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Torn Between Autonomy  
and Algorithmic  
Management

(Dis)Obedience of Solo  
Self-Employed Working  
via Digital Platforms

The transformation problem is a classical concept in the sociological analysis of power dynamics in employment relations, which describes an incompleteness of contracts between employers and employees. The basis of the problem is that the capacity to work is always tied to a subject. Therefore, when transforming this capacity into actually performed work, a “minimum degree of ‘voluntary’ willingness to perform”<sup>1</sup> by the subject is required. The contract may cover the “right to use [workers, CH] work capability for a certain period of time”.<sup>2</sup> It cannot, however, specify how much effort a person spends on the labor process. Additionally, employers and employees are characterized by divergent interests: the former seek to maximize productivity and profit, while the latter aim for an optimal wage-effort-balance and want to preserve their labor capacity.<sup>3</sup> This constellation generates the employers’ need to control their workforce, or, put differently: to maximize obedience. But workers, being reflexive subjects, are capable of disobedience in various forms.<sup>4</sup>

There are two ways employers can handle this transformation problem, which differ in the extent of obedience they are allowed to demand from the respective worker: dependent employment and self-employment. In the former case, obedience is controlled by employers, but employees enjoy the benefits of workers’ rights and security through permanent employment. Self-employed workers do not have this security, but in exchange enjoy more autonomy in their work. In the following, I will explain how digital platform companies use strategies of algorithmic management to monitor, track and influence solo self-employed workers in order to enforce obedience from them. In doing so they undermine the differentiation between dependent employment and self-employment. From the employers’ perspective, this strategy brings about the best of both worlds: being able to control the workers’ labor process while not being obligated to guarantee them the benefits and rights dependent employees are entitled to. It allows platform companies to

- 1 Marrs, Kiara: Herrschaft und Kontrolle bei der Arbeit. In: Böhle, Fritz et al. (Eds.): *Handbuch Arbeitssoziologie*, Wiesbaden 2010, p. 331–356, here p. 331, own translation.
- 2 Ibid.
- 3 Ibid., p. 332.
- 4 Of course, the specific form of this relationship varies in different work contexts. For example, direct external control may be replaced by a market-centered mode of control that gives employees extensive freedom of action in their work as long as it is profitable in the end (ibid., p. 343 f., translation by the author).

maximize obedience while simultaneously narrowing the workers space for disobedience.

I develop my argument in four steps. First, the organizational principles of digital platform companies are described. Subsequently, I differentiate between dependent and self-employment based on ideal types. Third, in a literature review on algorithmic management and workers' strategies of disobedience, I show that there is an inscribed imbalance of negotiation power in platform mediated labor relations—privileging the platform over the self-employed worker. In the fourth, empirical part of this study, I further illustrate the tension between obedience and disobedience emerging in this context by presenting a case study on cleaning workers mediated by the platform company Helping. The paper ends with a conclusion.

## The Platform as an Organizational Principle of Digital Markets

Companies with digitally based business models can be described as platforms. Linking supply and demand of certain products or services is their fundamental feature: “At the most general level, platforms are digital infrastructures that enable two or more groups to interact.”<sup>5</sup> For instance, if some friends want to order dinner on a Friday night, they will probably resort to the german platform service of Lieferando, which offers an overview of multiple restaurants, handles the purchasing process as well as the payment.

In capitalist economies, connecting supply and demand is the most central task of a free market, characterized by competition of multiple companies. The key feature about digital platforms is, that they constitute a market themselves. Single companies seize the market-mechanism and the relevant infrastructure in a given economic field.<sup>6</sup> Building on this economic power, they not only control the access to a respective market, but further unfold the ability to “dominate and shape”<sup>7</sup> it. Consider the example of mobile application software. In order to sell their product, developers have no choice but to use the Apple App- or the Google PlayStore. There is no way around those

5 Smnec, Nick: Platform Capitalism, Cambridge 2017, p. 43.

6 Staab, Philipp: Digitaler Kapitalismus. Markt und Herrschaft in der Ökonomie der Unknappheit, Berlin 2019, p. 30.

7 Staab, Philipp; Nachtwey, Oliver: Das Produktionsmodell des digitalen Kapitalismus. In: Soziale Welt Sonderband—“Soziologie des Digitalen” (2017), p. 6 (translation by the author).

gates. If an app does not exist in the stores, it's like it doesn't exist at all. Exploiting their gatekeeping positions, platforms rely on a commission model: Apple and Google, respectively, demand a fifteen or thirty percent share of all turnovers mediated by their platform.<sup>8</sup>

