



Cognitive Capitalism

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4

New capitalism, new contradictions

In Chapter 2 we emphasised the inadequacy of current theories of transformation, which forgot the capitalist nature of the information society and of the knowledge-based economy. However, in outlining the possibility of its liberating nature as compared with industrial capitalism, are we perhaps taking the path of neoliberal apologetics? In this chapter I shall limit myself to highlighting two features that make this cognitive capitalism as unstable a system as the two types of capitalism that preceded it. The first is the omnipresence of exploitation, albeit an exploitation that has nothing miserabilist about it. The second is the highly antagonistic nature of the new type of social relations and of relations of production that it engenders. This feature is apparent in the open confrontations unleashed in the past fifteen years over the issue of property rights, which some writers are calling ‘the battle of the new enclosures’. We also find it in a systemic crisis of the wage system.

1 Exploitation at degree 2

If we are still in a relationship of capitalist production, but a relationship that differs from the one that Karl Marx described for industrial capitalism (and also for slave-owning capitalism),¹ then it would have to be accompanied by a specific *form* of exploitation – especially if we want to get out of the tautological definition of the particularity of the use value of the proletariat. The latter is usually characterised by the fact that the consumption of its workforce produces beyond the labour that is necessary for its reproduction. How are we to redefine the nature of this additional value (surplus value, as they used to call

it) in cognitive capitalism? At the stage of the real subsumption of labour under capital, is the activity of living labour no more than the muscular energy expended in order to transform matter? This seems a rather unsatisfactory conclusion, because Marxian abstract labour is not a biological invariant. Viewed in different terms, while the abstract and living labour we have described is complex, does it not become reducible to sophisticated machines and to science objectified as labour process? As we have seen, this is not a solution either.

There is, however, a way of getting out of this aporia that, in passing, commands the explanation of the genesis of the production of surplus value in spite of the growing dimension of dead labour – in other words of accumulated capital. The solution is to split living labour into two, and to assume that – alongside living labour as an expenditure of energy that will be partially consumed and crystallised into new machinery in the following cycle – there is a living labour that continues to exist as a means of production throughout the cycle. In other words, this living labour is not destroyed as an intermediate consumption. It is consumed as bodily energy, certainly, but it also develops as a means of production of living as living labour. It builds itself as a skill, as a know-how resistant to its reduction to pure human capital that can be objectified.

This situation corresponds to a definition of production in cognitive capitalism whereby the latter produces ‘living labour by means of living labour’ or ‘knowledge by means of knowledge’. This is what one finds in writings that attempt to construct a concept of ‘direct added value’. A distinction is made between consumptions incorporated into the flow of wealth and destroyed as a means of production surviving a given cycle, and consumptions that are not incorporated and become the *living capital* of the enterprise. This addition of the adjective ‘living’ to the word ‘capital’ (which is generally associated with dead labour coming out of the previous cycles of accumulation of surplus value) we have already encountered in the concept of ‘intellectual capital’ as it has been taken up by Californian economists and managers, who are effectively doing Marx without knowing it. For our part, we shall extend this notion of living capital to other large organisations (public administrations), and also to industrial agglomerations (districts) and, more generally, to a given territory – particularly to the urban as a producer of technopolitan externalities.

We can therefore specify more precisely the preliminary definition of cognitive capitalism that we gave in the previous chapter. Mercantile and industrial capitalism were interested in the consumption of labour-power in a context where its setting in motion through

Table 4.1 Exploitation of manual labour-power and of invention-power

Nature of the abstract labour that is the bearer of value	Labour-power	Invention-power
Characteristics of the elements consumed in the production process	Consumed in the production process and incorporated in the capital represented in the subsequent cycle	Deployed in the process of production and accumulated in the worker Living labour maintained as living labour and intellectual capital
Type of exploitation	Exploitation at degree 1	Exploitation at degree 2

machines (money as a means of production confronting the slave or the waged worker) was capable of producing more than the cost of its replenishment (necessary labour). In order for surplus labour, which is the source of surplus value, to be extracted, it was necessary for a living labour-power to be consumed. Therefore it was necessary for it to be transformed into a wage dedicated to the reconstitution of the biological and cultural potential of the workforce, or into profits that could be accounted for in the next cycle, as new machines. In cognitive capitalism, if one wishes to exploit collective intelligence, it is not enough simply to put ‘workers’ together. What is crucial is to avoid this perfect objectification (reification or alienation) of invention-power in the work process or in the product.

Naturally, both these forms of exploitation can coexist in the same activity. Table 4.1 summarises the difference between the exploitation of labour-power and that of invention-power. The specificity of cognitive capitalism is, as we have said, that it derives its legitimacy from the specific nature of its accumulation. What is the quality of this accumulation? It is the fact that it depends mainly on the exploitation of degree 2. When the profitability of a given capital, invested in productive activity, comes almost exclusively from the exploitation of degree 2 (in other words, when the exploitation at degree 1 can be reduced to its simplest expression), we have arrived at a full deployment of cognitive capitalism. Over and above being a stabilised regime, a mode of accumulation, capitalism is a *tendency* towards transformations in the mode of exploitation.

The more the form of exploitation at degree 1 encounters difficulties in its implementation – as a result of organised resistance on the

part of the workforce or as a result of its desertion of the privileged places of exploitation at degree 1 (in particular the factory) – the more we find capital intent on achieving exploitation at degree 2. The struggles of the African slaves on the plantations and the resistance of the poor to proletarianisation precipitated the crisis of mercantilist capitalism and the forceps-birth of the large Manchester-type factory. The same is true in this second transition of capitalism. The transition to cognitive capitalism occurs most rapidly at the points where the pressure on industrial capitalism's relations of production is at its strongest.

