

Cloud & Crowd: New Challenges for Labour in the Digital Society

Andreas Boes, Tobias Kämpf, Barbara Langes, Thomas Lühr and Alexander Ziegler

Institute for Social Science Research (ISF), Munich, Germany, andreas.boes@isf-muenchen.de; tobi.kaempf@isf-muenchen.de; barbara.langes@isf-muenchen.de; thomas.luehr@isf-muenchen.de; alexander.ziegler@isf-muenchen.de

Abstract: Cloudworking and crowdsourcing are currently often seen as the epitome of a “revolution in the world of work” (Dettmer and Dohmen 2012). This paper deals with these developments and their relevance for work and society. The emergence of a global “information space” (Baukrowitz and Boes 1996) enables companies to expand the scope of their value production far beyond their formal boundaries, integrating forms of work that have been non-capitalist in character up to now. The result is a new stage of capitalist ‘Landnahme’. The novelty of such colonisation strategies in the information space is that they endeavour to make work within and without the formal boundaries of the company mutually exchangeable, on the basis of informatised and industrialised production structures, and to capitalise on this interplay between inside and outside. This development entails great challenges for society. The social system of labour undergoes a reconstitution process which infringes on the foundations of our present labour regulation system, both upon the society and the company level.

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As the process of the digitisation of society continues, something like a revolution in the world of work is becoming apparent. A striking phenomenon is the propagation of new forms for the organisation of work, such as cloudworking and crowdsourcing. This development is met with worries and apprehension, not only on the part of the trade unions. If crowdsourcing platforms like Mechanical Turk or Clickworker function as a kind of “workforce Ebay”, an “Amazonization” of work and the emergence of a “digital peonage” are looming ahead. This paper reflects the abovementioned development as a new stage in the process of capitalist ‘Landnahme’¹, i.e. the process of the commodification of society, and discusses the implications for the social system of labour.

¹ The metaphor ‘Landnahme’ is used to “describe the expansion of capitalistic social and economic structures at the cost of non-capitalistic ones” (Dörre 2012, 125). It is a German term, whose original meaning is “land grab” or “land seizure”, mostly used in the context of settlement in or conquering new territory.

1. Cloud, Crowd, and the “Revolution in the World of Work”

The issues of cloudworking and crowdsourcing are currently causing a great stir in the media and public spheres. A fundamental change or even a “revolution in the world of work” (as the German journal *Der Spiegel* puts it, see Dettmer and Dohmen 2012) is being diagnosed, since cloudworking, “working in a digital data cloud”, is thought to radically alter the world of work as we know it.

Within the current debate, the terminus of “crowdsourcing” (Howe 2006) stands as the symbol for this radical change. This coinage is a portmanteau of the terms ‘crowd’ and ‘outsourcing’. In its original sense, it denotes the outsourcing or outplacement of tasks to a ‘crowd’: to an undefined mass of people. In this meaning, the core of the terminus is that labour is relocated from a relatively protected legal framework in co-determined companies into a space outside the scope of labour legislation, thus deteriorating the legal conditions of labour. According to this interpretation, crowdsourcing turns out to be an “El Dorado of cost cutting, flexibility advantages, efficiency increases, and market growth” (Schröder and Schwemmler 2014). In the German discussion, Internet service platforms mediating biddings and proposals between enterprises and a crowd workforce are recognised by unions as a kind of “workforce Ebay” (Bsirske and Stach 2012). People are said to be bringing their own hide to market on these platforms. There are apprehensions that a “digital peonage” (Dohmen 2013) and an “Amazonization of work” (Benner 2014) will emerge.

This paper gives an analysis of the development, using the perspective of corporate strategies as a starting point and discussing the implications of the process for the social system of labour. First, the interpretative pattern of capitalist *Landnahme* (see Lutz 1984; Harvey 2003; Dörre 2009; Dörre 2012) will be developed and the thesis will be put forward that the emergence of an “information space” (Baukrowitz and Boes 1996), originating on the basis of global information and communication systems, enables a new historical phase of *Landnahme* or colonisation. The following chapter will deal with the different strategies which make use of these new opportunities that are being developed by the enterprises. The characteristics of the new corporate strategies and their huge potential for change will be illustrated using the example of a large IT company. We will conclude by discussing the consequences of this development for the social system of labour, and the challenges resulting for the regulation of work and labour.