To gain this kind of dominance, a platform has to become a product specific monopoly<sup>9</sup> by maximizing the number of its users. Two features of digital goods and services foster platform companies' tendency towards monopolization. First, the marginal reproductions costs<sup>10</sup> approximate zero. A mobile phone application can be copied with one click, and the registration of another customer on, e.g., Airbnb does not create any costs for the company, whatsoever. Thus, platform companies can take advantage of economies of scale.<sup>11</sup> The production of industrial goods, in contrast, illustrates this point. Even if the marginal costs for building an automobile drop because of rationalization, it is still necessary to purchase materials and the needed workforce to assemble a car. Second, digital goods and services are characterized by network effects.<sup>12</sup> This term describes the fact that a platform becomes increasingly attractive to new customers (and to profitable advertising customers), the more people are already on board.<sup>13</sup> You can ask yourself: Why use a niche social network, when all your friends and colleagues are on Facebook? Network effects constantly self-reinforce the process of monopolization. Since platform companies collect and analyze their users' data to optimize their services, more users lead to more data, which in turn consolidates their local monopoly.

In summary, the developments in the commercial part of the internet are characterized by processes of concentration, control and power.<sup>14</sup> This diagnosis stands in sharp contrast to the self-representation of platform com-

- 8 Staab 2019, p. 221. Also demanding thirty percent before, in November 2020 Apple announced to half that commission for companies with yearly turnovers lower than a million. But the key point concerns the power of a single company to set that rate.
- 9 In a more detailed theoretical differentiation, a distinction can be made between product and metaplatforms, see: Dolata, Ulrich: Volatile Monopole. Konzentration, Konkurrenz und Innovationsstrategien der Internetkonzerne. In: Berliner Journal für Soziologie 24 (2015), p. 505–529, here p. 511.
- 10 The costs that arise with the production of an additional unit of the product.
- 11 Staab; Nachtwey 2017, p. 6.
- 12 Srnicek 2017, p. 45.
- 13 Dolata 2015, p. 511.
- 14 Ibid., p. 523.

panies. Their description is marked by the narrative that they only provide infrastructure, positioning themselves as neutral actors. Indeed, the market power these companies accumulate does not adversely affect customers, as it is the case with classic monopolies.<sup>15</sup> In fact, customers benefit from cheap and efficient services. One example of the above mentioned data based product or service optimizations are recommendations based on algorithms. In addition, platforms apply a multitude of strategies to increase trust and confidence in commercial transactions on the internet. This is especially important given that the internet can only show digital representations of products. Customers can not inspect products in detail, which generally leads to lower levels of trust. To counteract this, platforms offer extensive informations and customer ratings.<sup>16</sup> Ratings are also used to reduce uncertainty regarding vendors, which find themselves exposed to intra-platform competition, while customers enjoy market transparency.<sup>17</sup> It is essential to note, that the power that platforms can exercise over service providers is the real source of conflict. Platform companies have argued that they do not permanently nor directly control service providers.<sup>18</sup> The crucial point, however, is that these are dependent on the infrastructure offered by the platforms to distribute their products and services. As was said: platforms control access to a market.

### **Differentiating between Self- and Dependent-Employment**

In this section, I seek to develop an ideal type of self-employment and define its characteristic features by distinguishing it from dependent employment. While the former is characterized by autonomy and the ability of workers to organize everyday work independently, control and dependency are features of the latter.<sup>19</sup> An ideal type is a construction that will inevita-

15 Staab 2019, p. 226 f.

16 Kirchner, Stefan; Beyer, Jürgen: Die Plattformlogik als digitale Marktordnung. In: Zeitschrift für Soziologie 45 (2016), issue 5, p. 324–339, here p. 330.

17 Ibid., p. 330 f.

18 Cunningham-Parmeter, Keith: From Amazon to Uber: defining employment in the modern economy. In: Boston University Law Review 96 (2016), p. 1673–1728, here p. 1677.

19 Which is related to, as mentioned earlier, the way an employer deals with the transformation problem.

bly fail to grasp all of social reality.<sup>20</sup> Besides, the self-employed workforce is quite heterogenous in itself.<sup>21</sup> Yet, two reasons support the application of ideal types when researching digitally mediated labor. First, they do not aim to level out existing differences but they provide a tool to describe the empirical world in a specific context, “by measuring the distance between the ideal type and the empirical cases”.<sup>22</sup> Second, this ideal-typical view of self-employment is precisely the starting point for the social and labor law consequences associated with this occupational status. And these consequences are not heterogenous. The real heterogeneity refers to whether and to what extend these circumstances lead to secure or precarious working and living conditions.

