From mineral mining to data mining: Understanding the global commodity chain of internet communications

Chris Land

review of

Context

This is fairly hefty book by almost any measures. It weighs in at over 400 pages, retails for almost £100 (hardback) and undertakes to review and theorise the many and varied forms of labour that contribute to Internet based, digital media commodities. Empirically it ranges from the 'work' of Facebook users updating statuses and posting cat videos, to rare earth miners and smartphone production line workers, who create the material tools and technologies that allow us to access social network sites. Along the way we also encounter employees in Taylorised call centres, Indian software coders, Amazon's warehouse packers, and the digital 'labour aristocracy' working for Google. For Fuchs, what unites all of these varied forms of labour is that they are a 'part of a collective work force that is required for the existence, usage and application of digital media. What defines them is not a common type of occupation, but rather the industry they contribute to and in which capital exploits them' [4]. This range of types of work, and the attempt to theorise them as a single form of 'digital labour', is the main contribution of the book as a whole.

The use of the terms 'labour' and 'Karl Marx' in the title of the book indicates the theoretical perspective from which Fuchs analyses, critiques, and evaluates these forms of work. A Professor of Social Media at the University of Westminster, Fuchs' main concern is with the blind spots of contemporary media and communications theory. Drawing on the pioneering work of Dallas Smythe who argued that communication was a 'blind spot' for Marxist theory (Smythe, 1977), Fuchs aims to address Vincent Mosco's more recent claim that it is now labour that is 'the blind spot of communication and Cultural Studies' (Mosco, 2011: 230, cited on [5]). This book is particularly interesting for those of us concerned with work and organization because in addressing the blind spots of communication theory and Marxism, it offers a contemporary, critical, Marxist analysis of the digital economy, analysing the forms of exploited labour that constitute it, and considering the possibilities for an unalienated form of digital *work*, rather than alienated, capitalist *labour*. The rest of this review will first outline the main structure and content of Fuchs' analysis then outline some areas where this might be developed. The main areas for further work that Fuchs' book raises are identified as: the theory of rent and the significance of this category for understanding exploitation in the circuits of production Fuchs describes; the possibilities for resistance and alternative forms of digital work and technologies; the theorisation of the interconnections between the varied forms of labour Fuchs identifies, and his lack of engagement with writing on Global Production Networks, Commodity Chains, and the New International Division of Labour. The final section also raises some questions of methodology and the evidence mobilised to support the main arguments of the book.

Outline of the book's structure

The structure of the book is quite straightforward, at least at first glance. After the introduction (chapter 1), Part 1 focuses on Marx's labour theory of value in order to unpack the dynamics of exploitation and alienation in the capitalist labour process (chapter 2). After a short discussion of the fate of Marxist theory in Cultural Studies in chapter 3, this is then developed through Dallas Smythe's conception of the audience commodity in chapter 4. Here Fuchs restates the analysis he has developed elsewhere (e.g. Fuchs, 2012) suggesting that users of internet platforms like Google and Facebook are actually working for these companies, so that digital labour blurs boundaries between work and life, labour and play. This is really the main focus and contribution of the book, and certainly the most empirically and theoretically developed. Part 1 ends in chapter 5 with a review of the debate over the information society, asking whether digital technologies and the internet mean we are living in a radically new political economic formation, or whether nothing has changed because it is still all

capitalism. Fuchs suggests a dialectical resolution to this debate, in which capitalism remains the central political economic system, but is not unchanged and eternal. Rather, digital capitalism has sublated earlier modes of production, and their contradictions, into new synthesis, with new modes of production and new contradictions.

Part 2 consists of six 'case studies' that together map the global production networks of digitally mediated communication, and the relationship between the forms of labour that produce it. Chapter 6 starts with a description of the work of ICT-related mineral extraction, uncovering the relations of production characterising 'rare earth' and 'conflict' minerals like coltan, cassiterite, wolframite, tungsten and gold. These minerals are indispensable in the production of laptops, desktops, tablets and mobile phones, without which the Internet would not exist and digital labour could not be performed. This work is concentrated in war torn, impoverished countries like the Democratic Republic of Congo (DRC), utilises basic technologies such as picks and shovels, and is often performed under conditions indistinguishable from slavery, with the products of labour expropriated from miners down the barrel of a gun.

