organization of the labor process. This inconsistency becomes more apparent given that Burawoy does not apply the same integrated perspective to the concept of legitimacy, which he defines primarily as a subjective state of mind.

Moreover, because Burawoy does not delve deeper into the distinction between legitimacy and consent or engage in a detailed discussion on the concept of legitimacy, it remains unclear to what extent and why legitimacy is portrayed as something carried around by individuals rather than being similarly produced within institutions like workplaces, where lived experiences are elaborated and systematized.

Based on my understanding of Burawoy's work, a legitimation crisis occurs when there is a disruption in the perceived relationship between effort and reward in the labor process. Although Burawoy himself does not explicitly refer to this, Menz (2009: 86–88) suggests that Burawoy's conceptualization of the labor process as a game relies on an unspoken consensus among players, including management, about what constitutes effort and how it should be rewarded. This perspective helps clarify Burawoy's notion of a legitimation crisis, which arises when the underlying consensus on the effort-reward ratio is undermined.

According to this view, a legitimation crisis can occur in two scenarios. First, if workers' efforts do not reliably lead to the expected outcomes and rewards as tacitly agreed upon, uncertainty about the game's outcome becomes too great to sustain motivation. Second, if the effort required to achieve expected outcomes and associated rewards is perceived to be minimal (thus resulting in too little uncertainty), the consensus about the fairness of the game may also be shattered, leading to crisis.

In considering scenarios with too little uncertainty, it prompts the question: why do minimal levels of uncertainty undermine the legitimacy of the game? This suggests that the need for a balanced amount of uncertainty to sustain motivation may reflect

assumptions about human nature rather than a strictly empirical observation of labor processes.

To resolve the legitimation contradiction observed at RHT, characterized by too much uncertainty, it becomes necessary to adopt an alternative understanding of legitimacy that emphasizes its normative aspect. This approach links workers' subjective dimension to their actions and the organization of activities within the labor process. Menz's (2009, 2017, 2021) Weberian concept of legitimacy offers such an alternative framework, which will be introduced in the following section to explore these dynamics further.

7.2 Legitimacy vs. Consent

In Chapter three, we explored various sociological perspectives on work, particularly Burawoy's Manufacturing Consent, which underscored that corporate efforts to enhance worker performance go beyond mere repressive monitoring or output sanctions. They also involve mechanisms and strategies aimed at fostering active employee participation in the labor process.

Menz, drawing on Max Weber, echoes this view by framing the workplace as an order of domination (Herrschaftsordnung) based on the belief in the legitimacy and appropriateness of that domination (Menz and Nies 2021: 4, my translation).

Similar to Burawoy's analysis of consent, Menz's concept of legitimacy revolves around the interplay between subjectivity and power relations within firms. While acknowledging the unequal power relations between workers and managers in defining labor process terms (e. g., performance and its remuneration), Menz emphasizes that workers actively shape these relations. They position themselves within the power structures of the firm, either reinforcing existing norms or challenging them through critique, non-compliance, or the establishment of alternative rules (Menz and Nies 2021: 5, my translation).

Menz's notion of legitimization, informed by a critical reading of Max Weber, describes a process where experiences and evaluations align with the company's principles of justification. Legitimacy, therefore, is not merely an abstract idea but is realized through practical actions. It manifests in how actors align their behaviors with perceived appropriate and justified principles (Menz 2009: 400, my translation). Thus, Menz places the alignment between workers' normative claims and the company's principles of

justification at the core of his concept of legitimacy/legitimation, guiding workers' evaluations and actions.

Therefore, Menz's concept of legitimacy, akin to Burawoy's approach, emphasizes the importance of workers' subjective cooperation beyond repressive control measures for maintaining the order within the factory. This perspective is particularly relevant in post-Fordist organizations that move away from direct and detailed control of the labor process, focusing instead on activating workers' agency as a productive resource (see Chapter six). Menz's emphasis on activation places worker action squarely at the center of his notion of legitimacy, underscoring its practical applicability in organizational dynamics.

However, Menz's concept of legitimacy differs from Burawoy's notion of consent in several significant ways, thereby providing complementary insights:

Firstly, Menz's approach underscores workers' normative claims (normative Ansprüche) as pivotal subjective factors in upholding the order of domination. In the upcoming section, I will argue that this perspective offers a more nuanced explanation for why workers engage in activities that secure conditions for productivity than Burawoy's compensatory thesis.

Moreover, Menz's framework does not dichotomize consciousness from workers' actions, a divergence from Burawoy's approach. Burawoy prioritizes action within the labor process while downplaying the effects of external socialization factors over the labor process, which he sees as relative autonomous (as discussed in Chapter four, especially Sections 4.2.3 and 4.4). In contrast, Menz's concept of legitimacy integrates consciousness and practice as interdependent elements.

Additionally, Menz's approach enriches Burawoy's analysis by explicitly connecting the concept of legitimacy to crucial processes at RHT, such as marketization and self-regulatory strategies of labor control (explored in Chapter six).

Lastly, Menz and Nies (2021) identify various types of legitimation claims (Legitimationsansprüche) and scrutinize the potential contradictions and tensions among them. This analytical framework proves useful for deciphering RHT's legitimation contradiction.

Justice Claims (*Gerechtigkeitsansprüche)*

Menz's critique of Burawoy highlights that workers' consent to engage in the game of 'making out' hinges on an implicit agreement regarding the definition of performance and its rewards (Menz 2009: 86–88). This perspective challenges Burawoy's thesis that consent is solely produced within the game without pre-existing consensus (see Section 4.4).

The concept of performance justice (Leistungsgerechtigkeit) encompasses the definition of performance itself – whether it is human-oriented versus market-oriented, realistic versus unrealistic, quality versus speed, and production logic versus market logic – and what constitutes a fair reward. According to this normative claim, employees expect the employer to engage in a fair exchange where their work performance is met with appropriate material and immaterial compensation: fair wages, suitable working conditions, and recognition and appreciation for their contributions (Menz and Nies 2021).

This type of normative claim, as emphasized by the authors (ibid: 7–8), is perhaps the most significant for workers, despite some researchers[36] historically downplaying its relevance. Conflicts surrounding performance justice can lead to a legitimation crisis, akin to Burawoy's concept, where workers may question their involvement in profit generation. Thus, a legitimation crisis here signifies a breach of normative principles governing conduct within the capitalist workplace.

Understanding discrepancies in performance justice is crucial for elucidating the dynamics of workers' consent and its boundaries at RHT, as detailed in Section 7.6. However, despite grievances regarding justice claims, workers at RHT do not withdraw from the labor process entirely. This suggests that other factors, such as satisfaction, compliance, or necessity (or a combination thereof), also play a role and warrant further investigation. Moreover, it is plausible that agreements on other, perhaps more legitimizing principles, contribute to workers' continued participation in the game.

Rationality Claims (*Rationalitätsansprüche*)

Alongside justice claims, Menz identifies further legitimacy claims that underpin the order of domination within capitalist enterprises, categorizing them as rationality claims (Kratzer et al. 2019, Menz and Nies 2021). These claims encompass two dimensions essential for understanding the legitimacy of organizational practices.

[36] I. e., Eckart et al. (1975), Hack et al. (1979), Kudera et al. (1979)

Firstly, technisch-funktionale Rationalität pertains to what is deemed technically and functionally necessary to ensure efficiency and effectiveness in work processes. This includes optimizing internal procedures, adhering to production and service logic, and addressing organizational dysfunctions or poor technical decisions by management that lead to inefficiencies. Workers often critique issues such as inadequate tools hindering task execution (Menz and Nies 2021: 10).

Secondly, ökonomische Rationalität refers to what is economically necessary to enhance company competitiveness. This principle dictates decisions aimed at maximizing economic efficiency and competitiveness, guiding actions accordingly (Menz and Nies 2021: 11).

The interplay and occasional contradiction between these rationality claims are crucial for understanding the legitimation contradiction at RHT, as detailed in subsequent discussions.

7.3 Workers 'Getting on'

Menz and Nies' concept of techno-functional rationality shares significant parallels with Marchington's notion of getting on, as elucidated in his efforts to conceptualize workers' consent within the capitalist labor process (Marchington 1992: 149–183).

Marchington, building upon critiques put forth by Knights (1990), challenges Burawoy's portrayal of the labor process solely in terms of diluted conflict, subdued class struggle, worker adaptation, and manipulation. Reflecting contemporary studies such as those on RHT by Menz and Nies (2019, 2021), Marchington argues against the view that workers inevitably perceive their relationships with employers through adversarial or conflict-oriented lenses, reacting solely to capitalism's dominant power (Marchington 1992: 156). Instead, he emphasizes that workers may find satisfaction in performing their jobs effectively and contributing to production processes, thus making consent a more prevalent response than conflict[37] (ibid: 157).

[37] However, conflict remains a substantial part of relations between capital and labor. Tacit skills can be tackled for workers' getting back at managers, that is, to resist management, either individually or collectively (Cressey and MacInnes 1980: 14). This resistance has been observed in various industries, such as the car industry (Beynon 1973, Thompson 1983), the chemical industry (Nichols and Armstrong 1976: 69), and the leisure industry (Analoui 1987). In these instances, workers withdrew their initiatives or employed them against management to remind them that their power depends on workers' consent. This resistance often serves as a signal to management to consider workers' ideas and secure their acceptance before introducing any changes in the labor process.

Marchington argues for the centrality of consent not merely to reproduce relations of production as Burawoy suggests, or to maintain order of domination as Menz does, but rather from the perspective of the transformation problem: Employers demand more from workers than what is stipulated in their employment contracts, whether it pertains to technical skills or to the attitude and willingness displayed while on the job (Marchington 1992: 153). Implicitly, Marchington addresses the subjectivation of labor – how capital harnesses workers' subjectivity in the labor process to create value.

Drawing on Burawoy's framework, Marchington aims "to provide a framework which will allow for more comprehensive and less disjointed explorations of the characteristics of consent" (Marchington 1992: 177). To achieve this, he emphasizes the concept of tacit skills, underscoring that even unskilled workers require a degree of knowledge to effectively perform their roles[38] (Manwaring and Wood 1985: 171), and that the description of work as unskilled is a relative and not an absolute term.

According to Manwaring and Wood (ibid: 172–173), there are three main dimensions to tacit skills. First, the process of learning, whereby skills are acquired through experience and training, enabling workers to undertake jobs efficiently. Second, the different degrees of awareness required to perform certain activities, including the ability to correct errors in management instructions and solve deficiencies in the organization and execution of the labor process to ensure production continuity. Third, the collective nature of the labor process and the necessity for cooperative skills. The notion of tacit skill, therefore, contains both technical and attitudinal elements.

Additionally, as Marchington notes, these skills may be employed by workers in a manner that is either supportive of management, consciously or subconsciously (which

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Interestingly, I observed a similar situation at RHT, where managers implemented a new technology (a collaborative robot for gluing circuit boards) without considering workers' input and criticisms. The robot could not be adapted to the specific requirements of the task and thus could not be successfully introduced into the labor process. However, this did not lead to workers getting back, that is, withdrawing their consent or skills from capital's use.

[38] In this context, certain aspects of this concept bear similarities to the notion of experience-based knowledge (Erfahrungswissen), which refers to practical, empirical values that are acquired through experience and are difficult – or can only be partially – to objectify and precisely define (see Böhle & Milkau 1988, Böhle 1989, Böhle and Milkau 1989, Böhle and Rose 1992). Marchington (1992: 157) illustrates this with Buchanan's (1986) research on chemical process operators, highlighting that "the effective operation of many computerized devices depends upon skilled operator 'feel' or intuition based on experience with the equipment and its functions" (ibid: 75), a type of knowledge only operators can acquire.

Marchington refers to as ‘getting on’ or ‘getting by’), or one aimed at thwarting managerial goals (‘getting back’).

More specifically, ‘getting on’ means workers actively employ their tacit skills in the labor process to contribute to the achievement of management objectives, without questioning whether or not this is appropriate. However, this non-questioning attitude alone does not define ‘getting on.’ Workers at Allied, e. g., did not question the appropriateness of their commitment to the company’s profit, yet we cannot classify them as ‘getting on’ according to Marchington’s definition. Instead, this notion includes workers enjoying doing their job effectively and taking pride in their skills, as mentioned above.

On the other hand, ‘getting by’ concerns “employees discovering ways to make life at work tolerable” (Marchington 1972: 156) and is central to Burawoy’s research at Allied.

Certainly, one might argue that ‘getting by’ is a strategy developed by workers to cope with inefficiencies and organizational issues stemming from direct control, a scenario applicable to Allied and largely to RHT. This strategy is typically employed by low-skilled workers under Fordist control regimes. In contrast, ‘getting on’ might be expected in contexts where the subjectivation of labor serves as a component of indirect control strategies, prevalent in post-Fordist organizations or those heavily influenced by post-Fordist principles. However, this hypothesis encounters two primary challenges:

Firstly, while subjectivation gains significance in the aftermath of the Fordist crisis, wherein capital realized that complete elimination of worker initiative “would frequently render them immovable and inactive, and even more frequently operating inefficiently” (Storey 1983: 12–13), it is not exclusive to post-Fordism. As demonstrated by RHT workers’ getting-by-strategy, introduced in the next Section, capital’s reliance on tacit skills remains essential even in systems of direct control. This underscores that workers’ initiative and agency in alleviating the labor process burdens can be crucial for maintaining productivity conditions in Fordist organizations too, as seen in Burawoy’s study at Allied.

Moreover, Marchington acknowledges that the instrumentalization of workers’ subjectivity by capital is especially evident in skilled jobs, as well as in those where product/service quality plays a determining role and/or where workers are in direct contact with customers. However, according to Marchington, “since all jobs, no matter how unskilled in terms of their classification, contain some element of tacit skills,

management are relatively dependent on the subjectivity of labor for the production of goods and services" (Marchington 1992: 155). Therefore, Marchington – in line with other authors (i. e., Matuschek, Arnold and Voß 2007) – does not reduce the importance of subjectivation to a certain economic segment or qualification level.

A further limitation to the hypothesis formulated above is that workers 'getting on' is not necessarily linked to labor control, since it can also occur without external incentives for complying with managerial objectives. Indeed, Marchington cites a series of research studies[39] showing workers 'getting on' with their jobs and careers even without economic incentives. Workers were seen castigating their managers for a host of mistakes, their lack of understanding of production, their lack of commitment to the plant, or their failure to listen to workers' suggestions.

Lastly, the distinction between 'getting by' and 'getting on' is more clearly drawn at the analytical level than at the empirical one (see Section 7.6 for an elaboration on this point). This suggests that workers 'getting on' with their jobs is also due to the coercive nature of labor's dependency on capital. Because their jobs are at stake, and thus the economic means for sustaining themselves and those dependent on them, workers indeed have an instrumental – one could also say existential – interest in the prosperity of the company employing them and in gaining employer approval of their performance. Thus, it is not only capital that depends on labor – its performance, initiatives, emotions, skills, etc. – for the effectiveness and quality of the work process, as discussed above, labor depends on capital too. This otherwise obvious point is very important to make sense of the tension between coercion and freedom shaping worker agency in general, and consent as a particular expression thereof.

7.4 Workers 'Getting by'

Aiming to apply Marchington's concept of 'getting by' to my research case, I expand his definition – recall: workers using their tacit skills to make life at work more tolerable. Moreover, I problematize his clear-cut distinction between 'getting on' and 'getting by' and argue that it is empirically impossible to draw a sharp line between both. Instead,

[39] Empirical evidence on workers using their initiative and discretion to keep work flowing is found in the chemical industry (e.g., Batstone et al. 1987, Buchanan 1986, Marchington and Parker 1988) and beyond (Knights and Collinson 1985, Jones 1989, Walker 1989). Other studies show how salespeople "particularly valued their own ability to make judgements about individual customers and to adjust their approach accordingly. They enjoyed making a sale and took pride in the tacit knowledge of the craft" (Smith 1989: 158), even in cases where their wages were not related to sales output (Marchington and Parker 1990).

they interact with each other, and the boundaries between them are unclear, as I will demonstrate later (see Section 7.6).

Following the definition I propose, 'getting by' is an adaptation with imperfect means to externally determined conditions in order to overcome or compensate for burdens intrinsic to the work task, and/or obstacles and conflicts arising from the specific organization of the labor process without necessarily resolving them.

This definition thus includes issues to which Marchington and Burawoy refer, such as alleviating negative aspects of the labor process, including monotony and fatigue, but it goes beyond these aspects. Defined in these terms, I could identify different strategies for 'getting by' employed by production workers at RHT.

Solving Deficiencies in the Labor Process Through Self-Organization

As discussed in Chapters Five and Six, workers at RHT are daily confronted with various deficiencies in the organization of the labor process. These include deficits in the allocation of material, informational, and personal resources; delays originating in previous steps of the production process; technical deficiencies, such as issues with the ERP-system used for production planning; unrealistic target times and delivery dates set to accommodate market demands; and interruptions of the production process to satisfy last-minute customer requirements.

In response to these deficiencies, workers adopt a strategy of 'getting by'. They attempt to compensate for these organizational deficits by working faster and/or longer and through informal self-organization, which is not explicitly enabled by management. As mentioned in Chapter four, a similar phenomenon of workers self-organizing to address managerial misallocation of resources is observed at Allied. To maintain productivity, operators at Allied organized informally to overcome obstacles imposed by senior management. One significant issue was the insufficient number of auxiliary workers – such as truck drivers, inspectors, and crib attendants – in proportion to operators. This situation significantly influenced relations in production at Allied: it intensified lateral conflict, that is, conflict among workers, and it also led to the development of various informal self-organization strategies among operators for 'making out':

> *The only way such lateral conflict could be reduced was to allow second-shift operators to provide their own services by jumping into an idle truck, by entering the crib to get their own fixtures, by filling out*

> *their own cards, by looking through the books for rates or to see whether an order had been finished, and so on. However, these activities were all regarded as illegitimate by management outside the shop. When middle management clamped down on operators by enforcing rules, there was chaos.* (Burawoy 1979: 66)

Interestingly, workers at RHT actively seek strategies for 'getting by' despite the widespread perception that they cannot prevent these deficiencies from occurring in the first place. They engage in these strategies precisely because they are unable to stop these issues from arising.