Self-employment is defined in demarcation to dependent employment. “The self-employed person must be free to organize his or her activities and be able to determine the working hours and place of work freely. Self-employed persons are not bound by instructions.”<sup>23</sup> The work of the self-employed is marked by the absence of a superior requesting and controlling obedience. Rather, it is characterized by autonomy in a twofold way—autonomy regarding the work itself as well as the general working conditions. Following Frey, this can be expressed in terms of autonomy of conduct and autonomy of negotiation.<sup>24</sup> Autonomy of conduct describes freedom of decision-making in the actual work process,<sup>25</sup> while autonomy of negotiations captures the ability to influence and shape the conditions of work.<sup>26</sup> In addition, self-employed

- 20 Vester, Heinz-Günter: *Kompendium der Soziologie II: Die Klassiker*, Wiesbaden 2009, p. 119.
- 21 Bögenhold, Dieter/Fachinger, Uwe: *Berufliche Selbstständigkeit. Theoretische und empirische Vermessungen*, Wiesbaden 2016, p. vii.
- 22 Vester 2009, p. 119 (translation by the author).
- 23 Obermeier, Tim/Schultheis, Kathrin: *Selbstständigkeit*. In: Bundeszentrale für politische Bildung—Dossier Arbeitsmarktpolitik 2014 (translation by the author).
- 24 Frey, Michael: *Autonomie und Aneignung in der Arbeit. Eine soziologische Untersuchung zur Vermarktlichung und Subjektivierung von Arbeit*, München 2009, p. 39. Also: Moldaschl, Manfred: *Herrschaft durch Autonomie—Dezentralisierung und widersprüchliche Anforderungen*. In: Lutz, Burkhardt (Ed.): *Entwicklungsperspektiven von Arbeit: Ergebnisse aus dem Sonderforschungsbereich 333 der Universität München*, Berlin 2001, p. 132–164, here p. 136. Both authors apply these concepts to capture potentials of autonomy in dependent employment. Transferring them to self-employment seems unproblematic, since they should be even more pronounced in this case.
- 25 E.g. when and how to do each task.
- 26 E.g. the decision about business partners (whom to work for) or the salary.

persons work for several clients. Therefore, they have more room for negotiations and self-organization in their job. By contrast, an indication for dependent employment according to the Social Security Law is “an activity in accordance with directives and an integration into the work organization of the employer”.<sup>27</sup> Employees are dependent insofar as they only work for one employer. They are required to obey instructions in their work processes and undergo varying degrees of control.

Since the days of mass production in fordism, employees’ obedience is compensated by company integration which implicates stable and secure working conditions. Certainly, these have been challenged in light of deregulation of employment since the 1990s.<sup>28</sup> However: in Germany, being part of a company as a permanent employee is still linked to the integration into social security systems, labor law as well as entitlement to corporate codetermination and collective representation of interests.<sup>29</sup> In sharp contrast, self-employed workers are not formally part of a company, which is why safety standards and legal protection regarding working hours or salary do not apply to them.<sup>30</sup> They have to cover insurances themselves. In return, as stated earlier, they typically enjoy more autonomy at work and are able to organize hours and tasks independently.

Self-employed workers have professional competence, they dispose of “trade-specific knowledge accompanied by a particular degree of uniqueness”.<sup>31</sup> The ideal type of the self-employed individual is an expert in her or his field. This expert knowledge can be gained in formal education or practical experience at work<sup>32</sup> and is accompanied by business administration skills.<sup>33</sup>

Compared to employees, self-employed persons hold a much more powerful position vis-à-vis the companies they provide services for. Moreover, they are on the same level as those companies: they run their own business.

27 Sozialgesetzbuch: SGB IV Beschäftigung, <https://www.sozialgesetzbuch-sgb.de/sgbiv/7.html> (January 15, 2021).

28 Nachtwey, Oliver; Staab, Philipp: Die Avantgarde des digitalen Kapitalismus. In: *Mittelweg* 36 6 (2015), p. 59–84, here p. 78.

29 Ibid.

30 Obermeier; Schultheis 2014.

31 Müller, Günter F.: Berufliche Selbstständigkeit. In: Moser, Klaus (Ed.): *Wirtschaftspsychologie*, Heidelberg 2007, p. 379–398, here p. 385 (translation by the author).

32 Fritsch, Michael: *Entrepreneurship. Theorie, Empirie, Politik*, Wiesbaden 2019, p. 53.

33 Müller 2007, p. 394.

This balance of power results from the characteristics of self-employment. Because self-employed workers provide services for several companies, they are not dependent on one employer, but their professional activity is characterized by self-organization of work relations. At the same time, their professional knowledge and skills are a valuable asset to clients because they lack these qualifications in their own company. Self-employed persons acquire business administration skills that are also beneficial to them in negotiations with potential clients. This allows, for example, to make an informed decision when weighing the profitability of an offer. In conclusion, the ideal typical self-employed person should have greater negotiating power than employees when it comes to negotiating contractual conditions with their clients.