Chapter 7 moves along the commodity chain, to consider the manufacturing of digital devices like smartphones and laptops, which are made using these minerals. The focus of this chapter is on Foxconn, which became a household name in 2010 due to widespread media coverage of the 17 attempted suicides by employees in China between January and August of that year [182]. The fact that most people had not heard of Foxconn before this coverage is telling. The Taiwanese company, also called Hon Hai Precision, had over 1 million employees, most in mainland China, where its largest factory, in Shenzen, had some 420,000 employees in 2010. In 2012 it was the 156th largest company in the world and was responsible for assembling many of the well known digital technologies, including the iPhone, iPad, iMac and Kindle, as well as gaming consoles and other smartphones [186]. In this chapter Fuchs reviews the pay and conditions of Foxconn workers, who work an average 56 hours each week, for as little as 950 CNY (Chinese Yuan Renminbi) – equivalent to approximately £95 – per month. Drawing on a range of NGO and media reports, Fuchs not only portrays the conditions of work in this industry but also connects this to the wider political and economic structures of mainland China. For example, citing a Fair Labor Association (FLA) report on Foxconn from 2012, Fuchs notes that 72.2% of respondents were migrant workers. These are often displaced, landless peasants, who have seen their land appropriated by the government as part of an agricultural industrialisation process akin to the European enclosures of the 15th and 16th centuries. The parallels with the European experience and China are telling. The earlier enclosures created a population of workers with no other

means to sustain themselves than paid labour in industrial centres like Manchester. Similarly, the landless peasants in mainland China have no real option but to head to the industrial centres to work for companies like Foxconn where they are in no position to bargain over pay and conditions. In part this powerlessness is due to relatively low levels of unionisation, but this is reinforced by governmental practices like the hukou registration system, which prevents rural migrants from properly settling in the urban centres, and denies them access to basic public goods and services [188] (cf. Ngai, 2005). This leaves these workers particularly vulnerable to exploitative and dangerous employment practices, whilst ensuring high profits for the designers and brand owners of the goods they produce, as well as Foxconn itself.

Chapter 8 moves attention from the production of digital hardware to software, focussing on the Indian software and IT services industry. Here Fuchs again draws attention to global inequalities in what he calls the International Division of Digital Labour (IDDL) and the role of outsourcing in the global commodity chain of digital labour. In 2012, for example, the Indian software industry accounted for 7.5% of India's GDP, but only 0.6% of the Indian workforce. Of that work, approximately 75% is for the export market [202]. Whilst wages in the software industry are relatively high for India, from the perspective of those outsourcing services to India the wages are less than 10% of what US coders would cost. Indian companies have access to a large, highly qualified, college educated and very cheap labour force that can speak English [204]. In effect, this cheap labour subsidises the profits of those companies outsourcing work to India, whilst little of the benefit remains in India, constituting a neo-colonial form of domination and reinforcing uneven global development.

Chapter 9 shifts the focus to those companies where labour remains in the global North and particularly the USA and Silicon Valley. Fuchs describes these workers as the 'Google labour aristocracy', drawing attention to the fact that wages in Internet Publishing in Santa Clara County are 5.6 times the US national average ($269,258 compared to $48,043 in 2011) [214-216]. These employees have relatively high autonomy in their work, are well paid, and receive many perks in their employment, including free food, sports facilities, and staff lectures ('tech talks'). They thus constitute a kind of digital labour aristocracy when compared with others within the IDDL, including manufacturing workers in Silicon Valley, who experience 'hyper exploitation' in 'toxic workplaces that are highly gendered and racially structured' [220]. Even within Silicon Valley, then, there is a significant divide between the Google elite and the predominantly female, immigrant workforce in manufacturing, who are employed on poorly paid, insecure contracts. The 'toxicity' in the workplace here is not metaphorical either, with a range of illnesses resulting from the presence of chemicals like

arsenic, asbestos, lead and toluene in these workplaces [220]. Health is also an issue for the Google aristocracy, however, and their high pay and operational autonomy comes at a price. In Fuchs' account these employees suffer high levels of stress and an impossible work-life balance, working up to 130 hours a week in a corporate culture characterised by 'a lot of competitive pressure to work long hours' [225; 228].

