

A Digital Age without Proleterians

by Sébastien Broca

Has the digital economy definitively made the main tools of Marxist analysis obsolete? This is Mariano Zukerfeld's argument, in a lively essay that suggests rethinking the critique of capitalism around the question of knowledge rather than labour. However, his demonstration lacks a convincing theory of value.

Reviewed: Mariano Zukerfeld, *Knowledge in the Age of Digital Capitalism* (London: University of Westminster Press, 2017), 272 p.

Knowledge in the Age of Digital Capitalism presents as an ambitious and iconoclastic study in critical social theory drawing on a range of sources from philosophy and sociology to economics and Science and Technology Studies. In this book, Mariano Zukerfeld, a researcher at the CONICET,¹ addresses the social and economic issues raised by the development of digital capitalism through an analysis of information and knowledge. So far, this is nothing new. However, the novelty resides in his emphasis on the material embodiment of all forms of knowledge. Distancing himself from 'immaterial' approaches to information and knowledge, the author instead devises his own theory which he labels 'cognitive materialism'. In doing so, he offers a new way of thinking about exploitation in the digital economy, emphasising the role of knowledge and breaking both with Marxist orthodoxy and with certain contemporary approaches, such as the notion of 'digital labour'.²

¹ The CONICET (National Scientific and Technical Research Council) is an Argentinian government agency that directs and coordinates much of the scientific and research conducted in Argentina at universities and institutes.

² Cf. Trebor Scholz, ed., *Digital Labor: the Internet as Playground and Factory* (London: Routledge, 2013).

Physical matter and knowledge matter

According to M. Zukerfeld, in capitalism most goods are subject to a double regulation. They are apprehended both as physical property and as intellectual property. These two dimensions act together and simultaneously. A table is framed in law as a physical object (it is my table, your table, the school's table, etc.) and as an intellectual object (its design can be under patent or not). Similarly, a novel is considered a physical object (it is my book, your book, etc.) and an intellectual one (it can be protected by copyright or out of copyright).

According to M. Zukerfeld, this double regulation is grounded on the difference between two forms of *matter*, understood here as the group of entities that are changeable. The author makes a distinction between *physical matter* and *knowledge matter*:

Physical property regulates access to physical matter, which entails what is usually called 'matter' and energy, while intellectual property regulates access to knowledge matter, which encompasses what is commonly labelled as knowledge, information, culture, communication, etc. (p. 15)

In the author's view, the vast majority of natural and human objects are therefore a combination of physical matter and knowledge matter. Furthermore, knowledge matter only exists 'on a material basis, in a physical bearer' (p. 24). All knowledge therefore exists as an 'emergent property of physical matter' (p. 5).

This argument begins with a materialist typology of knowledge, differentiating between 4 types of knowledge depending on its physical bearer. The bearers of *objective knowledge* are inert entities: technical objects, software etc. *Biological knowledge* has either biological, natural bearers (the neurones in our brains) or artificial bearers (a genetically modified plant). *Subjective knowledge* is the knowledge of an individual. Finally, *intersubjective knowledge* is embedded in the collective. It includes the languages, values, social norms, and legal frameworks that regulate access to physical matter and knowledge matter.

Productive processes and types of exploitation

In the author's view, knowledge is transformed as it moves from one material bearer to another. He refers to this transformation as translation.³ When human beings carry out translation operations that significantly modify physical matter and knowledge matter, they

³ For example, this could be transforming informal subjective knowledge into objective knowledge embedded in a material form (a book, manual, database, etc.)

are involved in *productive processes*.⁴ When a productive process gives rise to economic exchanges that are objectively asymmetrical, in which one or other of the parties involved receives compensation (whether monetary or in kind) that is inferior to their productive contribution, a situation of exploitation arises. According to Zukerfeld, in capitalist societies, this situation is due to the fact that some knowledges do not receive remuneration:

The e [exploited] actors contribute their energies and different types of knowledge to the productive process, and receive a compensation approximately equal to (not less than) the value of the expended energies, but not all (or nothing) of the value of the translated knowledges. Thus, the essence of capitalist exploitation is the unremunerated knowledge of the e actors (p. 132)

This reasoning is based on breaking down the notion of labour, which, according to the author, combines expending *energy* and using *knowledge*. The second element is what produces the surplus value. A capitalist relation of production is only solid if the exploited actors receive sufficient resources to meet their fundamental needs and reproduce their labour power. Consequently, in general – Zukerfeld excludes certain cases of super-exploitation here – they tend to receive remuneration that is at least equal to the value of the energy they expend. However, part of the knowledge they use in the productive process is appropriated without any equitable compensation being provided. This, in his view, is the heart of capitalist exploitation.