## On the Relevance of the Research Topic

### The Increased Risk of Precarity

The descriptions above cover what can be called ‘normal entrepreneur’: professionally experienced, gainfully working men without migration background, with adequate economic resources, who restlessly run their business and earn a safe income that way.<sup>34</sup> It has been object to criticism because it increasingly fails to describe the empirical situation.<sup>35</sup> More and more companies are founded by solo self-employed people without additional staff.<sup>36</sup> Those individuals are more frequently subject to precarious levels of income and high working hours,<sup>37</sup> since they are directly confronted with market volatility and competition. As described above, these market imponderability is not mitigated by integration into a company.<sup>38</sup>

34 Bührmann, Andrea D.: Unternehmertum jenseits des Normalunternehmers: Für eine praxistheoretisch inspirierte Erforschung unternehmerischer Aktivitäten. In: *Berliner Journal für Soziologie* 22 (2012), p. 129–156, here p. 132.

35 An increasing amount of business foundations have been advanced by women or people with migration background, see *ibid.*, p. 136.

36 Bundeszentrale für politische Bildung: Datenreport 2018. Ein Sozialbericht für die Bundesrepublik Deutschland, Bonn 2018, p. 159.

37 Bögenhold; Fachinger 2016, p. 18.

38 Pongratz, Hans J.; Simon, Stefanie: Prekaritätsrisiken unternehmerischen Handelns. In: Bührmann, Andrea D.; Pongratz, Hans J. (Eds.): *Prekäres Unternehmertum. Ungewissheiten von selbstständiger Erwerbsarbeit und Unternehmensgründung*, Wiesbaden 2010, p. 25–60, here p. 31.



An increased risk for precarious living conditions can be shown in increased existential uncertainty: “Criteria for this include a relatively low income and lack of sufficient protection against social risks such as retirement, illness, invalidity or unemployment.”<sup>39</sup> Survey data suggest that around 17% of all solo self-employed in Germany experience precarious job situations. On average, this group has financial reserves that cover living expenses less than one month without any jobs. Moreover, additional savings for retirement are much rarer existent compared to other groups. Another 44% of the sample experience inadequate backup in one of the two dimensions.<sup>40</sup>

Solo self-employed people find themselves confronted with increased exigencies on their conduct of life and work. There are no organizational structures to arrange working hours, as well as the extent and place of work. They are also on their own when it comes to giving meaning to their work and finding daily motivation. A qualitative study concludes, that “the private life in form of personal or family time is at risk of being subsumed and transformed in its entirety by the external demands of self-employment [...]. For all persons there is an external pressure to rationalize their way of life”.<sup>41</sup> Regarding potential autonomy in solo self-employment, another study arrives at a sobering conclusion. The working reality of the people interviewed was marked by “permanent self responsibility, high financial pressure and precarious living conditions”.<sup>42</sup> The characterization of their work as lacking “autonomy and room to maneuver”<sup>43</sup> provides a preview of the empirical strategies platform companies apply when digitally mediating labor.

Taken together, the review of empirical research summarized above clearly shows that solo self-employed individuals face higher risks of precarious working and living conditions. That is why the question whether these

39 Schulze Buschoff, Karin; Conen, Wieteke; Schippers, Joop: Solo-Selbstständigkeit – eine prekäre Beschäftigungsform? In: WSI Mitteilungen 1 (2017) p. 54–61, here, p. 57 (translation by the author).

40 Ibid.

41 Egbringhoff, Julia: Ständig selbst: eine Untersuchung der alltäglichen Lebensführung von Ein-Personen-Selbstständigen, München 2007, p. 286 (translation by the author).

42 Lorig, Phillip: Soloselbstständige Internet-Dienstleister im Niedriglohnbereich: Prekäres Unternehmertum auf Handwerksportalen im Spannungsfeld zwischen Autonomie und radikaler Marktabhängigkeit. In: Arbeits- und Industriesoziologische Studien 8 (2015), issue 1, p. 55–75, here p. 72 (translation by the author).

43 Ibid., p. 72.

risks are accompanied by the advantages of self-employment—autonomy and self-organization—is even more pressing.

### Algorithmic Management and Worker's Reflexivity

Moore and Joyce summarized strategies platforms employ to shift the balance of power between themselves and independent contractors. They conclude: "Far from being neutral 'market' facilitators, platforms exhibit highly active agency and control."<sup>44</sup> Still, they emphasize the social, two-way nature of labor relationships. There are no one-way control mechanisms, as workers are capable of reflexive and resistant action. Every introduction of a new management system is accompanied by the promise to solve this problem of control. "Yet in each case, the problem of worker resistance returned."<sup>45</sup> On these grounds, the following discussion of attempts to enforce obedience based on algorithmic management also focuses on workers' strategies of disobedience and resistance.

Platforms seek to control service providers via algorithmic management,<sup>46</sup> which is based on information asymmetries. The companies own the digital infrastructure, so they are able to appropriate the data on all transactions they mediate. This provides them with information control,<sup>47</sup> meaning that platform companies possess more relevant information on the business transactions compared to the other parties (customer, service providers) involved.