Where chapter 9 focuses on high-end 'knowledge workers' at Google, chapter 10 draws attention to the more routinized, interactive service work of the call centre, another key node in the IDDL. As anyone with a passing knowledge of writing on call centres from the last 20 years will know, this work is predominantly 'repetitive, highly monitored and stressful' [236]. Employees are subject to intensive surveillance through technologies like automated call distribution, call monitoring, and highly visible queued-calls lists. This puts intense pressure on workers to meet both quantitative targets like number of calls answered and average length of call, and qualitative targets such as customer satisfaction and adherence to script. Again, much of this work in English speaking countries is outsourced to India due to the English language skills and low wages there [238]. The cost for workers, many of them university educated, is regular night-shift work to fit in with the main service demand windows in the USA and UK [238]. Like the low paid manufacturing workers in Silicon Valley, this work is dominated by women, a point that Fuchs picks up on in terms of understanding call-centre work as 'housewifized' [239-241], drawing attention to its parallels with traditional forms of domestic labour in the patriarchal household, for example, the poor pay and precarious conditions, but also the affective, often sexualised, nature of many of the service interactions, which require a form of emotional or affective labour. That this work is poorly paid is partly explained by recourse to patriarchal ideologies of women as being naturally 'social, caring, affective, sexual, relational and communicative' [240].

Chapter 11 presents something of a break in the book, even though it is positioned as one of the six case studies comprising Part 2. Not only it is the longest of these six chapters, it is the one where Fuchs is most clearly on home territory. Here he returns, a little repetitively in places, to the analysis from chapter 4 of social media use as a form of digital labour. This argument is clearly at the heart of Fuchs' interest and receives a much stronger empirical and theoretical treatment than the preceding 5 chapters. As in chapter 4, the main example given here is Facebook, and the argument is that 'users' of Facebook, who pay nothing to access the website, are not actually consumers at all, but rather producers. The real consumers of the Facebook product are the advertisers, who account for almost 90% of Facebook's revenue stream (Beverungen et al., 2015). What is sold to these advertisers is the attention of an

audience of prospective 'clicks' or 'eyeballs', leading to direct sales or increased brand awareness. This 'audience', unlike the traditional mass media, is produced by other 'users' posting updates, sharing links, and commenting on each others' pages, thereby generating the media content that keeps their 'friends' accessing the site. Each page loaded provides another opportunity for Facebook to present this audience with advertising. Chapter 11 develops this argument, first laid out in chapter 4, to argue that whilst Marxist analyses have addressed the communicational dimensions of work, they have 'neglected the question if communication is work' [248] and what this means in terms of alienation and exploitation. Fuchs argues that social media users are alienated in four ways: by being coerced into using Facebook because not doing so risks social isolation; from their own experiences, which become the property of Facebook; from their data, which is the property of Facebook; and from the monetary profit generated from their data [259-260].

Whilst this four-fold alienation is objective, it is subjectively obfuscated by an inverted commodity fetishism. For Marx, commodity fetishism was the process through which markets and prices concealed the social relationships between producer and consumer that made such exchanges possible. Whilst the price renders a social relationship as if it were a mere relationship between things (money and other commodities), Fuchs' inverted commodity fetishism makes a relationship between things appear to be a relationship between people. Although posting and liking on Facebook appears to be an autonomous reproduction of social relationships between users, this appearance conceals a class relationship. What you are really producing is a marketable commodity: yourself and your friends as an audience and source of market data that can be sold to advertisers.

In chapter 11 Fuchs further develops these ideas through a version of autonomist, or post-Operaismo Marxism, using concepts like the 'social worker' (Negri) and 'social factory' (Tronti) to challenge the orthodox, or classical Marxist position that 'productive work can be exploited only if it passes through the circuits of wage-exploitation' (Fleming, 2014: 103). For Fuchs it is always unpaid labour that produces surplus value, even in paid employment, where the part of the working day producing a surplus is unpaid. This argument enables him to account for exploitation in a wide range of unpaid forms of work, echoing now well-established debates over domestic and reproductive labour in feminist Marxism (e.g. Dalla-Costa and James, 1976; Fortunati, 1995; Weeks, 2011). Unlike Negri, who suggests that the increasing importance of such unpaid work renders Marx's labour theory of value (LTV) irrelevant, Fuchs instead develops a consistent and concerted defence of the LTV, which he argues will hold for as long as capitalism exists, even if labour is unpaid and outside the formal employment relationship.