2. Landnahme, Information space, Re-Constitution of the Social System of Work

2.1. The Information Space as a “Space of Production”

The fundamental shift in the organisation of work, which is the subject of our analysis, is essentially based upon a new stage of “informatization” (Baukrowitz and Boes 1996). In a long historical process of utilising information and information systems, a phase of development has now emerged where the world of information has gained crucial importance for both the social organisation of work and society as a whole. The most important precondition for this new stage is that the world of information has been developing into a globally available “information space” (Ibid.) since the 1990s. It has turned into a new “sphere of social action” (Boes 1996) that permits very diverse forms of acting socially. From the perspective of informatisation, the crucial point is that the rise of the Internet has not only provided a huge digital library or a mere “data highway” but a novel kind of “space for social action” (Ibid.). Within this space, people are not only capable of dealing with and exchanging

information, they can also interact with each other in most diverse forms. In addition, this social space is not pre-programmed, but its structure, including the opportunities for social action, is influenced and changed by the users' practical action itself. Thus, the information space is not only a technology or medium for the transport of digital information but also a global information and communication environment. The ends and possible uses of this environment are permanently changed and expanded by the users' active utilisation (Baukowitz and Boes 1996). Since this means that mental activities are becoming compatible with each other to a historically new degree, a potential for making use of intellectual productive forces is emerging here that was hitherto unknown (see Boes 2005).

The information space, as a productive power on a global scale, enables very diverse forms of activity and new ways of cooperation (Castells 1996). It is becoming the basic infrastructure and the domineering reference level for work; conditions emerge that allow for cooperation across spatial distances without time delays. Work upon the object of labour can be done in globally accessible information systems, and labour is taking place in the information space itself. Thus, the information space increasingly becomes an increasingly important level of work – it is turning into a new “space of production” (Boes 2004, 2005).²

Current efforts to find a way to strategically make use of the information space are combined with the emergence of a new idea on how information and communication systems are to be utilised. The concept of the ‘cloud’ indicates the rise of a new paradigm for the development of information and communication infrastructures. This paradigm takes its starting point no longer from the idea of the computer as a machine, but in the property of the information space as a space for social action. Hence, we define the notion of the ‘cloud’ in a more comprehensive way than common definitions on the part of enterprises do.³ The cloud is primarily to be understood as a new stage of informatisation which enables companies to expand their production process – on a flexible scale – far beyond their physical boundaries, to radically open themselves to this environment and to flexibly integrate and exploit the contributions from ‘outside’. Accordingly, we apply the term ‘cloudworking’, not only to refer to work in the cloud computing industry, but to all forms of societal work whose object and instruments of labour are based in the information space and whose cooperation is essentially mediated through the information space as a sphere of social action. From this perspective, crowdsourcing is to be regarded as a subcategory of cloudworking (see Boes et al. 2014b).

On the basis of the cloud paradigm, companies endeavour to reorganise their value-added relationships. In this respect, particular attention is paid to the actors outside the companies. A veritable “gold treasure” appears to be waiting there, an El Dorado that is waiting for discovery and development. The information space is a “space of action” (Dolata and Schrape 2013) for all kinds of actors and novel forms of association and cooperation. Because Internet access is easily affordable and open to mobile devices nowadays, the threshold for actors to make use of the information

² This becomes apparent e.g. in the strategic reorganisation efforts of the enterprises in the “new stage of globalization” (Boes and Kämpf 2011) which led to a “globally networked economy” (Boes et al. 2012).

³ The current definitions and models on the part of ICT enterprises, usually under the label of cloud computing, do not adequately reflect the impact and innovative potential of this new concept, since they essentially reduce it to a proprietary provision of computing capacities and IT infrastructures as a service via the Internet (Vaquero et al. 2009). In this paper, we don't adopt this somewhat reduced and perhaps technology-biased perspective.

space for their respective goals is very low. This kind of private utilisation is very diverse, including a huge variety of forms of consumption, provision of information, communicative exchange, cultivation of contacts, and also of societal work.⁴ The individual contributions of these diverse actors within and towards the information space, their profiles and data tracks, their work packages, know-how and productive forces – all this is increasingly recognised by enterprises as potential sources of value, and hence also developed and exploited.⁵

To sum up: the information space provides a common level of reference for the diverse subsystems of society. Since it forms a level for social action where both the actors from the economic subsystem and the private activities of individuals find their place, it creates “compatibility” (Baukowitz and Boes 1996) between the different subsystems of society. This, in turn, offers the opportunity to expand the value-added processes of the companies far beyond the enterprise borders, and to integrate hitherto non-capitalist forms of societal work.