Algorithmic management can be realized by means of interface, tracking, and scoring.<sup>48</sup> The interface is the visual area of a website or an app where tasks are offered to service providers. The assignment is done automatically by algorithms,<sup>49</sup> while the parameters underlying this process remain hidden from service providers. In addition, crucial questions regarding the task

44 Moore, Phoebe V.; Joyce, Simon: Black box or hidden abode? The expansion and exposure of platform work managerialism. In: *Review of International Political Economy* 27 (2020), issue 4, p. 926–948, here p. 931.

45 Ibid.

46 Shapiro, Aaron: Between autonomy and control: Strategies of arbitrage in the "on-demand" economy. In: *new media & society* 20 (2018), issue 8, p. 2954–2971, here p. 2956.

47 Staab 2019, p. 229.

48 Ibid.

49 Moore; Joyce 2019, p. 930.

or customer are usually left unanswered. For instance, Uber drivers have got fifteen seconds to decide whether or not to accept a job, with no information about the customer's destination.<sup>50</sup> Another example are crowd workers on Amazon Mechanical Turk (AMT)<sup>51</sup>, which often do not have information on the actual subject or scope of assignments being offered to them.<sup>52</sup> To stick to this example: AMT could make it a requirement that requesters provide information about their company and the job that is to be done. But they do not. Tracking is used to exert algorithmic management by monitoring service providers during their work. This is particularly relevant for courier drivers, who are permanently located by GPS. But also in the context of online crowd-sourcing processes, clients may check the progress of freelance workers via screenshots.<sup>53</sup> In this way, it is possible to control work and break time in a ostensibly precise way, in order to minimize the remuneration to be paid over it. Thus, clients expand their company's system of control to workers outside the company without integrating them. In industrial labor, there are gloves that send vibrational feedback straight to the skin, when there is an alleged wrong movement in the workflow.<sup>54</sup> The most common technique of algorithmic management is scoring: customers (or even coworkers) are encouraged to review service providers (colleagues) after each completed order. These ratings of different dimensions are subsequently summarized into an index that is supposed to describe the quality of work, usually ranging from one to five. These scores have far-reaching consequences, for instance, the account of Uber drivers is blocked in case their rating drops below 4.6 of 5.<sup>55</sup> At the same time, the score serves as a figurehead for potential new customers of the

- 50 Rosenblat, Alex; Stark, Luke: Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers. In: *International Journal of Communication* 10 (2016), p. 3758–3784, here p. 3762.
- 51 On AMT, companies can offer micro tasks to freelance crowd workers all over the world. The so called human intelligence tasks are easily solved by humans, but cannot be automated, e.g. the categorization of pictures.
- 52 McInnis et al.: Taking a HIT: Designing around Rejection, Mistrust, Risk, and Workers' Experiences in Amazon Mechanical Turk. *Proceedings of CHI Conference 2016, San Jose 2016*, p. 2271–2282, here p. 2273.
- 53 Staab; Nachtwey 2017, p. 9.
- 54 Raffetseder, Eva-Maria/Schaupp, Simon/Staab, Philipp: Kybernetik und Kontrolle. Algorithmische Arbeitssteuerung und betriebliche Herrschaft. In: *PROKLA* 47 (2017), issue 2, p. 229–247, here p. 240.
- 55 Rosenblat et al.: Discriminating Tastes: Uber's Customer Ratings as Vehicles for Workplace Discrimination. In: *Policy and Internet* 9 (2017), issue 3, p. 256–279, here p. 260 ff.

self-employed. For them, it signals the reputation they have accumulated and thus serves as a proxy for establishing trust in digital markets.<sup>56</sup> After analyzing interviews with craftsmen, Lorig summarizes: “Contractors cannot escape the disciplinary effect of ratings, as they are the decisive principle of contracting in the sense of a virtual business card. [...] Autonomy of self-employed work and order acquisition turns into its opposite, a radical market and customer dependence.”<sup>57</sup>

As indicated earlier, where there are attempts to control, there is resistance. To counteract algorithmic management via the interface, some AMT workers developed the browser extension ‘turkopticon’, which enables workers to anonymously rate requesters based on different categories (e.g., generosity of payment or fairness).<sup>58</sup> Using this tool, the workers are able to counteract information asymmetries and make more informed decisions about whether to accept an offer or not. In the context of food delivery or the cab business, some drivers use multiple smartphones to find the most lucrative offer.<sup>59</sup> Another example of circumventing control via interfaces can be found in how workers handle digital documents. These forms often contain fields that must be filled to proceed to the next page, e.g., in customer support. While managers try to gather as much information about customers as possible, workers can make conversations easier by writing meaningless entries into the fields.<sup>60</sup> Regarding scoring, some research has shown that Uber drivers actively engage in conversations with their customers to educate them on the relevance of ratings.<sup>61</sup> In the context of dependent employment, solidarity and collective action among colleagues play a major role in resisting algorithmic management. For example, the company Zalando used the management tool Zonar, where workers must rate the performance of colleagues. In a case study, a number of interviewees reported that they emphasize positive and downplay negative evaluations.<sup>62</sup> Taken together, these

56 Kirchner; Beyer 2016, p. 331.

57 Lorig 2015, p. 61.

58 Ettinger, Nancy: The governance of crowdsourcing: Rationalities of the new exploitation. In: *Environment and Planning A* 48 (2016), issue 11, p. 2162–2180, here p. 2174.

