



What is this thing?

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review of

Moulier Boutang, Y. (2011) *Cognitive capitalism*, trans. E. Emery. Malden: Polity Press. (PB, pp. 240, US\$24.95, ISBN 9780745647333)

Introduction

It is difficult to define a revolution while in the midst of it. It is even harder to shape it. In terms of the technological revolution, do we live in the post-industrial age, the knowledge age, the information age, Toffler's (1980) 'Third wave', or some other *thing*? Further complicating this is the determining what the 'we' refers to. As Edgerton (2007) has pointed out, the *developed* world might be in this new age, but the *developing* world is still in the industrial age. Similar questions abound regarding the nature of the corresponding new age of capitalism, and whether there is one.¹ Yann Moulier Boutang, Professor of Economics at the Université de Technologie de Compiègne, France, has a moniker for it. He brands it 'cognitive capitalism' to distinguish from its predecessors, mercantile capitalism and industrial capitalism (he also has a name for the technological age: the 'pollen society', which figures in his yet unpublished next book).

It is not until the third chapter that we get a brief description:

1 Williams (2002) ties technological revolutions to changes in the human habitat. She posits that what marks the new revolution is that our habitat is entirely artificial.

Then came cognitive capitalism, founded on the accumulation of immaterial capital, the dissemination of knowledge and the driving role of the knowledge economy. This form adapts itself paradoxically to the world of exacerbated competition of post-Fordist and industrial capitalism. (50)

It is worth considering the build-up to this definition and what follows in the order he constructs, so that one gets a sense of how his exposition of his idea is built.

Building a case

The book opens with a brief forward by Nigel Thrift, Vice-Chancellor of the University of Warwick, that highlights some of the differences in new capitalism: the move ‘from product to process’ and the notion that ‘people and goods become complex entities that link and think’ (viii). The forward is followed by Moulner Boutang’s short ‘Preface to the English edition’. Here he indicates out how his work has progressed since the original edition in French (2007) and teases that there is a new concluding chapter, unique to the English edition, regarding the financial crises of 2007-2009.

The last of the prefatory material is a ten-page introduction with three sections. In the first, he bemoans a lack of political ideas in the contemporary world. In the second, he claims that we need something akin to a Copernican revolution (I use this phrase to recall Kant’s epistemological turn – Moulner Boutang actually argues that we need ‘to abandon maps that merely reproduce the flat world of Ptolemy’ [3]). Ideas in the last section of the introduction, ‘From Lenin in England to Marx in California’, can be boiled down to this claim: ‘We are not living a period of socialist transition. The irony of history is that we are living, everywhere, a transition to a new type of... capitalism’ (9, his ellipses). In sum, the forward, preface, and introduction are setting the stage for his argument (as mentioned above, the first description of cognitive capitalism does not arrive until page 50).

Chapter 1, ‘The new frontiers of political economy’, begins with a history of the global economy since 1945². To get at what’s changed, he pinpoints the first important change as the recent globalization, which he thinks is best described

2 Robert Reich discusses the same time period and calls the new capitalism ‘supercapitalism’ (Reich, 2007).

as ‘neoliberal financialisation’³, which is different from the 1945-1975 boom because of

the deregulation of economies, the flexible exchange-rate regime, free trade as the modality or ‘default setting’ of international trade, the anti-Keynesian counter-revolution of the Chicago School[...] as well as monetarism and prioritisation of the fight against inflation. (14)

A second element that’s added is the change in our attitude toward the environment (the biosphere and its resources), which earlier stages of the global economy had a difficult time including in its accounting practices. The third new feature he calls ‘the revenge of externalities’. After a history of what is meant by an externality (a result of ‘gains or losses for third parties’ not involved in the original transaction), Moulner Boutang looks at recent changes when considering externalities. This includes the idea of compensating for those losses, which in turn leads to commodification (putting a price on something that previously could not be bought or sold). Fourth is ‘immaterial labour’, meaning that the key feature today is not ‘the expenditure of human labour power, but that of *invention power*’ (his emphasis). The elements that make up invention power include ‘research and development[...] potential, intellectual capital, organization, customer databases, intellectual property rights, image, confidence, stock exchange surplus value and so on’ (32) that do not fit in to conceptions of labour in industrial capitalism, which has little room for the immaterial.⁴ The last element in Chapter 1 is ‘collective intelligence’, which results from the immaterial labour mentioned previously, having ‘a brain that is equipped and extended by networked computers’ that leads to ‘a social accumulation of knowledge and memory of social organisation’ (36). These five features set the stage for what he is coining ‘cognitive capitalism’. Before he fully defines what it is in Chapter 3, though, he briefly sets out what cognitive capitalism *isn’t* in Chapter 2.

