Hacked in the USA: Prosumption and digital labour*
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This book originated in an international conference organised by the Work, Culture and Society research centre at Paris Sorbonne University in May 2013 on the theme of the dissemination of what Dan Schiller (1999) has called "digital capitalism". We were interested in the economic and sociological foundations of the expansion into the work sphere of Information and Communication Technologies (ICTs). How did ICTs interact, in synergy and conflict, with other social facts? What new types of labour, at work and at home, did ICTs help generate? The globalization of these ICTs and their accompanying practices and discourses also raised the issue of interculturality, as various cultures have become involved in a process of appropriation and modification of the globalized US culture, and we were keen to explore critiques of American exceptionalism in this field.

We felt that the factors leading to the emergence in the United States and subsequent global spread of "digital capitalism" had not been sufficiently interrogated. While Schiller identified the political framework and policies that made it possible for major telecommunication firms and hardware and software manufacturers to develop distinct business models and an (allegedly) specific form of capitalism in the United States, the dissemination of ICT-enabled business practices has not received the amount of critical analysis it deserves. The global dimension of both recreational and professional uses of ICTs makes them look universal and, so to speak, ahistorical. Yet these uses have a precise origin:

individuals have elaborated, reoriented, and shared these new techniques in specific places and at identifiable moments. In the area of networked communication and computation for example, engineers and hobbyists ("hackers") such as Paul Baran, Vint Cerf, Steve Jobs, Bill Gates, Richard Stallman, Bill Joy, etc., were not only white, male, and middle-class: they were also citizens of the United States of America. Many dimensions of Internet culture are accordingly clearly rooted in North America: the premium placed on freedom of speech; the spirit of association (building grass-roots organizations for every purpose); the ability to connect very rapidly, if not always deeply, with strangers; the enthusiasm of volunteer work; and the new attitudes towards production and consumption that emerged in the 1960s. Moreover, the growing adoption of ICTs, and of the Internet, goes hand in hand with deep changes in labour markets such as flexibility, cost-cutting, casualization of work, and deregulation, which ICTs have contributed to amplify, a phenomenon once again largely originating in the US. The United States has continued to play a major role in the development and spread of ICTs, while the extension of the global mediasphere has been accompanied by a corresponding extension of the anglosphere.

One of this book's aims is thus to reterritorialize issues that have been globalized. This does not mean ignoring the evolution of the Internet away from its original US location. Things have changed since 1998, when most commercial domain names were located in the US, and with themajority of those being concentrated in midtown Manhattan and North-East San Francisco (Zook, 2005: 32). Nor do we disagree with the necessity of "rethinking the Internet as international" (Goggin and McLelland, 2009: 4). But a first step towards a true understanding of the globalization of any phenomenon is a relocalization, designed to identify the historical and geographical conditions of possibility of its birth and growth. If "digital capitalism" was born in the USA, does this matter at all? We think so.

The many faces of capitalism

The manner in which so-called new stages of capitalism are described varies according to the preoccupations of observers, their original field of study and their theoretical underpinnings: terms have included globalization, post-Fordism, informational capitalism, cognitive capitalism, neo-liberal capitalism, vectoral capitalism, communicative capitalism, the era of financialization, the post-industrial society, the knowledge economy, the regime of high- performance work, etc. The type of work that is performed in this new age by an ever- increasing number of individuals has been characterised as digital, immaterial, online, or virtual. Richard Barbrook has shown that since the advent of capitalism, theoreticians have periodically invented new categories to describe what they conjectured were the key new actors of production and potential new pillars of society, from Adam Smith's definition of the philosopher, to Barbrook's "digital artisan" class, and other denominations attempting to pinpoint the "class of the new" (Barbrook, 2006).

Digital labour does not refer to the work of those who produce digital software or hardware. It points rather to the fact that ICTs have enabled people to provide their labour everywhere and at any time (whether in the workplace or not), but also to work unwittingly when engaged in leisure, communication and consumption. Labour now permeates daily life, as when office workers are compelled to check their email inbox 24 hours a day, seven days a week, out of fear correspondents will think their messages are being ignored; or when consumers perform the jobs of service providers by uploading their measurements to an online retail store and checking whether garments fit. Since ICTs enable tasks to be distributed and modularised, and performed anywhere and at any time, the frontier between work and non-work become increasingly indistinct. When users of social networking sites "like" a video, are they having fun, or producing valuable behavioural trace data for someone else? And how many people realise that when they enter a "recaptcha" authentification code they are actually enabling Google to clarify badly scanned text documents (Casilli, 2015)? Key separations are being undermined, such as that between production and consumption. There is thus some overlap between digital labour and prosumption, but these notions can be distinguished by one important difference:

digital labourers may be remunerated; prosumers (consumers who engage in production) seldom are; and when remuneration occurs, it is never on the basis of a contract quantifying labour time.