One might think, as a first approximation, that there exists between industrial capitalism and cognitive capitalism the same kind of relationship as that described by Marx between a regime of extensive accumulation based mainly on the extraction of absolute surplus value² and a regime of intensive accumulation relying mainly on relative surplus value.³ Thus we would simply have a sophistication of the mechanisms of industrial capitalism for the extraction of relative surplus value, thereby heading towards a kind of hyper-industrialism.

However, the distinction we are making cannot be reduced to this canonical distinction. For one simple reason. Absolute surplus value and relative surplus value are antithetical. The one grows at the expense of the other. However, the exploitations at degrees 1 and 2 can coexist. Worse, they sometimes reinforce each other.

If we take into account the question of the freedom of dependent work, as we began to do for the long period of primitive accumulation,⁴ which is not a simple prehistory, and if we combine that with a possible duality of exploitation, we see the emergence of very distinct figures of workers, as outlined in Table 4.2. The slave and the serf are exploited at degree 1. They represent a particular mode of exploitation at degree 1, one in which the capitalist (merchant and financier, along with the planter, Junker and Boyar)⁵ reacts to the employee's endemic breaking of the contract of engagement by assuring himself of the temporary or permanent ownership of the employee's person. On the other hand, the free waged worker of industrial capitalism, as studied by Ricardo and Marx, is exploited inasmuch as he is labour-power consumed in the cycle of production. His invention-power (which never disappears) is exploited only marginally. Or rather it is reduced, pillaged and incorporated into the operating system of machines. But, ever since the invention of collective work in the monastic orders of the eleventh and twelfth centuries, the invention-power of a significant number of workers has been the object of specific forms of exploitation. The clerks employed

Table 4.2 Typology of manual labour-power and invention-power.
Bold indicates the dominant characteristic

Case	Exploitation at degree 1	Exploitation at degree 2	Freedom	Figure
1	Yes	No	No	Slave, serf
2	Yes	No	Yes	Manual worker
3	Yes	Yes	No	Employed clerk Functionary Wage-paid artist
4	Yes	Yes	Yes	Secular. The poor.
4a	Yes	Yes	Yes	Cognitariat Pronetariat
5	No	No	No	
6	No	Yes or no	Yes	Self-employed and independent
7	No	Yes	No	Cognitive worker dependent on the market
8	No	Yes	Yes	Creative, free cognitive worker

in the ecclesiastical courts of justice are a case in point. The monks worked with their hands, and they produced the material surpluses (on which the accumulation of the Catholic and Orthodox churches was built) all the more rapidly as they had eliminated offspring, and therefore inheritance (we find something similar in oriental regimes, which employ eunuchs as functionaries in their upper administration). But this exploitation at degree 1 is greatly amplified through exploitation at degree 2. We find the same situation in the case of artists who work for patrons, who often treat them as servants or as appendages to their ‘households’. They enjoy only a very precarious freedom. If we set aside line 5 of the Table 4.2 (which did not match any of the listed cases) in order to complete the picture of how things were before cognitive capitalism, we find that there were cases where the free activity of the individual provided the means of subsistence (the case of the self-sufficient peasant who does not involve himself in the market, but also of the artisan who trades his products) and did not exploit either manual labour-power or invention-power, although it mobilised both (this is represented by line 4 in Table 4.2).

This figure is repeated in cognitive capitalism, but with a simple difference – that here exploitation at degree 2 plays the principal role (Line 4a).



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the identification of the permissive and dynamic conditions of innovation that make it possible precisely to overcome the preceding constraints.

If, in the first sense, the approach of the economist who reasons, *ceteris paribus* [all other things being equal], by fixing the legal and institutional arrangements is acceptable, this is not the case when we address the question of growth and dynamics. There the interaction of technology and property rights (in the sense of assuming a variability of the juridical mechanism) plays out fully. Two views are then possible: either one highlights how the juridical norm, in its obligatory dimension, constrains the behaviour of agents (whether optimisers, rationally limited in a Herbert Simonian sense, or altruistic); or we seek for the factors that lead to the invention of the new rule, of innovation – in short, of a constituent power that establishes new norms.

But the choice on offer always has to confront the same alternative: either to open and disclose, or to close more (enclosure). If one remains with a point of view that is static and obsessed with equilibrium, one becomes concerned with finding solutions for the reproduction and maintenance of the stability of a postulated equilibrium (disclosure, or resistance to privative enclosure, being regarded as a factor of disequilibrium and exogenous shock). If, on the other hand, one moves in a perspective of growth and dynamic evolution, it is the fact of ‘opening’ that becomes positive: ‘disclosure’ can lead to solutions of stabilisation or of expansion at a higher level.

The juridical point of view defines, as a set or bundle of property rights, two levels of provision. The first consists of all forms of the delimitation of uses, enjoyment of the fruits of, and alienability of, assets. The second level, no less important, concerns the *conditions for the execution* of the rules and norms that determine the *usus* (the right to enjoy a good), the *fructus* (the ability to earn income from it) and the *abusus* (the ability to sell without limitation) of every kind of goods. Here ‘goods’ is understood in the broadest sense, as anything that is the object of a symbolic, social or economic valuation.⁸ These two aspects are related, because the implementation of the law (‘enforcement’, in English) is broadly retroactive onto the very form of the regulation, because a norm or a prohibition, if they are systematically ignored, fall into disuse and lose their character of obligation. The usage of property rights cannot be separated from the particular form they take. It also depends on the intensity of the obligation contained in their enunciation (custom, rule, law, covenant, convention, contract).

