Angelaki
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/cang20

TWENTY THESES ON CONTEMPORARY CAPITALISM (COGNITIVE BIOCAPITALISM)

Andrea Fumagalli translated by sabrina ovan [a]
[a] Facoltà di Economia Università degli Studi di Pavia, Via San Felice, 5 Andrea Fumagalli, 27100 Pavia, Italy

Available online: 22 Nov 2011

To cite this article: Andrea Fumagalli translated by sabrina ovan (2011): TWENTY THESES ON CONTEMPORARY CAPITALISM (COGNITIVE BIOCAPITALISM), Angelaki, 16:3, 7-17

To link to this article: http://dx.doi.org/10.1080/0969725X.2011.626555

Routledge
Taylor & Francis Group

ANGELAKI
journal of the theoretical humanities
volume 16 number 3 september 2011

andrea fumagalli

translated by sabrina ovan

TWENTY THESES ON CONTEMPORARY CAPITALISM (COGNITIVE BIOCAPITALISM)

foreword

The aim of this article is twofold. On the one hand, it is an attempt at systematizing a series of reflections and concepts elaborated by a number of studies that appeared in the last decade. This research comes from scholars in different disciplines, but who identify, even in their internal differences, with a method of analysis rooted in the Italian Workerist thought of the 1960s. For this reason, it is a work in progress, and has no pretense of being exhaustive.[1] On the other hand, it ambitiously tries to communicate and clarify an issue that has provoked much debate in the last few years, especially in the field of heretic and heterodox thought, that is to say, the analysis of the salient characteristics of the current state of capitalism.

From the very title, we formulate a thesis: the contemporary form of capitalism is defined in a univocal way as *cognitive biocapitalism*. The twenty theses that follow are a means of justifying this definition.

In the last thirty years, the current process of capitalist accumulation and valorization has assumed different names: the most common of these, *post-Fordism*, is also the oldest. The term post-Fordism became popular during the 1990s, especially through the French *école de la regulation*.[2] The term, however, is not without its ambiguities and diverse interpretations, as are all terms defined in a negative way. Our idea is that with the term *post-Fordism* we define the period, from the 1975 crisis to the early 1990s crisis, during which the process of accumulation and valorization is no longer based on the centrality of Fordist material production, the vertically integrated, large factory. At the same time, in this period, we do not yet possess an alternative paradigm. Unsurprisingly, in the prefix "post-," we express what is no longer there, without underlining what actually appears in the present. The post-Fordist phase is in fact characterized by the conjoined presence of more productive models: from the Japanese Toyotist model of the "just in time" derived from Taylorism[3] to the industrial district model of small enterprises[4] and the development of productive lines that tend to become international according to a hierarchy.[5] Among these models, it is still impossible to identify a hegemonic paradigm.

After the first Gulf War, innovations in the fields of transportation, language and communication (ICT) started to gather around a new single paradigm of accumulation and valorization. The new capitalist configuration tends to identify

ISSN 0969-725X print/ISSN 1469-2899 online/11/030007–11 © 2011 Taylor & Francis
http://dx.doi.org/10.1080/0969725X.2011.626555

in "knowledge" and "space" (geographic and virtual) as commodities a new foundation for dynamic skills of accumulation. As a consequence, two new dynamic economies of scale are formed, which are the basis for the growth in productivity (or, the source of surplus value): learning economies and network economies. The first are connected to the process of generation and creation of new knowledge (based on new systems of communication and information technologies); the second derive from the organizational modalities of each district (territorial networks or system areas), which are no longer used for production and distribution only, but increasingly as a vehicle of diffusion (and control) of knowledge and technological progress. We can name this paradigm of accumulation *cognitive capitalism*:[6]

> The term *capitalism* designates the permanence, though metamorphic, of the fundamental variables of the capitalistic system: the leading role of profit, and the wage system in particular, or more precisely, the different forms of employed labor from which surplus value is extracted. The attribute *cognitive* evidences the new nature of labor, of the sources of valorization and property structure, on which the process of accumulation is founded, and the contradictions that this mutation generates.[7]

The centrality of learning and network economies, typical of cognitive capitalism, is put into question at the beginning of the new millennium, following the bursting of the Internet economy bubble and its speculations, in March 2000. The new cognitive paradigm alone is unable to protect the socio-economic system from the structural instability that characterizes it. It is also necessary for new liquidity to be directed into the financial markets. The ability of financial markets to generate "value" is tied to the development of "conventions" (speculative bubbles) which can create somewhat homogeneous expectations, thereby pushing the main financial operators to support certain types of financial activities.[8] What the Internet economy did in the 1990s was followed in the 2000s by the great attraction to the development of Asian markets (China entered the WTO in December 2001) and real estate. Today, the focus is mostly on the performance of European welfare. Independently of the dominant convention, contemporary capitalism is always in search of new social and vital circles to absorb and commodify, involving more and more the bare vital faculties of human beings. It is for this reason that in the last few years we have been hearing about *bioeconomy* and *biocapitalism*.[9]

At this point, the reader should clearly understand how the term used in these pages is nothing but the contraction between cognitive capitalism and biocapitalism: *cognitive biocapitalism* is the phrase that defines contemporary capitalism.

