

## **Knowledge as a Fictitious Commodity: Insights and Limits of a Polanyian Perspective (First Draft)\***

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Karl Polanyi is famous for his many incisive contributions to economic anthropology, economic history, theoretical critique of formal economics, moral criticism of laissez-faire, and so on. One of his important contributions was the insistence that land, labour, and money were fictitious commodities and that the liberal propensity to treat them as if they were real commodities was a major source of contradictions and crisis-tendencies in capitalist development – so great that society would eventually fight back against the environmentally and socially destructive effects of such treatment. Polanyi wrote about the epoch of industrial and financial capitalism and when land, labour, and capital were considered as the primary ‘factors of production’. It is common to identify contemporary capitalism, however, as a knowledge-based economy (or KBE) on the grounds that knowledge has now become the most important factor of production and the key to economic competitiveness. This raises the interesting questions whether knowledge is a fictitious commodity too, how it has been disembedded from wider social relations, and whether its disembedding and its fictitious commodification are also subject to the ‘double movement’. I explore these questions below and find them insightful but I also identify some limits to treating knowledge as a fictitious commodity. This leads to me ask if there are analogous limits to the treatment of the other three fictitious commodities as purely fictitious. The paper ends with some comments on how to move beyond Marx and Polanyi and calls for a wisdom-based society rather than a knowledge-based economy.

### **Some Basic Concepts**

This section presents some basic concepts for developing a Polanyian analysis of knowledge as a fictitious commodity: substantive economy, formal economy, the economic fallacy, dis- and re-embedding, fictitious commodity, market society, and double movement. Polanyi distinguished between a substantive definition of economics as want-satisfying behaviour and a formal definition of economics as rational, economizing behaviour. He considered the economy, in its substantive sense, as ‘an instituted process of interaction between man and his environment, which results in a continuous supply of want-satisfying material means’ (Polanyi 1982: 33). On this basis he criticized the ‘economic fallacy’ in which all economic conduct is seen as formally rational and economizing and the properties and dynamics of non-capitalist economies are thereby assimilated to those of market economies. But he also recognized that, whereas economic activities in pre-capitalist social formations were not conducted primarily for ‘economic motives, i.e., for the sake of gain or payment or for fear of otherwise going hungry’ (1977: 51-2), contemporary market economies involve the increasing dominance of just such profit-oriented, market-mediated activities.

Given his interest in non-market as well as market economies, Polanyi focused on the dominant principle of distribution of 'want-satisfying material means'. He identified three such principles associated with economic activities embedded in non-economic institutions: (a) reciprocity among similarly arranged or organized groupings (e.g., segmentary kinship groups); (b) redistribution through an allocative centre linked to a political regime; and (c) householding based on production to satisfy the needs of a largely self-sufficient unit such as a family, settlement, or manor (Polanyi 1957: 47-53; 1977: 34-47; 1982: 35). These principles of symmetry, centricity, and closure are contrasted with the anarchy of exchange as mediated through price-making markets in a disembedded and potentially self-regulating economy (1982: 35). In short, the capitalist market economy is only one form of organizing economic activity and should not be used as a transhistorical model for interpreting other economies. Polanyi further argued that trade is not necessarily organized in terms of monetary exchange: it can also be organized as a gift relationship in reciprocal relationships or be administered from above in redistributive systems (1982: 40-45). Symmetry, centricity, and market exchange can also be combined under the dominance of one principle. For example, reciprocity may be linked to turn-taking in work tasks (redistribution) and/or exchange at set equivalencies to benefit a partner short of certain necessities (Polanyi 1982: 37).

Polanyi further argued that 'a market economy can exist only in a market society. ... [It] must comprise all elements of industry, including labour, land, and money' (Polanyi 1957: 71). However, while these elements have a price, they are not produced for sale. In this sense, they are fictitious commodities:

'labor and land were made into commodities; that is, they were treated as if they had been produced for sale. Of course, they were not actually commodities, since they were either not produced at all (like land) or, if so, not for sale (like labor). Yet no more thoroughly effective fiction was ever devised. Because labor and land were freely bought and sold, the mechanism of the market was made to apply to them. There was now a supply of labor and demand for it; there was a supply of land and demand for it. Accordingly, there was a market price for the use of labor power, called wages, and a market price for the use of land, called rent. Labor and land were provided with markets of their own, similar to those of the proper commodities produced with their help. ... [Yet] labor is only another name for man, and land for nature' (Polanyi 1977: 10).

This explains why Polanyi regards land, labour, and money as fictitious commodities. For, as he notes, what we call labor is simply human activity, whereas land is the natural environment of human beings, and money is just an account of value. And, while all three are 'absolutely vital parts' of the market economy, they are obviously not produced as 'commodities'. Indeed, Polanyi is quite insistent on this, noting several times that '[t]he postulate that they are produced for sale is emphatically untrue in regard to them'; or, again, '[t]he

commodity description of labour, land and money is entirely fictitious. Nevertheless, it is with the help of this fiction that the actual markets for labour, land and money are organized' (1957: 72). Without this fiction, the market economy could not work.