Prosumption is operating as the local equivalent to neoliberal globalisation. In both cases, ICTs enable the delocalisation of production so as to generate more profit. Industrial production and services are delocalised to countries where labour is cheap; and delocalisation also occurs inside countries, when consumers are put to work, often online, for no pay. Labour issues have historically been somewhat neglected by "Internet studies". The *Oxford Handbook of Internet Studies* (Dutton, 2012) devotes less than 1% of its 632 pages to labour issues. This is hardly surprising: labour has always been the blind spot of all ideological discourses, and a great deal of the discourse on the Internet is ideological. Labour-related issues involve painfully concrete topics such as living wages, benefits, and job security; working conditions and work-induced medical conditions; subordination and control; and debates on labour organization. Furthermore, these issues are likely to evoke quasi-obscene notions such as exploitation and alienation, so are better left well alone by apologists of capitalism. This is why the larger part of ideological discourse tries to hide or gloss over labour-related issues, rather than justify existing arrangements. Such discourse rests on the fundamental premise that there is no alternative to whatever policy is being implemented, so that the sometimes undesirable effects on work and workers have to be accepted; but not researched. This discourse is also deployed actively, as in the case of prosumption. Since prosumption frames the engagement of consumers in production as a positive development, in terms of the increased autonomy and well-being of the people involved, it operates as a justification for the social order, for the way things are.

As a consequence, serious research in the field or labour studies in the Digital Age comes exclusively from critical theorists. In the case of digital labour, reference must be made to the pioneering and enduring work of Ursula Huws (2003). In the last few years, significant contributions have been made by scholars such as Eran Fisher (2010), Christian Fuchs, the editor of *TripleC* and organiser of the ICTs & Society conferences (Fuchs, 2014), and Trebor Scholz, who, in addition to his own writings, brought together a wealth of contributors to the 2009 Internet as Playground and Factory and 2014 Digital Labor: Sweatshops, Picket Lines, Barricades conferences (Scholz, 2012). One of the most problematic issues that came to the fore of these debates was the notion of exploitation. While the boundaries between work and leisure, production and consumption seemed clear in the past, they now increasingly looked blurred, and the redefinition of critical categories became a core concern for researchers.

Prosumption and exploitation

A prosumer is a consumer who takes part in the production or distribution process, without being paid for it in wages. To which extent this amounts to exploitation, and in what sense, has been a recurring question in the literature. The term "prosumer"

was coined by Alvin and Heidi Toffler in *The Third Wave* (1981), to describe people working from their homes, using their computers, but also "seeds genetically designed for urban or even apartment agriculture", "cheap home tools for working plastic, given new materials, adhesives, and membranes, and (...) free technical advice available over the telephone lines with instructions perhaps flickering on the TV or computer screen" (Toffler, 1981: 278-9). The fact of prosumption is not as new as the word that describes it, but it has undoubtedly gained currency in a hitherto unimaginable way since the advent of the Internet, which has dramatically expanded the range of self-service products and services.

A paradigmatic example of self-service in the non-digital world is when fast food restaurant customers order food at the counter (or key in their order and pay for it at a terminal), carry their tray to the table, and clean up after eating by placing their waste in the bin and their tray on a stack. Here the labour of the workers behind the counter, who work at breakneck speed for low wages, cannot be made any more productive, or profitable; in contrast consumers can be made to work a little more by performing one extra task: "the only thing better than a low-paid worker is someone (the consumer as prosumer) who does the work for no pay at all" (Ritzer & Jurgenson, 2010: 26). In reality, such consumers do receive some payment, in the form of a discount on the price of their meal compared to a meal in a full-service restaurant. Similarly self-served petrol used to be cheaper for motorists who opted out of the full service at the filling station, and supermarkets were born during the Great Depression. If consumers, now prosumers, work longer than what is necessary for them to pay for the discount, we can speak of exploitation in the Marxist sense, defined by the ratio of the workers' unpaid work time to their paid work time. It is never easy to measure these quantities, whether off-line or online. In assessing online self-service prosumer activities, the approach would consist, for example, in comparing the costs (in terms of hours of labour, including access to after-sales service) and the benefits (in terms of discounts obtained) when booking hotels, airline tickets etc. from online travel agencies rather than from traditional travel agencies.

Online prosumption extends beyond self-service, since computers, tablets and other interfaces are both consumption channels and versatile production units. They can therefore be used for purposes other than performing other people's labour, such as self-expressive and creative work generating original products including software, academic articles and artworks. Furthermore, when they rely on networked collaboration, these tools mobilize the energies of huge collectives. How does this relate to exploitation? Digital prosumer labour involves unpaid provision of creative content (uploading photos or texts), unpaid provision of data (giving away email addresses, contacts, and consumption habits), and "audience labour" including the symbolic construction of brands. In the online realm, benefits for prosumers may not exist, and, when they do, can be more difficult to quantify than would be the case offline. Every minute spent surfing the Web generates trace data that are mined by market research firms which accumulate value thanks to human activity, and do not

give anything in exchange. One could argue that this surfing costs users no expenditure of "toil and trouble", and that therefore it is not labour, just a pleasant way of passing the time. But in the eyes of capital, and in economic theory, what is it to football club owners whether their players have fun on the playground, unless they benefit from it to pay them less?