Turning now to the economic definition of property rights, we have the neoclassic definition given by Harold Demsetz: 'A property right is the faculty of exercising a choice over a property or a service.'⁹ The term 'faculty' should be understood as a legitimate power to exercise, at least indirectly, constraints on implementation. Certainly this definition seems to cover usufruct and the ascribable or transferable quality of a good. But, beyond its functionalist character, it has the defect of limiting the question of property rights to the theory of choice over a good whose economic character is already established by law.

I therefore prefer the following broader definition. Property rights are a body of social conventions and norms that permit the transformation of what is valuable for any given society, group or individual into an economic good capable of monetary valuation (price) or non-monetary valuation (donation), or of a market exchange (private goods) or non-profit exchange (public goods). This avoids the pitfall of restricting the analysis of the juridical conditions to the virtual conditions of possibility of the optimising choice of an individual agent.

The issue of property rights and of the juridical and institutional arrangements that define the nature and extent of property rights and make it possible to implement them is not always in the foreground. It is not always the subject of a debate or of an economic calculation. There are two ways of looking at the emergence or the re-emergence of this question, which is expressed in the language of political economy in terms of a taking into account of transaction costs and information costs. Either we impute it to a growing difficulty with a given system of property rights that the accumulation of capital faces; thus the most dynamic fractions of capitalism desire an updating in order to modernise social relations in the name of economic – and indeed social – efficiency. Or, more subtly, one will read it as an attempt to contain the new forms of social resistance, to circumvent them or to convert them into new instruments of regulation. On the first reading, the power of initiative always belongs to the ruling classes (the employers, or the state) or to the intellectual and cultural elites. On the second hypothesis, the capacity for inventing new rules, new provisions, with a normative vocation is a 'bottom-up' process, and the relationship between the economic, the political and the juridical is more interactive and less functionalist. It is no longer expressed as a linear and ineluctable internalisation of the objective 'economic' coercion.

During periods of regulatory conventions that are long-standing, the question of juridical property relations does not arise. Apart from

ongoing technical revisions the object of which is to take stock of the slow transformations of social customs, know-how and techniques, the basic constitutive rules of economic activity are not brought into question (for instance the limitation of private property for the pursuit of economic objects that are of general interest; or, conversely, the legitimate character of the market as a means for allocating goods and services of a universal nature). They seem natural for as long as no social group or political force challenges them and presses for their constitution to be reviewed.

What is the reason for this marked comeback of a juridical problematic within a world capitalism that, as from 1989, seemed to have eliminated alternatives to the neoliberal market economy? With the collapse of the USSR and Berlin Wall, had we not witnessed the triumph, all down the line, of private property and of the market? The paradox is that, at a time when private property seems to impose itself everywhere as the inescapable horizon of political economy, the newspapers have never been so full of legal proceedings and conflicts over issues of intellectual property rights. In short, we are in the middle of a period of experimentation with a mode of accumulation that is seeking to find the conditions of its expansion, and of its consolidation in the face of the new contradictions and resistances to which it itself gives rise. And, as usual, given this crisis of property rights, we need to beware of two particular pitfalls. One consists in underestimating the importance of change and, under the pretext that we are still within capitalism, scornfully rejecting analysis of the changes that are taking place, reassuring ourselves with the old cliché that 'there is nothing new under the sun'. The other mistake would be to reduce the transformation of property rights to a 'family affair' of 'big capital', an area in which one can change nothing except in terms of what new sauce they're going to eat you with. A crisis of property relations is a serious matter, which pits competing interests against each other, in battles whose outcome is uncertain. Their resolution is never written in advance. Now, before moving on to the deeper reason why cognitive capitalism is synonymous with a creeping crisis of property rights, let us take a small detour to the earlier history of the enclosures movement at the dawn of industrial capitalism.

The first Industrial Revolution (1750–1830), which marked the abandonment of the mercantile and slave-owning phase of capitalism, resulted in a penetration of the market norm into nation states. A norm that, by the by, was already well represented in the world economy at the level of international trade. Self-sufficiency shrank, and artisanal production was partially replaced by heavy industry. But

the major changes were those of proletarianisation and of the start of the rural exodus. In order for factories to find the labour that had been lacking since the times of the 'poor' – labour for which they had had to compensate by building the plantation economy of the South, through the slave trade and through the slavery of dependent work – they needed to proletarianise a population that was either peasant or mobile. Brute force had not been enough, and the erosion of customary rights (communal lands, grazing rights) took place partly under the control of the soldiery (the example of Ireland is instructive), but mainly through the application of technical progress in agriculture (artificial fodder replacing fallow cycles; and the enclosure of arable and pasture land), which increased yields. The gradual commoditisation of all goods and services, the imposition of taxes in cash rather than in kind, had increased the pressure for the proletariat to hire itself to the 'man with the money'. A new system of agriculture, requiring the application of more labour and more capital but feeding more people, gave legitimation to the parliamentary enclosures. This movement of administered enclosures abrogated customary rights by law and replaced them with a modern property code giving the landlord the exclusive usufruct of the land, and also the possibility of alienating it. But, in parallel, the master's ownership rights over the dependent worker was limited solely to the hire and usage of labour, as opposed to the *abusus*, and this resulted in the establishment of the complex system of free wage labour. We can say that the 'dumb pressure of economic relations' (Marx) had ended up by forming a system of labour market, plus market of goods, plus capital market, which relegated into second place the violent blows of primitive accumulation – in other words the long history of plunderings, of partial genocides, of assorted massacres and of the authoritarian inculcation of a 'respect for property'. Despite the revolts, proletarianisation was established during the Industrial Revolution, all the more so since the peasants had not consolidated their rights since the 'medieval liberation',¹⁰ and because industrial production provided large quantities of poor-quality consumer goods (textiles) and appeared to offer safeguards from starvation and destitution. Another key feature, about which I have written elsewhere¹¹ – the movement of enclosure from above, imposed by vote in the English Parliament (the 'parliamentary enclosures') – had been preceded by several centuries of contractual or informal enclosures ('piecemeal enclosures'). These enclosures came about with the approval of village communities and were a result of a movement of desertion of villages, unlike the enclosures by law, which very often were the cause of forced or unwanted (push) migration.

