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Review of the Book "Digital Labor: The Internet as Playground and Factory", Edited by Trebor Scholz

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Abstract: This article is a review of the collected volume *Digital Labor: The Internet as Playground and Factory*, edited by Trebor Scholz (2013) and published by Routledge, New York. The author introduces the articles, discusses them briefly and gives an overall evaluation of the book.

Keywords: Digital Labour, Virtual Work, Internet Economy, Political Economy of Media and Communication, Media Studies, Cognitive Capitalism, Informational Capitalism, Karl Marx, exploitation

Digital Labor: *The Internet as Playground and Factory*[1] can be interpreted as a manifestation of the growing interest in Marx and Marxist theory that is required for a proper understanding of current societies and shifts in their modes of production. 8 articles, including the introduction, mention Karl Marx directly, 4 out of them engage in some depth with his ideas. The book breaks new academic grounds by being among the first dedicated to the particular topic of digital labour. It connects therefore to the thus far few other thematic contributions (for instance Burston, Dyer-Witheford and Hearn 2010) and an emerging scholarly field that extends being a subdivision of labour sociology interested in the working conditions of the ICT industry (see for instance the forthcoming EU COST Action "Dynamics of Virtual Work")[2].

The edited volume contains an introduction by the editor, fourteen independent essays and a helpful list of further readings about digital labour that was compiled based on the authors' suggestions. The book dates back to a conference with the same title organised by Trebor Scholz and was held at The New School, New York in 2009 (http://digitallabor.org/).

Debates about digital labour usually start with the following observations that are also made by *Trebor Scholz* in the book's introduction: a) there is a capture of value on the Internet: big corporations, such as Google and Facebook, as a result, generate significant profits; b) on the Internet there are besides traditional wage labour irregular forms of labour that are not paid; c) at the same time these digital labour activities do not "feel, look, or smell like labour at all" (2).

These observations lead to the political-economic question whether we can "really understand labor as a value producing activity that is based on sharing creative expressions" (2)?

This question is mirrored in the book's subtitle: The term "play" is here added to a traditional understanding of work as factory labour. The articles collected in the book oscillate between Marxist and subjectivist theories. The book on the one hand discusses "whether Marxist labor theory, with its concept of exploitation of labor, is still applicable to emerging mode of value capture in the Internet" (1); on the other hand a more sceptical view to this question is expressed that often emphasises the role of play on the Internet. "Play" is a core

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[1] In the following references to articles within this book are cited by giving only the page number in parentheses.
[2] http://www.cost.eu/domains_actions/isch/Actions/IS1202

concept of theories that are interested in subjectivity. One may think here for instance of the free floating play of signs and truth(s) in post-structuralist discourses.

Marx had some reservations about the assumption that work can completely turn into play. In a discussion of the works of the French socialist utopian Charles Fourier, he argued that Fourier's achievement had been to have recognised that labour should be sublated and not only fairly distributed, but he argued that: "Labour cannot become play, as Fourier would like" (Marx 1857/58, 712). There is a goal of ultimate harmony in Fourier, where the contradiction between subject (man) and object (nature) can be resolved by eliminating the object; not by sublating it in a subject-object (Beecher 1990, 295). Work, as the process wherein subjects and objects are meeting, remains crucial for Marx in any society and under any circumstances: "Really free working, e.g. composing, is at the same time precisely the most damned seriousness, the most intense exertion" (Marx 1857/58, 611). The idea of the substitution of work, for instance by play, presupposes a false notion of work as opposed to non-work and free time, which stems from the experience of alienation in capitalism. Within play, the basal reference to an object is lost: the free floating subject may design the rules of the game purely out of her/his will; there is no dialectical relation to an object - be it nature or another subject.

One of the achievements of this book is to fruitfully bring both strands together: play and work are no longer opposed; "play theories" should engage with the analysis of labour that Marx has centred his critique of political economy on and "labour theories" should learn from theories that try to understand shifts in capitalism and focus on subjectivity.

Unfortunately there are chapters in this volume that leave open the question to the reviewer of how they contribute to the digital labour debate (for instance the chapters by Cubitt, Rossiter and Zehle). In some articles, there is a weak or absent reference to the question whether Internet usage is labour and how this labour looks like. In the best case, the topic is used to introduce and elaborate on other research subjects that the authors are interested in. This is not to say that the introduction of other theoretical concepts and new perspectives is not valuable. But when chapters in a collected volume approach an issue by pointing to other topics and concepts that are presented as being related to digital labour, then it could be expected that sufficient text space is used for making clear the connection between these concepts and the problem of digital labour as it is set out by Trebor Scholz in the introduction to the edited volume.