A more delicate case is that of the "free" communication services provided by commercial online platforms. The platforms do provide a service that customers enjoy and that they might be willing to pay for (and end up paying for in cash in some cases). Fuchs (2012) has examined the case of the users of commercial social networks, who are both producers of data commodities and sources of advertising revenue when they click on commercial links. Employing a range of methods to evaluate the prosumers' exploitation rate, which could be considered as "tending towards infinity" if money wages were the only quantity taken into account, Fuchs concluded that "the secret of Facebook's profits is that it mobilizes billion hours of users' work time (at the level of values) that is unpaid (at the level of prices)" (2012: 714-716).

Exploitative practices have also been detected in the case of people co-creating content in the virtual world Second Life: the recruitment of participants' unwaged labour under the "rhetorical guise of empowerment" conceals "the corporate power grab that facilitates the entrapment of customer labour recruits" (Bonsu & Darmody, 2008: 356). In conventional economic terms, not-for profit activities create public goods, which are positive externalities for commercial firms. Online exploitation could thus be said to occur in the case of idealistic Wikipedians who create free content, which generates traffic for Google's algorithm to map and monetize. Wikipedians also furnish Amazon with abundant free content for its Kindle platform.

The development of prosumption, whether digital or not, also means that a significant and increasing part of the productive activity of mankind is made at extremely low and equalized wage rates, regardless of skills. Self-serving customers at what is still ironically often called the "service station" may pay a few cents less for their petrol, which can be viewed as their remuneration for their labour at the pump. But that remuneration is the same, irrespective of their productive capacity in their other (paying) job: some of the drivers could use that time making business phone calls worth much more than a few cents, or enjoying a break that will have to be taken later, while at their regular jobs. Making workers spend more and more time performing unskilled, low value work is not exactly the traditional recipe for maximizing output preached by classical economists. For capitalists, however, the fact that people employ their time doing something much less productive than what they could otherwise do is not relevant, provided this time is spent for their own benefit. Meanwhile the rich, who adhere to comparative costs in practice even when they are not conversant with the theory, are not prepared to spend hours pushing buttons or waiting for an operator to pick up the phone and help them solve this or that problem with their computer, electricity bill or plane ticket; accordingly, they still have

servants and personal assistants. For members of this group, the service concept has also been reinvented through the spectacular rise of concierge- type activities.

Prosumption and the sharing economy

The original "digital artisans" were computer engineers and hobbyists ("hackers") and their work practices have informed the ideas that they developed and disseminated. Software production tends to be modular: projects are decomposable, they can be broken down into distinct components which are developed in parallel, as long as they follow common protocols (Baldwin & Clark, 2000). With the advent of the Internet and the emergence of Free and Open Source Software (FOSS) as a viable alternative to proprietary products, community forms of production (also known as social production, peer production, bazaar governance, and so on) have gained prominence. This enables asynchronous investments of distinct individuals with varying competencies; projects are also granular (modules must be fine-grained) so that they can be performed by people in little time, and motivation can be very small (Benkler, 2006). These two dynamics - tasks, or services, being modularised, and users being put to work - became the cornerstone of community software development, and by extension, of the "new economy". Dot-Com entrepreneurs presented digital prosumption as liberation from both Fordist "long-line" sequential production processes, and from the Fordist top-down, Madison Avenue consumption model.

In terms of consumption, online prosumption was supposed to free consumers from the one-size-fits-all advertising messages that influenced their native desires and replaced them with inauthentic ones. Google and Amazon's algorithms monitor online behaviour , and the results used to present a tailored product offer that perfectly matched a customer's personality, as expressed through this behaviour. Subsequently, the prosumer ideology celebrated the unshackling of consumers from traditional retail distributors that enjoy an oligopolistic position in any given physical environment. Not only would savvy Internet shoppers compare prices instantaneously from a wide array of sellers on the World Wide Web, or shop smartly as they explored the city thanks to their smartphones: they would also be able to organize into online communities and associations, cut the middleman and engage in "collaborative consumption" as active participants. These ideas were applied with tremendous commercial success in some cases, but the democratic benefits failed to materialise. Advertising agencies ended up knowing more about consumers than ever before and Google rankings continued to reflect the pecking order of large corporations.