59 Moore; Joyce 2019, p. 10.

60 Raffetseder; Schaupp; Staab 2017, p. 239.

61 Rosenblat; Stark 2016, p. 3775.

62 Staab, Philipp; Geschke, Sascha-Christopher: Ratings als arbeitspolitisches Konfliktfeld. Das Beispiel Zalando. Hans Böckler Stiftung—Study 429 (2019), p. 40.

examples illustrate that workers employ a variety of strategies to disobey algorithmic management.

As expected, algorithmic management strategies cannot impede reflexive and disobedient strategies of workers. But control is more extensively integrated into the organization of work and work itself, and thus independent of management personnel monitoring it. Remember, the reason why platforms classify their workers as independent contractors in the first place, is because there is no direct instance that controls them. The described asymmetries of information lead to a structurally imbalanced distribution of power between platform companies, customers and service providers, disfavoring the latter group. Following Staab and Nachtwey, service providers mediated by digital platforms can be classified as “contingency workforce”.<sup>63</sup> Due to formal independency, this workforce is confronted with contingency in a twofold sense. On the one hand, they are dependent on the coincidence of demand and supply—their labor disposition on required conditions. On the other hand, they have no effective influence on the price or conditions of their own labor, given that there is a potential army of reserve waiting to fill their spot. The expansion of competition as well as digital strategies of control enforce the obedience of the self-employed.<sup>64</sup> The comparison of the ideal type and the reality of platform-mediated self-employment reveals a blatant mismatch. Autonomy and independence are expected to accompany that kind of work, but are limited by various mechanisms. It seems like the service providers are left with the worst of both worlds: external control and radical dependency on the market.

## Case Study: Solo Self-Employed Cleaners Working via Helpling

### Description of the Case and Methodological Approach

The company Helpling was founded in 2014 and offers a platform for mediating household related services in 10 countries. According to its founders, Helpling is not a cleaning, but a software business.<sup>65</sup> Helpling corresponds to

63 Nachtwey; Staab 2015, p. 81 (translation by the author).

64 Ibid.

65 Schlenk, Caspar T.: Streitgespräch. Das passiert, wenn man Helpling und Verdi an einen Tisch setzt. In: Gründerszene, 10.02.2016, <https://www.gruenderszene.de/allgemein/streitgesprach-verdi-helpling> (February 25, 2020).

what Srnicek calls a “lean platform”.<sup>66</sup> Building on venture capital<sup>67</sup>, these are based on a “hyper-outsourced model”<sup>68</sup>, which means that Helpling does not own any mops or equipment, but only the digital infrastructure and algorithms steering and analyzing actions on the platform. Cleaners create an account on the platform and are, as one of the founders puts it: “[...] our customers, to whom we provide a technological platform and selected services such as invoicing and payment processing. [...] The cleaners are free to decide whether to accept or reject each and every task, there is no authority to issue directions whatsoever.”<sup>69</sup> The narrative of platform companies describing themselves as neutral mediator between supply and demand is evident in the case of Helpling. Service providers can set their own prices in their profile. Being self-employed, they have to take care about insurances and tax declarations themselves. In contrast, customers use the website by issuing requests for services on a certain date. They are shown a selection of service providers that could do the job. Upon booking, Helpling receives a commission from the cleaners ranging between 20–32 percent of the total payment.

Given the digital mediation and organization of work, Helpling could be characterized as a typical case<sup>70</sup> reflecting the relationship of obedience and disobedience in digital work. This would imply that the features accompanying digitally mediated work summarized earlier, should be expected to reoccur in the present case. While, in most other cases, the control of service providers is mainly based on tracking, the activity of cleaning itself can neither be digitally mediated nor monitored via the service provider’s smartphone. Solo self-employment mediated via Helpling could therefore also be characterized as a divergent case<sup>71</sup> due to the specific nature of household-related services. Because control by tracking is absent, this case offers the chance to carve out possible other modes of control and disobedience.

66 Srnicek 2017, p. 75 ff.

67 Alvares de Souza Soares, Philipp: Warum Putz-Start-ups es schwer haben. In: *manager magazin*, 30.08.2018, <https://www.manager-magazin.de/unternehmen/artikel/helpling-book-a-tiger-putz-start-ups-haben-es-schwer-a-1225697.html> (February 25, 2020).