People talking about changes in capitalism come in two broad categories, he tells us in Chapter 2 that there are: ‘those offering us old wine in new bottles and those offering us new wine in old bottles’ (38). First, are those that say that there is not really anything new in kind, just in degree – capitalism + new technology. He includes ideas put forth in reports by the OECD, UNESCO, and others. Second, there are those that get some, but not all, of the pieces, but have ‘the problem of matching categories to the emerging reality’ (45). The new wine, in this case, is the digital revolution and the new reality it creates. This chapter is

3 For alternative accounts of globalization, see the works by Friedman (2005), Kates (2003), and Stiglitz (2002; 2006).

4 See Edgerton (2007) for the idea that the industrial revolution is ongoing.

transitional and allows one to position what comes next alongside the theories and theorists (too many to mention here) he characterised in this chapter.

Chapter 3, 'What is cognitive capitalism?' is the core of the book. After the description of cognitive capitalism given above, Moulier Boutang offers a list of the 'fifteen markers of cognitive capitalism'. In brief, they are:

1. Virtualisation of the economy and the growing of the immaterial.
2. Digitalised data.
3. Capturing the innovation of the present in the interactive cognitive processes of social cooperation and tacit knowledge.
4. The creation of socio-technical systems characterised by information and communication technologies.
5. Questioning of the division of labour model in three respects:
 - a. reduction of complex work to simple work.
 - b. separation of manual execution to reduce learning time.
 - c. specialisation loses relevance in a world of small series production.
6. Economies of scale no longer help with complex markets and recourse to learning economies instead is needed.
7. The conception/production/marketing sequence is reversed (he also calls this the move from 'Fordism' to 'Toyotism' model) and users are co-producers.
8. Lines between capital and labour are now blurred – inputs are now being distinguished as hardware (the physical), software (the logical), and wetware (the cerebral/the living).
9. A fourth layer, netware (the network) can be added to the three layers from the item above.⁵
10. The rise of 'cooperation between brains' at the same time that there is a decline in transforming material goods (and affecting the environment) into wealth.
11. The convergence of the above as the 'bio-productive' aspect of invention power (living labour as opposed to dead labour).
12. The decline of individual performance standards in favour of aggregate productivity and 'territorial excellence' (this applies both to individual employees and individual companies).
13. Stronger 'horizontalisation' and a crisis in implanting/enforcing intellectual property rights.
14. Externalities are more centralised and less marginalised.
15. Knowledge of the living and the means of producing are at the heart of the contemporary paradigm of production.⁶

5 As noted by Kevin Cattell, Vice President and Chief Architect at Pitney-Bowes, in conversation with me 'this layer is critical to both the delivery of and type of direction. It is evolving too. The device, the mode, the immediacy, and the unfiltered breadth of sourcing of information are all artists on a single canvas. In the past, we had too little information, now we have too much and much of it is not validated'.

To provide a proper definition of cognitive capitalism, we need to identify ‘a type of accumulation, a mode of production, and a specific type of exploitation of living labour’ (56). Instead of the accumulation of machinery and organized manual labour found in industrial capitalism, it is the accumulation of knowledge and creativity. Instead of the transformation of matter found in industrial capitalism, we have the cooperation of brains as the mode of production of collective intelligence. The third piece of the definition, exploitation of living labour, is not specified in Chapter 3. He does, however, devote a section of Chapter 3 to changes in the division of labour found in cognitive capitalism. There is a table on p. 62 and two figures on p. 70 that illustrate the differences in division of labour between industrial and cognitive capitalism, but it amounts to items 5 and 6 from the list above. What is considered scarce has changed: ‘cognitive attention; time and what people call “care” (affective attention)’ (72). The kind of fatigue at work changes along with the new scarcity. Attentive activity brings nervous fatigue. Productivity is fragmented and is hard to measure as there is no longer ‘a beginning, middle and an end’ (75).⁷ This means that work itself is inherently different, in terms of process and product. In a bold claim, Moulrier Boutang notes that motivations have changed from the industrial age desire *to feel* or dominate to the cognitive age desire *to know*, which he says has a double meaning: a desire to share and social bonding with others. Evidence for this motivational change is weak. However there are some studies on worker motivation (Zhan et al. [2013] is an example of a recent meta-analysis), too recent to be cited by Moulrier Boutang which bear out what he is claiming. The chapter ends with a discussion of free software and open-source software, including an analysis of Linux. Even Moulrier Boutang muses at the end of the chapter that ‘have we not perhaps drawn too idyllic a picture of this third capitalism[...]?’ (91).