Putting aside for a moment Polanyi's discussion of money as a fictitious commodity, it is important to note that he argued that unlimited [fictitious] commodification of labour, land, and money actually works to undermine the market economy. This occurs through the 'double movement' as 'society fights back' against this extension of the commodity form, with different forces reacting in different ways against its different manifestations. More specifically, Polanyi argued that 'the extension of the market organization in relation to genuine commodities was accompanied by its restriction in relation to fictitious ones' (reference). Thus the self-regulating market of economic liberalism was opposed to social protection intended to preserve man and nature.

'Instead of economy being embedded in social relations, social relations are embedded in the economic system. The vital importance of the economic factor to the existence of society precludes any other result. For once the economic system is organized in separate institutions, based on specific motives and conferring a special status, society must be shaped in such a manner as to allow that system to function according to its own laws. This is the meaning of the familiar assertion that a market economy can function only in a market society' (Polanyi 1944: 57, italics added).

### **Is Knowledge a Fictitious Commodity?**

Discussions of the information revolution, informational capitalism, or the knowledge-based economy often treat knowledge as a factor of production similar to land, capital, enterprise, or labour. This is linked with a periodization of modes of development based on changes in the primary factor of production for wealth creation. A common periodization sees a transition from agriculture (land) through industrialism (capital and manual labour) to 'informationalism' (information and communication technologies and intellectual labour). During the early stages of the alleged transition to the post-industrial economy, Daniel Bell (1973) predicted that it would enable a transition from an 'economizing' logic to a 'sociologizing' logic, i.e., from a situation where economic activity is subordinate to a formal rationality oriented to maximizing opportunities for profit in the market to one where economic activity would be subordinate to democratically-controlled social engineering; and he added that the university would replace the firm as the most important economic organization in post-industrial society. It is now evident that knowledge production has actually become subordinate to formal rationality (hence to the economic fallacy), however; and that the university is increasingly run like a firm. This is reflected in the claim of a more recent theorist, Manuel Castells, who was nonetheless strongly influenced by Bell's analysis, that the full potential of informationalism as a technological 'mode of development'

can only be realized through capitalist relations of production and that capitalism has used the informational revolution to renew itself following the 1970s crisis of industrial capitalism (Castells 2001). This raises the question whether the key role of knowledge as a factor of production in the post-industrial market economy can be fruitfully analyzed as a fictitious commodity by analogy with Polanyi's earlier analysis of land, labour, and money.

The equivalent arguments would be that, while knowledge in the 'information economy' has acquired a price, it is not produced for sale. For, in Polanyi's terms, it is another 'aspect of man'. But the 'information economy' can survive only as part of a market economy and market society. In these conditions, information and knowledge must be priced to ensure a balance in supply and demand. This follows from the fact that:

Instead of economy being embedded in social relations, social relations are embedded in the economic system. The vital importance of the economic factor to the existence of society precludes any other result. For once the economic system is organized in separate institutions, based on specific motives and conferring a special status, society must be shaped in such a manner as to allow that system to function according to its own laws (1957: 57).

This said, the 'double movement' is only gradually gaining momentum in regard to the 'information economy' and fictitious commodification of knowledge. For, while there is increasing resistance from many forces at many sites on many scales, the state has not yet intervened actively and massively to prevent the treatment of knowledge as if it were a simple and/or capitalist commodity. On the contrary, the leading capitalist states are still being mobilized by capitalist forces to promote such treatment (see below). At the same time capital itself is clearly engaged in attempts at self-limitation and self-regulation that reflect the inherent contradictions involved in the increasing private appropriation of the intellectual commons at a time when it is an increasingly vital input into the general functioning of the global market economy. There is also growing debate about the limits of the commodification of knowledge even among economists from quite varied theoretical traditions (reflected in the sub-disciplines concerned with innovation and information) and among lawyers (in the specialized field of intellectual property law) (for further discussion, see below).

### **More on Commodities and Fictitious Commodities**

This section elaborates some crucial distinctions for analysing fictitious commodities. These distinctions are based in part on Polanyi's analysis and in part on a more general critique of capitalism.

First, a commodity is a good or service that is not merely offered for sale in a market transaction but is produced for sale in a labour process. If this were not the case, then Polanyi could not sensibly distinguish commodities and fictitious

commodities. A commodity can be produced as part of peasant, petty commodity, state production, cooperative production, or social enterprise as well as capitalist production. In this sense, the production process is irrelevant; what matters is its production for sale.

Second, a capitalist commodity is one that is created in a labour process that is subject to conditions of capitalist competition that create pressures to reduce both the socially necessary labour-time involved in its production and the socially necessary turnover time involved in the realization of the surplus-value that it embodies. This generates a dynamic relationship between the organization of production and the commodity character of the products being produced.