A pertinent example is the production target times. Most RHT employees report having minimal influence over standard times. This includes both the initial calculation and subsequent adjustments if the times prove inaccurate – which, according to the interviewed workers, is frequently the case. The prevailing attitude among the workforce is: "We report incorrect target times one, two, three times and nothing happens."[40] Therefore, workers seek individual adaptation strategies, as illustrated by this assembly worker:

> *B:* (...) *We then have the opportunity to have ourselves stopped, to have ourselves stopped again, so that the time is then increased. But sometimes it doesn't happen.*
>
> *IV: That you say you want to be timed again, but then it's not done?*
>
> *B: Exactly. You ask three or four times and then ... yes ...*
>
> *IV: You let it be?*
>
> *B: Exactly.*
>
> *IV: And then you try to make up for it?*
>
> *B: Exactly.* (W02, pos. 93–99)

Relatedly, it is important to recall here the point introduced in Chapter six, namely, how mechanisms and instruments traditionally seen as drivers of performance intensification within Taylorist work organization (such as time determination) are invoked by

[40] An exception to this are paint shoppers, who are intricately involved in the time measurement process due to their specialized knowledge.

employees under conditions of results-oriented control as an opportunity to highlight and assert their work effort.

Another pertinent example of workers 'getting by' in the sense explored here – addressing deficiencies in the labor process through informal self-organization – relates to delivery dates. Much like production times, delivery dates set by management are frequently described as unrealistic. For instance, when two workers in different departments – operating at distinct stages of the production process – are assigned the same delivery date, it results in workers at later stages lacking the necessary time to complete production tasks. A worker from the device assembly section elaborates on this situation:

> *B: Yes, because the times are often not correct, the delivery date doesn't work out. And I've also realized, e. g., that I get assemblies for my devices from the THT department before me. And strangely enough, they have the same delivery date for the circuit boards as I do for the complete devices. And that doesn't work backwards and forwards.* (...)
>
> *IV:* (...) *But how does that happen?*
>
> *B: We all ask ourselves that. That's why I usually discuss it with the department before me. They know that it won't work out and they endeavor to deliver it for me on time.* (...)
>
> *IV: The other way would be to go the other way and say, all right, they'll deliver it to you on the delivery date and you say, I'm sorry ...*
>
> *B: Yes, but I don't want that. I want to keep my delivery date.*
>
> *IV: Even if it's actually unrealistic?*
>
> *B: Yes, exactly. And nobody really wants that.* (W01, pos. 231–255)

Workers across departments at RHT share this experience. Another employee from the paint shop explains how he proactively checks for incoming orders from upstream departments to plan his work effectively. This proactive approach helps him avoid receiving orders too close to the delivery date, which would otherwise necessitate overtime to compensate. While he is not solely responsible for planning, he bears the brunt of the consequences because he is at the end of the chain:

> *Yes, at the end of the day, I'm the one who has to pay the price if it comes to that. And if no one else does it or no one else has done it, then*

> *I'm left standing there. So, in my own interest, I look or ask, here, this and that order is due soon, where are you? I always see the shift supervisor or talk to them. We always get ... every week we always get a ... well, what's it called? A delivery note, so the next delivery dates that are coming up. I can then see which parts ... so of course everything is in there. Which part numbers, which material numbers are for us, i. e. for me? Which ones are there? Where are they located? So that something like this doesn't happen.* (W12, pos. 397)

Delivery dates at RHT are predominantly determined by the work preparation department, guided by market-oriented considerations aligned with customer demands rather than the efforts of producers. However, the responsibility for meeting these deadlines falls squarely on production workers, as detailed in the upcoming interview section with another varnisher.

> *So, actually the delivery date* (*puts more pressure on us than the production target times*)*. Because it's often the case here that the customer is simply promised something. We are only sometimes consulted. And then we have to see how we can manage it.* (W07, pos. 201)

Workers' autonomy in the labor process becomes crucial in addressing work obstacles and stress factors. Production workers not only strive to meet unrealistic target times and delivery dates through self-organization but also face challenges stemming from outdated technology, despite advancements in digitalization. These obstacles permeate the workflow and pose burdens across various stages of production. When outdated machines fail to perform adequately, employees are compelled to manually correct the shortcomings, adding extra effort that is not factored into productivity metrics or target times. This situation exacerbates productivity stress, as illustrated by this worker from the selective soldering department:

> *There are problems with the machines in component preparation. They are not machines now, but devices that are somewhat older. And people have problems with THT assembly. I see that myself. If I get components and they are bent by 80 degrees and I have to take each component and bend it straight so that I can assemble it, then it's down to productivity again, you can't achieve the target, it doesn't work. With the*

components, you constantly have to work by hand to straighten the parts so that they fit me. (W10, pos. 95)

Another challenge for workers throughout the labor process is the recurrent shortage of materials. Similar to addressing issues with impossible time specifications, workers compensate for material shortages through informal self-organization and personal responsibility. This is evident from the interview excerpt with a worker from the switch cabinet construction department:

> *Yes, we also have material shortages.* (...) *It's just, [clears throat] when it has to run in three shifts, e. g., then it gets tight. So, then it happens very quickly, then you have to say, oh, here, I've only got three left in here. Have you already ordered them? Or are they already on their way? And then you're told, yes, they won't arrive until the day after tomorrow. Sometimes it gets a bit tight. You can help yourself a bit by not installing this device yet and hoping that it will arrive at the front at the latest, when it has travelled through to the test bay, so that you can still install it. But of course, that throws the whole thing into disarray. That becomes inefficient.* (W11, pos. 97)

Occasionally, these organizational challenges prompt a techno-rational critique of management practices, as illustrated in the following interview excerpt from a worker in the paint shop. However, systemic critiques are generally not observed at RHT:

> *Yes,* (*the company doesn't act with foresight*) *at all – I think. So* (*the corporate organization of the production process*) *is always a kind of emotional thinking. So, now we've just got it back, now we'll fix it quickly and then it'll be fine. And if the employee then runs to the colleague ten times and says, I still have the problem, nothing or very little is happening. That's funny. That's why I've always been happy to say that we're completely on our own at the back, independent, we organize it the way we need it. We organize our appointments in such a way that we can just about manage. Of course, sometimes a boss comes along and says that something comes up, which of course throws everything out of kilter again, but to have one now, or to imagine having one now who tells me what I have to do and when, that's not*

possible. I would be completely confused if someone did the planning who had no idea what they were doing. (W15, pos. 245)

Therefore, workers at RHT find themselves solving work process problems that originate elsewhere and are not their direct responsibility. This unintentional autonomy allows them to sustain a flawed system, albeit not without costs for the workers.

It is crucial to emphasize that self-organization at RHT is not an intentional managerial strategy. It is partly driven, on one hand, by the company's aim to reduce labor costs in response to international market competition. On the other hand, it arises from unintended deficiencies in the organization of the production process, which stem from managerial shortcomings and a somewhat strategic lack of strategy in many respects. Therefore, it would be incorrect to view the unrealistic target times as a failure of the production system itself. Instead, they are a necessary component for reproducing the social relations of production at RHT.

Strategies Against Monotony and to Pass Time

As introduced in Section 4.5, Burawoy identifies several factors emerging from the labor process that motivate workers to engage in the game of 'making out'. These factors, encompassed by Marchington's (1992) concept of 'getting by', include reducing fatigue, passing time, relieving boredom, and others.

While I have expanded Marchington's definition to include additional worker strategies, the original factors remain relevant to the current case study. We have examined examples of how RHT workers engage in 'getting by' through informal self-organization to address organizational deficiencies and reconcile conflicts between different definitions and measures of performance (which reflect the ongoing tension between market demands and production principles in the company).

Workers' adaptation to externally imposed conditions using available means (as per my definition of 'getting by') also serves another purpose: alleviating the inherent burdens of certain labor tasks. This aspect of workers' 'getting by' is evident at RHT, where workers create games and engage in competition to make monotonous tasks, such as gluing circuit boards, more engaging. The following interview excerpt with a worker from the paint shop illustrates this phenomenon:

B: Yes, (*the gluing*) *is just monotonous. But there are people with us who then – how should I put it – not as a challenge, but okay, who glues*

the fastest and stuff like that, just like that. I don't know, make a game of it or ...

IV: As a competition?

B: Exactly, a bit of competition against each other and stuff like that, then it's fun again. (W14, pos. 119–121)

Alternatively, workers may autonomously seek additional tasks, either within their own department or in others, to make the workday pass more quickly. When asked about the consequences of not doing so, a system assembler responded:

Well, why should I sit around and do nothing? That would be too boring for me. I have to have something to do to pass the time. So just sitting around and waiting to finally get something – no, that's not my thing. (W01, pos. 51–53)

Working quickly to take on additional tasks and thereby make time pass faster serves as a motivation for workers, as the same employee explains.

IV: What's the advantage of doing it faster?

B: Well, then I'm finished sooner and can do something else. [laughs]

IV: That's just the drive?

B: Yes. (W01, pos. 134–137)

In all previous examples, it becomes clear how 'getting by' acts as a mechanism aligning, at least to some extent, labor and capital interests.

Getting Oneself some Productivity Buffers

Another strategy workers at RHT have developed to cope with high productivity pressure involves enhancing the efficiency of the labor process without informing managers. This strategy shares similarities with the concept of banking as described by Burawoy. At Allied, workers routinely exceeded production targets but reported only the standard amount, retaining the surplus as a kitty to use when needed (also known as banking, as discussed in Section 4.2.1). Similarly, at RHT, workers with advanced technological skills, such as varnishers, create a buffer to mitigate productivity stress while still meeting key performance indicators. They achieve this by optimizing machine programming without management's knowledge. Like at Allied, this strategy is driven by their concern

that managers might intensify productivity demands by further reducing target times or delivery dates:

> *B:* (...) *And because of the productivity, as I said, we have a target time. We are now trying to optimize the program so that we have time for ancillary work. But if I may say so, we are not passing on these new times for the time being.*
>
> *IV: So that you have a bit of a levelling buffer?*
>
> *B: So that we have some breathing space. Yes.* (W07, pos. 203–205)

7.5 Mediated Motivations: Factors Beyond the Organization of the Labor Process

We now come to the final mediation introduced in Section 6.5, which is crucial for understanding the production of workers' consent and addressing the organizational and legitimation contradictions: factors external to the labor process that influence workers' motivation to actively participate in labor organization and thus contribute to the reproduction of social relations of production.

Marchington extends the importance of workers' interests in 'getting on' with their jobs beyond the scope of labor: "The prospect of doing a 'good job' – by turning out good quality work, resolving work-related problems, providing effective customer service, etc. – is central to much of our socialization and also to many of the activities which we undertake outside the workplace" (Marchington 1992: 159).

While Burawoy identifies the main motivation for workers to engage in the game as compensating for the shortcomings of the work process (fatigue, monotony, lack of control over the rules of the game), Marchington recognizes additional motivations behind workers' interest in getting on. On one hand, employees may have an instrumental interest in doing a good job (according to whatever criteria this is defined) because they fear dismissal for failing to meet higher standards, either immediately or at some later date, should the company decide to reduce its workforce. There might also be identity-related motivations for workers' getting on. For example, employees – especially those partially insulated from the external labor market by an internal labor market – might identify more closely with their current employer's fortunes for various reasons (Marchington 1992: 158).

Here, the blurred nature of the boundaries between identitarian and instrumental motivations becomes evident: Why do workers identify with the company's capital? Is it simply a matter of identifying with their employer? Or is it related to the fact, as suggested by Marchington (1992), Menz and Nies (2021), and numerous other studies (e. g., Cressey and MacInnes 1980, Littler and Salaman 1984), that workers have at least some instrumental interest in the viability of the unit of capital that employs them, and consequently feel a commitment to ensuring continuity of production within that organization? (Marchington 1992: 158).

In most cases, both explanations likely apply to some extent. This suggests that identity relations are indeed shaped by structures of domination and power relations, such as class relations. Conversely, these structures of domination and power relations often rely on identity relations.

Moreover, as discussed in the previous Section, even when workers are merely 'getting by', dealing with circumstances beyond their control, there remains an element of agency. Informal self-organization reflects their agency in a coercive context, where they cannot otherwise influence the conditions of the labor process. This pursuit of agency in a constrained environment aligns with Burawoy's analysis but does not follow a compensatory logic as in his account. Instead, it is linked to a series of factors being examined here, such as worker normative claims. Additionally, external factors to the labor process, such as worker social preparation for work and the local labor market, play an important role, as will be discussed in the next sections.

Two main interconnections shape worker consent to work: the connection between subjective and objective dimensions and the relationship between internal factors (originating within the workplace) and external ones (originating outside the workplace). As Thompson (1983: 178) notes, "part of the related challenge is to make clearer the interrelations between the objective and subjective features of work. In fact, the discussion of consent and the labor process shows that it is impossible to separate the two mechanically, as if the former were solid economic reality and the latter mere ephemeral ideas (Hales 1980: 102). Once conceived of as material practices, subjective conditions affecting consent must be considered within objective structures".

In other words, identity relations and socialization occur within social structures that include but also extend beyond the workplace. These relations and experiences, in turn, shape the structures and organizations where they occur, with the workplace being one

such setting. Hence, the production of worker consent in the labor process is influenced by external factors. These are relations not only or primarily constructed in the workplace but produced and reproduced through events prior to starting work, as well as in parallel to worker experiences of labor. Quoting the Brighton Labor Process Group, workers' consent, "as an aspect of real subordination, *must* be reproduced within the labor process. But this does not mean that the relation can be generated and sustained wholly within the workplace: rather it is reproduced within the social formation as a whole" (The Capitalist Labor Process 1977: 24, emphasis in the original).

This otherwise unsurprising point is crucial here, as it contradicts Burawoy's argument that external experiences are relevant but only contribute small variations to the common consciousness that capitalism instills in all its subjects (Burawoy 1979: 156). As Thompson (1983: 175) points out, this is clearly incorrect, as we are not all socialized in the same way.

Marchington (1992) also supports the idea that identity relations are shaped both within and beyond the workplace. He draws on Knights' (1990) and Willmott's (1990) critique of Burawoy for his restricted focus on the workplace as the primary site for subjectivity formation and for emphasizing compensatory mechanisms in shaping workers' motivations to work. Ironically, however, as Menz (2009: 103) notes, Knights' and Willmott's conceptions of identity relations reproduce the compensatory logic on different grounds: in their view, identity relations are shaped by individuals' attempts to construct life patterns that increase or reinforce feelings of self-worth to suppress or at least alleviate senses of insecurity, fear, and social isolation.

The relationship between subjective dispositions to work and social structures (mainly class-related, in the empirical case studied here) is expressed in two aspects particularly important for the production of workers' consent at RHT:

First, workers' experiences in the labor market prior to their entry into RHT, which I refer to as social preparation for work, a term adopted from Paul Thompson (1983). This term includes workers' experiences – either personal or within their immediate circle – of long-term unemployment or job insecurity, which impact their motivation to work, as we shall see in the next section. Additionally, workers who have experienced personal control at work, either by supervisors or clients, perceive direct but depersonalized control through technology as increasing their personal freedom and autonomy, as discussed in Chapter six in relation to technological mediation.

Second, worker experiences in the local labor market are, as emphasized by Warden (1992), a fundamental factor in understanding workers' consent. The following sections analyze each of these aspects.

Social Preparation for Work

It is somewhat contradictory that Burawoy attempts to prove the limited impact of external factors through a statistical analysis of quantitative data whose representativeness and reliability he himself questions. If we recall Burawoy's definition of ideology, as introduced in Section 4.3, Deciphering Burawoy's Notion of Consent, as "the way people experience relations" (Burawoy 1979: 18), the contradiction becomes even more pronounced. People's experiences, which form the material out of which they construct their ideas, are diverse and shaped by social structures and institutions beyond the workplace. Thus, Burawoy's dismissal of external factors based on the "relative autonomy of the labor process" is difficult to sustain.

While Burawoy's (1979: 140) distinction between orientations to work that originate within and outside the workplace is useful, the evidence from RHT shows that it is mistaken to exclude one set in favor of the other, as Burawoy does. Instead, both orientations might coexist, and in the case of RHT, they actually do.

In opposition to Burawoy, Thompson emphasizes the role of what he calls the "social preparation for work", which refers to attitudes brought to work that are rooted in class, gender, and race relations (Thompson 1983: 172).

A good example of social preparation for work is workers' past experiences of (un)employment. These experiences affect their perceptions of control and domination and their consent to work. For instance, workers with experiences of long-term unemployment and precarious labor exhibit a stronger motivation to work hard and be flexible in line with the company's directives. For example, a 56-year-old device assembler, who has experienced both her own and her husband's long-term unemployment and temporary contracts, expresses fear of losing her job, which she then mitigates through her hard work:

> *IV: Are you yourself worried about your job, basically?*
>
> *B: Basically yes. Yes, because I'm already 56, so I've already seen how difficult it was to look for a job here from 2003 to 2005, I was already having problems. And only through a temporary agency. But then my*

husband now ... has closed his company, he has the same problem at 47, and before he found something, temporary employment agencies, yes, and that also takes time before you get out, so as I said, at 57 ...

IV: Is that a real danger here?