Unpaid labour, exploitation and the emerging rentier economy

I had some conceptual concerns with this discussion of unpaid labour. In one sense Fuchs is correct and provides quotes from Marx to back up his claims about unpaid labour being the source of value, but he also performs a theoretical sleight of hand. For example, he explains that the 'specific characteristic of capitalism is that labour-power becomes a commodity that…is compelled to work a certain share of the day without payment' [31]. This misrepresents Marx main point about exploitation and waged labour. In chapter 19 of *Capital*, volume 1, for example, Marx is quite explicit that under capitalism there can be no such thing as productive unpaid labour per se. This is because what a labourer exchanges with an employer is their *labour power*: the potential to work.

> That which comes directly face to face with the possessor of money on the market, is in fact not labour, but the labourer. What the latter sells is his labour-power. As soon as his labour actually begins, it has already ceased to belong to him; it can therefore no longer be sold by him. Labour is the substance, and the immanent measure of value, but has itself no value. (Marx, 1976: 677)

In the model of equivalent exchange that Marx uses throughout his analysis of capitalist exploitation, a worker is paid the value of their labour power, which can be calculated as the cost of reproducing that labour power for another day. Fuchs recognises this, and develops it using the ideas of Harry Cleaver to note that the actual price of labour power is the result of political struggle, for example on page 54 where he makes some excellent points concerning the importance of unpaid reproductive labour in a capitalist economy. Reproductive labour creates labour power itself and therefore creates value indirectly, by pushing down the value of labour power. In employment, however, all time is paid, and is paid at the value of labour power. This is precisely the secret of industrial capitalist value production, and takes place in the famous 'hidden abode of production' (cf Böhm and Land, 2012; Frazer, 2014). Labour is not 'unpaid' but rather political struggle determine the price, and length and intensity of exploitation, of labour power in the production process. To say that there is not an equivalence between the value produced by labour and its remuneration is not the same as saying that unpaid labour is the source of all surplus value. Rather, the difference between the value of labour power and the value it can produce is the secret of industrial capitalist value production.

This is conceptually significant as it provides the basis for Fuchs' subsequent claims that exploitation in digital labour can be understood in the same terms whether it takes place in the formal employment relationship or not, as surplus labour is equated with unpaid labour: a conceptual elision. This also allows Fuchs to prematurely dismiss some of the more interesting ideas that have been

put forward to explain the differences between exploitation and value extraction in unpaid labour (like Facebook prosumption) and more conventional employment. Fuchs entirely dismisses the idea that the exploitation of the digital labour of social media users might be understood through the analytical lens of '*rent*' for example [128-129]. Here Fuchs' main concern appears to be with dismissing those of his critics, like Caraway (2011) and Pasquinelli (2009), that use this concept, rather than taking seriously the potential in their arguments. In some respects, however, we can usefully understand the value extraction processes of digital labour in terms of rent. Marx's own analysis of rent was developed in volume 3 of *Capital*, a work that remained incomplete and was edited from his notebooks for publication by Engels, but which contains traces of relevant theory. Marx distinguishes, for example, between simple ground rent and improvements incorporated into land as '*la terrre capital*' (Marx, 1981: 756). The former is effectively a tax that entitles the legal landowner to a proportion of the surplus value produced on the land. As farmers strive to improve the land through irrigation or soil improvements that will render it more productive, the more its value as a means of production is augmented. Like any value, this is the result of the labour that has been incorporated into the land as a factor of production: it is dead labour, the same as any other capital. As these improvements are inseparable from the land itself, they effectively become the property of the landowner, who can profit from them by increasing rents, to reflect the improved value of the land, or by selling it:

> ...this is one of the reasons why the landowner seeks to shorten the term of the lease to a minimum, as capitalist production develops - the improvements made to the land fall to the landowner as his property, as an inseparable accident of the substance, the land. When the new lease contract is concluded, the landowner adds interest on the capital incorporated into the earth to the ground-rent proper, whether he leases the land again to the farmer who made the improvements or to another farmer. His rent thus swells; or, if he plans to sell the land... its value has now risen. (Marx, 1981: 757)