Third, a fictitious commodity is something that has the form of a commodity (in other words, that can be bought and sold) but is not actually produced in order to be sold. In this sense, it either exists as a use-value before it acquires the form of an exchange-value (e.g., raw nature) and/or it is first produced as a use-value before it is appropriated and offered for sale (e.g., human artefacts originating in a substantive, socially embedded economy). Above all, in contrast to a capitalist commodity, a fictitious commodity is not created in a profit-oriented labour process subject to the typical competitive pressures of market forces to rationalize its production and reduce the turnover time of invested capital.

The concept of fictitious commodity is important because treating land (or nature), money, and labour-power as simple and/or capitalist commodities would obscure the conditions under which they enter the market economy, get transformed therein, and thereby contribute to the production of goods and services for sale. For example, 'land' comprises all natural endowments (whether located on, beneath or above the earth's surface) and their productive capacities in specific contexts. The current form of such natural endowments typically reflects the past and present social transformation of nature as well as natural developments that occur without human intervention. Virgin land and analogous resources are not produced as commodities by capitalist enterprises but are appropriated as gifts of nature and then transformed for profit – often without due regard to their specific reproduction cycles, overall renewability, or, in the case of land, water and air, their capacities to absorb waste and pollution.

Marx argues explicitly that, although labour power is the only source of value, it is not the only source of material wealth; and he explicitly mentions the productive power of nature as well as virgin land in this regard (Marx, *Capital* vol 1). Similarly, labour (or, better labour-power) is a generic human capacity. It is not produced by capitalists for profit and acquires a commodity form only insofar as it enters labour markets from outside and is employed in the labour process as wage labour. Moreover, even when it has acquired a commodity form (a process that occurs very late in human evolution), labour-power is reproduced in significant measure through a heterogeneous ensemble of non-market as well as market institutions and social relations. In short, although most people must now

sell their labour-power to be able to live and to participate fully in social life as defined by the dominant norms of consumption, they are not actually commodities – merely treated as if they were.<sup>1</sup>

Finally, money is a unit of account, store of value, means of payment (for example, taxes, tithes and fines), and a medium of economic exchange (or general equivalent). Regardless of whether it has a natural form (for example, cowrie shells), a commodity form (for example, precious metals) or a fiduciary form (for example, paper notes, electronic money), the monetary system in which such monies circulate is not (and could not be) a purely economic phenomenon that is produced and operated solely for profit. For money's ability to perform its economic functions depends critically on extra-economic institutions, sanctions and personal and impersonal trust. Insofar as money circulates as national money, the state has a key role in securing a formally rational monetary system; conversely, its increasing circulation as stateless money poses serious problems regarding the re-regulation of monetary relations. In this sense money is an essentially political phenomenon.

The tendency to naturalize fictitious commodities as objectively given factors of production leads to the fallacious belief, strongly criticized by Marx, that economic value arises from the immanent, eternal qualities of things rather than from contingent, historically specific social relations (Marx 1976: 993; Schiller 1988: 32). And this in turn leads to the acceptance that each factor of production is entitled to its own share in the distribution of the total income and/or wealth of society.

Self-regulation implies that all production is for sale on the market and that all incomes derive from such sales. Accordingly, there are markets for all elements of industry, not only for goods (always including services) but also for labor, land, and money, their prices being called respectively commodity prices, wages, rent and interest. The very terms indicate that prices form incomes: interest is the price for the use of money and forms the income of those who are in the position to provide it; rent is the price for the use of land and forms the income of those who supply it; wages are the price for the use of labor power, and form the income of those who sell it; commodity prices, finally contribute to the incomes of those who sell their entrepreneurial services, the income called profit being actually the difference between two sets of prices, the price of the goods produced and their costs, i.e., the price of the goods necessary to produce them. If these conditions are fulfilled, all incomes will derive from sales on the market, and incomes will be just sufficient to buy all the goods produced (Polanyi 1977: 69)

Focusing on social relations rather than naturalized factors of production is important not only for a general understanding of the market economy as it was known to Polanyi but also for analysing the role of information, knowledge, and intelligence in so-called post-industrial economies. One must ask under what

conditions knowledge gains the form of a commodity. Insofar as knowledge is collectively produced and is not inherently scarce (in economic terms, it is a 'non-rival' good), it only acquires a commodity form insofar as it is made artificially scarce and access thereto depends on payment of rent (Kundnani 1998-9: 54-55; Frow 1996: 89). Hence, instead of naturalising knowledge, one should assume that 'information is not inherently valuable but that a profound social reorganisation is required to turn it into something valuable' (Schiller 1988: 32).