The transformation of property rights – with the notable exception of free labour-power (and of the development of economic public property, which was to come much later) – heads in the direction of a unification of the threefold aspects of ownership, usufruct and total alienability, which we distinguished above, in their ‘full and complete’ form, of which the character of unlimited transferability is the determining criterion. It is on this basis that private property, or bourgeois property, was constructed. But after fifty years of theoretical (followed by practical) liberalism, the nation states quickly rebuilt the limits of ‘transferability’ (for reasons of internal security, or for the preservation of national independence, or for the preservation of colonial spaces), while the treatment of economic risk led to the creation of legal statutes that limited liability (an end to imprisonment for debt, limited liability companies, joint stock companies).¹² After the crisis of the late nineteenth century and the wave of creation of monopolies, the economic role of the nation state acquired a legitimacy that has even survived the neoliberal counter-revolution. So now let us return to the specifics of production under cognitive capitalism.

3 The major problem of the production of knowledge goods: New information technologies are its precondition, but they undermine the former mode of market valorisation

The specificity of knowledge-goods (as regards their usage, amortisation, enrichment and non-exclusive character) poses two major problems for the current paradigm of political economy, whether in its classical or its critical variety. The first problem area, already discussed in relation to the new economy in the United States, is the relevance of the overall laws of price theory when it comes to knowledge-goods, where scarcity is no longer the fundamental characteristic, and whose nature is similar to that of public goods.¹³ Some characteristics of the market of the net economy (in particular the storage of information about consumers via the use of cookies; and the virtually zero marginal cost of reproduction of knowledge-goods and information-goods) challenge the principle of the unicity of prices and at the same time the re-equilibrating characteristics of the market.

The second problem area relates to the nature of the assets that can be brought into the market exchange. The increasingly public character of knowledge-goods calls into question the possibility of their



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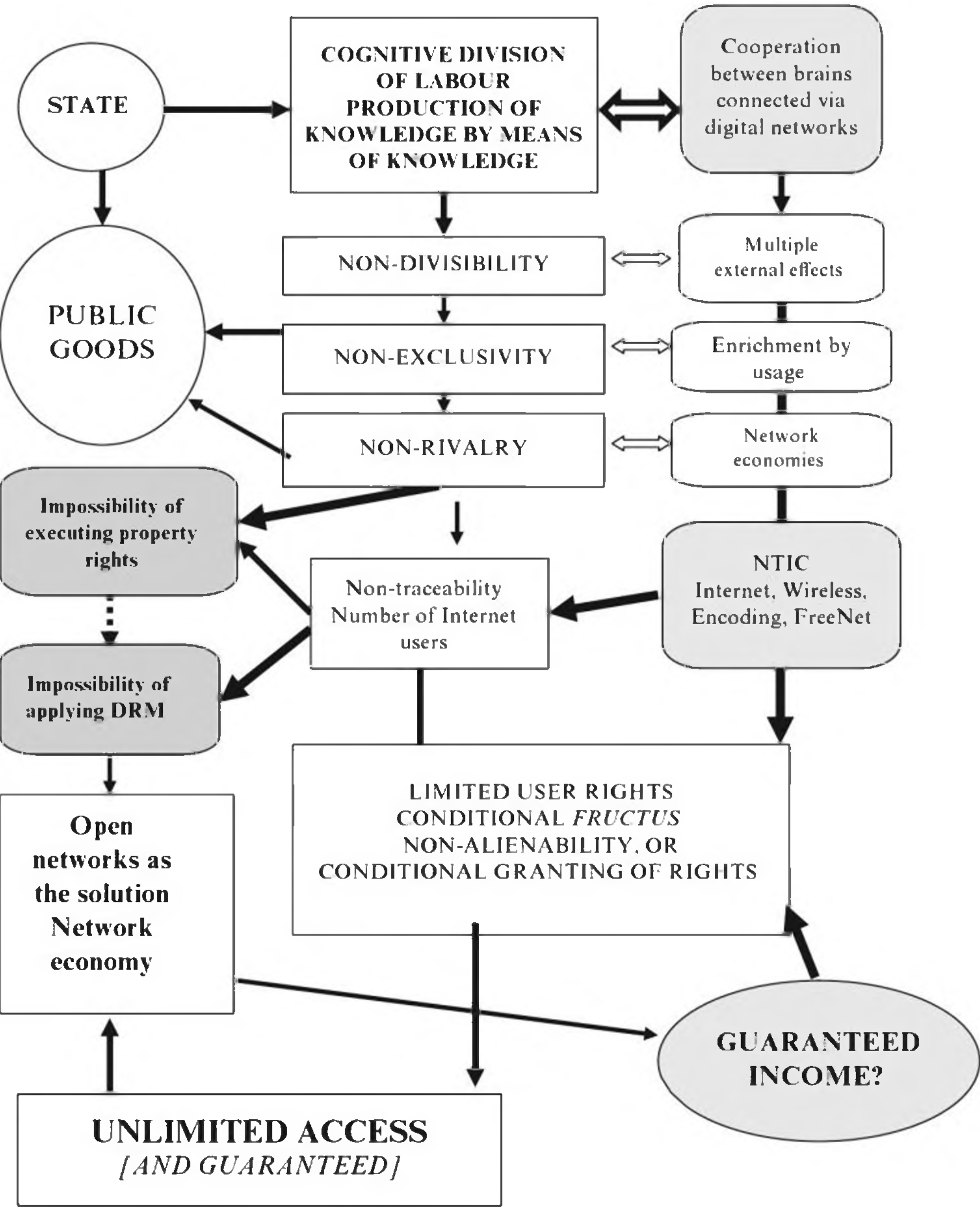