The following discussion is not all-encompassing, but rather concentrates on those chapters that contribute to the above defined digital labour debate. I will only touch briefly or leave out other chapters. The author's interest in critical theory and the critique of the political economy of media and communication is decisive in this choice and also provides the framework for the presented reading of the entire book. Some readers may hold the idea that the digital labour debate is connected to contextual issues (such as "cosmopolis" and "translation" for instance), but the author of this review wants to remind that the volume's title is after all "Digital labour" and that many readers will therefore expect an engagement with the issue of labour.

Andrew Ross opens the book with a good overview of issues involved in the digital labour debate. He introduces theoretical concepts, such as the attention economy, social capital, free labour, play-labour or "playbour", the development of the productive forces, general intellect, social factory, crowdsourcing, audience commodity, prosumers, the value chain and connects most of them to examples. Ross mentions points of dispute, for instance by asking "Marx or not?" (25) in the context of the search for a proper understanding of the Internet economy and the labour involved in it. He asks important questions, such as whether an economy that is based on free labour can be characterised as feminization of work (24)? Or which role does the wage form of labour play for an appropriate definition of capitalism (26)? In his article Ross also opposes a techno-determinist attitude by pointing to the continuity of issues involved in the digital labour debate. One of these continuities is the dilemma for creative workers to be trapped between free expression and de-alienation on the one hand, and, on the other hand, the need to earn money in order to make ends meet. Ross gives the example of writing letters to the editor in this context (19). At the same time, he observes an

intensification of the valorisation process of digital labour: "the social platforms, web crawlers, personalized algorithms, and other data mining techniques of recent years are engineered to such valuable, or monetizable, information out of almost every one of our online activities" (15); "in most corners of the information landscape working for nothing has become normative, and largely because it is not experienced as exploitation" (17). Another relevant continuity is expressed when Ross speaks of "Fordism on steroids" (28) in the context of the interplay of different forms of labour on a global scale: "Where the creative use, say, for a notebook computer involves a highly customized work experience, emblematic of the fluid, flexible, self organized profile of post-Fordism, the conditions of its manufacture could not be more different" (28). Another argument made is that "it is by no means clear that the increasingly sophisticated Internet metrics industry represents a significant departure from the gainful calculus of the labor theory of value" (28). Ross also provides a disputable evaluation of the status quo of Internet (class) struggles against commercialisation: "it could be said that the role social web platforms are playing in new modes of capital accumulation is simply the price one pays for maintaining non-proprietary networks whose scope of activity is large and heterogeneous enough to escape the orbit of government or corporate surveillance. Though the enclosers are pushing hard, the balance, for the time being, is still in favour of the commons" (22). Some authors would argue that the Internet is pretty much subsumed under capital and the commons are functional in this respect.

Tiziana Terranova's contribution to the book is a revised version of her highly cited ground-breaking article "Free Labor" that was published in the journal *Social Text*. She argues with the help of Marx's concept of the general intellect and its post-operaist interpretations, that free labour "is a feature of the cultural economy at large and an important, yet unacknowledged, source of value in advanced capitalist societies" (33). She defines free labour as "the moment where [...] knowledgeable consumption of culture is translated into excess productive activities that are pleasurably embraced and at the same time often shamelessly exploited" (37). To the book version of the article, one section has been added and a new conclusions is drawn, where Terranova points to the political – not analytical – value of speaking about digital labour. She argues that "calling users' participation in the digital economy labor was not so much an empirical description of an undisputable social and economic reality, but a political choice" (52). Speaking of digital labour presupposes the notion of the prosumers, the rejection of a distinction between the spheres of production and consumption, which then "implies that wages paid for work performed as such could no longer be considered an adequate way of distributing wealth socially generated in contemporary societies" (53). As a consequence, such a line of argumentation stresses the relevance of the concept of the commons: On the one hand, "as the wealth generated by free labor is social, so should be the mode of its return" (53). On the other hand, "social networking platforms should be deprivatized – that is, that ownership of users' data should be returned to their rightful owners as the freedom to access and modify the protocols and diagrams that structure their participation" (53). Terranova concludes by asking an important question about class struggles and the subject that could reverse prosumer and free labour exploitation: "where is the passage from the class in itself to the class for itself" (53)? She points in this context to social struggles, such as the Arab Spring and the Occupy movement that are connected to social media, but aim at a change of the overall economic and social structure of society.