Building out from this general approach, the author distinguishes between 3 types of exploitation. In *exploitation through alienation*, of which salaried employment in the archetypal form, workers sell their labour power for a limited period of time, during which their subjective knowledge is objectified in the products of their labour. These products, insofar as they are legally the property of the capitalist, become both externalised and estranged, and the remuneration the workers receive is inferior to the value of the knowledge upon which they draw. *Exploitation by reproduction* does not presuppose that workers sell their labour power. Rather, it consists in copying workers' subjective or intersubjective knowledge in an object (a book, a video, a software programme, etc.) from which value can be extracted independently of the original knowledge carriers and without them receiving adequate compensation. The creative and cultural industries provide many examples of this. Finally, *exploitation through attention* is based on the exploited subject *receiving* knowledge in exchange for access to goods or services. The most obvious illustration lies in the commercial media economy where, according to M. Zukerfeld, the value of attention paid to advertising is higher than the value of the freely available content. This form of exploitation is only viable when propped by the previous forms given that it does not provide the exploited subjects with any financial resources to meet their needs and consume the products promoted in the advertising.

⁴ M. Zukerfeld's notion of a productive process is very broad. It includes the commercial production of goods or services but also non-commercial activities such as domestic work and even the production of subjectivities. Translations take place on all these levels.

Exploitation without work

The value of the author's theoretical construct, of which I have only presented a few salient aspects, is that it offers new tools for analysing digital capitalism. Underpinning the book is the idea that Marx's concepts were the product of the industrial capitalism of his time and are no longer relevant in the current context. 'Cognitive materialism' is framed as a critique of traditional analysis of exploitation. It implies, for example, that exploitation is possible without dispossession of means of production: this is the case for certain freelance workers who have adequate tools in their homes, namely a computer and an Internet connection.

The author's analytical work also shows how different types of exploitation combine. Take the example of a social network such as Facebook. Following the analysis suggested (p. 139), the company's profits are partly based on fairly traditional forms of exploitation by alienation. The author is thinking here of Facebook's employees but also of those to whom work is outsourced, for example moderators in charge of expunging undesirable videos from the site (violence, pornography, etc.).⁵ Some forms of exploitation through reproduction are also at work: Facebook draws value from content (text, videos, photos) and data provided by its users without recourse to an employment contract.⁶ Finally, exploitation through attention is evident insofar as all users are subjected to targeted advertising in exchange for access to the service.

This example highlights the fact that insofar as M. Zukerfeld's theory of exploitation is based on the idea that knowledge is not remunerated, it is separate from the notion of work. According to the author, it is possible to be exploited without working, for example using Facebook for recreational purposes or sitting on the sofa watching a commercial television channel (exploitation through attention). This proposition, no matter how counter-intuitive, makes an interesting contribution to current debates about new forms of exploitation in the digital economy. In the academic field, discussion has focused particularly on the notion of *digital labour*. This refers to the ways in which using digital technologies outside traditional work settings contributes to producing economic value, which is almost entirely captured by companies. Digital labour also encompasses microwork on platforms such as Amazon Mechanical Turk, posts on social media, reviews on Uber and Airbnb, in fact almost everything we do on the Internet that produces data which is then used by the market actors of the Web to extract value.⁷

Theorists of digital labour have constructed their critique of digital capitalism around extending the notion of labour to activities that were not previously considered as labour, a

⁵ Cf. Sarah T. Roberts, *Behind the Screen: the Hidden Digital Labor of Commercial Content Moderation* (University of Illinois, 2014)

⁶ The way in which Facebook uses this content and data is mainly determined by its terms of use.