Figure 4.2 Problems of execution of property rights in cognitive capitalism

technological inventions. Printing, photography, the piano, radio, television, video cassette recorders (VCRs), compact discs (CDs) and digital versatile discs (DVDs) have each resulted in a redefinition of juridical rights.¹⁴ But the combined force of digitisation, of the Internet, of format compression (MP3 for music, Motion Picture Experts Group (MPEG), for films and videos), of the expansion of

delivery power and memory capacity in computers, and of fast internet connections (broadband and high-speed fibre-optics) has been unprecedented in history.

Moreover, the fact that the ability to extract economic value has shifted to knowledge-goods that can be immediately coded in digital media poses a double question. How, in these circumstances, can one create economic models based on the market? And, in order to give quasi-public goods the status of commodities, how can one completely rethink the technical mechanisms of protection against their continuous divulgation in the public domain by brains that engage in sharing information and exchange knowledge-goods media through peer to peer protocols operating via the Internet?

Certainly what we are witnessing is a massive expansion of technological protection measures (TPMs), better known by the English acronym DRM (digital rights management). Against all common sense and all civic sense, which maintain that the interests of inventors and authors must be balanced against the rights of the public, we are witnessing – sometimes overtly, sometimes insidiously – a questioning of the exceptions to copyright monopoly, which are nevertheless so important (education, research, quotation, caricature). France has particularly excelled at this with the so-called ‘trust’ law [*loi de confiance*] in the digital domain and with the DAVDSI (droit d’auteurs et droit voisin dans la société de l’information [Copyright and Related Rights in the Information Society]).¹⁵ But the European directive on copyright of 1998, and the no less disastrous directive on the patentability of software, were drafted in that same spirit,¹⁶ and in the United States Lawrence Lessig went all the way to the Supreme Court (where he lost), to challenge the law known as the Millennium Law, which extends the period of copyright to 120 years.

The fierce determination of one sector of the communications and culture industries to enclose as quickly as possible the new common good of collective intelligence cannot be denied. We need only refer the reader to the impressive picture presented by Philippe Aigrain in *Cause commune*¹⁷ and by Lawrence Lessig in *The Future of Ideas* (2001).

Nevertheless, against all the pessimism, I would argue that the reactionary virulence of the supporters of Digital Rights Management and of the bounty hunters of Internet pirates has little future. Why? Actually, for reasons that have little to do with justice and moral outrage currently fashionable – unfortunately these do not govern the world. What are these reasons? The first has to do with the operating material of the accumulation regime of cognitive capitalism. This

basically involves knowledge, the resource on the basis of which value can be built. The cooperation between brains working on personal computers connected to the Internet needs freedom if it is going to produce innovation. Google needs the daily activity of hundreds of millions of Internet users. Even its anti-model Microsoft has been forced round to this way of thinking, as indeed was International Business Machine (IBM) before it:¹⁸ it came to an agreement with Linux after having previously excoriated it as a communist devil.

The second reason for the impossibility of a victory of this wave of enclosures derives from more fundamental considerations: the digital and its appropriation by the largest possible number of people is a necessary precondition for being able to recuperate the work of collective intelligence, to which we have also referred as not directly commercial pollination work. If we do not allow the digital network to develop unhindered, the magical productivity of exploitation at degree 2 very soon evaporates. Due to the nature of the raw material it exploits and seeks to transmute into economic value, it becomes absolutely necessary for cognitive capitalism to allow spontaneous cooperation to create itself unhindered. Without the richness of the multitudes who ‘pollinate’ society through the wings of the digital, the honey harvest (that of traditional capitalism) weakens; but then, above all, we can bid farewell to the profit opportunities offered by the knowledge society. And that would take us back to entropy and to falling rates of profit.

In order to locate our argument in terms of conventional economics – for instance those of Friedrich von Hayek, that heretical genius of the dominant orthodoxy – we argue that there is in society (which has reached its current stage of development) an order that is ‘catalectic’.¹⁹ It is no coincidence that Hayek discovered this (cosmetic) ordering, which differs from static and mechanical disposition (*taxis*), when he embarked on an analysis of human knowledge. But what he thinks of as the self-organising market, we, from our perspective, locate upstream of the market, which can only hope to function as a multiplier and a vector of values if it mimics the richness of society in its multiple interactions. This relationship of mimetic capture is also what one finds at the political level between *Empire* and *Multitude* in the writing of Michael Hardt and Antonio Negri. It is too often said that Empire is the other face of the Multitude. Things need to be described rather differently in order to be more exact, if we want to go beyond salutary provocations intended to awaken the left from its dogmatic slumber. Like the giant Antaeus, who could only recharge his strength by keeping his feet on the ground, cognitive capitalism,

whose purpose is to produce value (and not commodities or use values), needs to multiply its points of contact with a society that is in motion, with living activity. Now, to use the kind of maritime metaphor dear to Fernando Pessoa and to Internet surfers, cognitive capitalism is like a good sailor – it knows that it can only sail by taking advantage of the current. The dot.com start-up entrepreneur finds himself in the situation of the surfer. He can only hope to find a business model if he can stay on top of the wave of social innovation, which already has invention-power and a power of inbuilt diffusion. We are no longer in the schemas of Schumpeter and Knight, for whom the entrepreneur identifies the new needs of society (hence being purely passive), imports the inventions produced by science and technology, and takes the risk of their industrial application by providing capital. In the new world before us, the knowledge society itself throws up innovative usages via the strength of its numbers. Entrepreneurial intelligence now consists in knowing how to convert into economic value the wealth that is already present in the virtual space of the digital. This is the definition of the ‘political’ entrepreneur: that is to say, someone who is able to understand social networks and to take them directly as his starting point (like a surfer, who does not create the wave but knows how to catch it at the right moment).²⁰