Abigail De Kosnik's contribution deals with fandom as a concrete instance of digital labour and argues that it, "instead of being dismissed as insignificant and a waste of time at best and pathological at worst, should be valued as a new form of publicity and advertising, authored by volunteers, that corporation badly need in an era of market fragmentation" (99). She explains that "the goal of most fan labor is to modify a commodity, which is made to suit everybody, so that it suits the fan laborer, and other fans who share the laborer's particular tastes, much better" (109). De Kosnik follows Terranova in qualifying fandom as free labour that is pleasurable and voluntarily done. She argues that fans often discuss fandom opposed to finance; therefore it is unlikely that "fans organizing officially, as a kind of labor union" (109) and that they articulate compensation claims because this "is somewhat contrary to the underlying principles of fandom" (109). Recurring to cultural studies theories, the contribution

differs in its evaluation of digital labour from the more critical contributions in the book. De Kosnik's interest seems to be that digital labour is socially recognised as labour. Both fans and corporations add "value to mass-produced commodities" and this "is worthy of compensation" (110). She proposes on the one hand that fan amateurs should receive a share of the profits made on the corporate Internet. This could be in the form of the payment of parts of the advertising revenues or by intellectual property right holders' non-execution of property rights so that fans receive the desired content for free. On the other hand, De Kosnik sees the opportunity of "the elevation of fan laborers from amateurs to paid professionals" (110), which in fact means to bring digital labour into wage labour conditions. This, indeed, would be an improvement of the working conditions of the affected free labourers, but it is at the same time a problematic claim because the question is why one should demand to make irregular forms of labour fitting to regularly working capitalism and not rather demand to overcome capitalism and establish cooperative, non-property oriented forms of production? De Kosnik's leaves unchallenged the categories of commodity, value and wage as well as the causes of exploitation and class in capitalism.

Lisa Nakamura sheds light on a different but equally important aspect of digital labour. She does this in the context of online gaming and "massively multiplayer online role-playing games (MMOs)" (187). Her contribution focuses not on leisure players, but on "player-workers" (189). These are workers who help leisure players to cheat and their "position in the gamic industry resembles that of other immigrant groups who cross national borders to work, but unlike other types of 'migrant' workers, their labours are offshore, and thus invisible" (190). They offer in-game property or currency "for real money, usually through resellers" (188). Nakamura analyses the intersection of economic exploitation and racial exclusion that player-workers are facing both in the game Worlds of Warcraft and in user-generated content outside the genuine game (such as written fan fiction, art work, movies etc). Player-workers are racially identified as Asian or more specific as Chinese: "A player who speaks either Chinese or ungrammatical or broken English, who refuses to speak at all, or who repetitively harvests the games prizes [...] may be targeted for ill treatment or virtual death" (192). Nakamura argues that "their position as virtual service workers mimics that of illegal immigrants and other low-end workers in service economies in the global South" (192). In addition to economic exploitation and racial exclusion, player-workers are – "if we are to take games seriously as synthetic worlds" (201) – also excluded from the benefits that leisure workers receive through gaming: Player-workers "are unable to accumulate avatarial capital since their jobs consists in selling level-ups as well as gold and equipment [...]. The privilege of avatarial self-expression is, like capital itself, unevenly distributed across geopolitical boarders" (200).

In his contribution *Estranged Free Labor*, *Mark Andrejevic* applies the concepts of alienation and exploitation – both core ideas of critical and Marxist theory – to digital labour. Andrejevic warns us that although "mobilizing the notion of exploitation raises the question about social relations that characterize the online economy and their role in reproducing the privatization of productive resources, social and economic inequality, and resulting forms of alienation" (151), it includes also the latent threat "lumping together under the same name forms of brutal workplace exploitation with something that looks a lot more benign: people shopping or networking online" (151). Andrejevic's contribution is a synopsis of his previously written texts. He argues that digital labour, although it is often not compensated by wages, can be exploited and generates value: "Because the capture of personal information is used to create targeted marketing campaigns, the online marketing model has created a market in feedback commodities" (151). These commodities are bought and sold; for instance sold by Facebook to the advertising industry. He argues in this context for the need to differentiate how exploitation functions in different instances of the online economy and recognises that "more work needs to be done to define what might be meant by exploitation in non wage labor contexts" (153). The question of exploitation of digital labour connects to the aspect of alienation: "The challenge is to think these together against the background of the coercion embedded in relations of control over communication resources and the forms of productive surveillance it facilitates" (161). Andrejevic defends that it is appropriate to speak about ex-