Thesis #1: in cognitive biocapitalism, the financial markets, knowledge and relations are the motor of accumulation.

Financial markets are the pulsating heart; knowledge is the brain; relational activities are the nervous system. Cognitive biocapitalism is a single body, inside of which the "real" sphere cannot be separated from the "financial," nor can the productive sphere be separated from the unproductive, or work-time from life-time, or production from reproduction and consumption . . .

Thesis #2: in cognitive biocapitalism, financial markets directly influence and condition the process of accumulation and valorization.[10]

In a broader sense, financialization marks the definitive passage from *commodity money* to *sign money*.[11] With the complete dematerialization of money (after the Bretton Woods crash in 1971, marking the end of the convertibility of the dollar to gold), financial markets define the social and hierarchic conventions which are able to secure short-term monetary value. At the same time, they leave open the relations of debit and credit, provided sufficient trust is generated in the operators. From this viewpoint, financial markets lubricate the process of accumulation. In the capitalistic system, in fact, there is no accumulation without debt. It is no coincidence that, from the 1990s onward, financial markets have taken care of financing accumulation activities: the

liquidity drawn by financial markets rewards the restructuring of production aimed at exploiting knowledge and the control of spaces external to the enterprise. Secondly, in the presence of surplus value, financial markets have the same role in the current economic system that the Keynesian multiplier (activated by deficit spending) had in industrial-Fordist capitalism. However – unlike the classic Keynesian multiplier – the new financial multiplier leads to a distorted redistribution of revenues. For such a multiplier to be operative (>1), the financial basis (that is, the extension of financial markets) must be constantly growing, and the capital gain must be, on average, higher than the median salary loss. On the other hand, the polarization of revenues increases the risk of debt insolvency, which is the basis of the growth of the very financial foundation, and reduces the median salary. Thirdly, financial markets, forcibly channeling growing portions of work revenues (such as severance indemnity and social security, as well as earnings that, through the social state, turn into institutions for health and public education), substitute in this way the state as a social provider. From this point of view, financial markets represent the privatization of the reproductive sphere of life. Finally, financial markets are the place where today capitalistic valorization is established, that is, the place where the exploitation of social cooperation and of the general intellect is measured by way of the dynamic of stock market values. As a consequence, profit transforms into rent (see Thesis #3), and financial markets become the place where labor-value is determined and transformed into *finance-value*. The latter is nothing other than the subjective expression of the expectation of future profits articulated by financial markets, which in this way secure a rent.

Financial markets thus exercise biopower.[12]

Thesis #3: in cognitive biocapitalism, we register the becoming-rent of profit.[13]

Rent is the main capturing tool of both surplus value and the de-socialization/privatization of what is common. The meaning and the key role of this becoming-rent of profit can be appreciated at two levels.

On the one hand, this process is evident at the level of the social organization of production and of the distribution of revenues: the criteria underlying the traditional distinction between profit and rent become less and less pertinent. The confusion of the frontiers between rent and profit finds one of its expressions in the way in which financial power remodels the very criteria of company governance under the sole aim of creating value for the shareholder. In cognitive biocapitalism, not only do we witness the final decline of the Weberian entrepreneur (the figure combining the functions of ownership and direction of the firm, who had already partly disappeared in industrial-Fordist capitalism after the marginalist revolution of the 1930s). We also see the irreversible crisis of the Galbraithian techno-structure, legitimized in its role by the planning of innovation and the organization of labor. The new governance of today's companies is increasingly founded on a type of management whose principal competence is exercising financial and speculative functions, while delegating to employed labor the real functions of the organization of production.

On the other hand, the competitiveness of a company is largely dependent not on internal economies but on external ones, that is to say, on the ability to capture productive surpluses that come from the cognitive resources of a territory. Capital, then, does benefit freely from the collective knowledge of society, as if it were a "gift of nature." From this point of view, the becoming-rent of profit takes the form of a privatization of what is common,[14] gaining revenues from the creation of a scarcity of resources that is only artificial. It is the common that links together, in a single logic, the rent coming from real estate speculation and financial rent – which, since the beginning of the 1980s, played a major role in fiscal crisis and the dismantling of welfare state institutions, as a result of the privatization of currency and public debt. The becoming-rent of profit derives, then, from the attempt at privatizing knowledge and life (*bios*). This is achieved thanks to a politics promoting the reinforcement of intellectual property rights so that the cost of numerous commodities is kept artificially high, although

their reproduction costs are extremely low or even close to zero.