B: So far, I don't see any real danger here. I always see it that way ... they actually see what I do. And I always hope that they are happy with it and that I can stay. (W01, pos. 348–351)

Many of the interviewed workers began their employment at RHT with temporary contracts. As discussed in Chapter five, the temporalization of labor is a strategy employed by the company to compensate for fluctuations in order volume and deficits in the organization of the production process. Workers with experiences of temporary employment at RHT and elsewhere often speak of comparatively negative working conditions in other factories. For example, a circuit board assembler from Bosnia, who worked as a hairdresser before joining RHT 12 years ago[41] as a temporary worker, shared:

B: I have to tell you honestly, I jumped to the ceiling back then (*when the boss at the time offered me a job in automatic circuit board assembly*) *because I was really looking forward to getting back into this company. Because through a temporary employment agency, what you've already seen, it's already... Much, much worse. So here, there are days when you're stressed and there are days when you're a bit annoyed, when you don't exactly get on with your colleagues that day, but it's still like being on holiday.* (...) *Because, as I said, I've seen it all before.*

IV: Were the other jobs more stressful?

B: Much more stressful, much dirtier. Well, I have a great job. I can't complain at all here. You can come here with the finest clothes. (W06, pos. 34–49)

(Ex-)temporary workers also share common struggles with the uncertainty and deprivation associated with labor temporality. For instance, a solderer over 55 years old

[41] Time references apply to the period when the interviews were conducted, between 2017 and 2019.

who has been employed in the factory for over 10 years and started as a temporary worker, reflects on her working and living experience during her time as a temporary worker:

> *It was always bad, always going back to the job center, what's it like now, can you carry on, do you have a job, are you unemployed again? Always the unknown. It was the same with the temporary company, always uncertain. You never knew here, how, where, what – so how things would go on, including money and everything. I couldn't afford a car and I couldn't afford anything. And then I just did it and was lucky to be taken on after two years. And now I've been here for over ten years.* (W09, pos. 21–23)

When asked about the possibility of Saturday work, she relates the issue to her past experience as a temporary worker:

> *That's the work, it has to come out, it has to run. It's better than to have no work at all. So, I wouldn't want to get into that situation again.* (W09, pos. 85)

Therefore, workers' previous experiences of unemployment and precarity – combined with other factors already explored in previous chapters, like their exposure to market uncertainty, which threatens the continuity of the company and their jobs – serve to align capital's and labor's interests and exert a disciplinary power. This empirical observation aligns with a substantial body of research: from Marx's reserve army of labor to Bourdieu's definition of casualization of employment as "part of a mode of domination" (Bourdieu 1998: 85) and Lorey's depiction of precarization as a process "designed to make individuals governable" (Lorey 2015: 111), to name just a few.

However, previous labor relations do not need to be precarious to impact workers' perceptions and positioning vis-à-vis relations of domination in the workplace. The example of a manual circuit board assembler at RHT, introduced previously in Section 6.5, "Technological Mediation", illustrates this point. Before working at RHT, she was employed as a bakery saleswoman for over seven years with a permanent contract, which she eventually quit to join RHT as a semi-skilled temporary worker. For her, this decision was a very good one since she did not enjoy her previous job, especially having to deal with customers' requirements for what she cannot do anything about:

B: And yes, that wasn't my dream job back then either. I did it for seven years. And yes, I simply had to work from morning to night or work on Saturdays, yes, and I didn't want to do this 'please' and 'thank you' anymore. Exactly.

IV: So, the contact with the customer all the time, where you're such a service provider to the customer?

B: Yes, I mean, the customers, that didn't bother me so much. Well, there were a lot of nice customers, but also customers where you had to justify yourself, so to speak, for which you couldn't do anything. And yes, it just wasn't fun anymore. (W02, pos. 7–9)

In her current job at RHT, she feels freer because nobody controls her while working on the Royonic table (a machine dictating every step of the circuit board assembly process). In this case, the control of her labor is mediated through a machine, making personal control largely redundant. Capital's domination over the labor process and the laborer does not disappear; it is just depersonalized, enhancing the workers' sense (or even illusion) of freedom.

However, it would be a mistake to reduce this worker's engagement with her job to a mere matter of illusion. She, like many others, makes it clear that she enjoys many aspects of her current job. Even if the satisfaction results from comparison with undesirable past experiences or a transformation in the form of capital's domination that seems more bearable to workers, two main points are clear: first, most workers at RHT claim to have an interest in 'getting on' with their jobs; and second, previous class relations (the social preparation for work) play an important role in workers' acceptance of capital's domination.

Not only do past labor experiences outside the factory matter, but also previous jobs within the factory shape workers' present-day consent. This form of social preparation for work within the workplace is not about external factors anymore. A good example is a circuit board assembler who used to work as an assistant to the production director. As such, she was responsible for productivity assessment and claims to understand what is at stake with labor productivity, unlike other colleagues without this previous experience. Such experience and knowledge explain – in her own words – her willingness to act according to the company's productivity demands:

> *B:* (*Productivity is*) *Very important. So, for me it's important, as I said, I've been doing this evaluation for years. As a result, I know the background. As a result, I know what productivity is all about – in other words, too many employees, too few employees. Perhaps the ladies who have not yet done this or who have not done this are missing this. That's why productivity is very important to me, because I know what it's all about. Yes, and of course the management feels the same way. That's the be-all and end-all for them. If productivity isn't right, then something isn't right. As I said, the colleagues who haven't looked so deeply into it will also say that productivity is important, but the background is missing. They won't have that.*
>
> *IV: But you can't do much about productivity yourself, can you?*
>
> *B: Yes, of course. If I see that I'm not meeting the target time, I have to react immediately. And that's what I do. Because I know how important it is.* (W04, pos. 251–253)

Another form of social preparation for work involves promoting entrepreneurship during apprenticeships. This aspect was emphasized by the director of vocational training when asked about the main change in the apprenticeship system in recent years:

> *B: Yes, well, people are becoming more autonomous these days. Entrepreneurial thinking is a bit stronger, and they realize that they are also needed as skilled workers in the departments...yes...so every now and then when someone is needed on Saturdays, trainees are also happy to volunteer, yes, so there are no guidelines from the management, but if the production manager asks: Who's up for it? Then they'll come along.* (Exp05, pos. 36)

The Local Labor Market

A crucial external factor influencing workers' consent at RHT is the local labor market. Andrew Warde (1992) has underscored the significance of local labor market conditions in shaping industrial discipline, as seen in the historical context of semi-skilled and unskilled workers in Lancaster during the twentieth century. Warde highlights the conditions of dependence stemming from a geographically isolated labor market and a

small number of dominant employers. These employers collaborated to maintain control over wage levels, union recognition, and internal labor market dynamics.

As detailed in Section 4.2.2, Allied's internal labor market rewarded seniority and tied workers to the company through the progressive provision of benefits, isolating them from external labor market fluctuations. Warde's empirical cases, by contrast, excluded older workers while primarily hiring young ones with the expectation of long-term employment stability. Furthermore, local employers in Warde's studies refrained from hiring each other's former employees, reinforcing worker dependence on specific employers.

Despite Burawoy's focus primarily on power relations within the workplace, the local labor market emerges as a significant external factor influencing workers' consent at RHT. Geographical factors and local working conditions combine to make RHT an appealing employer in the region, with many local workers opting against commuting to larger cities for employment opportunities, as illustrated by this varnisher:

> *IV: Where were you before?*
>
> *B: I previously worked in* (*city name*)*, but that was also the reason why I looked for something closer. So, I had 95 kilometers to work, and that was ... I did that for a year and then I didn't feel like it anymore.* (W12, pos. 10–11)

According to the next worker from the switch cabinet construction department, the geographical proximity compensates even for wage disadvantages:

> *B: I'm here now because I also said I don't want to travel far. Driving to* (*city name*)*, I'd rather do without so many hundred euros a month than having to drive to* (*city name*) *every day.*
>
> *IV: I can understand that. You're stuck in a traffic jam.*
>
> *B: It's not necessarily the best-paid job for my qualifications, but I'm 'getting by' for now, I'm getting round. Let's see, maybe something else will come of it, I don't know.* (W11, pos. 23–25)

While the working conditions at RHT might not always be as attractive as those in the nearest city, they are relatively advantageous for workers compared to what the shop steward describes as 'catastrophic' options in the local labor market. Unlike many

companies in the region, RHT adheres to collective bargaining agreements, although it has been noted that it has fallen behind and holiday pay and Christmas bonuses have been deleted). Additionally, the 35-hour workweek is uncommon locally, where most workers put in 40 hours per week for the same wage. Therefore, RHT offers comparative benefits for local workers, both in comparison to the nearest major city and other villages in the area.

Both the worker council and senior management agree that RHT provides relatively favorable labor conditions, despite the acknowledged shortcomings on both sides.

> (...) *And here in the* (*region's name*) *area, it has to be said quite clearly, we are so disconnected from the* (*pay scale*) *area in terms of collective agreements that we are still an outstanding ... well, let's say, a beacon in terms of hourly pay, although we are still miles away from the* (*pay scale*) *area.* (Exp06, pos. 3)

> (...) *Our older employees, yes, they will certainly say, yes, we are lagging behind the pay scale. But we still have a 35–hour week here at the site. Yes, we are a year behind the pay scale, we always pay a year later and no holiday pay and no Christmas bonus, I have to say. We don't have that either. But we haven't had that since 2000. That wasn't an RHT invention. Others here in the area work 38 to 42 hours or up to 40 hours and then have to put in an extra four hours a week without pay. They are then paid the same as a 35-hour week employee here. In that sense, I do believe that we are a good employer. Once you've worked here, you don't really want to leave.* (Exp03, pos. 127)

The inherent conflict of interests between capital and labor becomes evident here, as the company attributes these working conditions to negatively impacting their competitiveness compared to other companies in the market sector. The shop steward elaborates on this situation:

> *And of course there is considerable competitive pressure. And if a company comes in with this wage structure as an OEM*[42] *and then has something manufactured in companies bound by collective agreements,*

[42] An original equipment manufacturer (OEM) generally refers to a company that produces parts and equipment which are then marketed or sold by another manufacturer, often under that manufacturer's brand or label.

> *then we are naturally under considerable price pressure as far as that is concerned. And our managing director can probably tell you a thing or two about that when he goes somewhere: Ah yes, then don't pay your people a collectively agreed rate and you'll get the order, something like that. And that's a huge problem here in the region. Tariff area* (*name of the region*)*, a disaster. But it was already like that in the eighties and seventies.* (Exp06, pos. 7)

In this context, the interplay and contradictions between the local labor market, internal labor dynamics, and the sales market become evident. The relatively favorable working conditions, viewed from a labor perspective, function as an internal labor market mechanism to attract and retain workers, fostering their consent and cooperation, as explored by Burawoy. This aligns with the sentiment expressed by RHT's managing director: "Once you've worked here, you don't really want to leave", a sentiment shared by workers as observed in the previous section.

At the regional level, these conditions enhance RHT's appeal as an employer, granting it a competitive edge over other local employers. However, in the sales market, where companies from other regions in Germany and beyond compete, such labor conditions may not serve capital interests well, potentially increasing the cost of RHT's products, a concern previously discussed in Chapter two and extensively explored in Chapter five.

7.6 The Blurred Boundaries Between 'Getting by' and 'Getting on'

As previously argued, comprehending the cultivation of workers' consent requires attention to the interconnectedness across various levels. Workers' agency is not simply a manifestation of domination or freedom; rather, the power dynamics at play are better understood as a tension between restrictive and productive forces. Moreover, capitalist production processes are inherently contradictory, and capital's dominance over labor is never entirely consistent or devoid of fissures. These contradictions include conflicts between production and market logics, as well as tensions between workers' normative expectations and the various forms of control, whether direct or indirect.

In the context of market competition, the pressure on workers to maintain productivity amidst uncertainty (detailed in Chapter five) makes job security a primary motivation for cooperation in the labor process. As previously discussed, the pervasive influence of job insecurity is particularly pronounced among certain groups of workers (refer to Chapter

five and Section 7.4). Marchington identifies job retention as a key instrumental motivation for workers to get on with their careers (see 7.3). In this case, however, the coercive nature of the operational environment blurs the distinction between workers' motivations to excel ('getting on') and their strategies for coping ('getting by').

The challenge of delineating between voluntary cooperation and coerced compliance in workers' engagement within an order of domination such as the capitalist workplace is illustrated vividly in the upcoming interview segment. Here, the shop steward discusses the company's utilization of labor as a flexible resource to offset market fluctuations and organizational deficiencies on the part of management:

> *B:* (...) *But in sudden situations where people are run over, the supervisor goes here, without the knowledge of the works council, on a voluntary basis you are allowed to* (*work on Saturday*)*. You don't have to, but you are allowed to. Like this. Now name me one employee, unless he really has a good reason, who says, no, I won't do it. Don't find one.*
>
> *IV2: And job security is the decisive motive for...*
>
> *B: For me, the continuation of the company is actually the most important thing here.*
>
> *IV2: For the employee who says, well, I'll come in at the weekend.* (...) *The employee certainly has the same intention, with the exception of those who are easier to persuade and are still here on temporary contracts.*
>
> *IV: They come more voluntarily, so to speak?*
>
> *B: Of course, exactly, for them the voluntary aspect comes first.* (...)*. They know that they don't need a reason, they can say no. But what does it look like then, in a fortnight my contract is to be extended and I say no now, what happens then?* (Exp06, pos. 67–75)

The empirical findings indicate that not only are the distinctions between 'getting by' and 'getting on' blurred, but they also often interact and sometimes contradict each other.

On one hand, as illustrated in Chapter five, 'getting on' forms the foundation for 'getting by'. Since workers lack the ability to influence the organization of the labor process – such as adjusting production times with a stopwatch – and because they are motivated,

whether instrumentally or based on normative considerations, to ensure the efficient operation of production ('getting on'), they initiate a process of self-organization to address these deficiencies ('getting by').

On the other hand, 'getting by' reinforces 'getting on'. Actively seeking solutions to production obstacles (even without an explicit or formal strategy of indirect labor control) enhances workers' sense of responsibility and commitment to the smooth operation of production processes and ultimately to the company's objectives. Self-organization, even within the constraints set by managers and market demands, contributes to cultivating a sense of agency among workers.

This observation aligns with Burawoy's analysis in Manufacturing Consent, which explores the interplay between the organization of activities and workers' subjectivities. Moreover, it highlights capital's reliance on worker agency and the necessity to establish mechanisms that align its interests with those of labor.

Lastly, excessive reliance on 'getting by' can undermine 'getting on'. In other words, the pressure on workers to achieve unrealistic production times can diminish job satisfaction, as illustrated in the following excerpt from an interview with a milling worker:

> *B: Yes, I've been in this building for 30 years. It's been sold umpteen times, yes. I've always learnt something new. And I also enjoy the work, but a lot has to happen, because the times ... yes, we have to work according to the work schedule. And then the times aren't right or ...*
>
> *IV: So, these target times?*
>
> *B: Yes.*
>
> *IV: Then what's wrong with them?*
>
> *B: Yes, they are simply miscalculated – too little time.* (W05, pos. 124–129)

Managers failing to acknowledge workers' efforts to overcome obstacles and achieve productivity goals despite organizational deficiencies in the labor process can significantly undermine their motivation and satisfaction. This, in turn, jeopardizes the foundation for advancing ('getting on'), as illustrated by a worker from the paint shop:

> *B: And then there are other points, I think I said that in the first interview, then there's a staff meeting where the managing directors ...*

> *or the managing directors sit at the front and say something, then you hear, yes, the employees ... so the productivity is below par. And then you also feel ... yes, you're not appreciated, so the management, even the production management doesn't even know what we sometimes do to get any orders over the line smoothly. That's so much experience or improvisation or changing something quickly and that kind of thing.* (W14, pos. 162–163)

Note that the described situation exemplifies a violation of workers' normative demands regarding performance-based legitimacy, as defined by Menz and Nies (2021) and introduced earlier. Consequently, it has led to criticism from workers towards management. This contrasts with the usual high levels of identification that RHT workers exhibit towards the company, its objectives, and labor management strategies (Menz and Nies, 2019, 2021).

When asked about her job satisfaction, a milling worker responded as follows:

> *B:* (...) *So I've been through a lot of ups and downs here. But I do enjoy my work and I would actually like to keep it. But at the moment it's a bit ...*
>
> *IV: Is RHT a good employer?*
>
> *B: Actually, yes, but there are a few things they find difficult.* (...) *Yes, the trade union has to agree to collective agreements, they have to agree to that. And yes ...*
>
> *IV: Good. Sometimes it sounds like they have their backs to the wall a bit and are struggling a bit.*
>
> *B: Yes, of course. But then it's always down to us little ones in production and we can't work like we used to. There must be another leak somewhere, that it's not starting up properly, or that not enough orders are coming in.* (W05, pos. 235–245)

The interview excerpt above illustrates the tension between market-driven and production-driven logics (i. e. Menz and Nies, 2021: 11), a hallmark of marketization. Productivity targets oriented towards the market often clash with workers' self-imposed expectations for product quality, as explained by this controller:

B: I'm more of a, yes, you could say, control freak. Everything always has to be precise and right for me. (...)

IV: And then there are all these key figures, which are more stressful, I can imagine.

B: Yes, that's just the way it is, control naturally also costs time. If I'm more attentive, and that perhaps clashes a bit – speed and control, that's ... (W03, pos. 61–63)

Faced with this conflict, some workers, such as this manual assembler, prioritize production over the market perspective. They align their actions with their technical and functional claims, choosing quality over speed:

IV: Do you have the opportunity to raise objections (*against "unrealistic" production times*) *or to say, wait a minute ...*

B: Yes, you do say, here, we have to have a look, the time isn't right, but yes, they do have a look, but sometimes it takes a while before it gets going. And sometimes they say, yes, that's the way it has to be or whatever. Because we want something to come out of it for the company, so we have to calculate tightly so that we earn a bit. That's how it works.