ploitation/ alienation in the Internet, although it seems that there is a "lack of coercion and the pleasures of participation" (153) involved. His core argument is in this context that "when we are separated from the means of socialization, this does not mean that we do not have access to them; rather, we come to rely upon the provision by their parties of technologies for socialization that separate us from the information upon which our social lives rely. Crucial resources for interaction are no longer in our hands [...], but we are stored in servers owned and controlled by commercial entities" (156-157). The effect is then that "every message we write, every video we post, every item we buy or view, our time-space paths and patterns of social interactions all become data points in algorithms for sorting, predicting, and managing our behaviour" (159). Instead of recurring to societal issues, such as surveillance, exploitation, and alienation, critique of the work of being watched and struggles against it are often articulated within the privacy discourse. Andrejevic challenges this view because it frames societal issues in individual terms: "Privacy-based views do not quite capture the element of productive power and control at work in the promise of monitoring-based marketing. If privacy violations constitute an invasion – a loss of control over the process of self-disclosure – market monitoring includes an additional element of control and management" (161). Within Critical Internet Studies there are different understandings of the notion of alienation and its relevance for social media. Andrejevic links alienation strictly to exploitation, whereas others argue that there is indeed less alienation on social media and refer in particular to product and process alienation (Fisher 2012; Rey 2012). This shows that a Marxist discussion about the nature of the concept of alienation is required within the digital labour discourse.

Ayhan Aytes provides an interesting approach to make use of poststructuralist theory in order to understand the political economy of digital labour. He focuses on the question of the division of labour in the context of an alienation of labour from the labourer and argues that today "in most crowdsourcing platforms, fragmentation of tasks disenfranchises cognitive workers by disconnecting them from the final intellectual work" (79). Thereby crowdsourcing is identified as a disciplinary strategy "that expands the reach of neoliberal economy through cognitive capitalism" (81). Aytes analyses this strategy by drawing a comparison between the "Mechanical Turk", a crowdsourcing platform operated by Amazon.com and argues that there is a connection to the "mechanization of industrial labor through division of cognitive labor" (81). Aytes shows that labour arbitrage that "breaks apart the traditional relationship between the national labor legislations and the worker as citizen" (91) is inherent to crowdsourcing: "Cognitive labor is particularly susceptible to labor arbitrage technologies because computerized division of labor enables the fragmentation of tasks into smaller and stadardizable units, allowing their completion by an assembly of workers across the globe" (91). As a result, "the cultural and the informational content of the produced commodity is consumed outside of the social context of the cognitive worker and thus not directly alter his sociocultural conditions as a consumer/communicator" (93). Aytes' reference to labour arbitrage is crucial as it shows how capital takes advantage of global inequalities and makes clear that digital labour is a relevant topic not solely for Western capitalism.

Jonathan Beller offers a theoretical framework to understand cognitive capitalism that is inspired by Marx but also recurs to such distinct theorists as Flusser, McLuhan, Enzensberger, Baudrillard, Debray and Foucault. In his contribution, Beller concentrates "on the epistemic shifts that have occurred in relation to the transformation of political economy and language function" (166). In Beller's view, advertisements are "machines for the mining of attention" (168). Commercial media "convert attention into cash – quality into quantity" (168). In this context, Beller identifies the "role of digitization and its relation to the money form" as a "central question in both the history of political economy and our own period" (168). His account here is to argue for a structural consistency between digitalisation (even broader the "recession of the real", 182), on the one hand, and Marx's analysis of abstract labour, that helps to understand "the ability to qualitatively and thus abstractly compare specific and otherwise incompatible qualities" (171), on the other hand. He argues that "profit, alienated production, and the accumulation of private property was itself a program – one that extended digitality (in the form of exchange value) into the deepest recess of matter and continues its ramification to this day" (171). As a consequence, Beller argues that in a completely me-

diatised world, "our very thought is the thought of capital" (182). Beller concludes rather vaguely that struggles against this "informatic subsumption" (182) could start from claiming that this subsumption is necessary indeterminate. He writes: The "recession of the real is not only a tragic revolutionizing of the forces of production, it is also necessarily an opportunity: aesthetic, political, social" (182). How exactly such struggles could look like, remains unclear.