If we want to understand the expropriation of value from forms of unpaid labour like Facebook, then an updated, but still Marxist, conception of rent seems to fit very well. The challenge for Google plus, and for the more radical social networks sites that Fuchs reviews in chapter 12, in trying to compete with Facebook for users is that Facebook has effectively enclosed the social network of the Internet. By achieving a critical mass of users, anyone wanting to communicate digitally with friends, needs to use Facebook. Except for a few specialist users, alternative SNSs like Diaspora [303] are caught in a trap: they are unattractive because they have only a few users, this puts off prospective users, so numbers stay small. They are relatively unproductive digital territories, in terms of social networking and communication. In contrast, Facebook is much more productive of

communicative use value, allowing users to potentially communicate with millions of people. Crucially, this also makes it more economically valuable, as advertisers get access to an enormous amount of user-generated data, and can reach a large number of even very narrowly targeted users. This increased economic productivity is the result of the dead, unpaid labour of Facebook's users, but it is captured through enclosure by digital protocols and IPR. Facebook functions like a landlord insofar as their 'labour' makes the site more productive, and they can charge advertisers a rent to access this digital territory. The more productive the site is (of clicks, eyeballs, or targeted data), the more they can charge for it, just like a landlord. In this sense, Fuchs is entirely correct that this is the direct exploitation of unpaid labour, but that is quite far from Marx's analysis of the exploitation of workers through the distinction between labour power and labour that he develops in *Capital Volume 1*.

This is not the only point where Fuchs seems more concerned with dismissing his critics, rather than developing their analyses to support his own. For example, when discussing marketing and branding, he refers to 'consumers' ideological belief in the superiority of a certain commodity [which] allows companies to achieve excess profit, a profit higher than that yielded for similar use-values' [115]. Here Fuchs resorts to a simplistic idea of ideology as obfuscation, neglecting the now substantial literature in marketing on prosumption, an idea he embraces elsewhere in the book. This would have allowed Fuchs to recognise that much of the symbolic work associated with consumption in contemporary consumer behaviour literature can also be understood as a form of productive, unpaid labour (Arvidsson, 2005; Böhm and Land, 2012). Unfortunately his evident hostility to Arvidsson [130-131], who has criticised his analysis of digital labour, means that he does not engage in dialogue with those elements of Arvidsson's analysis that would support his arguments, and even broaden their significance in understanding contemporary processes of value production and valorisation. In this respect, Peter Fleming's recent book *Resisting Work* offers a similar, but wider ranging, analysis of the significance of unpaid labour in late capitalist economic formations, using many of the same theoretical resources (Fleming, 2014).

A comparison with Fleming is also instructive for a better understanding of the possibilities for overcoming the exploitative processes around unpaid labour. Whilst Fuchs remains wedded to a dialectical understanding of capitalism and its relationship to resistance, Fleming follows autonomist writers like Harry Cleaver and Mario Tronti in insisting upon their 'inversion of the class perspective' (Cleaver, 1992) that places resistance and class-composition at the forefront of their analysis. Fuchs, in contrast, keeps his main focus on capitalist organization, thereby ceding the territory of innovation and change to capitalism and the

corporation. The result is a rather pessimistic perspective that emphases recuperation and alienation over the active potentialities of social creativity that a relatively autonomous social and communicative form of the general intellect puts to work. This also means that his analysis of resistance remains overly oppositional, rather than constitutive.

Resistance: Alternatives beyond digital labour?

It is the final and twelfth chapter in which Fuchs considers the possibilities for resistance to digital labour. Whilst some of the discussion here is around 'working class technologies' that are structured around use values and owned and controlled by workers, the main focus is on whether Occupy can be understood a working class social movement with the revolutionary potential to overcome digital capitalism. Whilst I would have welcomed a serious discussion at this point in the book of possible alternatives to digital capitalism, the discussion in this chapter really gets bogged down in how Occupy used social media to organize opposition to capitalism. Following a quite inconsistent discussion of class (after considering a range of definitions of class early in the chapter, on page 319 'middle class' is statistically defined as 'people who have a median income'), the chapter develops a dialectical account of protest/revolution and social media use, rejecting technological determinist accounts of Occupy as well as social determinist accounts and those that just throw them both together. This position is then elaborated through an empirical description of how Occupy used various social media, in often-contradictory ways. This is, in itself, quite interesting and will be of some value to those who are interested in social movement organisation, but it offers little real development of what alternatives to capitalist digital media might look like, or how they might be developed, not least because the analysis focuses on the organization of protest, rather than more constitutive alternative economic forms.