2.2. Landnahme: A Concept for Understanding the Change Process of Capitalist Societies

It proves fruitful to interpret the development described above as a momentum of capitalist Landnahme, thus putting it in a historical and theoretical context. In this interpretation, the new strategies for the utilisation of the information space aim for an integration of different forms of societal work or private activity into the capitalist production of surplus value – forms that had not been subjected to it up to now. The great Landnahme after the Second World War concerned the rural population in the 1950s and 1960s, leading to a generalisation of the principle of wage-labour in German society, and allowing for a new development stage of industrial capitalism in Germany (Lutz 1984). Today, a new great Landnahme process is beginning to become apparent with the pervasion of the global information space, entailing hitherto unforeseeable consequences for society. Our understanding of this concept of Landnahme requires some clarification.

The debates in contemporary social science lend a new significance to the change processes in capitalist societies. Within this discourse, the concept of Landnahme has been undergoing a renaissance in recent years (Harvey 2003; Dörre and Haubner 2012; Dörre 2013). Landnahme generally describes processes of capitalist penetration of society. On the one hand, this refers to the commodification of societal spheres of hitherto non-capitalist constitution and organisation (external Landnahme) – e.g. the integration of various forms of work in open-source communities into capitalist added-value production. On the other hand, this also includes the intensified subordination of societal spheres under the imperatives of the creation of surplus-value which already are of capitalist constitution (internal Landnahme) – e.g. the industrialisation of knowledge work. The basic assumption is that capitalism can only exist by permanently expanding its process of producing surplus value, which in turn means that, because of this inner necessity, capitalism always runs the risk of

⁴ The term ‘societal work’ as it is used here comprehends the totality of work forms that are performed to the benefit of the reproduction and development of society. Of course, this includes many forms of work that are performed outside the capitalist wage labour system: in the private sphere, or in the realm of civil society.

⁵ These efforts are also reflected in termini like “prosumer” (Toffler 1980), “working customer” (Voß and Rieder 2005), “user innovation” (Von Hippel 2005), “open innovation” (Chesbrough 2006), or “crowdsourcing” (Howe 2006; Estellés-Arola and González-Ladrón-de-Guevara 2012; Leimeister and Zogaj 2013).

undermining its own basic premises. Whereas the debate around the concept of the ‘capture of the commons’ is primarily centred on the external expansion of capitalism analysing the enclosure of “resources, people, activities and lands that hitherto were managed, organised and produced under social relations of mutual responsibility” (Dawney et al. 2016), the concept of Landnahme complementarily allows taking the internal penetration of the capitalist mode of production into account. Moreover, the dynamic interplay and mutual reinforcement between forms of internal and external Landnahme comes into focus.

The concept has its origins in the works of Karl Marx (1990 [1867], 874ff) and, more specifically, Rosa Luxemburg (2003 [1913]). Burkart Lutz (1984) took it up again in the 1980s, describing the Landnahme of industrial capitalism concerning the rural peasant population in the German society of the 1950s and 1960s. The *Wirtschaftswunder* (economic miracle), based essentially upon the resurgent industry sector, could then rely on the workforce provided by the rural population, and at the same time the traditional rural mode of life and production, based on agricultural production and ‘sideline’ occupation of peasants, lost its ground.

The current debate about the theorem of Landnahme in capitalist societies received relevant impulses by the publications of Klaus Dörre (2009, 2011, 2012). Drawing on David Harvey’s work (2003), Dörre emphasises the “inside/outside dialectic” as an important feature for capitalist development and stabilisation. He shows that Lutz, in his analysis of the post-war prosperity, not only illustrates the Landnahme integrating non-capitalist spheres and milieus but also describes the creation of a new “outside”, which, he says, can be essentially traced back to policies limiting the power of markets and strategies to de-commodify labour power.