Thesis #4: in cognitive biocapitalism, value production is no longer founded on material production alone.

Productive activity is increasingly based on immaterial elements, that is to say, on intangible "raw materials," which are very hard to measure and quantify, and which come directly from the utilization of the relational, sentimental, and cerebral faculties of human beings. The process of valorization loses, in this way, the measuring unit usually connected to material production. This measure used to be somewhat defined according to the necessary amount of labor needed for the production of commodities, measurable on the basis of the tangibility of production and the necessary time for production. With the advent of cognitive capitalism, valorization tends to graft itself onto different forms of labor, which go beyond the official work-time and coincide more and more with the whole life-time. Today, the value of labor at the basis of biocapitalistic accumulation is also the value of knowledge, of affects and relationships; it is the value of the imaginary and the symbolic (cf. Thesis #15).

Thesis #5: in cognitive biocapitalism, value production is no longer founded on a homogeneous, standardized scheme for the organization of labor, independently of the type of goods produced.

The activity of production is carried out with different organizational modes, which are characterized by a network structure, thanks to the development of technologies for linguistic communication and transportation. What follows is a disruption of the traditional and unilateral hierarchic form typical of the factory. This is substituted by hierarchic structures activated on the territory along sub-supply production chains, and characterized by relations of cooperation and/or control.

Thesis #6: in cognitive biocapitalism, the division of labor takes on itself cognitive characteristics, and therefore is based on the differential access and use of different forms of knowledge.

Knowledge can be divided into four levels: *information*, *codified knowledge*, *tacit knowledge* and *culture* (or *systemic knowledge*), characterized by unilateral relations of dependence. *Information* is the basic level of knowledge that is more and more incorporated into the machine element. *Codified knowledge* is a specialized knowledge (a know how) that derives from tacit knowledge but that is transmitted through standardized procedures, with machines as intermediary, as a consequence of which its bearer can be substituted at any moment, having no contractual power. *Tacit knowledge* can derive from personal learning processes or from specific investments in R&D (thanks to intellectual property rights); furthermore, at least until codified, it can only be transmitted through a human being, thus possibly generating forms of *enclosures*. Those who possess tacit knowledge, which is relevant for the productive process, therefore have a high contractual power and define the hierarchical structure of labor and production. However, tacit knowledge, if relevant, is destined to transform into codified knowledge, sooner or later, and thus lose value. Lastly, *culture* is the set of knowledges that allows one to hold the *intellectual function*, that is to say, the ability to act critically and creatively, not immediately subsumed to the logic of biocapitalist valorization. As a consequence, culture is dangerous for the reproducibility of the socio-economic system, and it constitutes also a surplus that exceeds control.

Thesis #7: in cognitive biocapitalism, the condition of the labor force goes hand in hand with mobility and the predominance of individual contracting (*precariousness*).

This derives from the fact that nomadic individualities are put to work, and the primacy of private rights over workers' rights brings about a transformation of the contribution of individualities, especially if characterized by cognitive, relational and affective activities, into contractual individualism. Work relations based on precarious conditions, that is to say, the temporal limit and spatial mobility of labor, are the basic

paradigm in which the relationship between capital and labor takes place. Precariousness then becomes a structural, existential and generalized condition.

Thesis #8: in cognitive biocapitalism, the accumulation process is founded on the exploitation of two new types of scale economies – the dynamic processes of learning and the dynamic processes of networking.

If knowledge is the basis of accumulation, it becomes unavoidable to analyze how its exchange and diffusion affect the dynamics of productivity. The peculiarity of cognitive biocapitalism is its ability to enlarge both knowledge-learning processes and network economies. Learning economies depend on the degree of *cumulativeness*, *opportunity* and *appropriability*.[15] Here, *opportunity* is defined as the expected rate of profit and, therefore, the higher the expected profit in adopting a new technology, the higher is the speed of its diffusion. *Cumulativeness* and *appropriability* represent the capacity of new knowledge to generate further innovation whilst avoiding the possibility of its imitation, thanks to the existence of intellectual property rights. Network economies depend on the level of income and positive externalities (E). When *learning economies* are constrained by intellectual property rights, we shall see that the consequence is that the greater the degree of *appropriability* of knowledge, the smaller becomes its capacity of diffusion – affecting, de facto, its ability to positively influence the associated productivity.[16] Whilst it is during the learning process that the generation of knowledge occurs, network economies define the way in which the produced knowledge is diffused. In a social system geared around innovation and production, investment policies depend upon R&D and "learning by doing" strategies and processes. In cognitive biocapitalism the impact of new Information and Communication Technologies based on computer science, micro-electronics and the new organizational productive changes (e.g. just-in-time, zero stock) have sped up the "learning by doing" processes, spreading them well beyond the firm. At the same time, part of the R&D process unfolds within territories each having one or more specific competencies. Where to locate economic activities is determined mainly by the search on the part of the firm for advantages in the development of its competencies.[17] Consequently, the productivity entailed by the exchange of knowledge cannot be assimilated to material productivity.