IV: And then, in case of doubt, quality, i. e. care, or the fact that you manage to do it in time, wins out for you.

B: Well, I do try to get the quality right. Because if you have to rework, that's not good for the disc. So, I'm more in favor of quality. (W08, pos. 118–121)

Furthermore, prioritizing speed over quality can also be counterproductive from a market perspective. Quality defects may lead to dissatisfied clients lodging complaints, necessitating rework by workers and thus hindering adherence to productivity targets.

So, some technologist thought about it, noted the times, and then the customer was given an offer. But what was not considered was that, e. g., 500 pieces were made and 300 came back as complaints. Because there were air bubbles in them. This means that they now have to be checked and reworked much more carefully. And then the times aren't right again. But you don't want to put the price up for the customer now,

> *because this is a big customer and you can't upset them, so to speak. But then they don't take us into consideration because I think we've already tried twice to increase or adjust the times*. (W07, pos. 193–195)

The conflicting demands placed on labor are perceived as burdensome by the majority of workers interviewed at RHT and occasionally lead to mild criticism of management, as illustrated in the following interview excerpt:

> (*The work is*) *stressful in the sense that if you have time on these discs, how long you can be on them. Yes, it's a bit of a burden because there's also a lot of focus on productivity. And I don't think that's a good thing, because it affects the quality. After all, we want to generate quality, so that the products come out in good quality. And if you're under a bit of pressure, then ...* (W08, pos. 113)

This aligns with the thesis put forth by Menz and Nies (2021: 11) that disputes over rationality claims – specifically, techno-functional and economic rationalities – can reveal underlying systemic contradictions. For instance, the justification of technical-functional rationality may pit labor efforts against market constraints.

However, workers often navigate these contradictions from a dual perspective, integrating both production and market logics and internalizing the contradiction as their own. Take the manual assembler in the following example: On one hand, they align with the company's economic objectives ("we want to earn money – and rightfully so"). On the other hand, guided by a techno-functional rationality, they acknowledge their role as producers constrained by imperfect means to meet market demands ('getting by'), which are further complicated by their own quality expectations ('getting on'):

> *B: So, we also have the problem* (*with the target times*). *Of course, a line manager, or I'm going to say the top management, says that it has to be faster, we want to earn money – and rightly so. But we have very, very high-quality standards here. And that is always the first thing we want to maintain. And of course, if I'm quick, quick – then I can't deliver a certain level of quality. That's a fact. I can of course increase my speed, despite the quality, but there is a limit somewhere and then it's over. Yes, and then you have to say that you can't do it any faster. Full stop. That's just the way it is. And if some people have perhaps promised the customer beforehand, yes, you can get that for 5 euros and in the*

> *end, we need seven because it can't be done any less – well, that's then of course ... every child knows, a minus business. Very bad.* (W04, pos. 51–52)

The contradictory nature of capital's domination over labor is further exemplified in the conflicts arising from the coexistence of both direct and indirect forms of control at RHT, as previously discussed in Chapter six. The simultaneous application of elements from both control types often leads to tensions between managers and workers. This dynamic is particularly evident among highly qualified workers, such as varnishers in the THT department. They are granted a relatively wide technical autonomy to achieve productivity goals and meet delivery deadlines set by managers. However, they still operate within a framework of direct control, where managers restrict their scope of action and provide explicit directives on tasks, timing, and methods.

The following interview excerpt with a varnisher illustrates this point:

> *That's right, there's the occasional clash. I've already had lively discussions with the boss.* (...) *And I've also spoken a bit louder to him a few times, saying that it can't be like this, that he's always falling into our steps.* (W15, pos. 261–263)

Furthermore, this dual form of control can diminish workers' motivation to advance ('getting on') and, akin to the conflict between market and production logics, result in inefficiencies within the production process. Workers then have to navigate and resolve these challenges independently through informal self-organization ('getting by').

8. Conclusions

8.1 Back to the Question of Consent

Throughout the years I have spent working on this research, and even before, a fundamental question has intrigued me: why do we behave as we do, and to what extent are we truly free in our actions? This overarching inquiry underpins and finds expression in the specific research question I address here – why do workers often exceed demanded expectations to achieve targets they deem impossible?

I have framed this issue around the concept of consent, by which I meant workers' acceptance of an externally determined order of things, expressed in their active engagement in an externally determined organization of the labor process for the achievement of externally determined targets.

In Chapter four, I delved into Burawoy's Manufacturing Consent, aiming to elucidate his interpretation of consent, which he does not systematically define. Additionally, I highlighted some key critiques of Burawoy's notion of consent voiced by other scholars, particularly those in the LPT domain.

Burawoy implies consent as the willingness to cooperate in the translation of labor power into labor, explicitly linking it to the transformation problem. Consent is also synonymous with terms such as harmony, consensus, compliance, and cooperation, contrasting with conflict. It emerges from choices made by workers within the structured organization of activities.

In my interpretation of Burawoy's work, his conception of consent as harmony tends to overlook the tension between freedom and coercion. The concept of choice itself becomes a tool of domination, as workers' consent is shaped by their ability to make choices within predefined, unquestionable boundaries. Consent is thus achieved by balancing and suppressing tensions between uncertainty and certainty, choice and compulsion across various levels – the labor process organization, internal labor market dynamics, and industrial relations constituting the internal state. These forms of imbalanced equilibrium serve to reproduce capitalist relations of production, characterized by domination: "between those who produce surplus and those who expropriate surplus, between those who are exploited and those who exploit" (Burawoy 1979: 15).

When Burawoy asserts that "the securing of surplus value must therefore be understood as the result of different combinations of force and consent" (Burawoy 1979: 27), he precisely refers to the alignment of force and choice mentioned earlier. There is no tension between them, as this tension has been erased in the process of manufacturing consent.

As I explain in Chapter four, perhaps the most significant critique of Burawoy's notion of consent concerns its relationship to the poles of coercion and freedom. LPT authors have raised concerns about the degree of agreement or acceptance implied by the term regarding the rules, relations, and structures shaping the labor process. Some critics argue that the concept overemphasizes coercion.

In response to these criticisms, I propose a conception of consent that does not oppose freedom to coercion but rather focuses on their coexistence in an imperfect and impure form. In my conceptual proposal, consent does not result from balancing or suppressing the contradictions between choice and force. Instead, it is an expression of the

contradictions and tensions underpinning workers' agency. According to this view, consent is a contingent product of the tension arising from the simultaneous and complex relationship of freedom and coercion.

Another critique of Burawoy's account of the production of consent is his exclusive focus on the labor process, neglecting the role of external factors, such as the regional labor market (Warde 1992) and previous socialization instances (such as gender, see Pollert 1981), in the production of workers' consent.

As discussed in Chapter three, following Marx's characterization of the labor process, labor is both a material and social process where people (trans)form their circumstances and themselves, including what they consider possible, desirable, or necessary. In other words, the labor process significantly shapes workers' perceptions, choices, motivations, and interests. However, drawing on these critiques and my empirical material, I argue that we cannot fully grasp the complexity of consent solely by examining the organization of activities. In fact, as demonstrated in Chapters six and seven, the operational context and the organization of the labor process can sometimes challenge and even hinder workers' consent.

Therefore, when exploring workers' consent as part of the social relations of production, it is essential to connect various external factors to the specific organization of the labor process. In Chapter seven, under mediated motivations, I address the role played by the regional labor market and previous labor experiences in the production of workers' consent.

In line with Warde's research (1992) on interconnecting power relations within and beyond the workplace, the local labor market represents a key external factor for understanding the production of workers' consent at RHT. Geographical factors and working conditions make the company particularly attractive for regional workers. Due to the distance and inconvenience of daily commuting, local workers often reject job opportunities in the nearest main city, even for higher pay. While RHT's working conditions may not always match those in the city, they are relatively advantageous compared to local alternatives. These comparatively favorable conditions act as an internal labor market mechanism, attracting and retaining workers and enhancing their consent and cooperation, aligning with Burawoy's observations at Allied.

Another significant external factor in the production of workers' consent at RHT is what Paul Thompson (1983) termed the social preparation for work. This includes workers' past experiences of (un)employment, affecting their job satisfaction and perceptions of capital's control and domination. The experience of unemployment and precariousness combined with the uncertainty of the market, which threatens RHT's survival and jobs, helps to align the interests of capital and labor and exert a disciplinary power. Comparing undesirable past experiences in other companies or previous forms of capital's domination perceived as greater restrictions on autonomy further contributes to the production of consent.

In addressing workers' perceptions of capital's control and domination, it is essential to consider what I term technological mediation. This concept explores the consent-producing effects of workers' subjective perceptions of specific technologies used in the labor process. Following the definition of technology adopted here, the often-contested ideas about technology are integral to it, as much as its material components. These ideas shape the organization of the labor process and the relations of production, as demonstrated with various technological devices, such as terminals for productivity tracking and assistance systems used in circuit board assembly.

Without considering the interplay of factors both external and internal to the labor process, we cannot fully explain workers' motivations for systematically engaging in informal self-organization in settings like RHT. This oversight is a common shortcoming of Burawoy's Manufacturing Consent and the indirekte-Steuerung-approach introduced in Chapter six, as both explain workers' subjectivity as a direct result of the labor process organization and a necessary condition for the reproduction of capital.

8.1.1 The Tension Between Freedom and Coercion at the Heart of Waged Labor

The empirical case under investigation here shows that to fully understand workers' consent, we need to look beyond the labor process and focus on the complex relationship between freedom and coercion, and between subject (i. e., the subject's choices, perceptions, motivations, actions, etc.) and structure (especially class, both within and beyond the workplace). From this perspective, workers' consent to an externally determined order is the contingent result of the tension between freedom and coercion, structuring workers' field of possibilities (including their motivations, decisions, and actions) both within and outside the labor process.

Such tension is at the very core of waged labor. As discussed in Chapter three in relation to Marx's concept of free labor, a defining feature of waged labor under capitalism is its underlying notion of formal freedom and consent, expressed in the contractual relationship between capital and labor. Yet, waged relations in capitalism are underpinned by a fundamental form of violence: workers are freed from any means of production other than their labor power, thus forced to sell it to survive.

Friedman (1977) also referred to the tension between freedom and coercion at the heart of waged labor. He noted that both strategies of direct control and responsible autonomy are marked by fundamental contradictions and present serious limitations, stemming from a fundamental conflict defining the capitalist labor process: "Their common aim to maintain and extend managerial authority over people who are essentially free and independent, but who have alienated their labor power" (ibid: 106).

As we saw in Chapter three, in the case of direct control, this contradiction means treating workers as though they were machines, assuming they can be forced by financial circumstances or close supervision to relinquish control over their labor. For responsible autonomy, this implies pretending that workers are not alienated from their labor power by trying to convince them that the aims of top managers are their own. Both strategies involve a contradiction, yet they are not impossible to carry out for that reason:

- Direct Control: This strategy assumes that workers can be treated mechanistically, responding primarily to financial incentives or close supervision. However, this approach can lead to resistance or disengagement as workers might feel dehumanized and undervalued. Despite this, companies often employ direct control methods effectively, particularly in low-skill, repetitive jobs where the scope for worker autonomy is minimal.

- Responsible Autonomy: This strategy seeks to align workers' goals with those of management, fostering a sense of ownership and commitment to the company's objectives. The contradiction here lies in the pretense that workers' alienation can be mitigated by making them feel as though they are integral to the company's success. While this can lead to higher engagement and productivity, it also risks self-endangerment, as workers might be driven to work beyond their limits under the guise of shared goals.

The effectiveness of these strategies highlights the nuanced and often contradictory nature of managing labor under capitalism. Workers navigate these tensions, balancing their need for autonomy with the realities of coercion inherent in the capitalist labor process. The interplay of freedom and coercion shapes their consent, making it a dynamic and contingent phenomenon, rather than a straightforward outcome of managerial strategies. "Contradiction does not mean impossibility, rather it means the persistence of a fundamental tension generated from within" (Friedman 1977: 106).

Recognizing the tension between freedom and coercion at the core of consent also means acknowledging workers' capacity to act in one way or another – that is, acknowledging their agency. The key question is how we define agency. As I have argued throughout this work, it would be misleading to approach agency simply as an expression of freedom or an instrument of domination. Instead, I propose to consider workers' actions in relation to Foucault's notion of power, where actions are structured by the actions of others, making them easier or more difficult, more probable or less, or, in the extreme, completely constrained or absolutely forbidden (Foucault 1982: 340–341). From this perspective, it is not that agency is possible despite power, or that power is possible despite agency: it is precisely because of agency that there is power. Or, to use Foucault's words, the exercise of power "is always a way of acting upon one or more acting subjects by virtue of their acting or being capable of actions" (Foucault 1982: 341).

Thus, Foucault places freedom at the center of his definition of power: "Power is exercised only over free subjects, and only insofar as they are 'free'." By this, he means agents – individual or collective subjects faced with a field of possibilities in which several kinds of conduct, reaction, and behavior are possible. For Foucault, rather than speaking of an antagonism between freedom and power, we should speak of an agonism: "a relationship that is at the same time mutual incitement and struggle, less of a face-to-face confrontation that paralyzes both sides than a permanent provocation" (ibid: 342).

I have applied this idea to explain the actions of both workers and managers at RHT, since we cannot understand workers' field of action without considering that of management, which in turn depends upon the actions of others, such as customers, competitors, and, of course, workers.

The tension between freedom and coercion is also central to management's agency, and understanding workers' consent requires examining capital's side as well. As Marx clarified, the compulsion for workers under capitalism to sell their labor power is mirrored

by the compulsion for capitalists to accumulate capital (which does not preclude the possibility that they might be willing to do so, since also here applies that structural force cannot fully explain individuals' actions).

Chapter five is dedicated to the managerial problems and strategies that create the conditions for producing workers' consent. This consent is vital for RHT since labor has become the most important flexibility resource against a challenging market marked by a lack of basic continuity. Living labor offers greater flexibility than other productive resources, such as collaborative robots, which the company employs to generate profit and maintain its market position against competitors from low-income countries.

To understand how market confrontation influences the production of workers' consent at RHT, I propose viewing this confrontation as mediated by managers' actions. This perspective refines the argument made by the indirekte-Steuerung-approach, which suggests that the external determination exerted by the market on the autonomy of the entrepreneur is directly transferred to internal enterprise relationships. Instead, it is more appropriate to see market influence as a power relationship in Foucault's sense, where power is exercised through action upon actions.

Thus, the entrepreneur's field of action is structured by the market, understood as a network of social relations resulting from human actions yet beyond their control. Empirical examples show that middle management are induced to meet key targets (quality standards, delivery reliability, productivity) through wage incentives and regular control and monitoring (both internally and externally). The entrepreneur, in turn, structures workers' field of action with their own actions. Adopting this notion of power, the market exerts power over the entrepreneurs, who in turn exert power over their employees, both directly (as in the command system) and indirectly (via the market). Therefore, the power of the market reaches workers at RHT not directly but through their managers, structuring the field of action for both and giving rise to contradictions that workers attempt to resolve through informal self-organization.

The problem of impossible production times that workers at RHT strive to meet exemplifies what I mean by 'mediated confrontation with the market'. As discussed in Chapter five, these production times arise from what management deems possible from a market perspective, often contradicting what is feasible from a production standpoint. In other words, managers translate the coercive laws of the market and the pressure exerted

on them into productivity targets imposed on production workers through a system of predominantly direct labor control.

Further examples of this mediation at RHT (presented mainly in Chapters five and six) include regular team briefings on the company's market situation, profit-sharing bonuses, activating measures (such as managerial plans for reintroducing group pay bonuses and performance self-assessment methods), and strategies of labor force flexibilization (such as temporary contracts, short working hours, and mass redundancies). All these mechanisms act as transmission belts between the market and the shop floor, contributing, as the empirical case shows, to the production of workers' consent.

To understand how managerial actions structure workers' "possible field of action" (Foucault 1982: 341), it is useful to recall the following mechanisms identified by Burawoy (1979: 30) and presented in Chapter four in relation to Allied's labor process, its internal state, and internal labor market:

- Mechanisms for individualization
- Mechanisms for coordinating interests between labor and capital/managers
- Mechanisms for redistributing conflict and competition

Both the cases of Allied and RHT show that the effects of these mechanisms are more easily distinguished analytically than empirically. Furthermore, there are managerial strategies (such as using assistance systems for circuit board assembly) not directed toward producing workers' consent but having this specific effect, as introduced in Section 6.5 under "Technological mediation". Additionally, contextual conditions, like the threat of site closure and potential job loss, might act individualizing, promote the coordination of interests, and/or the distribution of conflict. The mechanisms introduced above are not to be understood as explicit managerial strategies but as capitalist logics arising from capitalist relations of production. As such, they are imperfect, unconscious, and subject to contradiction and contestation.

The effects of managerial actions on workers are significantly influenced by the subjective perceptions of both groups, particularly in relation to the market and technology. As discussed in Chapter six, the perception of technology as exact, accurate, neutral, objective, infallible, or at least inevitable, is widespread within the company and beyond. These beliefs reinforce tech-mediated forms of (direct and indirect) labor control, rendering them invisible or unproblematic and contributing to the obscuration and

reproduction of capitalist relations of production. This is closely related to the broader corporate context of RHT and the ongoing, yet latent, conflict between workers and managers over what counts as performance and how it is rewarded.

Because technology is generally perceived as accurate and impartial, tools like the stopwatch and productivity tracing terminals are welcomed by many workers. These tools provide a means to prove and defend their performance, measured in terms of human effort, before managers, especially in a corporate context marked by high productivity pressure and managers' definition of performance in relation to market requirements.