68 Srnicek 2017, p. 76, 87.

69 Schlenk 2016.

70 Seawright, Jason; Gerring, John: Case Selection Techniques in Case Study Research. A Menu of Qualitative and Quantitative Options. In: *Political Research Quarterly* 61 (2008), issue 2, p. 294–308, here p. 297.

71 Flyvberg, Bent: Five Misunderstandings About Case-Study Research. In: *Qualitative Inquiry* 12 (2006), issue 2, p. 219–245, here p. 229.

Semi-structured interviews with three persons working via Helping were carried out to assess this topic. I derived relevant dimensions from the state of research, which served as sections of the interview guideline. Each started with an open question that was intended to encourage the interviewees to tell their story. Follow-up questions were designed in order to bring up aspects that were relevant to the research question but had not yet been addressed by the interviewee. Overall, the interview can be classified as dialogic and theme-centered. The interviewees were recruited by means of volunteer sampling.<sup>72</sup> Their experiences were assessed using qualitative content analysis and combining deductive and inductive categories.<sup>73</sup> The age of the interviewees is estimated to range from late twenties to late thirties. A common feature of the interviewees is that they all have an academic background. At the time of the interview, the participants did no longer work at all, or only very rarely via Helping. The narratives have to be classified as retrospective for the most part and may therefore be outdated in some aspects. However, they were self-employed, and that remains a central feature of work via Helping until today. As this brief summary indicates, the volunteer sampling did not reach people who were permanently earning their primary income as cleaners via Helping. The interviewees' experiences were largely made in the context of bridging between life stages. Consequently, this potential distortion has to be kept in mind when reading the following results of the analysis.

### Obedience and Disobedience in the Case of Helping

Formally, there are several aspects of the work routine that can be organized by workers themselves. They have the flexibility to decide how intensively they want to use the platform and how many jobs they want to accept. The workload can thus be adjusted according to their current (financial) situation. While the interviewees tried to select their customers in a targeted manner, in order to avoid long travel times between work locations, the existent information asymmetries restricted this autonomy. Indeed, all interviewees faced ambiguity when selecting offers in the Helping interface. They described the given information as "vague" or "minimal". For example, sometimes there was incomplete information about the location of the house-

72 Blatter, Joachim K.; Langer, Phil C./Wagemann, Claudius: Qualitative Methoden der Politikwissenschaft. Eine Einführung, Wiesbaden 2018, p. 59.

73 Kuckartz, Udo: Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung, Weinheim 2018, p. 97–120.

hold, making it impossible to assess the travel time between clients. Often, making an informed decision about whether to take an offer or not was not possible. Well aware of the reserve army of other cleaners, the interviewees felt pressured to accept offers as quickly as possible. Another problem were insecurities about the amount of the commission the platform would charge. The exact amount was not communicated transparently and varied from order to order. As one interviewee pointedly summarized: “So when they apply which commission rates, that’s not really clear to me either.” Another aspect are the ratings that customers assign to the performance of the cleaners. The interviewees can only speculate about the criteria according to which customers can rate them via the platform. Only through the information of a customer, the first interviewee learned that the customers have three criteria, which are not only related to cleaning, but also to reliability and friendliness. This is a well-known aspect from research on evaluations of platform-mediated work: It is not (only) the work performance that is quantified, but the person as such. Thus, the evaluations reflect arbitrary and, in the worst case, systematically discriminatory subjective assessments.<sup>74</sup>

Due to their inherent information asymmetries, ratings and scores represent an instrument of algorithmic management. Scores help customers to decide about which cleaner to book. Apparently, scores also determine how much and how lucrative offers the cleaners receive. “You have to get reviews. And the more reviews you get, it’s better for your job offers”, one interviewee reports. Because there is no clear communication of Helping regarding this relation, cleaners tend to speculate about the relevance of scores. For example, one interviewee was offered significantly fewer jobs after a poor evaluation. The lack of information about the reasons puzzled her: “Well, after that there were not so many orders. And of course I can’t say at all whether that was the reason now, but I thought, yes, that’s stupid.”

Another dimension of algorithmic management concerns the payment cleaners charge for their services. In contrast to other case studies, the present study did not identify a race to the bottom process. Rather the opposite, the comparison with fees charged by other service providers was described as a tool of empowerment. One interviewee described how she always tried to set her wage in the upper end of the range. As we can see, comparison on and formal independence from the platform opened up space for disobedient behavior, challenging the threatening scenario of being substituted by a re-

74 Rosenblat et al. 2017.



serve army, which platforms usually thrive on to mediate services as cheap as possible. However, the platform applies several strategies to undermine this wage autonomy. On the one hand, the platform provided suggestions on how high the wage should be in a given region. The proposed amount, in turn, is based on the supposedly neutral pooling of data and may, in fact, significantly influence a cleaner's decision to set a wage. On the other hand, one interviewee reported being shown statistics in the profile section that forecast how much money could be earned if one continued to work at the current level. He described this as "toxic manipulation". Similar to surge pricing<sup>75</sup> known from Uber, these statistics are probably intended to keep workers in line and to meet the demands of customers in the long term.