Interlude: Theory

At this point in the book, one has to think about the characterization of cognitive capitalism itself, which is difficult to do. Many of the references alluded to in the book have not been translated into English. The text itself, though translated into English, still retains the French postmodern/poststructuralist style of authors like Baudrillard, Lyotard, or Foucault. His goal is plausible, but it is debatable that it fully maps onto what is going on with global capitalism. One reads on with a

6 This idea can be seen in the work of Hawken, Lovins and Lovins (1999).

7 Kevin Cattell noted, in conversation, ‘that the “always connected” and “always reachable” world of smart phones (they must be smart as they run our lives instead of us running them) is impacting creativity and delivery of excellence’.

‘let’s see where he goes with it’ attitude. That is, what are the implications of using his view as a lens through which to look at the world? With that in mind, there is much here that is of interest, especially regarding the nature of work in the knowledge economy.

Chapters: Applications

In Chapter 4, ‘New capitalism, new contradictions’, Moulner directs our attention to negative features of cognitive capitalism. Mirroring language from Marxian critiques of industrial capitalism, he refers to them as ‘contradictions’. Using Table 4.1 (94) he contrasts worker exploitation in industrial capitalism with exploitation in cognitive capitalism. The main difference is that it is ‘living labour’ (brains, primarily) that is exploited in the new capitalism, as opposed to the process and product of labourer as it is/was in industrial capitalism. Table 4.2 (96) expands this comparison to all forms of labour from ‘slave, serf’ to ‘creative, free cognitive worker’. Next, he considers property rights. After a brief history of ‘enclosure’ and property rights (98-103), he considers how lack of scarcity (ideas are less scarce than land, for example) is a challenge for ‘knowledge goods’. The model is changing and he uses Digital Rights Management (DRM) as an example here. Initially, DRM was seen as a way to protect against piracy of software, and later audio files, like mp3s. As he notes (107-110), the system is all but abandoned with buying being replaced by streaming or subscribing. A complicated Figure 4.3 (112) is an attempt to depict in a flow chart what a system of property rights will look like in cognitive capitalism: a struggle between models that attempts to strengthen and extend copyrights and patents centring on *ownership* on the one hand, and models that move toward ‘copyleft’⁸ and open archives that are centred on access and *use* on the other. Lastly, the preceding points of the chapter change the nature of work as living labour, which exemplifies that it does not occur in isolation. At the very least, it requires ‘access to machines (hardware), to software, to networks and to conditions of deployment of its networking activity’ (118). Access trumps ownership in the new capitalism.

Chapter 5, ‘The question of social classes and the composition of cognitive capitalism’, begins with a historical overview of the working class since 1760. The new capitalism blurs old distinctions as social background becomes less important than education and training. Knowledge workers depend more on

8 For more on ‘copyleft’ and open-source software, see the work by Cass Sunstein (2006) listed in the references.

‘mental mobility’⁹ than on ‘geographical mobility’ (127). In addition, we are seeing ‘a resurgence of the working poor’ (128). Consequently, work is less secure than it was. He calls those in this precarious position ‘the precariat’. Movement is toward the old model of piecemeal payment as opposed to a fixed position (something that is also being noted in academia with more reliance on adjunct as opposed to permanent faculty). There is also ‘the solitude of the cognitariat’ to contend with as knowledge workers do not have to gather together in a single place in order to work (135).

In Chapter 6, ‘Macroeconomic deadlock: Going beyond the critique of neoliberalism and financialisation’, Moulier Boutang notes that accountancy is still stuck in a Fordist model based on the ‘separation between the organisation of work dictated by machines and carried out during fixed working hours and the free person’. This is problematic because the ‘wealth of any company, and its potential for real innovation, are less and less able to be grasped by the accountancy[...] that has evolved over the past two hundred years’ (140). Rules for accounting for physical capital have a difficult time capturing the idea of ‘human resource in dual form’ as ‘living labour (or “wetware”)’ and the ‘cooperative network (or “netware”)’ (141). How does one value knowledge? One can put a dollar amount on advertising, but accounting for networks, suppliers, and ‘innovative potential’ is a more complex task (141). This leads to what he labels ‘the intrinsic instability of cognitive capitalism’ in the last section of Chapter 6 (144-148). Given that knowledge is the major commodity of the new capitalism, and that property rights are in flux (as per Chapter 4), one result is ‘the monopolistic concentration of giant companies operating in the fields of communication and of technologies for the transmission of information and knowledge’ (144)¹⁰.

The solution to these problems is addressed in Chapter 7, ‘Envoi: A manifesto for the Pollen Society’, which was the last chapter of the French edition of the text. This chapter is supposed to serve as a transition from the current book to his next one. *Cognitive capitalism* is supposed to help ‘remove the epistemological obstacles to a shift of paradigm’ (149). Near the end of the chapter, he explains how the pollen society serves as an analogy:

In reality, the human activity that is being captured in this way is not the production of honey, undertaken by productive human bees, but their infinitely more productive activity of pollination of social relations, which determines the

9 Kevin Cattell (2014) notes that ‘this is reflected in the request/demand from new workers that they work in a vibrant, dynamic, growing environment. This offers them mental stimulation which translates into new opportunities’.