According to Robert Castel (2002) these de-commodification strategies formed the social, moral, and economic ground that permitted a very comprehensive penetration of wage labour in post-war society, dissolving the rural milieus that had largely been oriented to the principles of subsistence economy. His main argument is that the generalisation of capitalist wage labour after the Second World War is essentially the result of the introduction of protective rights based on the acknowledgement that labour power is particularly vulnerable (Ibid.; see also Boes and Bultemeier 2010). The “employee status” (Castel 2002) thus created, and the regulation that perpetually reproduced this status, were the *conditio sine qua non* for the success of capitalism. Only on this basis could capitalism succeed in generalising industrial capitalist structures and gradually dissolving the pre-capitalist rural production modes. However, this complementary relationship between commodification and de-commodification strategies is a characteristic of the Fordist stage of capitalism, which is being invalidated in the current stage of capitalist development (Dörre 2011, 2012).

The corporate strategies to redesign production processes by making use of the global information space harbour the potential for a new stage of capitalist Landnahme. The information space as a space for social action permits the inclusion of the most diverse forms of societal work and private activity into the enterprises’ production contexts. These work and activity forms often become integral parts of the production of surplus value. Companies are even able to create a state of competition between themselves and their internal employment relationships. Upon this basis, a re-constitution of the social system of work and a new episode of capitalist penetration of society as a whole is becoming apparent.

3. Strategies of Landnahme in the Information Space

Since the 1990s, it has been possible to observe the quest of companies to make strategic use of the information space for the organisation of their work processes.

Currently, they have entered into a state of definite maturation. Talk of the 'digitisation' of the economy is now on everybody's lips and the 'digital enterprise' is generally regarded as the new strategic orientation for corporate development. The strategies pursued include efforts for reorganisation on two levels: on the one hand, the aim is to integrate actors outside the company into the production process. This is materialised in the concept of open innovation (Chesbrough 2006) but more particularly in the notion of crowdsourcing. On the other hand, a redesign of work inside the enterprises is targeted. In advanced companies, activities on both levels are linked to each other, with reference to the cloud paradigm.

3.1. Cloud and Crowd as a New Trend in Economy

Cloudworking and crowdsourcing may be called the epitome of the current changes in economy. By means of the information space, enterprises are expanding their value-added processes far beyond their own borders. They are taking relevant steps to tap the resources of a 'sleeping giant' by making use of the actors in the information space as a productive force. Meanwhile, this appears to be no longer an exclusive target of pioneers but seems instead to involve a broader array of enterprises. In practice, many examples of crowdsourcing already exist. A variety of companies are maintaining platforms in order to open up their innovation processes; platforms that serve to integrate innovation contributions by employees, customers, and users. Examples include Procter & Gamble, IBM, SAP SE, Siemens AG, Robert Bosch GmbH, BMW AG and many others. Moreover, many big companies have developed ambitious forms of cooperative innovation with partners from the milieu of the Open Source movement in particular (Chesbrough 2006).

Complementary to these efforts on the part of the enterprises, a new infrastructure of crowdsourcing platforms has emerged and is currently expanding very rapidly. These platforms represent a "new business model" (Leimeister and Zogaj 2013), working as intermediaries between the companies and the Internet actors, and organising the 'crowd', the anonymous mass of workforce, as a service for the companies. The mere quantity of 'crowdsources' and the rapid growth of their number indicate that this is a relevant phenomenon: big platforms have no fewer than 700,000 members. Crowdsourcing platforms offer crowdsourcing solutions for a huge variety of tasks and industries. For instance, InnoCentive is focused on the collection of innovation contributions. 99designs and their German counterpart 12designer (acquired by 99designs in 2012) are designer platforms. Other crowdsourcing platforms such as Mechanical Turk and the German response to it, Clickworker, focus on developing work resources in the realm of unskilled work. These platforms deal with micro-tasks and so-called "human intelligence tasks", i.e. tasks that computers either cannot fulfil at all or only to an uneconomic price (Aytes 2013). The other extreme of the competency range is covered by the platform TopCoder, which primarily offers software development tasks. Thus, it is by no means only unskilled work that crowdsourcing platforms deal with. Rather, they cover a considerable array of various tasks within a large range of skill levels, from unskilled work to highly-skilled specialist activities. The crucial point is that, in principle, almost every kind of work that contributes to the creation of value can be done via crowdsourcing (Leimeister and Zogaj 2013). For example, looking at the German-language countries, the digital value chain could, in theory, be completely covered by making use of the crowd – from idea generation to production to funding and marketing (BITKOM 2014). In other words: in a minimum of time, a previously peripheral phenomenon has turned into a central part of modern value-added systems.