Patricia Ticineto Clough relates shifts in the mode of production that are "the reconfiguration of economy, affective labor, and biopolitical governance" (112) to current developments in philosophy. Concepts of process philosophies, speculative realist philosophies and object-oriented ontologies are used to explore the question of how to measure digital labour. The starting point is the claim, made for instance by Hardt and Negri, that the value of digital labour is immeasurable. Clough rejects this thesis, but argues that the measurement of digital labour must be thought differently than before. Some examples would have been helpful to better understand the suggested alternative of measuring value today.

Jodi Dean's contribution misses to address the issue of digital labour directly, but provides an interesting analysis of communicative capitalism as a societal condition that frames the question of digital labour. Dean analyses some aspects of the dialectics of social media. Particular blogs or social networking profiles are unique, but at the same time interchangeable and not very visible in the midst of the mass of existing blogs. They provide exposure and anonymity at the same time; they are progressive political tools, but are at the same time facing the threats of repressive control and surveillance. Dean speaks in this context of a fantasy: "As with blogging, our participation in social networks relies on the supposition that we expose but are not exposed, that we are unique but ultimately indistinguishable" (129). Dean refers theoretically to Agamben and characterises the motif behind new media usage as "whatever being": When using social media "there is belonging, but not to anything in particular" (131); rather the other way round: "something in particular is, insofar as it belongs" (131). Dean argues that participation enabled by social media "becomes indistinguishable from personalization, the continued cultivation of one's person" (140). Whatever beings "seek nothing, they lack nothing [...]; their being is apolitical, beyond politics" (141). Dean is interested in the questions "who and what is likely to benefit" and "what kinds of political and economic relations are likely to flourish in these new communicative habits" (131)? Against theorists, who see progressive elements within the formalisation of whatever beings' communications in communicative capitalism, Dean argues that whatever being is an ideological way of controlling subjectivity. It is crucial to remember that communicative capitalism is still a social order, in which "a lucky few will get nearly everything. Most will get very little, almost nothing" (138). The ideology of whatever being means for the many a loss of the ability to be critical: "In the circuits of communicative capitalism, convenience trumps commitment" (139); whatever beings loose "the ability to distinguish between contestatory and hegemonic speech" (143). Dean provides an ideology critique of social media without engaging with aspects of the political economy of labour, rather she bases her critical approach Agamben's and others' theories of ideology. Marx proceeded exactly the other way round, for instance in his fetish analyses in Capital, Volume 1, where he first establishes the analysis of commodities, value and labour and then connects this analysis to ideology critique by introducing the notion of commodity fetishism. Particularly in a book about digital labour, Marx's method of advancing from political economy to ideology critique would be more suitable. Therefore it would be interesting to analyse how the whatever being-ideology analysed by Dean concretely connects to people's activities respectively labouring on social media.

Christian Fuchs's article *Class and Exploitation on the Internet* contributes to critical Internet studies and pleads for a re-actualisation of Marxian theory in this context. He combines his previous Marxian analysis of social media with the argument that productive forces pose potentials for a communist Internet in a communist society. Fuchs challenges dominant perspectives that see the Internet as a participatory medium and characterises them as ideological and conservative. He argues that "an Internet platform can only be participatory if it involves participatory ownership structures [...]. Further factors include participatory learning and decision making" (212). Fuchs argues that the corporate Internet is a site of exploitation and of the maintainance of class relations. Based on a profound understanding of Marx's