⁷ Cf. Dominique Cardon and Antonio A Casilli, *Qu'est-ce que le digital labor ?* (Paris: INA, 2015).

line of thinking that presents some analogies with the feminist stance that forged the notion of ‘domestic work’. This is where the value of their approach lies, but it is also one of its limitations. One would hesitate to use the label ‘work’ to talk about watching a film on streaming, posting a selfie, or somewhat reluctantly sharing one’s personal data by using a search engine.⁸ M. Zukerfeld’s analysis offers a way of addressing such criticism, while also retaining the idea that the digital economy creates new forms of injustice. His work underlines the fact that forms of exploitation do exist which are not based on work in the sense of an intentional productive activity: ‘here there are capitalist productive processes, and therefore exploitation, but *there is no work* on the part of the exploited’ (p. 155). This proposition could be said to be reminiscent of theories of ‘cognitive capitalism’ that emphasise the difference between the exploitation of ‘invention power’ and labour power.⁹ Cognitive materialism makes a more radical break with traditional Marxism, however, by completely deconstructing the link between exploitation and work.

Limitations of a theory of exploitation based on knowledge

M. Zukerfeld’s theory nevertheless presents certain limitations. The first derives from his approach to *exploitation* conceived of as ‘objective asymmetry’ (p. 122) in the exchange of value. To judge this asymmetry, the value produced by the exploited subject and the value appropriated by the exploiting subject would have to be quantified. However, while M. Zukerfeld mocks the ‘cloistered monks’ attached to the Marxist labour theory of value,¹⁰ he does not himself produce a new theory of value in its stead. His arguments about the exploitation of knowledge therefore appear somewhat rash and lacking in foundation. He does seem aware of this problem, indicating in his conclusion that the lack of a systematic theory of value is one of the book’s limitations. However, this begs the question as to whether this limitation can be overcome. In digital capitalism, quantifying the economic value produced by individuals is a seemingly impossible task.¹¹ One might even suggest that, at a certain level of social complexity, the idea that the value of an individual contribution could correspond to the value of its remuneration can only ever be pure fiction, bypassing as it does what is always the result of social and political relations. In this sense, constructing an objective theory of exploitation seems at best an arduous task.

The book’s second limitation lies in its very broad, and sometimes surprising, understanding of the notion of knowledge. The concept of ‘knowledge matter’ allows the

⁸ Cf. Sébastien Broca, ‘Le digital labour, extension infinie ou fin du travail ?’, *Tracés* 32 (2017): 133-144.

⁹ Cf. Maurizio Lazzarato, *Puissances de l’invention. La psychologie économique de Gabriel Tarde contre l’économie politique* (Paris: Seuil, 2000); Yann Moulier Boutang, *Cognitive Capitalism* (Cambridge: Polity Press, 2012).

¹⁰ Attempts have been made to apply the theory of value to digital capitalism in a more orthodox fashion, for example the book by Christian Fuchs (*Digital Labour and Karl Marx*, London, Routledge, 2014) editor of the series in which M. Zukerfeld’s book was published.

¹¹ Cf. Y. Moulier Boutang, *Cognitive Capitalism*, *op. cit.*

author to break with the conflation of knowledge and truth and to avoid equating knowledge with human production. This materialist and anti-humanist conception allows him to group together in the same category DNA, digital information, tacit knowledge, and intellectual property rights, etc. It also underpins the way he sets aside work as a category, because it implies that knowledge is not always the result of a subject's actions. The notion of 'knowledge matter' nevertheless also presents certain difficulties. First, it is surprising that the author retained a term so strongly associated with humanist conceptions (*knowledge* in English but also *conocimiento* in the original Spanish). His 'knowledge matter' in fact seems closer to the concept of *information* in the broad sense this has taken on since Norbert Wiener's works.¹² For this reason, it is a shame that M. Zukerfeld gives so little focus to the debates surrounding this notion. At its inception, cybernetics was largely informed by discussions about 'indifference or not to the material medium',¹³ in other words, whether or not the properties of information were independent of the physical material in which they were embedded. It is only from the 1950s onwards that 'the belief that information can circulate unchanged among different material substrates'¹⁴ became widespread. Zukerfeld's cognitive materialism would have benefited from giving more space to these questions related to epistemology and the history of science. That being said, its weaknesses and questionable theoretical choices notwithstanding, *Knowledge in the Age of Digital Capitalism* makes an impressive contribution to critical theory about digital capitalism.

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¹² Cf. Norbert Wiener, *The Human Use of Human Beings* (Boston : Houghton Mifflin, 1950).

¹³ Mathieu Tricot, *Le moment cybernétique: La constitution de la notion d'information* (Seysse: Champ Vallon, 2008), p. 214.

¹⁴ N. Katherine Hayles, *How We Became Posthuman. Virtual Bodies in Cybernetics, Literature, and Informatics*, (Chicago: University of Chicago Press, 1999), p. 1.