In terms of production, ICT-enabled service firms attempted to monetize the energy of crowdsourced labour. The paradigmatic example is Amazon's Mechanical Turk microlabourers (popularly known as "Turkers", "cloud workers" or "click workers") who accomplish micro-tasks such as tagging and labeling images, transcribing audio or video recordings, and categorizing products. This extreme modularization of work results in their status being that of independent contractors rather than employees with rights. Employers ("requesters") who have permanent access to a global work

force, can thus remain anonymous and only pay "Turkers" if they are satisfied, or not pay them and still use the work. There are no restrictions on age and "Turkers" are often paid in game credits which attracts minors (Scholz, 2014; Marvit, 2014). Their lack of an established identity and isolation from one another does not enable them to unionize and demand better wages. The best they can hope for is to share information on websites such as Cloudmebaby,

Turkernation, and Reddit, or, thanks to "activist systems" such as Turkopticon, to create and use reviews of employers according to their communicativity, generosity, fairness and promptness. This enables them to avoid employers who omit to pay them, as they have no legal obligation to do so (Irani & Silberman, 2013). They can also launch letter-writing campaigns to Amazon's boss, petitioning for better working conditions, as enabled by the Dynamo website (Harris, 2014). Another often overlooked aspect of the Mechanical Turk is that both employers and employees have to provide, for free, the labour that consists in elaborating and uploading requests and profiles, selecting and evaluating tasks. This labour is even more intensive in platforms arranging labour markets for skilled activities, such as O'Desk or Elance. In all cases, it involves a typically prosumer labour relation which is also the basis of so-called collaborative consumption sites.

Collaborative consumption site participants perform the greater part of the labour, uploading data into the system at every point, and feeding the platform profits. Rather than doing away with middlemen, collaborative consumption has led to the rise of new strategic actors who occupy central positions in what were originally passionate and collaborative communities by providing a secure platform where modularised tasks and services can be exchanged, bartered or sold. Anyone can join in and everyone is equal, with the exception of the central connecting "app" or platform, which requires tremendous technical expertise and significant capital, demanding a sizeable return. This so-called "sharing economy" enables people to trade access to accommodation (Airbnb), transport (Lyft, Uber, Sidecar) and household help (TaskRabbit), amongst other services. As one can imagine, adopting an exclusively technology-enabled and crowdsourced approach to the distribution of resources raises numerous regulatory concerns, starting with the absence of minimum wages when the transaction is the equivalent of a labour contract (as with Uber). Uber workers, known as "driver-partners", cannot collectively bargain for better wages: nothing stops the company from cutting its fares by half to win market shares from its competitors, as it did in 2013 in Los Angeles (Ascher-Schapiro, 2014).

There are many other examples of the perils of replacing an employer or broker by an "app". Racial discrimination can rise, as the majority's implicit bias against minorities may be facilitated when people select who they wish to transact with based on profiles: a study found that Airbnb properties offered by non-black hosts earned, on average, 12 percent more than properties offered by black hosts (Edelman & Luca, 2014). There are also serious privacy concerns: in 2012 Uber tracked the rides of users who went somewhere other than their home on Friday or Saturday nights, and left

from the same address the next morning, identifying these "rides of glory" as potential one-night stands (Tufekci & King, 2014).

The US origins of the prosumer ideology

In sociological terms, the Marxist understanding of ideology corresponds to a materialist approach, which stresses the fact that ideas, like other human productions, are created and consumed under specific social relationships. In the case of capitalism, the dominant group, which possesses or controls the majority of the means of producing and disseminating ideas, encourages the production and dissemination of ideas that support their domination, whether by justifying it, or by hiding it. Once disseminated, these ideas form a kind of social unconscious, in the sense that the people that entertain them are not aware of the social process that has created them, and believe that these ideas are theirs, produced by their own reflective activities, which is what Marxists call a "false consciousness". The aim of social science is then to unveil the hidden mechanisms through which dominant social actors maintain their domination. The point of view from which this unveiling or deconstructing

science speaks has been criticized, as social scientists are said to be elevated above ordinary social actors, being solely capable of perceiving the hidden side of reality, that is to say macro-social structures (Castoriadis, 1986; Boltanski, 2011). This point deserves further discussion. Asserting that astrophysicists have accumulated years of experience which enable them to account for phenomena which untrained eyes cannot fathom seems uncontroversial. Why then should it be shocking to suggest that social scientists have been trained to decipher (for example) statistical data? In fact the problem lies not with the specialised knowledge, but with the propensity of critical sociologists to base their politics on their analytics (O'Neil, 2014). Since critical social scientists are exclusively armed with the tools of critical science, they alone, goes this argument, have the "responsibility for playing a key role in modern political life" (Swartz, 2003: 819). The objection to critical social science has merit – people are not "cultural dopes", they are aware that exploitation occurs, and they try to challenge it – but it is often stretched to such an extent that any systematic discussion of social domination becomes impossible. An analysis of the social mechanisms underlying the prosumption ideology is therefore in order.

The US-born discourse on the Internet's ability to transform for the better both production and consumption dovetailed neatly with a neoliberal ideology that had essentially the same origin and which had, since the 1980s, consistently portrayed deregulation as inherently liberative. As Eran Fisher (2010: 76) noted, neoliberal authors such as Thomas Friedman conveyed the idea that "the Internet offers the closest thing to a perfectly competitive market in the world today" (2000: 81), whilst Milton Friedman wrote that "the Internet... moves us closer to 'perfect information' on markets" (2006). An "open source" variant can be found in the person of Kevin Kelly, the editor of *Wired Magazine*, who, reflecting in 2005 on the 1995 Netscape IPO

(widely perceived to mark the beginning of the "Dot-Com Bubble"), enthusiastically proclaimed: "We are the Web. The Netscape IPO wasn't really about dot-commerce. At its heart was a new cultural force based on mass collaboration. Blogs, Wikipedia, open source, peer-to-peer—behold the power of the people" (Kelly, 2005).