The new explorers, captains, conquistadors, and then governors, of cognitive capitalism have understood this. They defend the freedom of the Internet not only on moral and aesthetic grounds, but out of very precise interests. It so happens that this new continent corresponds to the development of humanity and that, if the satraps of the old continents have difficulty in sharing with their rivals the same passion for money or power, this will lead only to an impasse. This is why, day after day, the knowledge society prefers cognitive capitalism to its predecessor, which it would like to see dead and buried as soon as possible.

The third reason for the likely failure of the counter-revolution of the new enclosures is that a ‘return’ to the enforcement of intellectual property rights of the old industrial capitalism would be incompatible with the civil liberties of citizens and with democracy *tout court*. A regime of cognitive capitalism fully deployed, in other words resting on the valorisation of knowledge and innovation, is not compatible with emergency laws that suspend the most fundamental freedoms and that, in order to declare never ending war on Internet pirates and hackers, use the means of the post- 9/11 ‘war on terror’. Thanks be to the Internet, and may the fight to defend and consolidate it into

new common goods of mankind for humanity not become confused with any of the various ideologies of fundamentalism. The market is nothing without a catalectic pollination society, and the invention of new gunboats is not a sustainable mode of production.

At all levels, the impasse that is the end result of the imposition of old intellectual property rights inherited from industrial capitalism is beginning to become clear. The dangerous centralisation made possible by digital development (without encryption being available to everyone, and without the invention and implementation of new cyber-public freedoms) would be fatal for democracy. Worse, even from capital's point of view, it would be prodigiously inefficient in economic terms. A steel mill could operate regardless of whether it was running under Nazism, under Stalinist socialism or under liberal democracy. Technology, like science, was an almost neutral space. A knowledge society based on new information and communications technologies is the *sine qua non* without which cognitive capitalism is nothing. Digital technologies, in the form in which we now have them, are not indifferent to the type of organisation of the society in which they operate. De-centralised computing was, arguably, a far more effective weapon against Soviet real socialism than the Cold War was. The Internet is beginning to create serious problems for Chinese authoritarian market communism. The hyper-industrial and monopoly capitalism of the major music and image industries is also beginning to crack.²¹ After having presented a united front against surfers downloading music for free, and after having threatened internet pirates with years in prison and thousands of pounds in fines, it is now giving way on digital rights management.²²

But, above all, other models, including ones involving free spaces, are emerging and trying to integrate into a new market standard involving multiple combinations.²³ This translates into the spread of 'low-cost' applications subscriptions (unlike the outrageously expensive subscriptions offered in some quarters, which had been able to cash in on their novelty and on the archaism of the old market).²⁴ The future of the market economy will largely be played out on these terrains, which include real societal processes. In terms of product and process (terms of the old industrial model, which is still dear to firms and to antediluvian management textbooks) these innovations are what the assembly line was, around 1910, in relation to standardised artisanal production. Do not say that cognitive capitalism is a utopia. It's alive and well, every day, right on the street where you live, as the adverts say.



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intellectual property rights. These are thrown into crisis especially in the process of their execution. The digitisation of all content (sound, image, letters) creates difficulties not only as regards copyright, but also as regards patenting, as the issue of generic drugs for the anti-retroviral treatment of the AIDS pandemic in developing countries has demonstrated.

On paper, there are three possible roles for the new information and communications technologies in the current transformation of property rights:

- 1 To minimise the problems raised by the mass deployment of new information and communications technologies. This would involve simply a functional adaptation of forms of private property in such a way as to guarantee a commoditisation of assets previously excluded from monetised economic exchange. This thesis corresponds to the endogenisation of positive externalities arising out of networking. One finds satisfactory the access prices for various clusters of subscription to Internet services of all kinds; and these include the provision of material goods, which, as such, are now taken for granted.
- 2 Or we could – as is often done by jurists who stick to a purely technical perspective of positive law – analyse the current crisis as a distortion of already existing intellectual property rights, which, after a period of time (of varying lengths, depending on the hypothesis), will arrive at a necessary adaptation to the new system of accumulation. This conception holds that all the transformations taking place (those heading towards a liberalisation of access, or those which are everywhere restricting and tightening intellectual property rights) are valid, provided they are voted for by parliament or enacted by governments. Never mind the incredible chaos that is likely to ensue as a result.
- 3 Finally, we might agree that here a veritable revolution is under way, both in private property and in public or collective property, and, beyond the tsunami effect affecting certain industries and certain special interests, we might look to find out what direction we should take in order to re-arrange things in a proper fashion.

To resign oneself to options 1 and 2 is not compatible with our thesis, which is that cognitive capitalism is a paradigm, or a coherent research programme, that poses an alternative to post-Fordism.

structure, entrusting continuity to economics and discontinuity to institutional arrangements (these would undergo more or less brutal adjustments, ruptures, bringing things up to date).