Thesis #9: an essential character of cognitive biocapitalism is the dematerialization of fixed capital, and the transfer of its productive and organizational functions to the living body of labor-power.

This process lies at the origin of one of the paradoxes of new capitalism: the contradiction between the rise in importance of cognitive work as a lever for the production of wealth and, at the same time, the devaluation of that work as far as salary and the profession are concerned. This paradox is inherent in Marazzi's definition of "the anthropogenetic character of contemporary capitalistic production," underlined in one of his essays.[18] In cognitive biocapitalism, the living being contains within itself the functions of both fixed and variable capital, that is, of both the material and machinery forms of labor belonging to the past and of the living labor of the present: bios.

Thesis #10: in cognitive biocapitalism, the separation between abstract labor and concrete labor is not as clear as it was in industrial-Fordist capitalism.

First of all, what Marx used to call "concrete labor," or labor producing use value, can be renamed today *creative labor*.[19] This term allows us to better understand the cerebral contribution inherent in such activity, while the term "concrete labor," though being conceptually its synonym, refers more to the realm of "making" than to that of "thinking," with a closer allusion to craftsmanship proper.

Thesis #11: in cognitive biocapitalism, we see more and more an interpenetration between place of production and productive networks.

Space, be it geographic or virtual, becomes a place of production no longer characterized by a unique and self-centered presence but rather by

an ensemble of polycentric formal and informal networks. Production is the result of a flux structure, and such flux is always more immaterial or redesigned and directed by immaterial networks, especially when the commodities produced are material. A flux structure presupposes the centrality of linguistic networks of communication and the development of social cooperation. Such cooperation involves both the transmission of symbols and the logistical transportation of commodities and goods. Within this space, however, cooperation, which is far from being horizontal, develops along new trajectories of spatial partition of production, and cognitive division of labor. Reticular production – the network – is, in other words, a molecular space, and as such it is individualized, characterized by individual relations that most of the time produce cooperation in the end, but are not necessarily cooperative with one another.

Thesis #12: in cognitive biocapitalism, commodities have new meanings.

The value of commodities is no longer definable only along the lines of "necessary work-time." To that value, which does not disappear, another value is added, which derives from the degree of social symbolicity [*simbolicità*] that the commodity contains. The symbolic value of commodities increases in direct relation to their level of immateriality. It is in this field that the relation between production and realization (consumption) of commodities is played out. Not only does consumption realize the value of commodities, but it valorizes them at the same time.[20]

Thesis #13: in cognitive biocapitalism, life itself becomes value.

The theory of the value of work becomes a theory of the value of life.[21] This happens through the valorization of the differences that individuals possess. These differences, in their uniqueness, make possible the relational activities that are the basis of the social cooperation producing *general intellect*. Beside the general differences based on race, gender, and so on, we need to add up differences *tout court*, which are valorized without any relation to the anthropological characteristics that define them. What is now starting to be segmented and divided are cerebral differences, that is to say, individualities. Spatial and biologic differences, gender and race in particular, can at most be instruments for the immediate disciplining of the social body. The preoccupying emerging tendency, however, is the constitution of a human subjectivity characterized by the contradictory conflict between creative actions and cerebral standardization: the creation of a sort of bionic being, capable of managing the anthropogenetic process of production. These elements suggest a world where individuality is erased, but individualism is exalted. Cognitive biocapitalism is bioeconomic production: it is *bioeconomy*.

Thesis #14: in cognitive biocapitalism, differences become value[22] (see Thesis #13)

The traditional binary dichotomies inherited from industrial-Fordist capitalism are no longer topical. We are witnessing the overcoming of the *separation between life-time and work-time*. As soon as work activities use the vital faculties of individuals, it becomes impossible to define a temporal barrier between work- and non-work-time. Even if this distinction can nominally continue to exist on a formal-juridical level, the difference between life and work no longer exists in reality, and this is also due to the new language and communication technologies. Life appears completely *subsumed* into work. We are also witnessing the overcoming of the *separation between workplace and life-space*. The multiple forms of bio-labor are in fact *nomadic labor*, where mobility is a primary requisite. This phenomenon leads to the definition of *non-places of work*, as opposed to classic forms of *domestication*. In this case, indeed, we should not talk about a coincidence between workplace and life-space, but rather about the expropriation of the workplace, and of all possible consequences that this process might have on work identity. We are witnessing the overcoming of the *separation between production and reproduction*. This is the first consequence of life becoming work. When we talk about life, we do not only mean it as directly finalized to productive activity, but also to the social reproduction of life itself – a clear example of which is the almost exclusively female

caretaking work. Having said this, we can state that the erasure of this distinction implies the partial overcoming of the specific gender difference, and poses the question of *differences tout court*.[23] In conclusion, we are witnessing the overcoming of the *separation between production, circulation, and consumption*. In cognitive biocapitalism, the act of consumption is, at the same time, a participation of public opinion, an act of communication, and self-marketing. In this sense, it allows further valorization of the commodities (see Thesis #10).