10 For more on the concentration of mass media, see Arsenault and Castells (2008).

degree of innovation, adaptation, and adjustment. In a society where production operates through the living and is geared to creating the living (bioproduction and biopolitics) and living knowledge by means of the activity of living knowledge, the measuring of working time goes into crisis. (165)

This conclusion is drawn from several ideas. First, the changing relationship between biopolitics and biopower arises from the ability to alter biology with new technologies. Second, knowledge is being decentred: ‘training, education, learning, life itself in society directly produce wealth through networking’.¹¹ Companies, he posits, we still be the ‘nerve centres’ of the production of wealth, but size does not matter as much as it did in the industrial economy, with ‘small and medium enterprises (SMEs)’ having the same intensity as big businesses and universities (151). A third feature is the uncertainty regarding wages. At the global level, there is uneven development. At the same time, the notion of guaranteed income in the developed world is in decline, despite efforts to provide a minimum guaranteed income in parts of Europe at a much higher level than the minimum wage in the United States. How remuneration works in the pollen society is complex. The ‘macroeconomic problem[...] is that activity does not translate into jobs’ (166). To solve this conundrum, we need the ‘macro-institutional constraint of the guaranteed income – the equivalent of the cost of the hive and maintaining the population of the bees’ (166).

The book concludes with an eighth chapter written in December 2009 for inclusion with the translation of the text into English, ‘Does the financial crisis sound the knell of a cognitive capitalism that is stillborn?’ Here, he notes several things. The environmental crisis is not subsiding and neither is ‘the staggering social inequality divide’ (169). We are at a crossroads. The question posed is this: ‘Could it be that it had only a 30-year lifespan, from 1975-2007?’ It all depends on how we describe things, ‘the diagnosis that we make of the current crisis and of its nature’ (177). The cause of the crisis, for Moulier Boutang, is liquidity: ‘the amount of outstanding discounted bills of credit[...] has increased dramatically by comparison to what it was in the 1970s. Inflation in the price of goods, or in costs – including wages – for the years 1960-1980 has been replaced by an inflation of financial assets’ (177). Is the answer a return to an industrial economy, instead of one based on finance? Moulier Boutang disagrees. The problem is not the immaterial itself, but rather the deregulation of the financial markets that was concurrent with the rise of the knowledge economy. He returns to the concept of pollination:

11 A new wrinkle that came about after the publication of this book is the rise of the MOOC (Massive Open Online Course). It is not clear what the impact of MOOCs will be on the knowledge economy. See the articles by Baggaley (2013; 2014) and Fox (2013), for overviews of issues regarding MOOCs.

Classic political economy is only interested in the work of bees in relation to the production of 'output' (honey), and does not take into consideration an aspect that is a substantially greater source of wealth production for humanity, namely the pollination, which is so vital for the biosphere. (186)

And further

The crisis we are now witnessing has to be related to the non-remuneration of pollination (positive externalities of the noosphere) and a failure to take into account the negative externalities threatening the pollinating activities of the bees in the literal (as well as the figurative) sense. (188)

The pollination thesis ties the environmental crisis to the predicament in capitalism. Ultimately, what we need, according to Moulrier Boutang 'is a new ecological New Deal for the economy. And in particular a new accounting system' (190).

Conclusion

The book takes much effort to work through, especially the first three chapters. Thus, it is hard to recommend this book without qualification, despite the fact that it is interesting. Four years on, the knowledge economy does appear to be stabilised. The balance is still precarious, though, for all the reasons mentioned in the last two chapters of the book. The discussion that I think is the most thought-provoking, especially for organisational theory, has to be the consideration of the worker in the knowledge economy against the backdrop of the pollen society. We may be moving to a state of permanent underemployment for knowledge workers, as they move from task-to-task, one short-term contract to the next. It works both ways, though, as workers are not as interested as they once were in working for one company from college to gold watch. Yet, in a way, it is still the same old story: 'the ideal from the point of view of the employer is to have output without employees, and the ideal from the point of view of the employee is to have output without employment'.¹² The difference is that employees in the knowledge economy are more motivated by novelty or meaningful work, as we saw above. How cognitive capitalism plays out remains to be seen. It is not easy to describe a revolution while inside it.

¹² This is E.F. Schumacher's summary of industrial capitalism in the 'Buddhist economics' chapter of his *Small is beautiful* (1973).

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