The market, acting as a continuously changing and pressure-exerting agent, is ever-present within RHT, impacting the work and stress levels of both workers and managers. Both groups experience a type of threat that cannot be solely defined by disciplinary measures – as in a command system – but by the foreseeable consequences of entrepreneurial failure if cost, quality, or deadline targets are missed.

The perception of the market as an uncontrollable factual constraint is prevalent at all levels of the company and serves as a means to legitimize managerial decisions. This perception applies to the flexible use of the labor force and the productivity pressure placed on workers through unrealistic key performance indicators. Furthermore, it serves as a framework for constructing shared interests and goals between workers and managers/capital. Potential conflicts around productivity demands and job security are thus neutralized, as customers and the order situation (rather than the company) are held responsible for the increased pressure to perform. This helps prevent or at least placate conflict between capital and labor within the company.

Confronting production workers with market uncertainty and shifting the company's risk to them – in the form of increased productivity pressure and labor flexibilization – stirs up a sense of ever-present precariousness. This precariousness puts the company's survival and, consequently, each worker's job into question. Ensuring the continuance of the company becomes the main motivation for workers to accept managerial strategies of labor flexibilization. These strategies include overtime, short time, employing temporary labor contracts, foregoing holidays, postponing them until the new year, and, at worst, implementing redundancies. In a context of pervasive job uncertainty, nearly every worker is willing to work extra hours, hoping this will help them keep their job. This is especially true for temporary workers and those with previous experiences of labor precarization (see "Social preparation for work" in Section 7.5).

Labor's existential dependency on wages is key to understanding the production of workers' consent at RHT, as we have seen throughout this work. For instance, in Section 6.5 under "Mediated fear of entrepreneurial failure", I argued against the indirekte-Steuerung-approach, suggesting that workers' subjectivity is instrumentalized by capital not only in their function as entrepreneurs but also in their function as workers. I showed how RHT workers' interest in ensuring entrepreneurial success, defined with regards to the market, is largely motivated by their own dependency as waged workers on capital. Workers fear entrepreneurial failure, but this fear is also related to their fear of job loss. As the empirical examples have shown, fears of precariousness, further intensified by the use of temporary work and the threat of site closures or the relocation and reorganization of parts of the company, act as both disciplining and activating forces. These fears also have individualizing effects and contribute to the alignment of interests and redistribution of conflict between capital and labor. Therefore, they do not represent a contextual aspect of performance management at RHT but rather a core element thereof.

The market-oriented deployment of the labor force and the definition of productivity targets clash with the logic of labor management adopted in the company, where elements of direct control prevail and contradict the minoritarian and unsystematic expressions of indirect control. The coexistence of conflicting logics of performance management responds, on the one hand, to the contrary visions of different factions within senior management ('old' versus 'new guard'). On the other hand, they reveal the situation of RHT management 'getting by' in a highly competitive market. Pressure to meet key market- and production-oriented figures is translated from managers onto workers. This pressure is aggravated by organizational deficits (described in Section 5.1 under "The human factor beyond 'objective' market pressure"), which, along with productivity pressure, are transmitted from one stage of the labor process to the next. Sticking to key figures thus becomes extremely difficult or even physically impossible. Yet, workers are left with the responsibility of achieving those targets or facing the consequences of failure, despite not being given the organizational means to do so.

Indirect control is only found in nuances at RHT. Essentially, the technical system or the supervisor dictates what is to be done, leading to two main forms of organizational contradictions. The first is between production demands and the technical and personal resources available to meet them, exemplified by material delivery delays and technical difficulties in planning labor capacities. This highlights the limits of a strategy of direct

planning and control via technology or personal supervision. The second contradiction lies between market demands and the predominant form of direct control, with production times calculated according to a market logic of price competition and customer attractiveness imposed on workers through direct control.

Both types of organizational contradictions are temporarily resolved through the occasional and informal – yet systematic – deployment of workers' autonomy. Workers' informal self-organization only becomes apparent when the managerial plan fails, serving to keep functioning a system that would otherwise collapse. This self-organization is informal because, within the system of direct control, workers' self-organization and subjectivity are required but not formally allowed – a commonality between RHT and Allied. At RHT, workers organize themselves to address contradictions, inefficiencies, and indeterminacies without being subjected to an explicit and clear mode of indirect control. Workers are not explicitly instructed by management to organize themselves autonomously to achieve productivity targets.

Furthermore, work organization, personnel, and performance policies considered necessary by the indirekte-Steuerung-approach and described in Chapter six – such as the dismantling of hierarchical levels, the transfer of organization and decision-making power to groups or individuals, the implementation of more open and flexible forms of work in response to variable demands, the explicit enablement of self-organization, a results-oriented performance and remuneration policy, and the organizational flexibilization of work deployment – are largely missing in the company. Despite this, workers engage in informal self-organization, often overworking and improvising, to ensure capital's conditions of productivity.

8.1.2 The Complex Interplay Between 'Getting by' and 'Getting on': An Example of the Tension Between Coercion and Freedom in Workers' Consent

As demonstrated through a series of empirical examples in Chapter seven, coercion alone – for instance, the fear of job loss posing an existential threat to waged workers – cannot fully explain workers' behavior. This behavior is also shaped by individual choices, such as preferring RHT over other employers in the region, and inner claims and motivations. However, these individual choices, inner claims, and motivations should not be equated with freedom. As I have argued, they are shaped by structures and relations of power, which are crucial to understanding why workers work and how they do so.

But capital's domination is far from perfect either. It is riddled with contradictions that can raise questions about its legitimacy – for instance, when workers face conflicting demands from both production imperatives and market pressures, as Chapter seven's empirical examples illustrate. Therefore, freedom and coercion, as I have argued, are better understood not as opposites but as intertwined and inseparable forces. They are so closely interrelated that, while distinguishable in theory, they are indistinguishable in practice. Consent, once again, emerges as a contingent manifestation of this intricate tension: imperfectly free choices that are taken within imperfectly coercive power structures.

A compelling illustration of this complexity lies in the blurred distinction and intricate relationship between two forms of workers' cooperation I have explored[43]: 'getting on' – broadly referring to workers' motivations to excel in their work – and 'getting by' – their strategies for coping.

According to the definition I propose, 'getting by' involves adapting with limited means to externally imposed conditions to overcome or compensate for burdens intrinsic to the work task, and obstacles and conflicts arising from the specific organization of the labor process without, however, necessarily resolving them. Thus, while marked by coercion and external constraints, 'getting by' also reveals a moment of agency, such as through informal self-organization – a means for workers to exert influence in a context where they otherwise lack control over the labor process.

In essence, 'getting by' represents a quest for agency within a constrained environment, aligning with Burawoy's analysis but diverging from a purely compensatory logic. As I have demonstrated, it is shaped by subjective factors like workers' normative aspirations and external influences such as their socialization for work and the dynamics of the local labor market.

According to Marchington's (1992) definition, which I adopt here, 'getting on' involves workers actively utilizing their tacit skills in the labor process to contribute to management objectives, deriving satisfaction from effective job performance and taking pride in their skills. Hence, inner motivations, normative claims, and matters of individual identity are central to 'getting on'. However, it is crucial not to overlook that identity relations, individual motivations, and claims are influenced by social structures and

[43] See Sections 7.3, 7.4 and 7.6.

relationships, such as class, both within and outside the workplace. External class relations may, in turn, impact workers' consent within the labor process, as illustrated by their experiences of (un)employment discussed under social preparation for work. Moreover, the inherent coercion of wage labor must be considered when exploring workers' motivations to perform well. As observed in Chapter seven, motivations categorized under 'getting on' include instrumental goals, such as contributing to the company's viability to secure employment. This is particularly salient in competitive market contexts and for temporary workers. Given the coercive nature of the operational environment, distinctions between workers' motivations to excel ('getting on') and their coping strategies ('getting by') often blur.

Therefore, it is evident in the interplay between 'getting on' and 'getting by' how three key connections shape workers' consent to work: between freedom and coercion, subjective and objective dimensions, and internal (workplace-originating) and external (external to the workplace) factors.

Empirical findings demonstrate not only the blurred boundaries between 'getting by' and 'getting on', but also their mutual interaction and occasional contradiction. For instance, addressing the challenge of impossible target times detailed in Chapter five illustrates this dynamic: 'getting on' motivates 'getting by' by prompting workers to self-organize in response to unalterable labor process organization, driven by their interest – whether instrumental or normative – in ensuring efficient production processes.

On the contrary, 'getting by' also facilitates 'getting on'. Actively seeking solutions to obstacles in the production process (even without a formal strategy of indirect labor control in place, reinforces workers' sense of responsibility and dedication to ensuring the smooth operation of production and, ultimately, achieving the company's objectives. Self-organization within narrow limits set by managers and market conditions contributes significantly to fostering a sense of agency among workers. This observation underscores the interconnection between organizational practices and individual subjectivities, a theme explored by Burawoy in Manufacturing Consent. Moreover, it highlights capital's reliance on worker agency and the necessity for mechanisms that align its interests with those of labor.

However, excessive reliance on 'getting by' can pose challenges to 'getting on'. In other words, the pressure on workers to meet unrealistic production targets, as illustrated in the empirical examples from Chapter seven, undermines job satisfaction. Additionally,

managers' failure to acknowledge workers' efforts in overcoming obstacles and achieving productivity goals despite deficiencies in the labor process can diminish motivation and satisfaction among workers, thereby undermining the foundation for 'getting on'.

8.2 Concluding Remarks

8.2.1 Social Scientific Contribution

After presenting the main findings of my research, focusing particularly on its implications for understanding workers' consent, I will now summarize what I see as the key conceptual and theoretical contributions of this work.

Firstly, the empirical analysis highlights the interplay between subjective and organizational factors in shaping workers' consent. This challenges Burawoy's assertion that workers' consent is primarily a result of how activities are organized within the labor process. Instead, my research suggests that workers' normative claims, perceptions of technology and control, identity dynamics, and motivations to work all significantly influence the formation of consent. These subjective factors originate both within and outside the immediate work environment. For instance, broader societal discourses on technological advancements (e. g., Industry 4.0) influence how both workers and management perceive technology, thereby affecting the organization of work processes and the relations of production. Similarly, prior labor experiences, shaped by larger class dynamics beyond the workplace, impact workers' work motivations and their views on labor control. These elements contribute to the formation of consent and consequently, the reproduction of class relations within the workplace.

Secondly, the production of consent hinges not solely on how work activities are structured, but also on the shared definition and acceptance of performance and its corresponding rewards. This aspect, overlooked in Burawoy's (1979) framework of consent as noted by Menz (2009), is crucial. However, conflicts over the definition of performance do not automatically lead to workers withdrawing their consent. Instead, these conflicts may remain latent and placated through other mechanisms, such as the case of RHT. Here, the conflict between market and production logics expressed in the definition of impossible production targets does not lead to an open confrontation between workers and managers. Instead, workers engage in informal self-organization to attempt to meet these targets. This behavior is influenced by the aforementioned subjective factors as well as the specific organization of the labor process.

Third, Burawoy's (1979) identified mechanisms to manage conflict and secure workers' consent - individualizing, interest coordinating, and conflict redistributing - are applicable to the case of RHT. However, they do not directly explain the production of workers' consent. A significant finding of this research is that while the organization of the labor process is pivotal in shaping workers' consent, it does not directly account for it, as argued by both Burawoy and advocates of indirekte Steuerung. In addition to subjective factors and their interaction with organizational and structural elements, several mediating factors are crucial for understanding workers' consent. These include workers' mediated interaction with market dynamics (influenced by managerial actions that structure their field of action, mediated fear of entrepreneurial failure (linked to their reliance on wages due to class positioning), technological mediation (influenced by cultural and political views on technology and its development), and external to the labor process (such as local labor market and the "social preparation for work").

Fourth, the inability of the labor process to directly explain the production of workers' consent is also related to the conflict between market and production logics inherent in issues like impossible target times. This conflict can challenge workers' normative expectations and job satisfaction, potentially undermining their active engagement in the labor process.

8.2.2 Future Lines of Investigation and Political Implications of the Research

The research findings highlight the need to draw attention towards the subjective influence of technologies as a crucial factor shaping workers' perceptions of labor control and thus in the reproduction of the capitalist relations of production. Approaching ideas about technology as constitutive elements of technology enables us to understand the intricate link between material and immaterial dimensions of technology and the labor process. From this perspective, both can be grasped as social and material entities, that cannot be detached from the ideas arising from and giving raise to them. Moreover, it would enable an enriching dialogue between different disciplines and perspectives. For example, between Sociomateriality (Orlikowski 2007, Orlikowski and Scott 2008) and Marxist approaches, and between the latter and cultural anthropological insights on artifacts and technology (Hornborg 2001, 2014, 2015; Matory 2018). Proposing technology as a class agent, as articulated elsewhere (Casas González 2021b), enhances our understanding of how technology influences workers' consent and broader class

dynamics in workplaces. This discussion encourages exploration between Science and Technology Studies (e. g., Latour 1993, 2005) and LPT (e. g., Burawoy 1979, 1985), which might provide a fruitful conceptual and theoretical framework.

Regarding the conceptualization of workers' consent, critical work sociology can draw insights from the extensive feminist debates on consent known as the Sex Wars. Originating in the USA in the 1970s and spanning two decades, these debates engaged late second-wave radical feminists such as Andrea Dworking (1981, 2006), Catherine MacKinnon (1995), and Susan Brownmiller (1975), who clashed with emerging, sex-positive third-wave feminists including Carole Vance (1984, 1993), Ann Snitow, and Gayle Rubin (1998, 2011). Central to this discourse was the exploration of women's agency under conditions of gender inequality and the underlying tension between coercion and freedom. Thus, the fundamental issue underlying the Sex Wars, whether in their original or updated forms[44], resonates with the issue of workers' consent discussed here. While the former scrutinizes agency within gender relations and patriarchy's structures, the latter examines agency within the context of class dynamics in capitalism.

The conceptualization of workers' consent is a highly significant political matter. What is at stake here is not only workers' possibility to consent, but also their possibility to dissent. If we assume that workers' capacity to say "yes" is suppressed by the weight and coercion of class structures and capitalist domination, the question arises: How can workers effectively express their dissent against such domination?

Burawoy's conceptual framework views workers' consent as an instrument of capital's domination, necessarily contributing to the reproduction of capitalist relations of production.[45] This raises doubts about the meaningfulness of their ability to say no within such a framework. If workers' consent to capitalist demands serves to perpetuate their own subjugation, can their dissent hold any significance? Therefore, there is a pressing need for an alternative conceptualization of consent – one that acknowledges workers' agency without conflating it with freedom. This perspective should recognize their capacity to both affirm and resist, not despite the constraints and contradictions inherent

[44] The original Sex Wars from the 1970s have recently seen a resurgence referred to as "Sex Wars 2.0" (Cossman 2019), which introduces a diverse array of consent models. These include (neo)liberal consent (Tasker and Negra 2007, Coppock, Haydon, and Ritcher 2014, Whelehan 1995), enthusiastic/affirmative consent, and communicative consent, among others (for detailed descriptions, see Sikka 2021).

[45] Similarly, within feminist discourse on consent, some positions question women's ability to say "yes" due to the coercive nature of gender structures and relations under patriarchy.

in power relations, but precisely because of them. Such an approach, as argued here, better captures the intricate and contradictory nature of workers' consent. Moreover, it allows us to understand workers' dissent against capitalist domination as a genuine possibility – one that is complex, contradictory, yet plausible and profound.

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Appendix

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Note on the interview guides: All the interview guides included in this appendix were created within the framework of the SOdA research project and are the product of a collective work. Specifically, the authorship of interview guides one to five corresponds to Prof. Dr. Sarah Nies, Prof. Dr. Nick Kratzer and me. The workshop guide was created by Josef Reindl and Jörg Stadlinger.

Appendix 1: Leitfaden Unternehmensexperte

Vorab: Mischung aus faktischen Fragen und allg. Einschätzungen/eigenen Deutungen

Einstieg: Was ist RHT für ein Unternehmen?

- Was stellt das Unternehmen her und wie ist das Unternehmen das geworden, was es heute ist?
    - Was bietet das Unternehmen an/stellt das Unternehmen her?
    - Seit wann gibt es das Unternehmen? Wie, warum wurde es von wem gegründet?
    - Was sind wesentliche „Entwicklungsschritte“ des Unternehmens?
    - Wie groß ist das Unternehmen heute?
- Was ist der Standort? Gibt es einen Mutterkonzern?
    - Welche Stellung hat der Standort im Gesamtkonzern? Funktion; Grad der Autonomie etc.
- Können Sie uns etwas über die Eigentümerstruktur des Unternehmens sagen?
    - Börsennotiert, Anteilseigner?
    - Welchen Einfluss hat das?
- Ist das Unternehmen Mitglied des Arbeitgeberverbandes/tarifgebunden? Warum (nicht)?

Person und eigene Funktion, Entwicklungen

- Seit wann sind Sie im Unternehmen tätig? Wie sind Sie in das Unternehmen gekommen?
    - Welche Funktion haben Sie im Unternehmen?
- Welche Entwicklungen haben Sie im Unternehmen mit erlebt/mitgestaltet?
    - Was waren die wesentlichen Entwicklungen der letzten 10 Jahre?
    - Gab es größere Umstellungen/Restrukturierungen? Warum?
    - Gab es „Scheidewege“ in der Unternehmensstrategie?

<u>Markt, Ökonomie und Unternehmensstrategien</u>

Wenn wir nochmal den Markt des Unternehmens ansehen. Sie stellen (Produkt) her.