theory of capital accumulation and further theoretical elements, such as the concepts of reproductive labour (in the version of the Bielefeld Marxist-feminist school represented by Mies, Bennholdt-Thomsen and Werlhof), the social worker (Negri), the audience commodity (Smythe), and the prosumers (Toffler) that have all expanded the concept of productive labour also to include non-wage workers, Fuchs analyses capital accumulation, exploitation and the reproduction of class relationships on corporate social media platforms that are based on targeted advertising. His analysis "shows that prosumers activity in a capitalist society can be interpreted as the outsourcing of productive labor to users [...], who work completely for free and help to maximize the rate of exploitation [...] so that profits can be raised and new media capital may be accumulated. This situation is one of infinitive exploitation of the users" (219-220) because they are not paid. Fuchs provides one of the rare definition of digital labour and defines it as labour "that is needed for capital accumulation with the help of Internet communication technologies" (220); it "is in no way limited to unpaid user labor but includes various forms of labor – user labor, wage labor in Western companies for the creation of applications, and slavelike labor that creates hardware and some software in economic developing countries under inhumane conditions" (220). Fuchs finally contrasts the corporate Internet to the communist Internet that necessitates the existence of a democratic-communist society: "On the communist Internet, humans cocreate and share knowledge; they are equal participants in the decision-making processes that concern the platforms and technologies they use; and the free access to and sharing of knowledge, the remixing of knowledge, and the cocreation of new knowledge creates and reproduce well rounded-individuality" (222). Fuchs contends that this is not a bad utopia: the cell forms of the communist Internet would already exist in concrete projects, such as Wikipedia and the alternative social networking site Diaspora* (Sevignani 2012).

McKenzie Wark claims in *Considerations on a Hacker Manifesto* that in the Internet age the "bourgeoisie is dead" (69). Instead a "vectoral class" (69), "a militant entertainment complex" (70) has reached power in society. It has "limited interest in the material conditions of production [...]. Its power rests not on the ownership of such things but in control of the logistics by which they are managed" (69). Its power is both "intensive" and "extensive". Intensive as it has the power to model, simulate, monitor and to calculate information processes; extensive as it is the power to move information from one place to another. This class, that rules the world from the West, seeks to get rid of the compromises with the labour that was manifest in the welfare state. The role model for the vectoral class is to reduce paid labour force "as close to zero as possible and pay them only in the currency of recognition. [...] We get all the culture; they get all the revenue" (71). Opposed to this class, Wark sees the "hacker class" (71) that "does not march down the boulevard behind red banners on May Day. But it is fully capable of organizing around net neutrality, creative commons, open publishing in science, challenging stupid and harmful patents, and so on" (71). One of the greatest achievements of this class is to "keep asking questions about property" (72). Wark reminds the hacker class not to follow the ideology of the convergence of play and labour that has been founded by the vectoral class: "It is not the gift economy" that takes place on the Internet, "it is a simulation of it. It isn't play that creates its own games; it is a game that extracts labor in the form of play" (73-74). For him, the convergence of labour and play also makes it outdated to speak of a "social factory" because in the West, "the factory is no longer the dominant form of the experience of labor [...]" (74). On the contrary, "the monetarized boudoir" (74) would be an appropriate term because it addresses the significant role of formerly private aspects of life for digital labour. Although Wark's essay is interesting, his manifesto-style writing gives no convincing answer to the question why the predominant class struggle has shifted from capital and labour to vectors and hackers. He posits certain terms that are grounded in particular observations that are set as absolutes. One gets the impression that the explanations remain incomplete.

Michael Bauwens provides a short *Thesis on Digital Labor in an Emerging P2P Economy* that starts with a similarly disputable presumption, namely that "the majority of the workers are no longer involved in factory work but are either cognitive or service workers" (207). He argues that P2P is the aspired ideology of this emerging working class; it is connected to

values such as "openness, participation, commons orientation" (207). The quality of peer production in the capitalist mode of production would be ambiguous: "Peer production functions in the cycle of accumulation of capital but also within the new cycle of the creation and accumulation of the commons" (208). Peer producers want to maintain and expand the commons of knowledge, code, and design, and under conditions of capital, the role of wage labor and capitalist investments contributes to the sustainability of both the commons and the commoners" (208). Thereby "netarchical capital" (208) is defined as that capital that understands the logic of the commons best and is able to exploit them. However the ambiguous character of peer production in respect to capitalism can be helpful to expand its scope in a phase of societal transition, argues Bauwens: "The task of the movement of cognitive and other forms of labor is to create a new hegemony and a new commons-based alliance for social change that challenges the domination of capital, the commodity form, and the biospheric destruction that is inherent to it" (210). Peer production does not aim at social relations of collective property; rather it "opens the avenue for more distributed property, whereby individuals can freely aggregate not only their immaterial productive resources but their material productive resources" (209). A potential abuse of resources against the commons is then "balanced by the individual freedom of forking productive resources" (209). The short, but impressive article poses several crucial questions, among these are the following: a) is the assumption of the existence of the non-factory, cognitive or service workers empirically reliable? b) How does the relation between so-called immaterial commons and their material preconditions look like? Is peer production feasible and desirable for e.g. computers and food that are preconditions of cognitive work? c) What is exactly meant by "distributed" property relations? Are they based on an individualistic notion of man that ideologically presupposes the existence of capitalism or does it foster real individuality that is not achievable in collective property relations (see for this question also Sevignani 2012)?