Richard Barbrook and Andrew Cameron (1995) famously relocalized Internet business culture when they christened the "bizarre" fusion of San Francisco's cultural bohemianism and Silicon Valley's hi-tech boosterism the "Californian ideology":

Promoted in magazines, books, TV programmes, Web sites, newsgroups and Net conferences, the Californian Ideology promiscuously combines the free-wheeling spirit of the hippies and the entrepreneurial zeal of the yuppies. This amalgamation of opposites has been achieved through a profound faith in the emancipatory potential of the new information technologies. In the digital utopia, everybody will be both hip and rich (Barbrook & Cameron, 1995).

The Californian Ideology conveyed a double promise: that of a utopian perfect market, where everyone will compete against everybody on a level playing ground, David standing even with Goliath; and that of a utopian perfect communistic society where everybody will collaborate with everyone, the wolf dwelling with the lamb. Labour would be rewarded on its merits and freed from necessity, eschewing both exploitation and alienation, in a gift economy based on mutual recognition by peers. This promise weirdly echoes James Truslow Adams' definition of the American Dream in his book *The Epic of America*, written in 1931:

that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement. (...) It is not a dream of motor cars and high wages merely, but a dream of social order in which each man and each woman shall be able to attain to the fullest stature of which they are innately capable, and be recognized by others for what they are, regardless of the fortuitous circumstances of birth or position (Adams, 1933: 214-215).

The American Dream of 1931 did not translate directly into the prophecies of *Wired* Magazine: it was mediated by the counter-culture.

The impact of the counter-culture

The hegemonic mechanisms which lead people to embrace domination, to subjectivities being enrolled, still need to be unpacked. A good place to start is the Mojave Desert, where every year thousands of people gather to celebrate the Burning Man festival. Passive onlookers are converted into inspired artistic prosumers, joining in to produce elaborate costumes, design and decorate campsites, construct and drive art cars, perform dance or music, engage in performance art, and record activities through photographs and videos (Chen, 2012). Organisers seek to promote democratic and communal values over those of the state and capitalist firms by encouraging participants to creatively express themselves, fulfil an active role as members of the community and immediately respond to and protect that environment (Black Rock City Operation Manual, cited in Chen, 2012).

Burning Man is a classic illustration of what, since the countercultural 1960s, has proved to be a powerful utopian drive: the reenchantment of daily life through the abolition of the separation between work and play. In hyper-connected societies the impulse behind this event manifests itself (amongst other forms) in prosumption, when and inasmuch as it is labour performed by consumers for ethical, or expressive, rather than monetary reasons. 1960s counter-culturalists believed that, against the impersonality and interchangeability of faceless "organization men", roles and persons had to be connected, so that people's work was in accord with their individual interests and desires.

A notable exception to the general rule concerning mainstream ideological pronouncements on labour is utopian discourse. At least since Thomas More's *Utopia*, it has been necessary for the forecasters of alternative worlds to pay attention to the "mudsill" or lower layer of every society they envisage, to producers and the work they perform. Since the authors' work is fictional, they must derive their abstract sketches of the work and workers of that alternative society from their intuitions of the societies they live in, and proceed by generalizations. Daniel Bell's seminal work on *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (1973), which forms the foundation for a significant part of the intellectual production devoted to society in the Digital Age, was, as he described it himself, "a fiction, a logical construction of what could be, against which the future social reality could be compared in order to see what intervened to change society in the direction it did take" (Bell, 1999: xx). What could be, in that case, was, "in the economic sector, (…) a shift from manufacturing to services; in technology, (…) the centrality of the new science-based industries; in sociological terms, (…) the rise of new technical elites and the advent of a new principle of stratification" (Bell, 1999: 487). Bell saw the rise of the Internet as supporting the accuracy of his prediction, devoting many pages of his 1999 "The axial age of technology" foreword to this phenomenon, and stressing the benefits offered by the combination of "an *entrepreneurial culture* (and venture capital to finance it) with a highly skilled group of educated persons". Bell commented parenthetically: "Ironically, some of these developments are the residue of the hippie culture of the late 1960s and 1970s. Rebelling against the constraints of organizational life, young entrepreneurs found an economic outlet, and independence, in writing software programs and codes for computers." (1999, xliii)

That Bell, Barbrook and Cameron described these developments as "ironical" and "bizarre" seems to point towards an irreconcilable contradiction between the 1960s-inherited counterculture, with its emphasis on the gift economy and pre-industrial references, and the dollar-and-cents ethos that has proved essential to the development of the post-Cold War North American ICT industry. Boltanski and Chiapello (2004) have explained the contradiction by identifying the capacity of capitalist firms to use critique to rejuvenate themselves: the countercultural artistic critique of boredom was integrated into an emergent "New Spirit of Capitalism", emphasizing personal emancipation from alienation at the expense of the social critique of inequality, which seeks to alleviate exploitation. Boltanski and Chiapello's

(2004) work mainly focused on new management techniques, which exist in many different industries. In the case of Internet work culture, which includes prosumption, the direct connection between counter-cultural projects such as the Whole Earth Catalogue and the decentralized spirit of Internet communities has been extensively documented (Castells, 2001; Turner, 2006). Understanding the underlying causes of this connection, beyond the biographies of the Internet's founding figures, is one the aims of this book.