In current debates about the development of ambitious crowdsourcing strategies, software companies play a leading part. The relevant enterprise in our case study is currently implementing a new corporate strategy that is generally considered to be the epitome of crowdsourcing strategies (Dettmer and Dohmen 2012, Koenen 2012).

3.2. A Vision of the Future of Cloudworking

The sample enterprise's strategy is a very sophisticated attempt to embed crowdsourcing into a holistic concept of production.⁶ Its roots are to be found in the efforts of the company to re-invent itself after the decline of the mainframe technology, in terms of both the business model and the organisation of work. The most important steps in this development were the introduction of new management concepts (Boes and Baukrowitz 2002) and agile methods (Kile et al. 2013), and a process of opening the company toward the Internet community (Chesbrough 2006). In the first decade of the 2000s, the reorganisation efforts were brought together under the label of a "globally integrated enterprise" (Palmisano 2006).

The company's strategy is designed to consistently make use of the information space as a space for social action and hence as a global space for production, enabling the reconstruction of the production structures of the company. However, an interpretation of this strategy as being simply a form of 'sourcing' and thus relocation of labour, following the accustomed understanding of the term of (crowd) 'sourcing', would fall short of its real significance. In our view, the essential innovation of the company's strategy is rather the attempt to combine 'inside' and 'outside' as mutually complementary elements of a holistic approach. Hence, crowdsourcing should be understood as an element of a holistic cloudworking strategy.

3.2.1. Components of External Landnahme

Drawing on years of experience of cooperation with the Open Source community, the sample company has succeeded in establishing a production model that consistently aims at the integration of a workforce outside the enterprise. To this end, it maintains a portal in a strategic partnership with a crowdsourcing platform. The portal is owned by the IT company, and access is not regulated by the crowdsourcing platform but by partners from the IT company. Thus, the IT company decides on the rules of access. Only a selected number of identifiable freelancers is addressed via the portal. Although many statements in current debates about crowdsourcing refer to an undefined mass or crowd of people, this is not the case here. Rather, a defined group of unambiguously identifiable freelancers is enlisted via a closed platform. These people are filtered out of a crowd and brought into action as a workforce resource at the company's disposal. In a certain sense, they are even developed as a productive force. Project managers invite them to bid on compartmentalised work packages, composed according to the principle of 'component-based development', via the portal. The processing of these work packages takes place in a competitive mode: what counts is the product submitted, and payment refers to the submission of the

⁶ Our analysis is based upon our own empirical research in the IT industry which covers a time-span of more than 20 years (Baukrowitz et al. 1994; Boes and Baukrowitz 2002; Boes and Trinks 2006; Boes et al. 2010, 2013, 2014a, 2014b; Boes and Kämpf 2007, 2011; Kämpf et al. 2011). In this context, we have been observing the development of the sample company since the end of the 1990s, analysing it in a number of case studies from the perspective of the sociology of work and industry.

complete work package within the predefined time limit.⁷

Via the portal, the company obtains access outside its formal boundaries to a virtually unlimited resource of workforce that can be flexibly scaled. In this way, the company is able to address virtually every software developer in the world to handle its orders and to integrate their work performances seamlessly into the company's production processes without having to engage in a wage labour contract. We interpret this as a strategy of external Landnahme. By means of this strategy, the company gets a hold on workforce resources outside the sphere of capitalist wage labour arrangements, and especially on innovation potentials outside the boundaries of the enterprise. Previously, in the early stages of the industrial revolution, the inclusion of outside production executed mostly in the so-called domestic industries served as an important supplement for corporate production processes (Marx 1990 [1867], 485). On the basis of the information space the integration of inside and outside production has reached a new quality: the integration can now be done almost seamlessly on a global scale with enormous flexibility, and expand into the realm of highly skilled work. More importantly, however, the integration of outside production and inside production via the information space has a direct impact on the organisation of work within enterprises.

3.2.2. New Forms of Industrialisation of Mental Labour as a Strategic Component of Internal Landnahme

The development of this workforce resource requires, as an indispensable precondition, compatible production structures creating permeability between the work process inside the company and the platform. In other words: the strategy of external Landnahme depends on a redesign of the production processes inside the company. The same conceptual radicality that is applied in the reorganisation of the work relationships with actors in the information space is also apparent in the company's efforts to utilise this space in order to redesign the organisation of work inside the company.