If we adopt this perspective, where does it take us? The overall restructuring of property rights seems to head towards what we have characterised as a breakdown of the very strong link that bourgeois property has developed, ever since Locke, between *usus*, *fructus* and *abusus* – the latter (the ‘transferability’ so dear to theorists of the neo-classic economics of property rights) being hegemonic.

The increasingly widespread use of information and communications technologies, the development of knowledge and of the cooperation of human brains in networks, puts the spotlight on issues of access and on rights arising from *use* far more than on those arising from mere *ownership*. Historically, the concentration of the three components of rights in a single bundle is a phenomenon that is not eternal. In his *Age of Access*, Jeremy Rifkin is right to speak of a decline in capital’s ownership to the benefit of access. But capital is understood here as material goods, whereas capital may also mean the effective relationship of possession (in the sense of usage) of knowledge-goods.

So now a question arises. If we are witnessing a transformation of property relations of such magnitude that it impacts on the very notion of public space and on the role of the state, does this not bring immediately into question the capitalist mode of production as a whole, and not just the dominant system of accumulation?

This is the ambiguity of any historical present tense in ‘hot societies’. It contains the possibility of a liberation to be re-invented at every turn. It may also, in its representation of the future, strengthen the chains that are made to be broken by turning them into symbolic chains, much harder to conquer. Representing the current capitalism in the old clothes of industrial capitalism does nothing to help us build a future that is more just and more enabling.

The new information and communications technologies make all knowledge-goods (language, image, sound) reducible to a sequence of binary digits that can be stored and managed by computers, thanks to developments in memory capacity, software compression and encryption. In so doing they remove the technological obstacles which previously protected the enforcement of private property rights. The entire system of intellectual property (industrial patents, copyright, trademarks) is thus brought into question. It is not only the sequencing of life that is made accessible by these means. The legal and strategic battle pitting the countries of the South (India

and Brazil), which specialise in generic drugs for the treatment of AIDS in South Africa, against the big European and American pharmaceutical multinationals shows that these are major stakes for the biotechnology industry.²⁷ In the area of market consumption of images and music, the Napster trial, and then the Kaaza trial, also show that consumers without purchasing power (and even perhaps penniless) can use new technologies in order to get round their exclusion from the market. Finally, the battle of the free software movement (Linux) versus Microsoft's commercial model also indicates that, in the software industry, which is crucial for cognitive capitalism, we are seeing for the first time the emergence of a real productive and cooperative model that no longer obeys the Smithian division of labour. What is remarkable is that the technology – inasmuch as it has been the subject of a massive, diversified and capillary use of computer know-how and of a de-centralisation of knowledge – turns out to function better than coordination by the market or by the corporate hierarchy.

Here we have a fundamental difference with the old battle over enclosures at the end of the eighteenth century. There, unfortunately for the Irish tenants evicted from their land by the British soldiery, productivity was on the side of the landlords. Technology was on their side. The landlords monopolised it; and the state, with its urgent need to feed the proletariat, which was flooding into the cities of the Midlands and into London, was in cahoots with them. A diffusion of technological progress among the peasantry would no doubt have helped it to resist the mass proletarianisation much better. In the present battle over enclosures the mechanism is not at all comparable. Certainly, in both cases the new type of capitalism relies on the transferable nature of goods. But in the first enclosures what was at issue was the lack of transferability of ownership of land. Today, in order to ensure that knowledge-goods – the real trading matter of contemporary capitalism – are tradable and profitable, the new closures of property rights are trying to limit the overly transferable nature of goods in the digital network.

In both cases, what is aimed at is a common (and not necessarily public)²⁸ domain. This domain of communal goods is an obstacle to the possibility or profitability of a market-based production or exchange. But the first commons were principally formed of material (and thus rival) goods: the use made of them by peasants was incompatible with the use expected by the landlords (actually not so much a use as a prohibition of use). We know that the owners of the large estates wanted to take over the land of smallholders

in order to plant cash crops instead of subsistence crops; but their greater interest was to deprive them of food independence, so as to push them into becoming their agricultural waged workers or into taking the road to the factories of the Midlands, to become factory workers. Today cognitive capitalism does not expropriate Internet users directly. It has too great a need for their work of pollination in the network society. It seeks to find ways to transform the product of this activity into commodities that can be sold in the market. We have seen that the nature of knowledge-goods and the nature of life (activity that is living and intelligent, and hence complicated to govern) did not immediately favour this plan. And what about the instrument that had proved itself so well under industrial capitalism, as regards the rights of dependent labour – the institution of free wage labour [*le salariat libre*]? Now, this is no longer obvious, as we shall see.

4 The constitutional crisis of the wage-labour system: From flight to weakening

Material merchandise is increasingly replaced by an information-good whose referents are language and the production of sign. The entropic energy paradigm that had served to qualify labour-power in industrial capitalism as a quantum of energy consumed and needing to be replenished is less and less apt as a way of describing the nature of the human activity mobilised, as well as that of the cooperation between human minds working in digital networks. If it is the living activity of human brains and their cooperative interconnection that is turning out to be the major source of valorisation, then the canonical separation of the labour-power from the person doing the work and from his or her affects becomes a ‘fiction’²⁹ that is less and less operational. The same goes for the separation of the formative process of apprenticeship from the productive consumption of activity, which was constitutive of industrial wage labour.³⁰ In this sense, the decline of regular forms of waged employment has to be seen not as a conjunctural adjustment to cyclical fluctuations in growth or as a simple structural adaptation to flexible production, but as a constitutional crisis of the wage labour system per se.