- Was ist das für ein Produkttypus?
    - Produktpalette und Vielfalt: Billige Massenprodukte, teure Einzelanfertigungen/Lösungen?
- Wer sind die Kunden?
    - Unternehmen, öffentl. Träger, Endkunden; National, international
    - Kundenbindung (viele wechselnde Kunden, wenige langfristige Kundenkontakte)
    - Wie ist das Verhältnis zum Kunden? Wer hat die Marktmacht?
- Was ist das für eine Branche?
    - Zusätzliche Informationen zur Branche z.B. Krisenanfälligkeit & Entwicklung, Zukunftsträchtig…
- Wie würden Sie die Marktstellung des Unternehmens beschreiben/einschätzen?
    - Wie ist das Unternehmen am Markt positioniert? Marktführer oder Newcomer? Krisen?
    - Wer ist die Konkurrenz? Wer sind die wichtigsten Unternehmen?
    - Wo liegen die wesentlichen Herausforderungen/Schwierigkeiten/Chancen, um sich im Markt zu bewähren?
    - Was ist hier die wesentliche Strategie: Diversifizierung, Flexibilität, Preispolitik, Lieferzeiten o.ä.
- Wie ist das Unternehmen insgesamt ökonomisch aufgestellt?
    - Profitabilität, Umsatz, Eigen- und Fremdkapital, Rücklagen
    - Wie ist das Verhältnis zu den Banken/Kreditvergabe? Welchen Einfluss auf die Unternehmensstrategien hat das?

- Was sind aus Ihrer Perspektive die zentralen Herausforderungen, denen sich das Unternehmen in den nächsten Jahren zu stellen hat?
    - Was ist erforderlich um diese Anforderungen zu bewältigen?
    - Was sind die geeigneten Stellschrauben?
    - Wieviel Spielraum hat das Unternehmen? Wer oder was setzt Grenzen (z.B. Marktzwänge, Kreditrahmen)?
    - Welche Rolle spielt hier Technik/Digitalsierung?
    - Welche Rolle spielt die menschliche Arbeit? (Qualifizierung, Steuerung/Kontrolle, Substitution)
- Was ist Erfolg?/Wann ist das Unternehmen erfolgreich?
- Was ist die größte Stärke des Unternehmens?
- Was sind die Ziele für die nächsten 10 Jahre/wo will das Unternehmen hin?

Organisationsstruktur, Vernetzung

Wenn wir mal ins „Innere“ des Unternehmens schauen: Können Sie uns etwas über die Organisationsstruktur verraten?

- In welche Abteilungen und Bereiche gliedert sich das Unternehmen?
    - Welcher Bereich ist das „Herzstück“/Kernbereich?
- Wie hängen die verschiedenen Abteilungen/Bereiche zusammen?
    - Wie Autonom sind die Bereiche? Kostenverantwortlich?
- Eher zentralistisch oder dezentral organisiert?
    - Wie sehen die Führungsstrukturen im Unternehmen aus?
    - Welche Hierarchieebenen gibt es?
    - Wer trifft welche Entscheidungen?
- Welche Arbeitsschritte umfasst der Produktionsprozess?
- Was davon wird im Unternehmen selbst erledigt? (Fertigungstiefe)
    - Welche Arbeitsschritte sind ausgegliedert, was wird angekauft etc.?
    - Immer schon oder neuere Entwicklung?
- Wer sind die relevanten Lieferanten/Zulieferer, externe Dienstleister?
    - Wie findet hier Kommunikation und Abstimmung statt?
    - Welche Relevanz kommt ihnen zu, wie groß ist die (gegenseitige) Abhängigkeit?
    - Könnten Sie die auch (einfach) wechseln?

- (Wie) können Sie Einfluss auf die Zulieferer nehmen, wer hat die Markt macht?

Mitarbeiter*innen, Unternehmenskultur und Mitbestimmung

- Wer sind die Mitarbeiter*innen?
  - Wieviel Mitarbeiter*innen hat das Unternehmen?
  - Qualifikationen? Alter? Geschlecht? Leiharbeit?
  - Welche Rolle spielen Auszubildende?
- Wie verteilt sich das auf die verschiedenen Bereiche?
- Fluktuation? Rekrutierungsschwierigkeiten?
- Wie würden Sie die Unternehmenskultur beschreiben?
  - Gibt es so etwas wie eine Unternehmensphilosophie/ein Unternehmensmotto
  - Wie wichtig sind die Mitarbeiter*innen für den Erfolg des Unternehmens?
- Wie ist das Verhältnis zwischen Betriebsrat und Management?
  - Wie ist aus Ihrer Sicht der Rückhalt des BRs in der Belegschaft?
- Gab es/gibt es größere Auseinandersetzungen? Zu welchen Themen? (Mit oder ohne BR)

Arbeitsprozess, Technologie

Wenn wir jetzt konkret die Arbeit der Mitarbeiter*innen anschauen:

- Wie ist der Arbeitsprozess organisiert?
  - Mehrstellenarbeit, Einzelarbeitsplätze, Inseln, Band etc.
- Wie anspruchsvoll sind die Tätigkeiten?
  - Fachlich, erfahrungsbezogen, Belastung?
  - Wie hoch ist der Anteil standardisierter Arbeit?
- Welche Strategien und Methoden der Unternehmensplanung und Produktionssteuerung werden genutzt? Orientiert sich das Unternehmen an bestimmten Prinzipien?
  - Was spielt hier jeweils eine Rolle? Kanban, KVP/Kaizan, Lean Production, agiles Management?
  - Was meint das hier jeweils konkret?
- Können Sie mir etwas zur Steuerungssoftware im Unternehmen erzählen? (ERP-Systeme)
  - Was wird in dem System alles abgebildet?

    - Welchen Einfluss hat das auf die Arbeitsprozesse?
- Wie hoch ist der Grad der Automatisierung?
    - Was passiert bei Störungen? Wer greift hier ein?
    - Wäre ein höherer Automatisierungsgrad möglich? Wünschenswert?
    - Was wären die Voraussetzungen, damit das funktioniert?
- Welche digitalen Technologien kommen zum Einsatz?
    - CPS, Sensorik, Robotik, Apps, Clouds
    - Mit welcher Funktion?
- Wie sind die Prozesse vernetzt? Wie verläuft die Kommunikation und Abstimmung
    - Zwischen den Abteilungen
    - Mit Zulieferern, Kunden?
- Ist mehr Vernetzung möglich?/nötig?
    - Was würde das an den Arbeitsprozessen ändern?

<u>Leistungssteuerung</u>

- Woher wissen die Beschäftigten was Sie zu tun haben?
    - Welche Prozessvorgaben gibt es, wieviel Handlungsspielraum haben die Beschäftigten im Arbeitsprozess?
- Umgekehrt: Woher wissen Sie, ob die Beschäftigten auch tun, was sie tun sollen?
    - Ändern digitale Technologien hier etwas dran? Können sie Ihnen die Führungsaufgabe erleichtern?
    - Müssen Sie das überhaupt wissen? In welchem Ausmaß?
- Was sind die zentralen Kennzahlen und Kennziffern?
    - Wie kommen die Kennzahlen zustande?
    - Welche Rolle spielen Termine? Wie kommen diese zustande?
    - Wer erfasst die Kennzahlen, wer ist wem rechenschaftspflichtig?
    - Passen die unterschiedlichen Kennziffern zusammen oder widersprechen die sich zuweilen? Wer priorisiert dann?
- Was passiert, wenn Ziele nicht erreicht werden? Passiert das häufig?
    - Ist das wichtig, dass die Kennzahlen immer erreicht werden?
    - Geht es bei den Kennzahlen um den Prozess oder um die Kontrolle der Mitarbeiter*innen?
- Wie ist die Arbeitszeit organisiert, wie wird Sie erfasst?
- Gibt es Leistungsentgelte? Wie variabel werden die gehandhabt etc.?

Klebearbeitsplatz

Im Rahmen von SOdA wollen Sie ja den Klebearbeitsplatz an ein Robotiksystem anschließen

- Können Sie diesen Arbeitsplatz noch näher erläutern?
    - Wer arbeitet hier? Wie in den Gesamtarbeitszusammenhang eingebettet?
- Welche Änderungen können/sollen durch die Umstellung hier passieren?
    - Was sind die erhofften Vorteile?
- Was sind aus Ihrer Sicht hier die Herausforderungen bei der Einführung des Robotiksystems?
- Wie verläuft die Kommunikation mit dem Robotik-Hersteller/Anbieter?
    - Was muss der alles wissen? Wie vermitteln Sie die Anforderungen des Arbeitsplatzes? Was müssen Sie (noch) alles wissen, um diese vermitteln zu können?
- Was bedeutet das für den Arbeitsprozess?
    - Was verändert sich für die Beschäftigten?
    - Wie wird das kommuniziert?
    - Welche Qualifizierungsschritte sind nötig? Wie werden die MitarbeiterInnen befähigt?
- Inwieweit könnte die Gestaltung dieses Arbeitsplatzes wegweisend auch für andere Bereiche sein?

Technologie, Industrie 4.0 und Visionen

Wir würden jetzt gerne abschließend noch auf die Bedeutung der Digitalisierung in ihrem Unternehmen, aber auch ihre Einschätzung zur Industrie 4.0 im Allgemeinen kommen.

- Zunächst ganz allgemein: Welche Rolle schreiben Sie der Entwicklung zur Industrie 4.0 zu?
    - Was ist denn das Neue und was ist ein alter Hut?
- Welche Rolle spielt die Digitalisierung für Ihr Unternehmen?
    - Sehen Sie sich als einen Vorreiter?
    - Sind die Voraussetzungen für Digitalisierung in Ihrem Unternehmen anders als anderswo? Warum?
- Um was geht es bei der Industrie 4.0 für Sie vorrangig?
    - Welche Ziele versuchen Sie technisch zu verwirklichen?

    - Könnten Sie diese Ziele auch auf anderen Wegen erreichen oder braucht es die neue Technologie?

Ausblick

- Was wäre das ideale Outcome von dem Projekt SOdA für Sie?
- Auch mit Hinblick auf die Beschäftigteninterviews: Gibt es etwas, was Ihnen besonders wichtig wäre, herauszufinden/zu erfahren?

Appendix 2: Leitfaden Experten Betriebsrat

Einstieg: Person und Funktion

Wir würden zunächst gerne etwas zu Ihrer Person und Ihre Funktion als Betriebsrat erfahren

- Seit wann sind Sie im Unternehmen tätig?
    - Was haben Sie gelernt, wie sind Sie zu ihrem Job gekommen?
- Seit wann sind Sie Betriebsrat?
    - Wie sind Sie dazu gekommen, dies zu machen?
    - Welche Funktion haben Sie innerhalb des Betriebsrats?

Betriebsratsarbeit

- Wie ist der Betriebsrat organisiert?
    - Wie groß, wieviele freigestellt?
    - Unterschiedliche Liste? Personenwahl? Konflike?
    - Gibt es viel Wechsel oder hohe Kontinuität?
    - JAV?
- Wie begreifen Sie Ihre Aufgabe als BR?
    - Was zeichnet einen guten Betriebsrat aus?
- Gibt es Kontakt zur IGM? Bei welchen Gelegenheiten?
- Wie schätzen Sie den Rückhalt des BR in der Belegschaft ein?
    - Gibt es hier Unterschiede zwischen verschiedenen Beschäftigtengruppen?
- Was waren die zentralen Themen der Betriebsratsarbeit in den letzten Jahren?
    - Wie kommen die Themensetzungen zustande?
    - Gibt es Punkte, wo innerhalb des BR Uneinigkeit besteht?
    - Gibt es Themen aus der Belegschaft, die Sie nicht aufgreifen (können)?

- Was sind die Themen für die nächsten Jahre, was treibt Sie am als BR am meisten um?
- Wie würden Sie die Zusammenarbeit mit der Geschäftsführung beschreiben?
    - Wer ist hier Ihr Verhandlungspartner? Wieviel Entscheidungsmacht (wenn Tochter o.ä.)
    - Sind Sie auch an informellen Entscheidungen/Strategieplanungen beteiligt?

<u>Einschätzungen zum Unternehmen</u>

- Ist RHT ein guter Arbeitgeber?
- Was zeichnet das Unternehmen aus?
    - Wie schätzen Sie die gegenwärtige Situation des Unternehmens ein?
    - Was sind die wichtigsten Erfolgsfaktoren des Unternehmens?
        - Was ist aus Ihrer Perspektive ein erfolgreiches Unternehmen?
- Haben sich Arbeit und Arbeitsbedingungen im Unternehmen in der Zeit in der Sie hier sind sehr geändert?
    - Welche Entwicklungen haben Sie im Unternehmen mit erlebt/mitgestaltet?
    - Gab es größere Umstellungen/Restrukturierungen? Warum?
    - Gab es „Scheidewege“ in der Unternehmensstrategie? Wie bewerten Sie diese?
    - Welche Ursachen gibt es für die beschriebenen Entwicklungen?
- Was sind Ihres Erachtens die größten Herausforderungen des Unternehmens für die nächsten Jahre?
    - Was ist erforderlich um diese Anforderungen zu bewältigen?
    - Was sind die geeigneten Stellschrauben?
    - Welche Rolle spielt hier Technik/Digitalisierung?
    - Wieviel Spielraum hat das Unternehmen? Wer oder was setzt Grenzen (z.B. Marktzwänge, Kreditrahmen)?

<u>Organisationsstruktur, Vernetzung</u>

(Ggf. falls in vorangegangenen Interviews noch nicht klar geworden)

Wenn wir mal ins „Innere“ des Unternehmens schauen: Können Sie uns etwas über die Organisationsstruktur verraten?

- In welche Abteilungen und Bereiche gliedert sich das Unternehmen?
    - Welcher Bereich ist das „Herzstück“/Kernbereich?

- Wie hängen die verschiedenen Abteilungen/Bereiche zusammen?
    - Wie autonom sind die Bereiche? Kostenverantwortlich?
- Eher zentralistisch oder dezentral organisiert?
    - Wie sehen die Führungsstrukturen im Unternehmen aus?
    - Welche Hierarchieebenen gibt es?
    - Wer trifft welche Entscheidungen?
- Welche Arbeitsschritte umfasst der Produktionsprozess?
- Was davon wird im Unternehmen selbst erledigt? (Fertigungstiefe)
    - Welche Arbeitsschritte sind ausgegliedert, was wird angekauft etc.?
    - Immer schon oder neuere Entwicklung?

Mitarbeiter*innen und Arbeitsprozess

Wir würden gerne mehr über die Arbeit der Mitarbeiter*innen erfahren:

- Wer sind die Mitarbeiter*innen?
    - Wieviel Mitarbeiter*innen hat das Unternehmen?
    - Qualifikationen? Alter? Geschlecht? Leiharbeit?
    - Welche Rolle spielen Auszubildende?
- Wie verteilt sich das auf die verschiedenen Bereiche?
- Fluktuation? Rekrutierungsschwierigkeiten?
- Wie ist der Arbeitsprozess organisiert?
    - Mehrstellenarbeit, Einzelarbeitsplätze, Inseln, Band etc.
- Wie anspruchsvoll sind die Tätigkeiten?
    - Fachlich, erfahrungsbezogen, Belastung?
    - Wie hoch ist der Anteil standardisierter Arbeit?

Leistungssteuerung

- Welche Spielräume haben die Beschäftigten in der Arbeitsausführung?
    - Wieviel Freiräume haben die Beschäftigten bei der Planung ihrer Arbeit? Wer entscheidet wann die Beschäftigten was tun? Welche Prozessvorgaben gibt es, wieviel Handlungsspielraum haben die Beschäftigten im Arbeitsprozess?
- Was sind die zentralen Kennzahlen und Kennziffern?
    - Wie kommen die Kennzahlen zustande?
    - Welche Rolle spielen Termine? Wie kommen diese zustande?

- Geht es bei den Kennzahlen mehr um die Arbeitsplanung oder um die nachträgliche Kontrolle?
    - Wer erfasst die Kennzahlen, wer ist wem rechenschaftspflichtig?
- Sind die Kennzahlen Ihres Erachtens sinnvolle Kennzahlen? Sind die gesetzten Ziele realistisch?
    - Passen die unterschiedlichen Kennziffern zusammen oder widersprechen die sich zuweilen?
    - Was passiert, wenn Ziele nicht erreicht werden? Passiert das häufig?
- Welche Rolle spielt die Steuerungssoftware? Können Sie mir etwas zur Steuerungssoftware im Unternehmen erzählen? (ERP-Systeme)
    - Was wird in dem System alles abgebildet?
    - Welchen Einfluss hat das auf die Arbeitsprozesse?
- Wie ist die Arbeitszeit organisiert, wie wird Sie erfasst?
- Gibt es Leistungsentgelte? Wie variabel werden die gehandhabt etc.?
- Wie schätzen Sie den Zeit- und Leistungsdruck im Unternehmen ein?
    - Wodurch entsteht glauben Sie am meisten Druck? (offenhalten z.B. Führungskraft? Markt? Kennzahlen? Prozesse selbst? Angst vor Arbeitsplatzverlust?)
    - Was schafft am meisten Belastungen?

Industrie 4.0, Technologie

Wir würden jetzt gerne nochmal auf die Frage der Technik und der Digitalisierung zu sprechen kommen. Zunächst einmal zum Ist-Zustand:

- Wie hoch ist der Grad der Automatisierung?
    - Funktioniert das gut? Wo gibt es Probleme?
- Wäre ein höherer Automatisierungsgrad möglich? Wünschenswert?
    - Was wären die Voraussetzungen, damit das funktioniert?
    - Wo sehen Sie Grenzen oder gar Gefahren?
- Wieviel Vernetzung erlaubt die gegenwärtige Steuerungssoftware?
    - Ist mehr Vernetzung mit Kunden; Zulieferern auch aus Beschäftigtensicht wünschenswert?
    - Warum/Warum nicht?
- Welche digitalen Technologien kommen insgesamt noch zum Einsatz?

- CPS, Sensorik, Robotik, Apps, Clouds
- Mit welcher Funktion?