The guiding principle for this internal reorganisation is the principle of community. The company adopts essential features of cooperation as they were developed in Open Source communities.⁸ These are methods for software development in globally distributed teams. In addition, certain methods for the organisation of work and particularly of the underlying cultural patterns concerning communication and cooperation are adopted (see also Dinkelacker et al. 2002). This does not imply that the company borrows the emancipatory values and contents from the Open Source movement; rather, only the formal principles of the organisation of work – such as

⁷ A practice that is common in service contracts is also applied here: a submission that was not accepted by the company is returned to the developer for reworking. There is no payment before the submission is finally accepted.

⁸ The Open Source communities usually deal with forms of societal work that are performed as "commons-based peer production" (Benkler 2006) via the information space. These new forms of societal work are usually done outside enterprises and frequently even in direct contraposition to the enterprises' production model (which aims at making profit). They are often characterised by a strong orientation towards various ideas of emancipation – beyond bureaucratic, hierarchical, profit-oriented or generally capitalist forms of work. However, these anti-capitalistic origins of the Open Source movement are increasingly vanishing. Nowadays, the biggest Open Source Projects are highly commercialised, and the major part of contributions stem from employees working for the large IT companies (Westenholz 2012; Schrape 2015).

transparency as a basic principle of the Open Source mode of production – are adopted, taking them from a communitised non-capitalist work context and implanting them into a wage labour context. They act as a kind of organisational, practical and also ideological ‘live-cell therapy’. By introducing the community principle and organising the staff as a community, the company increases the permeability across inside and outside.

The employees’ work in these communities is, in turn, guided and controlled via an infrastructure of tools and processes. This infrastructure provides coherence of the globally distributed, complex and differentiated production structure. Its heart is constituted by IT-supported processes, which materialise within a development environment platform. This environment forms the backbone of the globally integrated corporation and the basis for a successful division of labour in software development. It is also the basis for permeability between the ‘inside’ and the ‘outside’ workforce. It is complemented by communication and cooperation environments that follow the pattern of “the public” (Bultemeier and Boes 2013).⁹ The central entity for this task is a communication and collaboration environment. Whereas the development environment platform is process-oriented, the communication and collaboration environment serves to support the communicative exchange and contextualisation in global cooperation. Thus, they serve complementary functions.

At the same time, this model for the organisation of work implemented by the corporation enables the creation of a new system of control. The concept of ‘digital reputation’ plays a strategic role within this system. Electronic cards recording the accumulated ‘capital’ of an individual employee at a given point of time are at the heart of digital reputation. Since the status achieved and represented by points collected on that card has to be constantly updated, the digital reputation system brings forth a mode of control following the pattern of a “system of permanent probation” (*System permanenter Bewährung* [Boes and Bultemeier 2010]). This is done in a radicalised form, as scientific models geared to predict future behaviour are installed behind this mode of control. The communities’ performance patterns are mapped over time. This serves to systematically analyse, on the basis of scientific methods, motivational processes with respect to the spending of subjective working power in order to specifically influence working behaviour.

On this basis, a coherent production process is created, integrating the performance of every single developer into a common work process based upon the division of labour. This is the material pre-condition for the efficient inclusion of the “outside” workforce – and for new forms of the industrialisation of knowledge work (Boes 2004, 2005; Boes and Kämpf 2012). The work of highly-skilled software developers – who previously had been working in an “expert mode” (Boes et al. 2014a) that permitted them a great degree of control over the working process because of the “areas of uncertainty” coupled with this mode of work, i.e. areas which are not intelligible for non-experts – is now being integrated into an objective process, and becoming part of an industrialised production process on a global scale. A characteristic feature is the organisation of development work as part of a synchronised value chain, which amounts to a temporal ‘clocking’ of the globally

⁹ With the concept of ‘the public’ (Öffentlichkeit) we seek to conceive the development of new forms of coordination in the enterprise realm that are beyond bureaucratic rules and hierarchical decision-making. The development of these coordination mechanisms serves as an answer to the emergence of ever more complex relations of systemic interdependence that can’t be met by formal rules and organisational specifications.