Thesis #15: in cognitive biocapitalism, value creation is based pre-eminently on the process of expropriation of the *general intellect* for private accumulation.

The *general intellect* is the outcome of basic social cooperation: it allows the passage from tacit knowledge to codified knowledge as social knowledge. This passage is regulated by the evolution of the juridical forms of intellectual property rights. Such a property is thereby added to that of the means of production, giving private property the control of the process of generation (intellectual property) and diffusion of knowledge (ownership of the means of production). Since the exploitation of the *general intellect* implies the valorization of the very existence of individuals, the process of value creation is no longer limited to the workday but extends to include the entire human existence. This means that the measure of exploitation is not really the time of the workday generating *surplus work* but rather that part of the life span that is necessary to generate tacit knowledge – and hence social knowledge – which is then expropriated by the process of accumulation. The effective and direct forms with which the expropriation of the *general intellect* creates value can be different. Among these, the valorization of commodities through the *branding* process is particularly significant. The value of commodities increases together with the increase of their symbolic meaning and of their ability to create an imaginary which is shared by consumers. Even in this case, surplus value originates from totally immaterial elements created by behavioral conventions and by shared relational activities, just as happens for the financial markets. If private ownership of the means of production implies partly stealing the workday and allowing for the generation of surplus work, private intellectual property is then the theft of social knowledge understood as *common wealth* [*bene comune*]. In cognitive capitalism, creation of value happens through the expropriation of the "common."[24]

Thesis #16: in cognitive biocapitalism, *basic income* is the compensation for work.

The idea of basic income is centered on the concept of "compensation" or "recognition" and not of support or assistance (subsidies, transfer payments, etc.). The logic that justifies its existence is then completely opposed to the doxastic interpretation of the current situation, that is, to measures which would guarantee a continuity of revenue in a temporary, conditioned way.[25] In the present context of cognitive biocapitalism, wealth [*ricchezza*] is divided between those whose life becomes value (all residents regardless of citizenship etc.), on the one hand, and all those (much less) who create value from the private appropriation of common goods [*beni comuni*] (exploitation of intellectual property rights, of the territory, of financial flux, etc.), or who profit from productive and service activities. As a consequence, basic income is by definition *unconditioned* and *perpetual* (for the duration of one's life).

In other words, basic income is nothing other, today, than the equivalent of salary in Fordist times.[26]

Thesis #17: in cognitive biocapitalism, the most adequate structure of welfare is the *commonfare*, or welfare of the common.[27]

The welfare of the common is based on two important concepts. On the one hand, the guarantee of a continuity of unconditioned revenue, disregarding working conditions, professional, social, or citizenship status. This is complementary to any other form of direct revenue, as compensation for the productive social cooperation that forms the basis of value creation, currently expropriated for private rent and profit. On the other hand, access to common material and immaterial goods that allows full

participation in social life by way of the free fruition of common natural/environmental goods (water, air, environment) and immaterial common goods (knowledge, mobility, socialization, currency, primary social services).

Thesis #18: in cognitive biocapitalism, the trade unions' keyword "right to work" should be changed into "right to choose work."

We are witnessing an ethical overturning of how we conceive of actual work activity. If in industrial-Fordist capitalism the right to work is the foundation of many national constitutions (the Italian first of all) as well as the first objective of union struggle as a pass to revenue stability and the enjoyment of civil rights, in cognitive biocapitalism, insofar as life itself is productive, the necessity of work has largely taken up a function of blackmailing and control of the actual work activity, and is increasingly less relevant to accumulation. From this point of view, capital tends to reach "autonomy," even though it still depends on the social connections that are inherent in the relationship between labor and capital. In contrast, the right to choose one's work opens the path to autonomous work, and for this reason this objective is not compatible with the current capitalistic valorization or subsumed by it. In other words, if in industrial-Fordist capitalism the right to work was, on the one hand, functional to the process of accumulation, while, on the other, it represented the basic condition for the right to struggle, in cognitive biocapitalism the right to choose one's work is uniquely the right of subversion.

Thesis #19: there is no space for an institutional politics of reform able to reduce the structural instability characterizing cognitive biocapitalism.