- Was ist Ihr Eindruck: Erleichtern die digitalen Technologien den Beschäftigten die Arbeit oder behindern diese sie zuweilen auch im Arbeitsablauf?
  - Passen sich die Systeme den Arbeitsprozessen an oder passen sich die Arbeitsprozesse den Systemen an?
  - Kommen alle MitarbeiterInnen gleich gut damit zurecht?
  - Wo/warum entstehen Probleme?

SOdA

Im Rahmen von SOdA soll ja ein Robotiksystem am Klebearbeitsplatz eingerichtet werden

- Was bedeutet das für die hier eingesetzten Mitarbeiter*innen?
- Inwieweit könnte die Gestaltung dieses Arbeitsplatzes wegweisend auch für andere Bereiche sein?
- Was sind aus Ihrer Sicht hier die Herausforderungen bei der Einführung des Robotiksystems?
- Was bedeutet das für den Arbeitsprozess?
  - Was verändert sich für die Beschäftigten?
  - Wie wird das kommuniziert?
  - Welche Qualifizierungsschritte sind nötig? Wie werden die Mitarbeiter*innen befähigt?
- Was wäre das ideale Outcome von dem Projekt SOdA für Sie?
- Auch mit Hinblick auf die Beschäftigteninterviews: Gibt es etwas, was Ihnen besonders wichtig wäre, herauszufinden/zu erfahren?

Industrie 4.0 allgemeiner Ausblick

Abschließend würde uns vor dem Hintergrund Ihrer betrieblichen Erfahrungen noch Ihre allgemeine Einschätzung zur Digitalisierung und Industrie 4.0 interessieren.

- Zunächst ganz allgemein: Für wie relevant halten Sie die Debatte?
  - Was ist denn das Neue und was ist ein alter Hut?
  - Ist die Technologie ein eigener Treiber von Entwicklungen oder nur ein Anhängsel/geht es eigentlich um was anderes?

- RHT ist ja durchaus sowas wie ein Vorreiter der Industrie 4.0. Welche Ziele verfolgt aus Ihrer Perspektive Ihr Unternehmen vorrangig mit seiner digitalen Roadmap?
- Wie schätzen Sie die Stimmung unter den Beschäftigten ein, ist die Debatte um Industrie 4.0, die Einführung von kollaborierenden Robotiksystemen, eine weitere Vernetzung, Echzeit-Steuerung Thema? In welcher Form (Ängste, Hoffnungen)?
- Abschließend: Welche Gefahren und welche Chancen sehen Sie als Betriebsrat in den gegenwärtigen Entwicklungen?
    - Fühlen Sie sich als BR gut gerüstet für die kommenden Entwicklungen?

Appendix 3: Leitfaden Experten Ausbildungsleiter

Einstieg: Person und Funktion

Wir würden zunächst gerne etwas zu Ihrer Person erfahren

- Seit wann sind Sie im Unternehmen tätig?
    - Was haben Sie gelernt?
    - Seit wann sind Sie Ausbildungsleiter? Wie sind Sie dazu gekommen, dies zu machen?
    - Hauptamtlich, nebenberuflich?

Ausbildung im Unternehmen

- Ist RHT ein guter Ort für eine Ausbildung? Warum?
- Können Sie uns einen Überblick über die Ausbildung bei Ihnen im Unternehmen geben?
    - Wie lange wird bei Ihnen schon ausgebildet, wie hat sich das entwickelt?
    - Wieviele Auszubildende gibt er derzeit im Unternehmen?
        - Braucht das Unternehmen Nachwuchs? Werden die Azubis i.d.R. übernommen?
        - Gibt es eher Schwierigkeiten Leute zu bekommen/zu halten oder Schwierigkeiten, Leute unterzubringen?
- Welche Berufe werden ausgebildet?
- Wie sieht die Ausbildungsorganisation aus?
    - Findet die Ausbildung in einer Lehrwerkstatt statt oder werden die Azubis beigestellt? Wenn beigestellt: Wem werden Lehrlinge anvertraut und warum?
    - Mit welchen Kolleg*innen haben die zu tun?

    - Welchen Stellenwert haben Lehrlinge im Betrieb (Mädchen für alles oder junge Kolleg_innen)?
    - Wer sind die Vorgesetzten – Meister, Abteilungsleiter etc.?
    - Wer macht die Ausbildung, gibt es dafür Raum/Zeit (andere Zeitwerte)?
- Was umfasst Ihre Arbeit als Ausbildungsleiter?
    - Bilden Sie selbst noch aus oder leiten und planen Sie die Ausbildung primär?
    - Ggf. Wie lässt sich Ihre Hauptarbeit mit der Tätigkeit als Ausbildungsarbeit vereinen?
    - Haben Sie auch etwas mit (Weiter-)Qualifizierung zu tun?
    - Wieviel Handlungs- und Entscheidungspielraum haben Sie in Ihrer Arbeitstätigkeit?
        - Wieviel Spielraum haben Sie bei der Planung der Ausbildungsinhalte? Was sind hier die (offiziellen) Vorgaben?
        - Wer entscheidet, wo wer eingesetzt wird?
    - Welche Vorgaben oder Kennzahlen spielen für Ihre Arbeit eine Rolle?

<u>Integration in den Arbeitsprozess</u>

- Wie gelingt die Integration der Auszubildenden in den Arbeitsprozess/die Zusammenarbeit mit den regulären Mitarbeiter*innen?
    - Entstehen hier Konflikte? Warum?
    - Worauf kommt es in der Zusammenarbeit mit Kolleg*innen an? Was müssen Lehrlinge lernen?
    - Was macht Lehrlinge aus, die möglichst schnell eine Unterstützung sind? Umgekehrt, wann „stören“ Azubis den betrieblichen Ablauf?
- Wie wichtig sind Selbstständigkeit und Eigenverantwortlichkeit als Anforderung/zu vermittelnde Kompetenz?
- Wie wichtig ist der Gesamtzusammenhang? Ist es aus Ihrer Sicht wichtig, Azubis gleich größere Prozesszusammenhänge zu vermitteln oder sollten Sie sich zunächst Stück für Stück einzelne Arbeitsbereiche erarbeiten?

<u>Wandel der Ausbildung und/oder Bedingungen der Ausbildung</u>

Wir würden gerne mit Ihnen darüber sprechen, wie sich die Ausbildung im Unternehmen – aber vielleicht auch generell – geändert hat.

- Wenn Sie einen Blick zurückwerfen: Worauf kommt es jetzt bei der Ausbildung im Vergleich zu früher an?
    - Wie haben sich die Ausbildungsinhalte verändert?
    - Gibt es heute andere Anforderungen an die Azubis?
    - Sind die Azubis heute anders als früher?
- Wie haben sich denn allgemein die Arbeit und die Arbeitsbedingungen geändert?
    - Wie schlägt sich das auf die Ausbildung nieder?
    - Hat sich an Ihrer eigene Arbeit als Ausbildungsleiter etwas geändert?
- Wie anspruchsvoll sind die Tätigkeiten, die die Auszubildenden lernen?
    - Fachlich, erfahrungsbezogen, Belastung?
    - Ändert sich hier etwas am Qualifikationsprofil?
- Haben sich die Anforderungen an die individuelle Arbeitsorganisation/Arbeitsplanung, die Zusammenarbeit geändert?
    - Wieviel Selbstständigkeit wird von den Azubis gefordert? War das früher anders?
    - Warum ist das heute wichtiger/weniger wichtig?
- Zusammengefasst: Wie haben sich Lehrlinge, aber auch die Anforderungen an sie im Laufe der Zeit verändert? (Kommunikationsverhalten, Kooperation, Kundenorientierung, Leistungsbereitschaft, ein Verständnis von größeren Zusammenhängen etc.)?

- Worauf denken Sie, wird es in Zukunft ankommen? Gibt es Bereiche, von denen Sie annehmen, dass sie in Zukunft wichtiger werden? Fachlich, aber auch im sozialen Bereich? Muss man heute etwas anderes gut können wie vor 15 Jahren?

<u>Technologie in der Ausbildung</u>

Wir würden jetzt gerne nochmal auf die Frage der Technik und der Digitalisierung zu sprechen kommen.

- Zum derzeitigen Zustand: Welche Rolle spielt derzeit der Umgang mit Technologien, mit Steuerungssystem etc. in der Ausbildung?
- Welche digitalen Technologien sind den im Einsatz, den Umgang mit welcher Technik müssen die Azubis derzeit lernen?
    - Wie viel Wert legen Sie in der Ausbildung darauf, dass die Azubis auch die neuesten Entwicklungen kennenlernen? Also z.B. neue Softwaresysteme von

Beginn an lernen? Oder sollen sie die Grundlagen lernen, weil man nicht sagen kann, wo sie später eingesetzt werden?
    - Ist das mehr Lernen im Prozess oder sind es explizierte Ausbildungsinhalte?
    - Fällt das leicht? Welche Technik oder Technikfunktionen sind leicht vermittelbar, wo bereitet es den Azubis Probleme?
    - Was ist Ihr Eindruck: Erleichtern die digitalen Technologien den Azubis das Erlernen des Berufes/Ihrer Arbeit oder stellt das eine zusätzliche Hürde dar?
- RHT will ja noch stärker auf digitale Technologien und zukünftig auch kollaborierende Robotiksysteme setzen. Welche Herausforderungen stellen sich hier für die Ausbildung aus Ihrer Perspektive?
    - Welche neuen Anforderungen an technisches Know-How werden gestellt?
    - Welchen Einfluss spielen (noch) Berührungsängste mit neuen Technologien?
    - Welche Anforderungen stellt das für das Erlernen von Arbeitsweisen, Arbeitsorganisation etc., Selbstständigkeit?
- Verändert das etwas in der Zusammenarbeit Belegschaft/Azubis?
    - Wie führt man die schon bestehende Belegschaft vor Ort in neue Systeme ein?
    - Wie läuft die Zusammenarbeit zwischen Azubis und Beschäftigten, wenn die Arbeitsprozesse für die Beschäftigten selbst neu sind?
    - Lernen Sie als Betrieb eigentlich was von den Azubis? Bringen die jungen Leute schon einen anderen Umgang mit Technik/Software in Ihr Haus?
    - Wie werden die Ausbilder/Ausbildungsbeauftragten befähigt?
- Wo stellen sich die größten Herausforderungen: Steuerungs-Systeme, Echtzeit-Steuerung und Vernetzung? Kollaborierende Robotik?

Im Konkreten: Im Rahmen von SOdA soll ja ein kollaborierendes Robotiksystem am Klebearbeitsplatz eingerichtet werden.

- Sehen Sie hier besondere Anforderungen, auf die im Rahmen der Ausbildung eingegangen werden müsste?

<u>Industrie 4.0. Allgemeiner Ausblick</u>

- Ist Industrie 4.0 unter Azubis ein Thema? Entstehen hier Ängste bzgl. der Zukunft Ihres Berufsbildes?

Abschließend würde uns vor dem Hintergrund Ihrer betrieblichen Erfahrungen noch Ihre allgemeine Einschätzung zur Industrie 4.0 interessieren.

- Glauben Sie, dass die angestrebten Entwicklungen grundsätzlich eher zu einer Dequalifizierung oder Aufwertung der Arbeit führen?
    - In Ihrem Unternehmen? Allgemein?
    - Warum?
    - Polarisierung? Unterschiedliche Bereiche?
- Aus ihrer eigenen Perspektive:Können intelligente Technologien menschliche Arbeitskraft ersetzen?
    - Was kann die Technik besser?
    - Wo sind die Grenzen?

Appendix 4: Leitfaden Experten Betriebsmittelbau / Technologie

Person, Funktion und Arbeit

Können Sie zum Einstieg kurz erzählen, wer Sie sind und als was bei RHT arbeiten?
Seit wann sind Sie im Unternehmen tätig?

- Was haben Sie gelernt, wie sind Sie zu ihrem jetzigen Job gekommen?
- Warum haben Sie sich für den Job entschieden? (richtige Entscheidung?)

Arbeitsplatz und Arbeitsorganisation

Wir würden gerne mehr über Ihre Arbeitstätigkeit erfahren.
Was ist das genau für ein Bereich in dem Sie arbeiten?

- Was stellen Sie dort her? Was ist die Funktion der Abteilung? Stückzahlen?

Was ist Ihre Arbeitsaufgabe?

- Ändern sich die Arbeitsaufgaben oder bleibt es immer dasselbe? Unterschiedliche Produkte? (Belastung oder Abwechslung?)
- Mit welchen anderen Abteilungen, Bereichen, Kunden außerhalb ihrer Abteilung haben Sie zu tun?

Woher wissen Sie zu Beginn des Arbeitstages, was Sie zu tun haben?

- Wieviel Einfluss haben Sie darauf?
- Wie lange im Voraus wissen Sie schon, was auf Sie zukommt?

Wieviel Einfluss haben Sie darauf, wie Sie ihre Arbeit erledigen?

- Können Sie (am jeweiligen Arbeitsplatz) selbst entscheiden, wann Sie welche Aufgabe erledigen?
- Sind die einzelnen Arbeitsschritte genau festgelegt oder gibt es da Spielräume?
- Gibt es Dinge, die Sie in Ihrer Arbeit behindern?

Wer ist Ihr Vorgesetzter, mit welchen Führungskräften haben Sie zu tun?

Wie wird die Arbeitszeit erfasst? Arbeiten Sie im Schichtsystem?

- Wie ist das genau geregelt? Sind Sie damit zufrieden?

Wie ist die Arbeit organisiert? Arbeiten Sie in der Gruppe/an Einzelarbeitsplätzen?

<u>Arbeitsmotivation</u>

- Was ist für Sie persönlicher ein erfolgreicher Arbeitstag? Wann gehen Sie zufrieden nach Hause?
    - Ist es Ihnen wichtig, Ihre Arbeit gut zu machen? Was treibt Sie da an? Könnte man überhaupt „nur seinen Job machen“?
    - Wann ist ihr Vorgesetzter oder die Firma mit Ihnen zufrieden?

Was muss man können um Ihre Arbeit gut zu machen?

- Wird man mit der Zeit besser? Erfahrung? Gespür?
- Was kann man falsch machen? Kann man sie besonders gut machen? Woran zeigt sich das?

Was passiert, wenn Sie Ihre Arbeit nicht richtig machen/zu langsam sind? Welche Auswirkungen hat das?

<u>Robotik</u>

Vor der Inbetriebnahme: Hatten Sie mit den Planungen für den (Robotermodel) zu tun?

- Wann und wie ging das los?
- Was waren dann die nächsten Schritte?
- Hatten Sie direkt mit (Roboterhersteller) zu tun?
- Wer war noch alles einbezogen? (Mitarbeiter, GF, Betriebsrat …)
- Wie fanden Sie die Zusammenarbeit, den Informationsaustausch?
    - Waren die Erwartungen an (Roboterhersteller) klar?
- Hatten Sie alle Informationen, die Sie brauchten? Hatte (Roboterhersteller) alle Informationen, die nötig waren?
- Hatten die Kollegen von (Roboterhersteller) einen klaren Eindruck vom Arbeitsprozess? Wie wurde diese Information vermittelt? Wie schätzen Sie den Vermittlungsprozess ein?
- Lief die Vorbereitung so, wie Sie sich das vorgestellt / gewünscht hatten?

Generell: Welche Erwartungen hatten Sie in Bezug auf den Roboter?

Während der Inbetriebnahme: Waren Sie bei der (gescheiterten) Inbetriebnahme dabei?

- Wie haben sie die Inbetriebnahme erlebt?

- War das gut vorbereitet? Was hätte man anders machen sollen / können?

Warum ist diese Inbetriebnahme nicht gelungen, Ihrer Meinung nach?

- Waren die Mitarbeiter*innen genügend und rechtzeitig miteinbezogen?
- Haben Sie sich mit Ihnen darüber ausgetauscht? Wie ist aus Ihrer Sicht ihre Meinung dazu?

<u>Zur nicht gelungenen Inbetriebnahme</u>

- Wir kennen uns ja schon, u.a. aus der, sagen wir, nicht gelungenen Inbetriebnahme des (Robotermodels). Das ist schon fast vier Monaten her aber hoffentlich sind Ihre Eindrücke davon immer noch frisch im Kopf. Können Sie uns bitte erzählen, wie haben Sie diese Inbetriebnahme oder den Versuch dazu miterlebt?
- Jetzt im Nachhinein betrachtet, wäre diese Situation zu vermeiden gewesen? Warum?
- Wenn ja, wie? Was hätte man anders machen sollen?
    - Planung
    - Kommunikation
    - Beteiligung
    - Erwartungen

<u>Zur Umplanung des Einsatzbereichs</u>

- Soweit wir wissen, gab es zwischenzeitloch den Plan, den Roboter nicht mehr im Klebearbeitsplatz einzusetzen, wie ursprünglich gedacht, sondern rund um den Lagerschrank. Was ist der aktuelle Stand?
    - Warum diese Umplanung? Kann man den Roboter also nicht für das Kleben nutzen?
    - Macht es Sinn, den Roboter in diesen Bereich einzusetzen? Warum?
    - Wer hat darüber mitentschieden? Haben Sie am Entscheidungsprozess teilgenommen?
    - Waren die Beschäftigten am Lagerschrank mitinvolviert?
- Das letzte, das wir erfahren haben ist, dass der Roboter von (Roboterhersteller) gar nicht im Einsatz kommen soll, sondern ein Roboter von einer anderen Firma. Haben Sie davon gehört?
    - Was ist der aktuelle Stand?
    - Warum noch diese Umplanung?
    - Macht es Sinn, einen Roboter überhaupt einzusetzen? Warum?
    - Was ist der Vorteil dieses Roboters bzw. dieser Firma?