This book's contribution

This collection features work by some of the leading theorists of value and labour in the digital age. Ursula Huws focuses on the regulatory environment, Eran Fisher detects a trade- off between increases in exploitation and decreases in alienation, Johan Söderberg is attentive to the subversive potential of the rejection of property rights and Vincent Mosco points to the next stage in digital labour, cloud working. Some prosumers receive substantial non- monetary benefits; others attempt to segregate their prosumed products from the market economy, as is the case of some Free and Open Source Software (FOSS) projects for example; some critics of capitalism see prosumption as one of the bases of an alternative society. In other words, prosumption, like the 'commons' (Caffentzis, 2010) works both for the dominant capitalist system, in the sense that it is easily metabolized by it when consumers work for capitalists, and against it, in the sense that it embraces a holistic approach to production and consumption that points to the possibility of overcoming traditional modes of division of labour and to the perspective of making humans whole. In addition to the theoretical approaches outlined above, incisive case studies of swiping, collaborative consumption, convergent media, US expatriates, Swedish Wikipedians, and Disney parks by Michael Palm, Marie-Christine Pauwels, Adam Fish, Eve Bantman, Arwid Lund, and Thibaut Clément, bring this tension to life.

The first two chapters provide a historical overview of the context from which digital labour and prosumption emerged. The introductory chapter, "Setting the Standards: the USA and Capitalism in the Digital Age", by Ursula Huws, points to several key aspects of US influence over the current global economy, emphasising the setting of standards for ICTs in what she calls the Digital Age of capitalism: from ISO standards and the original technical standards developed to make the Internet possible, to those applicable to massive online open courses (MOOCS), to global certification processes by Microsoft or Cisco, or the use of global English, the US has been fashioning the global digital economy. At the same time, the very success of the global standardization effort brings new life to one of the fundamental contradictions of capitalism, classically identified by Marx, between the international nature of production and national boundaries. It thus raises the question: "in creating the behemoth that is the global digital economy, has capitalism finally also created the means of its own dissolution?"

The second chapter, "How the Counterculture Redefined Work for the Age of the Internet", examines the cultural dimension of the diffusion of ICTs. The type of US soft power that was disseminated along with the growth of digital capitalism has its roots in the 1960s counterculture. Olivier Frayssé examines how the counterculture was essentially a rebellion against Fordism: in the countercultural project, mass production by robotized workers would be replaced by customized artisan productions; culture was to be made, not consumed; couch potatoes staring at their TV screens would be replaced by active content producers, passive consumers by prosumers; the notion of work itself was to be reinvented. Because of its anti-Fordist origins, participants in the counterculture could adapt to, and inform the post-Fordist labour regime.

Prosumers primarily produce services, as noted by the Tofflers (2006), whose experience as labour union activists helped them identify the gimmicks designed to entice consumers to work for free for retailers. In the third chapter, "The Costs of Paying, or Three Histories of Swiping", Michael Palm employs a simple but efficient methodological approach: "The question of what is new about any technology should always be accompanied by the question, what isn't?" In the tradition of historians of technology such as David Noble, Palm revisits the major technological changes mainly pioneered in the US, by pursuing three threads: the self-service concept, starting with supermarkets during the Great Depression and now the norm on the Internet; the telephone interface, from the automation of switchboards to the omnipresence of keypads, with the touch-tone keypad (rolled out by AT&T in 1963), or the touch screen swiping "revolution" (introduced on Apple's iPhone in 2007); and the evolution of Transaction Technology from the cash register to the "Chase Paymentech Future Proof terminal".

In chapter four, "Work and Prosumerism: Collaborative Consumption in the United States", Marie-Christine Pauwels discusses peer-to-peer platforms such a as Airbnb or Zipcar, where participants exchange and share goods and services in what is now branded as the "sharing economy". Collaborative consumption is based on the premise that access is more important than ownership. These practices are heralded as a revolutionary business model that will deeply transform work and consumption patterns. Pauwels shows that behind the empowerment rhetoric and flowery discourse on the brave new world of digital entrepreneurialism lie power struggles, complex labour issues, and a subtle reinterpretation of our identities as workers and as consumers.

In the fifth chapter, "The Moral Technical Imaginaries of Internet Convergence in an American Television Network" Adam Fish examines a similar process of disenchantment at work in the television industry in the United States. The development of "convergence" between online and offline media provoked the rise of a new discourse about participatory democracy as well as the hopes for lucrative business opportunities in the form of viewer- created content. Fish employs the concept of "moral technical imaginary", defined as the simultaneity of technical, moral, and social orderings. He populates it with ethnographic and historical detail,

including data gathered during six years of participant observation, interviews, and employment with Current TV, an American-based television news network co-founded by Al Gore to democratize television production. Popular empowerment designed to diversify (in the Jeffersonian tradition) the hegemonic public sphere ended up producing a commercial format which hyped conventional marketing tools such as "testimonials" and iconic sponsoring.