distributed developers. The principle of clocking enables the company to piece together complex software systems from atomised software particles in a well-controlled manner. At the same time, a “collectivization of knowledge” (Ibid.) is effected via the communication platform. In these industrialised structures made up of synchronised and clocked value chains and collectivised knowledge, even high-skilled work activities are rendered more and more exchangeable. It is this property of exchangeability that enables the company to set the permanent interplay between inside and outside in motion. On this basis, the boundary between enterprise and environment itself becomes an object of corporate strategy. This is the core of internal Landnahme. As a complement to external Landnahme, it is geared to transform the work of highly-skilled knowledge workers from formal wage labour to real wage labour, to a “genuine” form of wage labour which is characterised by exchangeability (Boes and Kämpf 2012).

3.2.3. Interplay between Inside and Outside as a Central Component of Corporate Strategy

To summarise: the novelty of the company’s cloudworking strategy is that, on the basis of a holistic approach, it consistently makes use of the potentials of the information space and couples the areas inside and outside the enterprise as two complementary components. It is the industrialisation of production structures inside the company that makes the external Landnahme possible via the portal. The rapid and flexible integration of the ‘outside’ workforce as a potential resource of workforce can only be effected on this basis. Hence, the strategy relies on informatised and industrialised production structures creating a new quality of permeability between inside and outside, such that the boundaries of the enterprise can be permanently redefined in the course of the work process. Seen from this perspective, paying attention only to the “outside” and the emergence of “digital bohemians” (Friebe and Lobo 2006) or “digital peons” (Dohmen 2013) is definitely not enough. Rather, ‘outside’ and ‘inside’ have to be considered partial moments of a holistic process of the re-constitution of societal work. This is also true for other current developments that are gaining ground in the present economy, such as the strategies to make use of subcontracted labour or service contracts (Bispinck and Stoll 2013).

4. Reconstitution of Societal Work as a Challenge for Society

With the increasing pervasion of the information space, the social system of work undergoes fundamental changes. The information space turns out to be a “space of action” (Dolata and Schrape 2013) for a great variety of actors and hitherto unknown forms of cooperation. It is constituted by an almost unlimited diversity of activities and relationships. Enterprises might consider this space as a veritable El Dorado. For instance, the information space opens up new possibilities to establish customer relationships and to integrate customers into production and marketing processes (see also Fuchs and Sevignani 2013). At the same time, it creates a huge pool of information that can be used to make the customer calculable.¹⁰ A new dimension of the (consciously or unconsciously) “working customer” (Voß and Rieder 2005; see also Kleemann et al. 2008) becomes reality. And a particular productive force for

¹⁰ New methods of ‘data mining’ stand for this type of utilisation of the information space. Currently they are gaining enormous relevance under the label of ‘big data’, not least because these new approaches are geared to make individual customers identifiable and their behaviour predictable.

enterprises can be found in the diverse forms of societal work that take place in or via the information space. Most notably this is true for the various Internet communities who established forms of production that belong to the civil society – forms of work that originally were not subjected to the imperative of capitalist surplus value production but followed the paradigms of “useful action” and “the Commons”.

As these forms of societal work interact with the production structures of capitalist enterprises via the information space, an interplay with very diverse interdependencies and mutual influences emerges between both spheres. Three forms of interaction are striking: first, an institutionalised cooperation between various enterprises and the Open Source communities; a second form finds expression in an adoption of community-born institutions in capitalist enterprises. The best-known companies of this type, as Google, Facebook, or Twitter, meanwhile possess a huge market value and have turned into strategic actors within the competition for making use of the information space. These actors play a leading part in the process of Landnahme in the information space, because they specialise in various forms of preparing the information space for capitalist exploitation. Currently, a third form of interaction is emerging: companies succeed in rendering the new forms of societal work ‘compatible’ to their production processes, often with crowdsourcing platforms as intermediary institutions. They even manage to integrate these forms of work into their production processes and to turn them into a component of their surplus value production.