No new *new deal* is possible. And this is increasingly true the more we seem to detect measures that favor a re-stabilizing of the process of accumulation. These measures promote a salary regulation based on the proposition of *basic income* and a productive ability founded on free circulation of knowledge. These proposals, from a purely theoretical and economic point of view, could have the effect of exploiting the economies of learning in a better way (a continuity of revenue increments the ability and intensity of learning). They could also better exploit network economies (the free circulation of knowledge augments their diffusion and valorization). As a consequence, they could compensate for the structural instability deriving from the distorted effects of financialization on productive activity and revenue distribution. In any case, these measures would undermine the very nature of the capitalist system, that is to say, the necessity of work, the blackmailing allowed by differences in revenues as an instrument of domination of a class over another, and the principle of private ownership of the means of production (machines yesterday, knowledge today). In other words, we can conclude that in cognitive biocapitalism a possible social Keynesian compromise, one adequate to the characteristics of the new process of accumulation, is possible only in theory, but could not be carried out politically *sic rebus stantibus*. A real reformist politics that can guarantee structural stability of the paradigm of cognitive biocapitalism (which would tend to individuate a form of mediation between labor and capital that is satisfying for both, without paving the way to the overcoming of this very economic system) cannot exist. Let us clarify this point: a possible social compromise based on *basic income* and the free diffusion of knowledge and other common goods undermines the basis, the real foundations of the capitalistic economic system, that is, the necessity of work to live (hence its subaltern condition), and private property as a source of accumulation. Such compromise is not possible, unless it is imposed by force.[28]

Final thesis: as a consequence, insofar as praxis guides theory, in cognitive biocapitalism only conflicts and the ability to create and organize multitude-based movements will allow social progress for mankind.

notes

Psychedelic musical support by Grateful Dead, The Phish, Jimi Hendrix.

1 The twenty theses presented here are pre-eminently of a socio-economic nature, and as such they are incomplete. There is no explicit reference, for instance, to the evolution of the structure of ownership (juridical analysis) or the theme of the *common* as a way of overcoming the public/private dichotomy. The very aspect of international relations and the end of the economic hegemony of the United States, with the consequent shift of the economic-financial center to the East (China and India, primarily), is not treated with due detail.

2 As M. Turchetto reminds us:

> The origin of the notion of postfordism does not lie in orthodox Marxism or Workerism. These two currents of thought imported the term and its correspondent definition from France, adapting them to their conceptual apparatus. The *copyright* of postfordism belongs in fact to the French *école de la regulation* . . . (See M. Turchetto, "Fordismo e post fordismo. Qualche dubbio su un'analisi un po' troppo consolidata" in various authors, *Oltre il fordismo. Continuità e trasformazioni nel capitalismo contemporaneo* (Milan: Unicopli, 1999) 1)

One of the first authors to use the term "post-Fordism" was the English geographer A. Amin in his *Post-Fordism: A Reader* (Oxford: Blackwell, 1994). Within the French *école de la regulation*, see B. Jessop, *The Regulation Approach: Governance and Post-Fordism, Economy and Society* (Oxford: Blackwell, 1995); A. Lipietz, "The Post-Fordist World: Labor Relations, International Hierarchy and Global Ecology," *Review of International Political Economy* 4.1 (1997): 1–41; R. Boyer and J.-P. Durand, *L'Après-fordisme* (Paris: Syros, 1998). As far as the Italian debate is concerned, the first text to use the term post-Fordism is S. Bologna and A. Fumagalli, eds., *Il lavoro autonomo di seconda generazione. Scenari del postfordismo in Italia* (Milan: Feltrinelli, 1997). See also E. Rullani and L. Romano, *Il Postfordismo. Idee per il capitalismo prossimo venturo* (Milan: Etas Libri, 1998) and the already quoted critical text by M. Turchetto in various authors, *Oltre il fordismo.*

3 See, among others, T. Ohno, *Toyota Production System: Beyond Large-Scale Production* (New York: Productivity, 1995); G. Bonazzi, *Il tubo di cristallo. Modello giapponese e fabbrica integrata alla Fiat* (Bologna: Il Mulino, 1993); M. Revelli, "Economia e modello sociale nel passaggio tra fordismo e toyotismo" in *Appuntamenti di fine secolo*, eds. P. Ingrao and R. Rossanda (Rome: Manifestolibri, 1995) 161–224; B. Coriat, *Penser à l'invers* (Paris: Bourgois, 1991).

4 See M. Priore and C. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic, 1984); S. Brusco, *Piccole imprese e distretti industriali* (Turin: Rosenberg, 1989); G. Becattini, *Distretti industriali e sviluppo locale* (Turin: Bollati Boringhieri, 2000). For a critical analysis, see M. Lazzarato, Y. Moulier-Boutang, A. Negri, and G. Santilli, *Des enterprises pas comme les autres* (Paris: Publisud, 1993); A. Fumagalli, "Lavoro e piccola impresa nell'accumulazione flessibile in Italia. Parte I e Parte II," *Altreragioni* 5 and 6 (1996–97).

5 See C. Palloix, *L'economia mondiale e le multinazionali*, 2 vols. (Milan: Jaca, 1979 and 1982); G. Bertin, *Multinationales et propriété industrielle. Le Contrôle de la technologie mondiale* (Paris: PUF, 1985).