Overall, the book is a very helpful resource for understanding expressions of digital labour in contemporary capitalism. It points to a continuity of digital labour in comparison with traditional labour by seeing capitalism as the prevailing societal order (Beller). Digital labour is exploited (Fuchs, Andrejevic) and alienated (Andrejevic, Aytes, Ross). Irregular forms of labour, i.e. non-wage labour, were always inherent to capitalism (Ross, Fuchs) and has now taken on a new quality and relevance in today's informational capitalism (Terranova, De Kosnik). It is crucial to recognise that digital labour can either itself be subjected to classical factory conditions associated with sweat shops and super-exploitation (Nakamura), or that at least it refers to them because it needs non-digital preconditions, such as an ICT infrastructure (Ross, Fuchs, Andrejevic). Not only traditional labour has been outsourced from developed countries to Third World factories in Asia or to the world's natural resources suppliers, also digital labour is subjected to these imperial processes (Nakamura, Aytes, Fuchs). Digital labour struggles against capital (Bauwens, Terranova, Wark) have on the one hand their own problematic ideologies and conditions (Dean, Fuchs, Andrejevic, Wark). On the other hand, communism and the commons also have cell forms in the realm of digital labour and the digital productive forces (Fuchs, Bauwens). Having in mind that digital labour necessarily refers to and is connected to traditional labour, the question arises if (De Kosnik) and how the global collective worker can unite and it also becomes arguable that the commons and communism should not be goals that are restricted to the realm of digital labour (Fuchs), but are desirable for society at a whole.

Beside these points, and of course there are also other points made in the chapters that could not be mentioned here, the edited volume leaves however unanswered very foundational questions concerning digital labour. It is mainly a collection of digital labour phenomena without contributing to a systematic theory of digital labour. When reading the collected volume it is salient that there is no shared notion of digital labour among the authors and that there are only few attempts of engaging with foundations of theorising digital labour. Is digital labour affective labour, cognitive labour, immaterial labour, informational or immeasurable labour? Is digital labour the same as free labour? If so, what is then a digital wage worker? Is digital labour work that transcends capitalism and/or is it subsumed to capital? Systematic definitions are rare. Overall this is not surprising for a book that represents an emerging field

of study. However, what is first needed for a new field, are theoretical foundation. One requires theoretical foundations of digital labour studies (Fuchs and Sevignani 2013, Sevignani and Fuchs 2013).

Marx made a distinction between work and labour (Marx 1867, 138). Labour is a necessarily alienated form of work, in which humans do not control and own the means and results of production (Fuchs and Sevignani 2013). It is a historic form of the organisation of work in class societies. Work, according to Marx, is in contrast a much more general concept common to all societies (Fuchs and Sevignani 2013): it is a process, in which humans make use of technologies for transforming nature and society in such a way that goods and services are created that satisfy human needs. Depending on how the relation between cognition and communication on the one hand, and instrumental work on the other hand is conceptualised, one way to consequently define digital work is that it makes use of digital media as an instrument of work that is employed together with the human brain to organise human experiences in such a way that symbolic representations, social relations, artefacts, social systems, and communities emerge as new qualities (Fuchs and Sevignani 2013, Sevignani and Fuchs 2013). Based on a foundational understanding of what work, labour, digital work and digital labour are, a systematic and empirically grounded typology of digital labour is needed that categorises work and labour according to the specific societal conditions of digital media. What distinguishes peer production from capitalist production? Is peer production work or labour? Andrejevic is right in this context by arguing that "more work needs to be done to define what might be meant by exploitation in nonwage labor contexts" (153). Also more foundational work needs to be done about what might be meant by the exploitation of cognition, communication and social relations.

The book *Digital Labour*, edited by Trebor Scholz, and the corresponding conference *The Internet as Playground and Factory* have advanced the emergence of a new field of study. I am sure that it will be an impetus for further theoretical and empirical contributions that are needed in order to understand and criticise digital labour in informational capitalism.

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