It should be understood that setting in place exploitation at degree 2, as we have defined it, means to rethink completely the notion of proletarianisation. The separation of labour-power from the person of the individual worker and the alienation involved in the conditions

of work productive of wealth were established elements in the framework of industrial capitalism. Not so in mercantile capitalism, which depended principally on the exploitation of the unfree dependent labour of the slave.

But in cognitive capitalism such a separation becomes very difficult. We could, at the limit, separate physical involvement from brain activity (the leap to a high level of performance). But how shall we separate the involvement of the attention-power of brains, in other words the neuronal activity of memory, emotions and body? The distinction between labour-power and the juridically free individual person becomes increasingly untenable. Above all, it is unproductive and becomes a factor likely to block innovation. It also makes for difficulties in the determination of a working time defined as being separate from the rest of free time, as we have seen. The same applies to networking activity [*activité 'réseautale'* (a neologism based on *réseau*, 'network' and *neuronal*, 'neural')]. A decisive aspect of proletarianisation finds itself shaken.

But a second key aspect of proletarianisation is also brought into question, and it implies profound changes in the basis of the wage system, even if the term 'wage labour' [*salariat*] is retained, and also the form of time-based remuneration of labour. This has to do with the separation of workers from their conditions of work. Mancunian capitalist division had made this its decisive instrument in forcing the poor, who had resisted for four centuries (from 1350 to 1750), to take the path to the factory. In cognitive capitalism, in order to be a producer of wealth, living labour must have access to machines (hardware), to software, to networks and to conditions of deployment of its networking activity (environmental conditions in particular). Freedom of access³¹ supplants the concept of exclusive ownership. Here production means accessing at the same time, and together, information and knowledge in order to produce other knowledge. Living labour, inasmuch as it is kept alive and reproduces itself in the production cycle separately from the wear of capital and from the crystallisation of the activity into physical division of labour, becomes a 'usufructuary' of capital much more than a co-party annexed to capital. And, like the medieval serf or the plantation slave, labour sets off to conquer capital's property. Once there exists an intellectual capital that serves as a common good for all the production of wealth in society, and once this intellectual capital comes to represent much more than physical capital,³² it is very difficult to tell the subordinate workers (whom one is expecting to produce innovation and creation) that they have no ownership rights over the final

the price of labour), but also the remuneration of labour-power. The corollary of the impossibility of determining a productivity of labour (apparent productivity) and an individual productivity of labour is already present in the structure of the modern wage. For example the French *salaire minimum interprofessionnel de croissance* (SMIC, or minimum wage) is pegged to the overall productivity of the economy. Even more radically, what is the value of the concept of productivity calculated by sector (that of a given industry, for example) independently of other sectors and, above all, independently of public spending? We are, increasingly, in a system of transfers. The market, when it presents itself as a self-engendering truth, like Athena, and not simply as self-regulating, carefully conceals the increasing share of redistribution that is part and parcel of production.

The recognition, through social legislation and labour law, of a statute of waged work (*statut du salariat*) and of an accompanying income, redistributed by the public authority or by social partners under public guardianship, must be taken into account in defining the full remuneration (the social and collective wage) of the activity. This corresponds to a weakening of the market constraint on the wage system.

The particular (historically specific) form of the present wage system concerns not only the remuneration of labour. This was already the case in the economies of material production. These days, work is no longer remunerated as a production factor isolated from the capital, but it co-determines the remuneration of all four of the components involved, namely hardware, software, wetware and netware. Naturally, in the economies of cognitive and immaterial production this aspect becomes accentuated to a point where freedom of access to life *tout court* becomes the unavoidable operating precondition of cognitive capitalism. In industrial capitalism (and in its appendage, real socialism), manual labour was the condition of access to the meal table: if you didn't work, you didn't eat, as we were brutally reminded by the father of the Russian Revolution. In the knowledge society, on the other hand, it is access to life that becomes the precondition of productive work – in other words, of an activity exploitable at degree 2 by cognitive capitalism. All this is not a gala dinner, as we wrote at the head of this chapter, and we have described the reasons why. Cognitive capitalism reproduces, on an enlarged scale, the old contradiction described by Marx, between the socialisation of production and the rules of appropriation of value. Let us now see how all this works out in practice. First as regards the question of social classes and the 'precariat', which seems to be a growing



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5

The question of social classes and the composition of cognitive capitalism

1 Social classes in search of a lost simplicity!

If the picture that we have presented of the transformations in contemporary capitalism is far from uniformly gloomy, how is it that many analysts, particularly when looking at transformations in the world of work, find two massive aspects far less exciting? Namely (1) a worsening of inequalities; and (2) the precarity of the wage relation. The subordination of the waged worker has not disappeared. In fact it has even worsened, to the point that many end up wishing for the good old days of the postwar boom. Furthermore, those who are seeking a reconstitution of effective fronts of resistance must inevitably be struck by the almost infinite fragmentation of interests and, again, are likely to have a nostalgia for the days of the working class, when everything was simple and four-square, where a spade was called a spade, the boss was a bastard and a trade unionist was a defender of the workers, as Arlette Laguiller, long-standing leader of the French Trotskyist movement, would say. However, we should beware of imagining that everything was rosy or red at the time of the labour movement and of ‘the’ working class (in the singular). When they come to deal with the condition of the proletariat and workers, Engels and Marx (in that order because it was Engels, for once inspired, who called the tune in these matters) speak of the state of the labouring classes in the plural: ‘working classes’ – and not ‘working class’, in the singular, in some kind of majesty. Everything that we know of the turbulent history of the labour movement (before its Stalinist rewriting *ante litteram* in the twentieth century) tells us that the singular and capitalised Workers’ Movement is a mobilising myth more than a reality. There were splits a-plenty; and they