- Wer hat darüber mitentschieden?
    - Haben Sie am Entscheidungsprozess teilgenommen?
    - Waren die Beschäftigten daran mitinvolviert? Gab es Unterschiede zum letzten Mal?
- Gab es schon einen Austausch zwischen RHT und den neuen Roboterentwickler?
    - Wie ist die Kommunikation dieses Mal gelaufen? Gab es Unterschiede zum letzten Mal?
- Waren die Technikentwickler schon vor Ort? Ist das geplant?
- Worauf achtet jetzt RHT besonders bei der Einführung eines neuen Roboters?

Schlussfragen

- Würden Sie sagen, Sie haben einige Schlussfolgerungen aus der Erfahrung mit dem (Robotermodel) gezogen? Wenn ja, welche?
- Ganz allgemein gesprochen, was ist besonders wichtig, wenn neue Roboter in ein Unternehmen ankommen?
    - Worauf sollen die Technikentwickler besonders achten?
    - Worauf soll das Anwenderunternehmen achten?
- Hat sich Ihre Einstellung dazu durch diese Erfahrung geändert? Inwieweit?
- Woran liegt es, dass die Technikeinführung erfolgreich wird?
- Haben Sie einen Einfluss darauf? Inwieweit?

Appendix 5: Leitfaden Beschäftigte

Vorab: Info zu SOdA, eigene Erfahrungen, Wahrnehmungen und Deutungen, Anonymisierung, Aufnahme, Zeit

Einstieg: Person und Werdegang

Können Sie zum Einstieg kurz erzählen, wer Sie sind und als was bei RHT arbeiten?

- Seit wann sind Sie im Unternehmen tätig?
    - Was haben Sie gelernt, wie sind Sie zu ihrem jetzigen Job gekommen?
    - Warum haben Sie sich für den Job entschieden? (richtige Entscheidung?)

Arbeitsplatz und Arbeitsorganisation

Wir würden gerne mehr über Ihre Arbeitstätigkeit erfahren.

- Was ist das genau für ein Bereich in dem Sie arbeiten?
    - Was stellen Sie dort her? Was ist die Funktion der Abteilung? Stückzahlen?
    - Wer arbeitet dort alles? (Wieviele? Kontinuierlich/Durchlaufstation? Leiharbeit?)
- Was ist Ihre Arbeitsaufgabe?
    - Ändern sich die Arbeitsaufgaben oder bleibt es immer dasselbe? Unterschiedliche Produkte? (Belastung oder Abwechslung?)
    - Mit welchen anderen Abteilungen, Bereichen, Kunden außerhalb ihrer Abteilung haben Sie zu tun?
- Woher wissen Sie zu Beginn des Arbeitstages, was Sie zu tun haben?
    - Wieviel Einfluss haben Sie darauf?
    - Wie lange im Voraus wissen Sie schon, was auf Sie zukommt?
- Wieviel Einfluss haben Sie darauf, wie Sie ihre Arbeit erledigen?
    - Können Sie (am jeweiligen Arbeitsplatz) selbst entscheiden, wann Sie welche Aufgabe erledigen?
    - Sind die einzelnen Arbeitsschritte genau festgelegt oder gibt es da Spielräume?
    - Gibt es Dinge, die Sie in Ihrer Arbeit behindern?
- Wer ist Ihnen Vorgesetzt, mit welchen Führungskräften haben Sie zu tun?
- Wie wird die Arbeitszeit erfasst? Arbeiten Sie im Schichtsystem?
    - Wie ist das genau geregelt? Sind Sie damit zufrieden?
- Wie ist die Arbeit organisiert? Arbeiten Sie in der Gruppe/an Einzelarbeitsplätzen?
    - Wechseln Sie die Arbeitsplätze in der Gruppe? Regelmäßig/nur vertretungsweise?
    - Ggf. wie wird entschieden, wer/wann/wo eingesetzt wird? Wieviel Einfluss haben Sie selbst darauf?
    - Ggf. wie ist die Gruppe organisiert, gibt es einen Gruppensprecher, wer bestimmt den, welche Funktion?

<u>Arbeitsbedingungen & Leistungsanforderungen</u>

- Unter den Beschäftigten: Wie ist das Klima in Ihrer Abteilung?
- Und das Unternehmen: Ist RHT ein guter Arbeitgeber?

Arbeitsmotivation

- Was ist für Sie persönlicher ein erfolgreicher Arbeitstag? Wann gehen Sie zufrieden nach Hause?
    - Ist es Ihnen wichtig, Ihre Arbeit gut zu machen? Was treibt Sie da an? Könnte man überhaupt „nur seinen Job machen"?
    - Wann ist ihr Vorgesetzter oder die Firma mit Ihnen zufrieden?
- Was muss man können um Ihre Arbeit gut zu machen?
    - Wird man mit der Zeit besser? Erfahrung? Gespür?
    - Was kann man falsch machen? Kann man sie besonders gut machen? Woran zeigt sich das?
- Was passiert, wenn Sie Ihre Arbeit nicht richtig machen/zu langsam sind? Welche Auswirkungen hat das?

Leistungsanforderungen

- Ist ihre Arbeit anstrengend?
- Was sind für Sie die größten Belastungen in der Arbeit?
    - Körperlich? Zeit-/Leistungsdruck? Flexibilität? Klima? Unsicherheit?
- Wie kommen die Leistungsanforderungen zu Stande? Wer bestimmt, wieviel Sie zu tun haben?
    - Wie kommen die Aufträge zustande, wo kommen die her?
    - Welche Rolle spielt die Arbeitsvorbereitung? Schätzen sie die Arbeitsaufwände richtig ein?
    - Gibt es Konflikte? Wer sitzt da am längeren Hebel? Welche Rolle spielt der Vorgesetzte?
- Schwankt der Arbeitsdruck stark? Wovon ist das abhängig?
    - Was passiert wenn weniger oder mehr zu tun ist?
    - Könnte man das anders regeln?
- Gibt es Samstagsarbeit? Mehrarbeit?
    - Ggf. machen Sie selbst das freiwillig mit? Warum?
    - Umgekehrt: Wann bauen Sie Stunden ab? Freiwillig, angeordnet?
- Werden Sie auch in anderen Bereichen eingesetzt?

- Stört Sie das? Oder ist das auch gut?
- Können Sie das mitentscheiden?

Kostenstellen-Terminal & Kennzahlen

Es wurden ja jetzt neue Terminals eingerichtet haben, bei denen Sie sich sozusagen „einstempeln“ , an welchem Arbeitsplatz Sie arbeiten. Da würde uns Ihre Erfahrungen interessieren, und was Sie davon halten.

Terminal

- Ganz allgemein: Finden Sie die Terminals sinnvoll/eine gute Idee?
  - Für den Arbeitgeber/Vorgesetzten oder auch für Sie selbst?
  - Was ist daran gut? Was ist vielleicht problematisch?
- Wie lief denn der Prozess der Einführung: Wie wurden Sie über den Terminal informiert? Wie sind Sie eingewiesen worden?
  - Fühlen Sie sich gut eingewiesen, um den Terminal zu nutzen?
  - Konnten/Können Sie auf die Gestaltung noch Einfluss nehmen? Wollen Sie das?

Können Sie uns erklären, wie der Terminal genau funktioniert und wie Sie ihn in der Praxis nutzen.

- Was sollen Sie eingeben? Ist das alles genau vorgegeben? Wird auch was automatisch erfasst?
  - Wie erfassen Sie nicht-produktive Tätigkeiten? / Welche administrativen Tätigkeiten sollten noch als Eingabemöglichkeit erfasst werden?
  - Müssen am Ende 100% Ihrer Arbeitszeit erfasst sein?
- Wie sind Ihre bisherigen Erfahrungen mit dem Terminal? Gibt es Probleme?
- Nutzen Sie denn konsequent? Bzw. was passiert, wenn Sie sich nicht einchecken?

- Die eine Frage ist ja, was gibt man ein, die andere: Was kann man auslesen?
  - Was sehen Sie selbst am Terminal? Gucken Sie sich das auch an?
  - Wer hat sonst Interesse an den Daten, wer liest die Daten aus? (Vorgesetzter, Arbeitsvorbereitung, Technologieabteilung?)
  - Geht es um individuelle Zurechenbarkeit oder um die Planung der Bereiche?
  - Befürchten Sie hier mehr Kontrolle oder Überwachung Ihrer Arbeit?

- Dient der Terminal „nur“ der Kontrolle oder hat das auch Auswirkungen auf die Arbeit selbst?
    - …wie sie arbeiten oder die Arbeit eingeteilt wird?
    - Fördert das den flexiblen Einsatz über verschiedene Bereiche hinweg? Glauben Sie, das wird damit noch mehr werden? Ist das gut oder schlecht?
- Wenn Sie selbst entscheiden könnten: Würden Sie die Terminals beibehalten, was würden Sie ggf. ändern? Hätten oder haben Sie hier bestimmte Erwartungen an den BR?

Kennzahlen und Transparenz

Langfristig, wurde uns gesagt, sollen Sie am Terminal auch Ihre Kennzahlen einsehen können.

- Welche Kennzahlen spielen in ihre Arbeit überhaupt eine Rolle?
    - Wie kommen die zustande? Wie werden die erfasst?
    - Passen die unterschiedlichen Kennziffern zusammen oder widersprechen die sich zuweilen? Wer priorisiert dann?
- Wie werden die Kennzahlen bislang kontrolliert?
    - Was passiert, wenn Ziele nicht erreicht werden? Passiert das häufig?
- Werden Sie auch über Unternehmenskennzahlen informiert? Spielt das für Sie eine Rolle?
- Motivieren einen die Kennzahlen, die Arbeit besser/schneller zu machen? Oder demotivieren die eher?
    - Würde das für Sie einen Unterschied machen, wenn Sie die Kennzahlen direkt am Terminal einsehen könnten?

<u>Prämienlohn</u>

- Sind die Kennzahlen entgeltrelevant? Haben Sie eine Leistungszulage/Prämie?
    - In welcher Form? Ist das gerecht/funktioniert das?

Die Geschäftsleitung würde ja gerne eine Gruppenprämie einführen, der BR sieht das skeptisch.

- Haben Sie von den Auseinandersetzungen dazu was mitgekriegt? Was will das Unternehmen? Wie sehen Sie die Haltung des BR?

- Wie stehen Sie selbst zur Gruppenprämie?
    - Wo sehen Sie Vorteile? Was finden Sie problematisch?
    - Geht es ums Geld oder verändert es die Arbeit und Zusammenarbeit?
- Welche Kennzahlen wären denn wahrscheinlich die Grundlage?
    - Wieviel Einfluss haben Sie auf Ihr Arbeitsergebnis – Können Sie Ihre Arbeit überhaupt besser oder schneller machen?
    - Würden Sie auch selbst Ihre Arbeitszeiten anpassen, wenn es Einfluss auf die Prämie nimmt?
- Unter welchen Bedingungen fänden Sie selbst eine Gruppenprämie sinnvoll?
    - Welche Kennzahlen/Kriterien wären sinnvoll(er)?
    - Könnte man die Voraussetzungen schaffen, dass eine Gruppenprämie bei Ihnen funktioniert?
    - Wird das passieren? Oder wie glauben Sie, dass der Prozess weitergeht?

Autonomie und Technik

Uns interessiert noch allgemein, wie stark ihre Arbeit durch Technik bestimmt ist.

- Was läuft an ihrem Arbeitsplatz denn alles automatisch/maschinengesteuert?
    - Was müssen/können Sie noch händisch machen?
- Was wird alles über Software erfasst oder vorgegeben?
    - Würden Sie sagen, Ihre Arbeit ist heute transparenter, weil alles in Daten erfasst wird?
    - Falls ja: ist das problematisch?
- Sind sie über die Technik auch nach außen vernetzt? Hat das Auswirkungen auf Ihre Arbeit?
- Hat sich der Umgang mit Technik verändert seitdem Sie im Unternehmen sind?
    - Seitdem Sie bei RHT arbeiten, wurde neue Technik oder Software eingeführt? Können Sie ein Beispiel nennen?
- Fühlen Sie sich für den Umgang mit der Technik und Software genügend qualifiziert?
    - Wie werden/wurden Sie in neue Technik eingeführt? Was würden Sie sich wünschen?
    - Wo entstehen Probleme?

- Was passiert bei Störungen? Oder wenn die Programme nicht funktionieren?
    - Können Sie da noch weiterarbeiten? Eingreifen? Ggf. warum nicht?
- Wie stark bestimmt die Technik ihren Arbeitsrhythmus?
    - Sind Sie im Arbeitstempo/in ihren Abläufen der Maschine/dem laufenden Programm unterworfen?
    - Ist das belastend? Können Sie den Prozess auch mal anhalten? Beschleunigen?
- Wenn Sie an ihrer (teilautomatischen) Maschine arbeiten – kann man da manche Sachen auch umgehen/anders machen als vorgesehen? Gibt es bestimmte Kniffe?
- Ganz allgemein gefragt: Nehmen Sie Technik als Entlastung war oder schränkt Sie ein?
    - Gibt es Bereiche wo Sie sich technische Unterstützung wünschen?
    - Gibt es Bereiche, wo Sie sich von der Technik gegeißelt fühlen?
    - Sind Assistenzsysteme wie Pick by light eine Entlastung oder macht das die Arbeit monotoner?

Robotik

Es gibt ja in Ihrem Unternehmen Überlegungen, in Zukunft auch kollaborative Roboter einzusetzen.

- Finden Sie den Einsatz von Robotik sinnvoll? Welche Probleme löst der Roboter?
    - Könnte man die auch anders lösen?
- Können Sie sich selbst vorstellen mit so einem Roboter „zusammenzuarbeiten“?
    - Was könnte daran positiv sein, was sind Ihre Befürchtungen?
    - Was erwarten Sie, wie das Ihre eigene Arbeit verändern würde?
- Glauben Sie, dass Robotik und neue Technik die menschliche Arbeitskraft ersetzt?
    - Haben Sie Angst um Ihren eigenen Arbeitsplatz?
- Anders als bei einer Maschine kann man ja mit einem Roboter direkt „Hand in Hand“ arbeiten. Haben Sie da Sicherheitsbedenken?
- Wird bislang mit Ihnen in der Produktion über die Planungen zur Robotik gesprochen?
    - Würden Sie hier gerne mitreden? Auf was sollte Ihres Erachtens geachtet werden?

    - Gibt es bestimmte Bereiche, wo Sie den Roboter sinnvoll fänden, andere wo es gar nicht geht? Sollte man hier die Mitarbeiter fragen? Geschieht das?

- Wenn Sie Ihren Arbeitsplatz anschauen, welche Arbeitsschritte könnte ein Roboter überhaupt übernehmen?
    - Kann der für Sie eine Entlastung sein?
    - Glauben Sie, der kann bestimmte Dinge besser? Sorgfältiger? Schneller?
    - Was kann er nicht?

- Wenn Sie sich vorstellen, dass an Ihrem Arbeitsplatz ein Roboter eingesetzt wird. Was wäre Ihnen wichtig, auf was müsste achten? Was wären die schlimmsten Fehler?

- Wie sollte so ein Prozess der Einführung laufen?
    - Wären Sie gerne (mehr) beteiligt?
    - Was müssen so Programmierer und Maschinenbauer über Ihren Arbeitsplatz wissen, wie funktioniert das?
    - Welche Erwartungen haben Sie an den Betriebsrat?

- Glauben Sie, dass sie den Umgang mit einem Roboter schnell lernen könnten?
    - Welche Qualifizierung/Unterstützung würden Sie sich da wünschen?
    - Könnte Ihre Arbeit dadurch auch aufgewertet werden?

<u>Abschluss: Digitalisierung allgemein</u>

Wir hätten zum Abschluss nochmal ein paar ganz allgemeine Fragen.

- Ganz allgemein gefragt: Digitialisierung – Fluch oder Segen? Was erwarten Sie, wie das Ihre Arbeit auf lange Sicht verändert wird?

- Was kann der Mensch, was die Maschine nicht kann?

- Unabhängig von der Technik: Wo entwickelt sich die Arbeit hin: Wird der (Produktions-)Mitarbeiter immer verantwortlicher und selbstständiger oder abhängiger und kontrollierter?)

- Als letzte Frage an Sie persönlich: Wenn wir in 10 Jahren wiederkommen, sind Sie dann immer noch hier?

Appendix 6: Leitfaden Workshop Leistungssteuerung

Drei Kontrollfragen helfen zu erkennen, wieweit die eigene Arbeit unter Bedingungen indirekter Steuerung erfolgt:

• „Übernimmt mein Vorgesetzter die Garantie für die Ausführbarkeit dessen, was ich erledigen soll? (Direkte Steuerung) - Oder wird die Ausführbarkeit zu meinem eigenen Problem, so dass ich bei Schwierigkeiten und Hindernissen selber zusehen muss, wie ich zurechtkomme? (Indirekte Steuerung)“

• „Genügt es, wenn ich mich auf die fachliche Seite meiner Arbeit konzentriere? (Direkte Steuerung) - Oder muss ich gleichzeitig betriebswirtschaftliche Aspekte (z.B. Kosten/Nutzenverhältnisse, Budgetvorgaben u.ä.) im Blick haben? (Indirekte Steuerung)“

• „Reicht es, wenn ich meine Leistung gebracht habe? (Direkte Steuerung) - Oder muss ich mich am Ende durch Ergebnisse rechtfertigen, in denen sich ein unternehmerischer Erfolg niederschlägt – z.B. durch die Erreichung bestimmter betriebswirtschaftlicher Kennziffern oder auch einfach dadurch, dass ich dafür sorge, dass der Betrieb läuft – unabhängig davon, ob ich arbeitsrechtlich dazu verpflichtet bin und unabhängig davon, ob das zu Lasten meiner Gesundheit geht? (Indirekte Steuerung)“