6 This term originated in France in the early 2000s from the research of the Laboratoire Isys-Matisse, Maison des Sciences Economiques, Université de Paris I, La Sorbonne, under the direction of B. Paulré, and it is diffused by the journal *Multitudes* with very heterogeneous texts by A. Corsani, M. Lazzarato, Y. Moulier-Boutang, T. Negri, E. Rullani, C. Vercellone and others. On this topic, see also B. Paulré, "De la *New Economy* au capitalisme cognitif," *Multitudes* 2 (2000): 25–42; C. Azais, A. Corsani, and P. Dieuaide, eds., *Vers un capitalisme cognitif* (Paris: l'Harmattan, 2001); Y. Moulier-Boutang, *L'età del capitalismo cognitivo* (Verona: Ombre Corte, 2002); C. Vercellone, ed., *Sommes-nous sortis du capitalisme industriel?* (Paris: La Dispute, 2003); A. Corsani, P. Dieuaide, M. Lazzarato, J.M. Monnier, Y. Moulier-Boutang, B. Paulré, and C. Vercellone, *Le Capitalisme cognitif comme sortie de la crise du capitalisme industriel. Un programme de recherche* (2004). For a more recent analysis, see C. Vercellone, ed., *Capitalismo cognitivo* (Rome: Manifestolibri, 2006); A. Fumagalli, *Bioeconomia e capitalismo cognitivo. Verso un nuovo paradigma di accumulazione* (Rome: Carocci, 2007); Y. Moulier-Boutang, *Le Capitalisme cognitif. Comprendre la nouvelle grande transformation et ses enjeux* (Paris: Editions Amsterdam, 2007). See also the monographic issue "Le Capitalisme cognitif. Apports et perspectives" of the *European Journal of Economic and Social Systems* 20.1 (2007), eds. A. Fumagalli and C. Vercellone, with contributions by A. Arvidsson, L. Cassi, A. Corsani, P. Dieuaide,

S. Lucarelli, J.M. Monier, and B. Paulré, as well as by the editors.

7 See D. Lebert and C. Vercellone, "Il ruolo della conoscenza nella dinamica di lungo periodo del capitalismo: l'ipotesi del capitalismo cognitivo" in *Capitalismo cognitivo* 22.

8 See A. Orléan, *De l'euphorie à la panique. Penser la crise financière* (Paris: Rue d'Ulm, 2009).

9 The terms *bioeconomy* and *biocapitalism* are very recent. The concept of bioeconomy was introduced by A. Fumagalli, in 2004; see "Conoscenza e bioeconomia," *Filosofia e Questioni Pubbliche* IX.1 (2004): 141–61 and "Bioeconomics, Labour Flexibility and Cognitive Work: Why Not Basic Income?" in *Promoting Income Security as a Right: Europe and North America*, ed. G. Standing (London: Anthem, 2005) 337–50, as well as Fumagalli, *Bioeconomia e capitalismo cognitivo*. For an interesting analysis of the concept of bioeconomy, see also F. Chicchi, "Bioeconomia: ambienti e forme della mercificazione del vivente" in *Biopolitica, bioeconomia e processi di soggettivazione*, eds. A. Amendola, L. Bazzicaluppo, F. Chicchi, and A. Tucci (Macerata: Quodlibet, 2008) 143–58 and L. Bazzicaluppo, *Il governo delle vite. Biopolitica ed economia* (Rome and Bari: Laterza, 2006). The term biocapitalism was instead coined by V. Codeluppi, *Il biocapitalismo. Verso lo sfruttamento integrale di corpi, cervelli ed emozioni* (Turin: Bollati Boringhieri, 2008). See also the more recent C. Morini, *Per amore o per forza. Femminilizzazione del lavoro e biopolitiche del corpo* (Verona: Ombre Corte, 2010).

10 See A. Fumagalli and S. Mezzadra, eds., *Crisis in the Global Economy: Financial Markets, Social Struggles and New Political Scenarios* (Cambridge, MA: Semiotext(e), 2010) 237–39. For an in-depth analysis of the evolution of financial markets and the role of the monetary and credit market, see chapter 1 of Fumagalli, *Bioeconomia e capitalismo cognitivo*.

11 For an in-depth analysis of this passage, see M. Amato and L. Faracci, *Fine della finanza* (Rome: Donzelli, 2009) esp. chapters V and VI, 65–90.

12 See S. Lucarelli, "Financialization as Biopower" in *Crisis in the Global Economy* 119–38.

13 See A. Negri and C. Vercellone, "Il rapporto capitale/lavoro nel capitalismo cognitivo" in *Posse* (Nov. 2007); C. Vercellone, "The New Articulation of Wages, Rent and Profit in Cognitive Capitalism," paper presented at Queen Mary, University of London, 29 Feb. 2010. See also C. Marazzi, *The Violence of Financial Capitalism* (Cambridge, MA: Semiotext(e), 2010) esp. chapter 3.