There are three key aspects to the profound social reorganisation that transforms knowledge into a fictitious commodity. First, as opposed to being an organic and inseparable part of creative labour, knowledge is codified, detached from manual labour and the minds of workers, and disentangled from material products to acquire the form of disembodied expert systems, intelligent machines, and essentially immaterial products and services. Second, by analogy with the disembedding of economic activities from their wider social contexts, there is the disembedding of knowledge from its social roots and its integration into extra-economic institutional orders, functional systems, and the lifeworld and its creeping commodification so that primary code governing use of knowledge is profitable/unprofitable rather than true/false, sacred/profane, health/disease, etc. And, third, knowledge no longer circulates within economic units (householding), through reciprocity, and through redistribution but is distributed through profit-oriented markets. An obvious analogy in all three respects is with the enclosure movement analyzed by Polanyi in *The Great Transformation* – an analogy which invites the question whether these intellectual enclosures can also be called 'a revolution of the rich against the poor' (1957: 35).

### **Rethinking Fictitious Commodification**

Having made a plausible *prima facie* case that knowledge can be seen as fictitious commodity, I now want to test the limits of this view. In other words, while knowledge may well be a fictitious commodity in some circumstances, it may also be usefully considered as a real commodity and/or as a quasi-commodity. If so, knowledge would (or could) have a threefold status as a commodity: fictitious, real, and quasi-commodity. First, knowledge can readily be interpreted as a fictitious commodity when the intellectual commons ('general intellect') acquires the form of a commodity because it is appropriated from those who actually possess (in the sense of *Besitz*) it through non-market mechanisms and is then subordinated to the logic of private property (*Eigentum*) and commodity exchange. This is the equivalent of land enclosure and operates as a form of primitive accumulation or, as it has recently been renamed by David Harvey, 'accumulation through dispossession' (2003).

Analogous to this form of appropriation of the collectively produced knowledge of past generations through primitive accumulation is the process whereby workers' tacit knowledge is formalized and integrated into expert systems and/or smart machines. Knowledge can also be commodified through the formal subsumption

of knowledge production. This would occur through the separation of intellectual from manual labour and its transformation into 'knowledge work for hire' under capitalist control. Here workers are paid a wage and their immaterial output belongs to the employer. Finally, the real subsumption of intellectual labour under capitalist control is also possible through the commoditization of intellectual labour and the integration of its immaterial outputs into a networked, digitized production-consumption process (on the first, see, for example, Aoki 1998; Dawson 1998; on the second, Schiller 1988: 33 and Sohn-Rethel 1978; on the third, Menzies 1998: 92-3 and Kelly 1998: 77).

The formal subsumption and/or real subsumption of intellectual labour lead to important changes in the overall organization of the market economy when it is associated with the specialization of some firms in the production of immaterial goods or services that are information-rich, knowledge-intensive, or otherwise 'creative'. If these goods or services are key inputs into the market economy and/or are final products and services that are deemed important components of socially defined consumption standards more generally, then, in a profit-oriented, market-mediated capitalist economy, their producers need to obtain at least the average rate of profit. If this is not the case, these inputs will not be provided. Polanyi himself provides an important clue to this possibility when he writes:

All transactions are turned into money transactions, and these in turn require that a medium of exchange be introduced into every articulation of industrial life. All incomes must derive from the sale of something or other, and whatever the actual source of a person's income, it must be regarded as resulting from sale (1957: 41)

Thus, just as wages are the market price for the use of labour power, rent is the market price for the use of land, and interest is the market price for the use of money capital, royalties in their different forms are the market price for the use of knowledge as a commodity, whether fictitious, real, or quasi-. The payment of this price becomes necessary when the application of knowledge to the production of immaterial goods and services becomes a distinct function within the division of labour and all such functions are rewarded through market mechanisms. There are different legal forms of intellectual property as 'fictitious capital' that confer rights of ownership over ideal, immaterial, or intangible objects. In addition to more traditional IPRs (including patents, trademarks, trade secrets, design rights, and copyright), there is an emerging series of IPRs that cover database rights; protection for semi-conductor topographies; plant breeders' rights; protection for indications of geographical origin; rights in performances; and protection against circumvention of copy protection devices.

The production of knowledge was not always remunerated through the market and royalties of different kinds can certainly not be treated seen as the natural reward for intellectual creativity.

However natural it may appear to us to be the assumption, it is unjustified; market economy is an institutional structure which, as we all too easily forget, has been present at no time except our own, and even then it was only partially present' (Polanyi 1977: 37).

This holds for intellectual creativity too. For, historically, the production of knowledge occurred outside the market, in institutions such as guilds, universities, religious bodies, or state institutions; and it was rewarded through patronage, prestige, prizes, or income tied to rank or status rather than to economic performance. This was recognized in Bell's early claim that, since the free circulation of knowledge offers no incentives to firms to produce, it must be created by some 'social unit, be it university or government' (1979: 174). Or, as Polanyi concluded, '[s]cience and the arts should always be under the guardianship of the republic of letters' (1957: 255). This stands in marked contrast to the growing importance of intellectual property rights (IPRs) as the basis for remunerating suppliers of information, knowledge, and intellectual creativity. Indeed, in contrast to the institution of property rights for land, labour-power, and money, IPRs are distinctive because they have been massively extended to secure the average rate of profit for immaterial goods and services but do so through the institution of a legal monopoly position that enables IP owners (who are not necessarily the actual knowledge workers) to earn monopoly profits as long as there is continuing demand for their products.