Evaluating the evidence presented and theoretical framework

Having overviewed the main arguments of the book, there are two main points that need to be made in relation to the evidence and analysis. Whilst the book is most valuable in overviewing the terrain of the IDDL and extending discussions beyond digital prosumption on Facebook, the latter remains the main focus. This pushes the other forms of digital labour into the background. It is also noteworthy that these other forms receive the least empirical treatment. There is no reason why, for example, in the chapter on call centres Fuchs does not engage with the many labour process analyses of call centre work, or the many studies of

software workers that have been conducted in organisation studies and the sociology of work. Instead evidence is mostly taken from NGOs, campaign organisations and websites. This leads to problems with the persuasiveness of the evidence supporting Fuchs' analysis. To give just two examples, Fuchs makes quite a lot of the 17 attempted suicides at Foxconn between January and August 2010. Given that the company had over 900,000 employees in China in 2010, and assuming that the rate remained the same for the rest of the year, this gives an annualised suicide rate of 23/900,000, or almost 2.6 per 100,000, actually lower than the official suicide rate in China of 6.9 per 100,000 (2012 WHO figures). Most subtle, but perhaps more telling, is the data used in analysing work and overwork at Google. Here Fuchs uses anonymous, on-line reviews of jobs, without considering the possible selection biases that such a data source might use. Indeed, throughout the book there is almost no use made of primary research on the realities of work, which really undermines the credibility and depth of the analysis.

There are also some theoretical shortcomings in the book. I have already mentioned the lack of a serious discussion of rents, but given that the book is concerned with mapping the International Division of Digital Labour, it is notable that no reference is made to other academic analyses of the International Division of Labour, for example the extensive literature on commodity chains or David Levy's (2008) exemplary work on Global Production Networks, which would significantly strengthen Fuchs' analysis here. In Levy's work, for example, much is made of the various institutions that regulate, and produce discourses on, the global division of labour, drawing upon Gramsci's idea of hegemony. This would be an invaluable addition to Fuchs' analysis, as it would further explain how the IDDL is institutionalized and reproduced (a question that is left unanswered in the book). More importantly, it could help to indicate where possible fault lines might lie within these networks.

Despite these complaints, there is much to recommend this book, not least the scale of its ambition and purview. Although much of the book focuses on prosumption, Facebook, and the Internet, the overall argument points to the many and varied forms of labour that enable these activities. If I have complained that SNS users receive a more rigorous treatment than labourers further up the Internet commodity chain, the book is invaluable in drawing attention to them, and providing the outline of a political-economic framework within which this form of collective worker can be better understood and analysed both theoretically, and for its political possibilities of class recomposition. As such, and although the book is written and framed as a contribution to communication and media studies, it has value for anyone with an interest in work, organization, international business or political economy. Several of the chapters will be

useful, stand alone resources for teaching across these areas, and the arguments concerning Facebook and digital prosumption will be useful for researchers wanting to better understand the dynamics of value production and exploitation on digital media. Finally the discussion of Occupy is important in its own right and will be useful to anyone with an interest in the role of communications and social media in the new social movements. It is an excellent corrective to the more popular discourses of technological determinism surrounding protest in the media today. Finally, the overall framework has great promise theoretically and conceptually and indicates areas where attention should be focussed both empirically and theoretically to investigate further the global production network of digital communications. In this sense the book as a whole maps out a fertile research project for Marxist studies of work and organization, as well as media and communication studies.

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the author

Chris Land is a Reader in Work and Organisation at the University of Leicester. His research includes work on labour in the creative industries, including co-working spaces, fashion branding, and Internet prosumption. He has published in journals including *Sociology*, *Organization Studies*, *The Sociological Review*, *Organization*, and was a founding member of *ephemera*. He is planning a book on the shifting boundary between work and life but does not want to sacrifice too many weekends to the project, so may never finish it.
Email: chris.land@leicester.ac.uk