On the whole, a complex social process is emerging that involves the configuration and design of the information space – and its utilisation to re-constitute societal work. It is to be expected that the information space will permanently give birth to forms of societal work that are situated beyond the capitalist surplus value production or the system of wage labour. In other words: again and again, virgin territory will emerge in the information space, areas that might counterbalance the ongoing process of capitalist penetration and commodification. So the capitalist Landnahme in the information space is not simply a one-way road. Rather, it is a bi-directional process of enclosure and emergence of non-enclosed territories. However, a new dimension of capitalist penetration of the information space is increasingly becoming apparent. The enterprises have understood the value of the information space and developed strategies to use its potential in various ways. Seen in this perspective, the information space as a space for social action turns out to be a huge ‘machine’ for the commodification of society, given its potential for the economisation of the lifeworld, for the inclusion of the customer, and for the integration of diverse forms of societal work into the capitalist process of value production. On the basis of this new ‘field of action’ in a global society, a new historical stage of capitalist penetration of the (global) society is currently looming ahead – with consequences as yet unforeseeable.

In order to understand the corporate strategies underlying this process of Landnahme, the strategy of the sample company is a very good illustration. Upon the basis of informatised and industrialised production structures, the enterprise renders work inside and outside its formal boundaries mutually compatible, thus structurally equating both forms of work. A complementarity of strategies is stated: the new forms of industrialisation of knowledge work, as a component of the internal Landnahme, are the necessary precondition for a seamless integration of freelancers’ work as a component of the external Landnahme. Conversely, the external Landnahme provides essential leverage to push forward the process of industrialisation inside the enterprise.

The thesis we develop in this paper is that the corporate strategies to re-organise production processes in the information space culminate in a new historical stage of capitalist Landnahme. Whereas the last great episode of Landnahme in German society during the 1950s and 1960s led to an erosion of rural subsistence economy and the establishment, and generalisation of the employee status, a new episode is beginning to show now. On the basis of the information space, the enterprises seem to be able to obtain – in the foreseeable future – the capability to integrate most diverse forms of human activity ‘within the information space’ and outside their own boundaries into their value-added production without treating them *de jure* as employees. This external Landnahme threatens to deeply alter the power asymmetries inside the companies to the disadvantage of the employees. In turn, this shift of power creates the conditions to push the internal Landnahme further: to turn knowledge work into exchangeable, hence ‘genuine’ wage labour. So the new stage of Landnahme is characterised by two partial developments that are closely linked to each other: on the one hand, Landnahme ‘in’ the information space, i.e. the redesigning of various forms of societal work and useful activity by integrating them into capitalist added-value production. On the other hand, Landnahme ‘by means of’ the information space, i.e. making use of it to redesign work inside the enterprises in order to integrate intellectual labour into an industrialised production process. Both components depend on each other and mutually increase and cumulate their dynamics. Whereas the last episode of Landnahme generalised the principle of wage labour and at the same time established the “employee status” (Castel 2002), the new episode of Landnahme might lead to a transformation of knowledge work into “real” wage labour, in the same process undermining the protective rights linked to wage labour and the employee status (Scholz 2013; Aytes 2013).

This development presents great challenges to society as a whole: the corporate strategies in the context of the reconstitution of societal work are apt to lever out the foundations of the system of work and labour regulation as it has developed historically, both on the company and on the society level. By integrating the various forms of societal work into their production processes, the enterprises transform them into a kind of *de facto* wage labour. However, they do not treat them according to the legal norms of labour legislation but rather on the basis of the civil law legal system, thus bringing them into a competitive relationship to the protective rights of work and labour regulation. The immediate consequence is that workers in the information space are deprived of just the protective rights that had been a necessary condition for the generalisation of wage labour in the “employee status” in capitalist societies (Castel 2002). Conversely, the competition between regular employees and the workforce in the information space exerts pressure upon the employees and their regulated employment relationships. This pressure is exerted both on individual labour law – ranging from wages or working time regulations to the protection of employees against dismissals or their right to receive continued remuneration in case of illness – as well as on collective labour law – including co-determination and other forms of workplace participation (Benner 2015).¹¹ It involves the danger that this

¹¹ At the same time, new forms of labour resistance are emerging focussing primarily on the organisation of workers on crowdsourcing platforms. In a bottom up approach activists at Mechanical Turk have developed the browser extension “Turkopticon” which allows crowdworkers to create and use reviews of employers on the platform. Following this example, the biggest German labour union IG Metall has launched the platform “Faircrowdwork.org” with the aim to cross-link crowdworkers globally and increase transparency over the platforms.

pressure will yield structural effects upon the regulation system of work and labour as a whole and even upon institutions further 'downstream', as the system of social security. Even though this might not present a problem for single companies, it does present one for society as a whole.

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