Knowledge has always been important economically and especially in the major shifts associated with long waves of technological innovation. What is novel in the current period is the growing application of knowledge to the production of knowledge in developing the technical and social forces of production; and the increased importance of knowledge as a fictitious commodity in shaping the social relations of production. This does not mean that knowledge is a real commodity or that its exchange-value equals the costs of the commodities consumed in its reproduction. For knowledge is a collectively generated resource and, even where specific forms of intellectual property are produced in capitalist conditions for profit, this depends on a far wider intellectual commons. The exchange-value of commodified knowledge is also hard to measure, of course, owing to the well-known peculiarities of the economics of information. These include the phenomenon that the use-value of knowledge qua non-rival good does not diminish when that knowledge is shared – and may even increase thanks to network economies – with corresponding problems for a purely market-led determination of output and price. The complexities of knowledge generation and its different forms of embodiment and embeddedness – especially in a networked economy – also make it hard to establish how knowledge in its various forms contributes to surplus-value and profits. All of this renders implausible a naturalized 'knowledge theory of value' (Bell 1974: 127) but it does still permit a 'value theory of knowledge' that, by analogy with Marx's 'value theory of labour' (Elson 1979), would assess the implications of treating knowledge as if it were a commodity.

## **Fictitious Commodities, Quasi-Commodities, Fictive Commodities**

If the preceding argument is broadly correct, it implies that knowledge has a complex economic status. First, as an intellectual commons that circulates more or less freely in society through reciprocity and/or is produced and distributed through non-market mechanisms (such as different forms of patronage), it can be regarded as a non-commodity. Second, when the intellectual commons is enclosed through non-market mechanisms and circulates as private property within the market, it can be regarded as a fictitious commodity. Third, when intellectual labour is formally and/or really subsumed under relations of capitalist exploitation and is transformed into immaterial goods and services, then it is a fictitious commodity like other forms of labour-power and can become embedded in real capitalist commodities. This will occur to the extent that the reflexive application of knowledge to the production of knowledge (i.e., information-rich, knowledge-intensive, or otherwise creative goods and services produced for sale) is subject to competition between different capitals to minimize the socially necessary labour-time embodied within them and to reduce the socially necessary turnover time of the capital invested in their production. Fourth, when the revenue streams to producers of information-rich, knowledge-intensive, or otherwise creative goods and services are guaranteed by intellectual property rights rather than normal market mechanisms analogous to 'technological rents', then we can talk of information, knowledge, and creativity both as fictitious commodities and as 'fictive commodities'. I use this latter term to refer to the powers of abstraction of the emergent logic of capital accumulation, which separate exchange-value from concrete natural resources, concrete labour, and concrete commodities.<sup>2</sup>

For the logic of capital accumulation is a powerful mechanism of abstraction. Above all, as Marx demonstrated, it reduces concrete labour to abstract labour. It also reduces the concrete use-values of 'land' to abstract flows of absolute and differential rent; it transforms commodity money into interest-bearing capital; and it transforms productive capital considered as a specific stock of assets that must be valorized in a particular time and place into hypermobile money capital available for re-investment anywhere in the globe. In the same way it reduces intellectual capital (embodied in intellectual property rights) to future revenue streams that can be bought and sold in secondary markets. Moreover, just as abstract labour is intangible (because it is a dynamic, emergent effect of the logic of capital accumulation that is distinct from any particular concrete labour, whether private or social), so too are the forms of fictive capital that correspond to future revenues from rent, yield curves, and intellectual property rights. [This argument will be expanded in the revised draft]

If these distinctions are accepted in relation to knowledge, we need to revisit Polanyi's arguments about land, labour, and money. For they suggest that land, labour, and money may also have a fourfold status: as non-commodities, as

fictitious commodities, as quasi-commodities, and as fictive commodities. As non-commodities, they would comprise raw nature, human creativity, and tokens of exchange respectively. Raw nature is unproblematic – it refers to the natural world prior to its appropriation and transformation in and through human labour; human creativity is also unproblematic – it refers to the innate capacities of the human species to engage in useful labour; and, as Polanyi shows, tokens would not be commodities where they exchange in equivalencies defined by non-market mechanisms and where, therefore, equivalency is not the same as price (1977: 62-73).<sup>3</sup> As fictitious commodities, land, labour, and money would comprise: (a) nature that has been appropriated and transformed by human labour and sold on the market; (b) wage-labour; and (c) money as a marketable store of value and medium of exchange, with competing commodity monies (e.g., gold, silver), fiduciary monies (tokens, paper money, bank credits), or national currencies (e.g., dollars, euros, yen). Polanyi's analyses of the limits of such fictitious commodification remain as powerful as ever, noting the disjunction between the reproduction requirements of nature and labour-power and the logic of the market and the effects of dissociating the circulation of money from the requirements of economic exchange.