A key feature of the work discussed here allows cleaners to disobey the algorithmically imposed rules: Their actual work is not (yet) digitally mediated or controlled. While there are formal cleaning guidelines, and service providers are encouraged to watch a video explaining those, when they register, these are hardly realistic or practical when it comes to actual work situations: "Well, I always did this, so to speak, what was obligatory, I also kept to the structure, only, in retrospect, it was so that it was never like that, never, that's not possible." Even whether the work clothes supplied by Helping are worn cannot be checked by the company: "They sent it and suggested, so to speak, that you could wear it at work ... but I didn't want to wear that". This autonomy of conduct even goes so far that cleaners and customers jointly outsmart the platform. For example, appointments can be moved to other days of the week in consultation with customers. This scenario is described by one interviewee, who along with her customer "simply cheated by mutual agreement, and said it was Wednesday, but it was Thursday. So the main thing is that this invoice is somehow correct". Why didn't they just bypass the platform altogether? Customers could hire cleaners directly as domestic help. According to interviewees, the reason for this is that customers do not want to miss out on the convenience of the platform. Another aspect concerns the additional services that customers can book. One interviewee mentioned that he had advised his customers not to book any of these additional services. He did the work on the side in order to gain time for other work: "This way, I have been avoiding some tasks, because I was also under time pressure, and then I sort of relieved them [the customers, CH] of having to pay another 5, 6 euros." These strategies of circumvention have allowed the cleaners to partial-

75 A dynamic pricing strategy: the payment of drivers is based on current demand.

ly disobey the interests Helping seeks to impose on their work—a consistent brand identity in terms of the appearance and working practices of the cleaning staff, strict scheduling and maximizing profits by trying to get customers to book additional services. Despite these opportunities to circumvent algorithmic management strategies: all interviewees emphasized their perception, that they are being controlled like an employee, even though they were formally self-employed.

Two conclusions can be derived from the discussion on the relation between obedience and disobedience in the Helping case. First, obedience and disobedience occur in different realms. As Lessig puts it: “Code is Law.”<sup>76</sup> Helping owns the platform and exerts infrastructural power. They systematically limit the autonomy of cleaners negotiating with customers by enforcing obedience to the digital systems in place (e.g. ratings and incomplete information about offers). It’s simply impossible for cleaners to disobey these information asymmetries. As the AMT browser extension ‘turkopticon’ illustrates, there are attempts to challenge this imbalance of power in the digital realm. Further research could shed light on how similar organizational processes operate among service providers who are not digitally connected. Second, the analogous character of the work opens up space for disobedience in the organization and the actual process of work, which corresponds to autonomy of conduct. This leads to the crucial importance of the relationship between service provider and customer. Unlike courier drivers, cleaners must maintain a lasting and harmonic relationship with their customers. If this is the case, it may be possible to postpone appointments or skip some cleaning activities. This unbalanced constellation is reinforced by the fact that customers submit a rating after the cleaning and thus play a crucial role in determining the service provider’s future chances of winning (lucrative) contracts. So in addition to handling algorithmic management, cleaners have to perform emotional labor. Several questions remain unanswered at present: How is that double burden perceived? Does it lead to a further dissolution of boundaries between work and other dimensions of life?

76 Lessig, Lawrence: Four puzzles from Cyberspace. In: id. (Ed.): Code Version 2.0, New York 2006, chapter 1.

## Conclusion

This paper addressed the distinguishing features of digitally mediated work and the influence of algorithmic management on solo self-employed service workers. First, I defined the characteristics of platform companies, which provide fertile ground for monopolization. I emphasized that the relation between platforms and service providers, not customers, is likely to be conflictual. Following the ideal type of self-employment, service providers are not exposed to an employer who enforces their obedience through mechanisms of control—as it is the case in dependent employment. Dependent- and self-employment are two different ways of employers handling the transformation problem which was defined in the introduction. They shape the relationship between autonomy and security differently: while dependent employees have to obey instructions from the employer to a higher degree than self-employed workers, they also benefit from integration into the company in various ways. Based on a literature review and a condensed report of an empirical study investigating cleaners who work mediated by the platform company Helping, I have argued that algorithmic management undermines the distinction between dependent and self-employment. Based on information asymmetries and by means of interface, tracking and scoring, the platform companies can impose their structures of relevance without direct control of the service providers. Because of the infrastructural character of platforms, strategies of disobedience are mostly limited to the realm of the actual conduct of work. Thus algorithmic management structurally undermines the negotiation autonomy of the self-employed. Yet specifically this shared experience may be a source of collective organization and the repolitization of algorithms.<sup>77</sup>

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