Producing content is also one of the themes of our sixth chapter, Eve Bantman's "Marketing Migration in North America: The Business Model of Brokerage in a Networked Age". In this case study of the interconnection of ICT operations, migration and employment in a US community of expatriates in Merida (Mexico), Bantman explores the relationship between ICTs and transnational real-world movements of labour and capital, stressing the tension between delocalisation and relocalisation. The case study also explores the issues of platform management and control of prosumer input.

In chapter seven, "The Dialectics of Prosumption in the Digital Age", Eran Fisher insists on the specificity of contemporary prosumption: the immateriality and networked aspects of production. Prosumption is understood here as "a new mode of production, which blurs the longstanding distinction between producers and consumers, authors and readers, speakers and audience". Using examples from the USA, Fisher shows how Web 2.0 makes prosumption an increasingly important source of surplus-value appropriation by capital. He proposes a double dialectical approach, both to the production / consumption relationship and to the exploitation / alienation paradigm.

Immaterial and affective labour are also Thibaut Clément's focus in chapter eight, "Whistle While you Work: Work, Emotion, and Contests of Authority at the Happiest Place on Earth". Clément discusses to what extent the expansion of the Disney studio's narrative and technical know-how into the service industries marks a shift toward a new stage in cognitive capitalism, with economic exchange in the firm's parks revolving predominantly around the production of desired emotions. This shift comes complete with a new distribution of labour – one that extends to visitors, whose participation fits definitions of "prosumer work" – as well as with new forms of struggle between staff and management. Strategic rewritings of attractions' storylines occasionally allows employees to expand their roles within the park's work organization and also highlights the socio-technical nature of narratives in Disney parks. This chapter illuminates the development of work as play-acting and the engineering of emotions.

The abundance of instances where individuals accept to work for free by engaging in prosumer work is a puzzling question that the literature mentioned in chapter seven does not completely account for. Chapters Nine and Ten explore the issue from the vantage point of what Adam Arvidsson (2008) calls the "ethical economy", where workers are not motivated by financial incentives, but by self-fulfilment validated by a community of peers. Interpretations of the relationship of the ethical model to the

traditional capitalist model hinge around whether the abjuration of exclusive property rights over what is being produced (the defining characteristic of ethical legal licenses such as the General Public License or certain variants of Creative Commons) is celebrated, denied, or co-opted (O'Neil, 2015).

In chapter nine, "The Coming of Augmented Property: A Constructivist Lesson for the Critics of Intellectual Property", Johan Söderberg explores one of the reasons why workers in the virtual realm are supposed to work for free: "information exceptionalism", which sets the production, reproduction and communication of information apart from other products, such as physical or service goods. Söderberg squarely confronts the validity of this exceptionalism, which, being based on the constructed notion of economic scarcity, establishes a distinction between a virtual world where digital commons should be the norm, and a non-virtual world where private property is the only operational paradigm. The scarcity or abundance of any kind of goods, including physical goods, depends on a political choice. Atoms too wants to be free, but, as with information, are everywhere in chains. Private property is not likely to be abolished with 3D printing, but this innovation may lead to a future regime of augmented property and generalised piracy. In Chapter 10, "Wikipedians on Wage Labour within Peer Production", Arwid Lund proposes a qualitative case study of the attitude of Swedish Wikipedians towards their activity, as they are confronted with the issue of the use of wage labour inside an ethical project. The chapter provides a point of entry into the question of prosumer subjectivity and enables the author to explore a question whose importance is likely to rise, namely the overlapping of coerced (waged) and volunteer (unwaged) work in hybrid economies. Finally, Vincent Mosco's conclusion highlights this volume's contribution to the study of digital capitalism and draws our attention to the rise of cloud technology, whereby a few large data centers can meet firms' ICT needs at lower cost, with less professional personnel. As firms outsource their work to prosumers and their expertise to cloud services, definitions of work, labour and value will increasingly have to be re-defined and re-imagined in order for the seemingly inexorable rise of unpaid work to be made more just, and more sustainable. A discussion of universal income is beyond the scope of this volume, but should be included in future debates. We hope you enjoy reading these chapters and that this book will contribute to a clearer understanding the work and labour issues in the Digital Age of capitalism.

Works cited

Asher-Schapiro, Avi (2014) "Against sharing", *Jacobin Magazine*. September.

Adams, James T. (1933) *The Epic of America,* London, Routledge & Sons.

Arvidsson, Adam (2008) "The ethical economy of consumer coproduction". *Journal of Macromarketing*, 8(4): 326-338.

Baldwin, C. & Clark, K. (2000) *Design Rules, Volume I: The power of modularity*. Cambridge, MA: MIT Press.