But Polanyi misses two further dimensions of land, labour, and money that are indicated by our previous discussion of knowledge as a fictitious commodity. The first dimension concerns the consequences of treating land, labour, and money as if they were commodities. For this does not leave land, labour, and money unaltered as non-commodities but transforms them in and through their integration into the cash nexus of market relations. The concept of quasi-commodity<sup>4</sup> is useful here. It is based on a continuum (or, better, property space) ranging from a complete commodity through to an object lacking any of the defining characteristics of a commodity (Schaniel and Neale 1999). At stake here for my purposes are the ways in which economic forces engage in formal, rational action to increase the exchange-value of these fictitious commodities, i.e., their price as opposed to their value, through various forms of 'investment'. Examples of this would be improvement in 'land' (reflected in changes in absolute and differential rent), increasing skill levels or re-skilling labour power (considered as 'human capital'), or ensuring the credibility of money by linking it to real assets (e.g., the recovery from hyper-inflation in the Weimar Republic by backing the new German mark with another fictitious commodity, land values). It is the integration of these non-commodities and/or fictitious commodities into the circuits of capital and their real subsumption under the competitive pressures of capital accumulation that leads to their treatment as if they were real commodities and thereby reinforces the 'economistic fallacy' in and through which fictitious commodities acquire the appearance of real commodities. The second dimension is the scope for land, labour, and money to become 'fictive commodities', i.e., to provide the material and/or immaterial basis for secondary markets in future revenue streams through securitization (see table below).

	<b>Non-Commodities</b>	<b>Fictitious Commodities</b>	<b>Quasi-Commodities</b>	<b>Fictive commodities</b>
<b>Land</b>	Virgin land/ raw nature	Appropriated and transformed land/nature	Profit-oriented improvements in land/nature	Absolute and differential rent
<b>Labour-Power</b>	Generic capacity for human labour	Capacity for concrete labour	(Re-)skilling labour-power, manipulating labour supply	Abstract labour as source of added value
<b>Money</b>	Householding, Reciprocity, Redistribution, Etc	Symbolic tokens for exchange of goods/services, payment of taxes, tithes	Private/central bank action to raise relative price & performance of money, credit, etc	Interest-bearing capital, mobile money capital

**Table 1: Land, labour-power, and money as commodities**

<b>Non-Commodity</b>	<b>Fictitious Commodity</b>	<b>Quasi- Commodity</b>
Knowledge as tacit or codified, cumulative and novel collective human resource	Social knowledge enclosed in order to sell it (esp. if not initially produced for sale)	IPRs in immaterial goods and services produced for sale to secure IP revenues (rents)
Free circulation of information and knowledge in a 'gift economy'	Separation of mental from manual labour; 'work for hire', expert systems, smart machines	Reflexive Application of Knowledge to Production of Marketable Knowledge
<b>Intellectual Commons</b>	<b>Commodified Knowledge</b>	<b>Knowledge Commodities</b>

**Table 2: Knowledge by Analogy with Land, Labour-Power, and Money**

## **The Contradictions of the Knowledge-Based Economy**

So far I have engaged in a critical dialogue with Polanyi's analysis of fictitious commodities that has intended both to affirm the main thrust of his argument and to qualify it through the introduction of two further ways of thinking about 'commodities'. I now attempt to provide an analysis of the contradictions of the KBE that is inspired by Marx as well as Polanyi (for a more extended version, see Jessop 2001, 2002). My starting point is Marx's observation that the cell form of the capitalist mode of production is the commodity and that the latter contains a basic contradiction at its heart between use-value and exchange-value. Marx identified an essential contradiction in the commodity form between its exchange- and use-value aspects (Marx 1976). Exchange-value refers to a commodity's market-mediated monetary value for the seller; use-value refers to its material and/or symbolic usefulness to the purchaser. Without exchange-value, commodities would not be produced for sale; without use-value, they would not be purchased.<sup>5</sup> This was the basis on which Marx dialectically unfolded the complex dynamic of the capitalist mode of production – including the necessity of periodic crises and their role in reintegrating the circuit of capital as a basis for renewed expansion.