14 For a discussion of the concept of the "common," see M. Hardt and T. Negri, *Commonwealth* (Cambridge, MA: Harvard UP, 2009).

15 See R. Nelson and S. Winter, *An Evolutionary Theory of Technical Change* (Cambridge, MA: Belknap, 1982).

16 This argument can be presented in terms of *tacit* and *codified knowledge*; see F. Malerba and L. Orsenigo, "Knowledge, Innovative Activities and Industrial Evolution," *Industrial and Corporate Change* XII (2000): 289–314.

17 See E.M. Mouhoud, "Global Geography of Post-Fordism Knowledge and Polarisation" in *The Hardship of Nations*, eds. B. Coriat, P. Petit, and G. Schméder (Cheltenham and Northampton: Elgar, 2006) 300.

18 See C. Marazzi, "Capitalismo digitale e modello antropogenetico del lavoro. L'ammortamento del corpo-macchina" in *Reinventare il lavoro*, eds. J.L. Laville, C. Marazzi, M. La Rosa, and F. Chicchi (Rome: Sapere 2000, 2005) 107–26. Here is the complete quotation that defines the concept of the anthropogenetic model of production:

> A model of production of man through man, in which the possibility of cumulative and endogenous growth is due, above all, to the development of the education sector (investment in human capital), the health sector (demographic evolution, biotechnologies) and the cultural sector (innovation, communication, creativity). (Ibid. 109)

19 J. Halloway writes the following:

> The center of class struggle is located here: it is a struggle between creative action and abstract labor. In the past, we always thought of class struggle as a struggle between labor and capital, thus understanding labor as abstract, wage-earning labor. As a consequence, the working class was defined as the class of wage-earners. This is wrong. Wage-earning labor and capital are

mutually completing, the former being a stage of the latter. Doubtlessly, there is a conflict between wage-earning labor and capital, but it is rather superficial: a conflict on salary levels, on work conditions, on the length of the work day. All these things are important, but they presuppose the existence of capital. The real threat to capital does not come from abstract labor, but from useful labor or creative action, because it is the latter that is radically opposed to capital, that is, to its own abstraction. Creative action says "No, we will not let capital control us; we need to do what we think is necessary or desirable." (See J. Halloway, "Noi siamo la crisi del lavoro astratto," intervention at the UniNomade seminar, Bologna, 11–12 Mar. 2006, manuscript)

20 See A. Arvidsson, *La marca nell'economia dell'informazione. Per una teoria dei brand* (Milan: Angeli, 2010).

21 See A. Fumagalli and C. Morini, "La vita messa a lavoro: verso una teoria del valore-vita. Il caso del lavoro affettivo," *Sociologia del lavoro* 115.3 (2009): 94–116 (forthcoming in English as "Life Put to Work: Towards a Life Theory of Value" in *Ephemera*).

22 See Morini, *Per amore o per forza*.

23 See ibid.

24 I cannot develop here an in-depth analysis of the theme of the "common." On this topic, see M. Hardt and T. Negri, *Empire* (Cambridge, MA: Harvard UP, 2000), and Hardt and Negri, *Commonwealth*.

25 Such as, for instance, the French RMI and analogous apparatuses, which simply function as social shock absorbers and promote the return to work.

26 See A. Fumagalli, "Per una nuova interpretazione della teoria del *basic income*" in *Reddito per tutti. Un'utopia concreta per l'era globale*, ed. Basic Income Network (Rome: Manifestolibri, 2009) 125–40.

27 See A. Fumagalli, "Trasformazione del lavoro e trasformazioni del welfare: precarietà e welfare del comune (*commonfare*) in Europa" in *L'economia della precarietà*, eds. P. Leon and R. Realfonso (Rome: Manifestolibri, 2008) 159–74. See also chapter 9 of Fumagalli, *Bioeconomia e capitalismo cognitivo*.

28 For further research on this topic, see A. Fumagalli and T. Negri, "John Maynard Keynes, Capitalismo Cognitivo, Basic Income, No Copyright: è possibile un nuovo 'New Deal'?" in *Quaderni di Ricerca del Dipartimento di Economia Politica e Metodi Quantitativi*, Università di Pavia, no. 211 (2008). See also Thesis #9 in "Nulla sarà come prima. Dieci tesi sulla crisi finanziaria" in *Crisi dell'economia globale. Mercati finanziari, lotte sociali, e nuovi scenari politici*, eds. A. Fumagalli and S. Mezzadra (Verona: Ombre Corte, 2009) 222–26.

Andrea Fumagalli
Facoltà di Economia
Università degli Studi di Pavia
Via San Felice, 5
Andrea Fumagalli
27100 Pavia
Italy
E-mail: afuma@eco.unipv.it