Barbrook, Richard (2006) *The Class of the New*, London, Mute Publishing.

Barbrook, Richard and Andy Cameron (1995) "The Californian Ideology", *Mute*, Issue n° 3, Autumn 1995.

Bell, Daniel (1999) *The Coming of Post-Industrial Society: A Venture in Social Forecasting*, New York, Basic Books.

Benkler, Yochai (2006) *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, Yale University Press, New Haven.

Boltanski, Luc (2011) *On Critique. A Sociology of Emancipation*, Polity, Cambridge, UK. Boltanski, Luc, & Ève Chiapello (2004) *The New Spirit of Capitalism*, London, Verso.

Bonsu, Samuel K. & Darmody, Aron (2008) "Co-creating Second Life. Market-consumer cooperation in contemporary economy". *Journal of Macromarketing* 28(4): 355-368.

Caffentzis, George (2010) "The Future of 'The Commons': Neoliberalism's 'Plan B' or the Original Disaccumulation of Capital?" *New Formations*, 69: 23-41.

Casilli, Antonio A. & Cardon, Dominique (2015) *Qu'est-ce que le digital labor?*, INA, coll. "Etudes et controverses".

Castells, Manuel (2001) *The Internet galaxy: Reflections on the Internet, business and society.* Oxford, UK: Oxford University Press.

Castoriadis, C. (1986) *Les carrefours du labyrinthe II: Domaines de l'homme.* Paris: Seuil. Chen, Katherine K. (2012) "Artistic Prosumption: Cocreative Destruction at Burning Man", *American Behavioral Scientist*, 56(4): 570-595.

Dutton, William H. (2012) *The Oxford Handbook of Internet Studies*, Oxford, Oxford University Press.

Edelman, Benjamin and Luca, Michael (2014) Digital Discrimination: The Case of Airbnb.com. Working Paper 14-054, Harvard Business School.

Fisher, Eran (2010) Media and New Capitalism in the Digital Age: The Spirit of Networks, New York, Palgrave Macmillan.

Fuchs, Christian (2012) "Dallas Smythe Today - The Audience Commodity, the Digital Labour Debate, Marxist Political Economy and Critical Theory. Prolegomena to a Digital Labour Theory of Value", *tripleC* 10(2): 692-740.

Fuchs, Christian (2014) *Digital Labour and Karl Marx*, New York, Routledge.

Friedman, Milton (2006) "[Free markets and the end of history](#)" *New Perspectives Quarterly* 23 (1)..

Friedman, Thomas (2000) *The Lexus and the Olive Tree: Understanding Globalization*, New York, Anchor Books.

Goggin, Gerard and Mark McLelland (2009) *Internationalizing Internet Studies—Beyond Anglophone Paradigms*, New York, Routledge.

Hardt, Michael, "Affective Labour", *boundary 2*, 26(2) (Summer, 1999), pp. 89-100, Duke University Press.

Hardt, Michael, and Antonio Negri (2000), *Empire*, Cambridge, Mass., Harvard University Press.

Harris, M. (2014) "Amazon's Mechanical Turk workers protest: 'I am a human being, not an algorithm'". *The Guardian*, 4 December.

Huxley, Aldous (1932), *Brave New World*, London, Chatto & Windus, 1932.

Huws, Ursula (2003) *The Making of a Cybertariat: Virtual Work in a Real World*. New York: Monthly Review Press.

Irani, L. & Silberman, M. (2013) Turkopticon: Interrupting worker invisibility in Amazon Mechanical Turk. Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems.

Kelly, Kevin (2005), "We are the Web", *Wired*.

Marvit, M. (2014) How crowdworkers became the ghosts in the digital machine. *The Nation*, February.

O'Neil, Mathieu (2014) "Hacking Weber: Legitimacy, critique and trust in peer production, *Information, Communication & Society*, 17(7), pp 873-886.

O'Neil, Mathieu (forthcoming) "Labour out of control? The political economy of capitalist- centralized and ethical-modular organizations". *Organization Studies*.

Ritzer, G. & Jurgenson N. (2010) "Production, consumption, prosumption. The nature of capitalism in the age of the digital prosumer". *Journal of Consumer Culture*, 10(1): 13- 36.

Scholz, Trebor (2012) *Digital Labor: The Internet as Playground and Factory*, New York, Routledge.

Scholz, T. (2014) Crowdmilking. 2014 Grafstein Lecture in Communications, University of Toronto Law School.

Toffler, Alvin and Heidi (1981), *The Third Wave,* New York, Bantam.

Toffler, Alvin and Heidi (2006) *Revolutionary Wealth*, New York,

Tufekci, Zeynep and Kingdec, Brayden (2014) We can't trust Uber, *The New York Times,* Dec. 7, 2014.

Turner, Frederic (2006) *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*, Chicago, IL, University of Chicago Press.

Zook, Zook, Matthew. A. (2005) *The Geography of the Internet Industry: Venture Capital, Dot-coms and Local Knowledge*. Oxford, Blackwell Publishers.