Building on this argument, I suggest that all forms of the capital relation embody different but interconnected versions of this basic contradiction and that these impact differentially on (different fractions of) capital and on (different categories and strata of) labour at different times and places. For example, the worker is both an abstract unit of labour power substitutable by other such units (or, indeed, other factors of production) and a concrete individual with specific skills, knowledge, and creativity;<sup>6</sup> the wage is both a cost of production and a source of demand; money functions both as an international currency exchangeable against other currencies (ideally in stateless space) and as national money circulating within national societies and subject to some measure of state control;<sup>7</sup> productive capital is both abstract value in motion (notably in the form of realised profits available for re-investment) and a concrete stock of time- and place-specific assets in the course of being valorised; land functions both as a form of property (based on the private appropriation of nature) deployed in terms of expected revenues in the form of rent and as a natural resource (modified by past actions) that is more or less renewable and recyclable; knowledge is both the basis of intellectual property rights and a collective resource (the intellectual commons). Likewise, the state is not only responsible for securing certain key conditions for the valorization of capital and the reproduction of labour-power as a fictitious commodity but also has overall political responsibility for maintaining social cohesion in a socially divided, pluralistic social formation. In turn, taxation is both an unproductive deduction from private revenues (profits of enterprise, wages, interest, and rents) and a means to finance collective investment and consumption to compensate for 'market failures'. These contradictions are linked to strategic dilemmas concerning the relative primacy of their different 'moments'.

They are also more or less manageable depending on specific 'spatio-temporal fixes' and the nature of the institutionalised class compromises with which these fixes may be associated (see table 2).

While all economies are based on knowledge, the KBE is distinctive because of its much-enhanced reliance for its dynamism and competitiveness of the reflexive application of knowledge to the production of marketable knowledge (Castells 2001). This changes the contradiction between the socialisation of the productive forces and the private appropriation of profit, which is now reflected in the contradiction between knowledge as intellectual commons and as intellectual property. This is hardly surprising. For this fundamental contradiction has distinctive forms in different times and places. In the case of capitalism, for example, its core contradictions can be analyzed in terms of: (a) the general contradictions inherent in the commodity form – as reinforced by (b) the specific contradictions inherent in generalising this form to money, land, and, above all, labour-power and (c) the inevitable dependence of the commodity form not only on fictitious commodities but also on various non-commodity forms of social relations. The very process of commodification rooted in the spread of the market mechanism generates contradictions that cannot be resolved by that mechanism itself.

In the present context, I will illustrate this from knowledge as a non-commodity, fictitious commodity, quasi-commodity, and fictive commodity. For, if knowledge is becoming fictitiously commodified and integrated thereby into the logic of capital, it will become a site of contradictions analogous to labour-power, land, or money. Five issues can be mentioned here.

1. The primitive accumulation of capital (in the form of intellectual property) through private expropriation of the collectively produced knowledge handed down from previous generations. This enclosure of knowledge takes several forms, including: (a) the appropriation of indigenous, tribal, or peasant 'culture' in the form of undocumented, informal, and collective knowledge, expertise, and other intellectual resources and its transformation without recompense into commodified knowledge (documented, formal, private) by commercial enterprises (Frow 1996: 97-99; Coombe 1998) – bio-piracy is the most notorious example; (b) divorcing intellectual labour from control over the means of production that it deploys – this is achieved through its formalization and codification in smart machines and expert systems – and thereby appropriating the knowledge of the collective labourer (Robins and Webster 1987); and (c) a creeping extension of the limited nature of copyright into broader forms of property right with a consequent erosion of any residual public interest (Frow 1996: 104).
2. The role of 'intellectual technology' in the real subsumption of intellectual as well as manual labour. Bell notes how this plays a role analogous to that of machinofacture in the subordination of manual labour to capitalist

- control (Bell 1974: 29; 1979: 167) and Robins and Webster also note how it serves to appropriate the knowledge of the collective labourer (1987: 103).
3. The dynamics of technological rents generated by new knowledge and their disappearance once the new knowledge (whether as knowledge or as intelligent means of production) becomes generalised and thereby comes to define the socially necessary labour time embodied in commodities. This problem is intensified by reflexive accumulation. For 'the conditions which a firm, region or production system must now satisfy in order to win are manufactured and remanufactured more thoroughly and more rapidly than ever before, creating a moving target for success and a shifting minefield of risks of failure' (Storper 1998: 249-50). This increases the pressure on firms, regions, or production systems to stay ahead of their competitors so that ever-renewed technological rents and increasing market share can alleviate the normal tendency for super-profits to be competed away. It also encourages attempts to protect vulnerable monopolies in knowledge or information by embedding them in technology, standards, tacit knowledge, or legally entrenched intellectual property rights. These considerations underline the self-defeating character of the informational revolution from the viewpoint of capital, insofar as each new round of innovation is prone to ever more rapid devalorisation.
  4. Intellectual property also poses contradictions for capital itself. For each capital wishes to pay nothing for its knowledge inputs but wishes to change for its intellectual output. This is reflected fractally in multi-scalar versions of this contradiction, e.g., Microsoft vs Linux, Microsoft's use of hacker communities to beta-test its commercial software vs firms that sell value-added services for Linux. Related to this is the conflict in the very form of intellectual property which is both a potential guarantee of the average rate of profit for firms that specialize in the production of immaterial products and services and a potential guarantee of super-profits based on a legal monopoly position.
  5. Finally, the KBE has implications for social inequality and polarisation within and across national societies. If firms in the information economy are to maintain profit rates despite the tendency for technological rents to be competed away, less technologically advanced sectors must secure below average profits. This is one of the driving forces behind globalisation and the tendencies towards unequal exchange and uneven development with which it is associated. In the longer term, however, this poses problems of demand for the products of the information economy on a global scale.

### **Knowledge and the State**

Such issues prompt the question whether the increasing socialisation of productive forces in a knowledge-driven economy (expressed in dynamic forms of networking and learning) is coming into conflict with capitalist dominance in the

social relations of production. This could involve capital hindering the realisation of an information society and/or informationalism eroding private control through its emerging networked forms of governance. These may not, of course, be the only alternatives. But exploring potential contradictions between informationalism and capitalism certainly provides an interesting way to think about the state's role in the KBE. We can explore this in terms of issues raised in dealing with the distinctive features of knowledge as a non-, fictitious, quasi-, and fictive commodity.

<b>Form</b>	<b>Exchange-Value Moment</b>	<b>Use-Value Moment</b>
<b>Commodity</b>	<b>Exchange-value</b>	<b>Use-value</b>
<b>Labour-power</b>	<ul style="list-style-type: none"> <li>a) abstract labour as a substitutable factor of production</li> <li>b) sole source of surplus value</li> </ul>	<ul style="list-style-type: none"> <li>a) generic and concrete skills, different forms of knowledge</li> <li>b) source of craft pride for worker</li> </ul>
<b>Wage</b>	<ul style="list-style-type: none"> <li>a) monetary cost of production</li> <li>b) means of securing supply of useful labour for given time</li> </ul>	<ul style="list-style-type: none"> <li>a) source of effective demand</li> <li>b) means to satisfy wants in a cash-based society</li> </ul>
<b>Money</b>	<ul style="list-style-type: none"> <li>a) interest bearing capital, private credit</li> <li>b) international currency</li> <li>c) ultimate expression of capital in general</li> </ul>	<ul style="list-style-type: none"> <li>a) measure of value, store of value, means of exchange</li> <li>b) national money, legal tender</li> <li>c) general form of power in the wider society</li> </ul>
<b>Productive Capital</b>	<ul style="list-style-type: none"> <li>a) abstract value in motion (or money capital) available for some form of investment in future time and place</li> <li>b) source of profits of enterprise</li> </ul>	<ul style="list-style-type: none"> <li>a) stock of specific assets to be valorized in specific time and place under specific conditions</li> <li>b) concrete entrepreneurial and managerial skills</li> </ul>

<b>Land</b>	a) 'Free gift of nature' that is [currently] unalienable b) Alienated and alienable property, source of rents	a) Freely available and uncultivated resources b) Transformed natural resources
<b>Knowledge</b>	a) Intellectual Property b) Monetized Risk	a) Intellectual Commons b) Uncertainty
<b>State</b>	Ideal Collective Capitalist	Factor of Social Cohesion

**Table 2. Sources of Tension in Basic Forms of the Capital Relation (Source: Jessop 2002: 20)**

First, states at all levels help in managing the contradictions rooted in the nature of knowledge as a fictitious commodity. For, on the one hand, '[t]he intellectual commons is fundamental to the production of knowledge' (Dawson 1998: 281); and, on the other, intellectual property is a key basis of accumulation in informational capitalism.<sup>8</sup> This poses interesting questions about the 'socially optimal policy of investment in knowledge' (Bell 1979: 175). This need not always take place through the market. For example, Polanyi noted of mercantilist states that:

'Their chancelleries and courts of prerogative were anything but conservative in outlook; they represented the scientific spirit of the new statecraft, favoring the immigration of foreign craftsmen, eagerly implanting new techniques, adopting statistical methods and precise habits of reporting, flouting custom and tradition, opposing prescriptive rights, curtailing ecclesiastical prerogatives, ignoring Common Law. If innovation makes the revolutionary, they were revolutionaries of the age' (Polanyi 1957: 38).

Different states are, of course, situated differently in this regard. They tend to polarize, first, around interests in protecting or enclosing the commons (for example, North-South) and, second, around the most appropriate forms of intellectual property rights and regimes on different scales from global to local. Thus, some states are more active than others in promoting the primitive accumulation of intellectual property, in privatizing public knowledge and in commoditizing all forms of knowledge; others are more concerned to protect the intellectual commons, to promote the information society and to develop social capital. Given its competitive advantage in information and communications technology products, the knowledge revolution, and the so-called creative industries, the American federal state has been especially significant in promoting the neoliberal form of the knowledge revolution on a global scale. This

is especially clear in its role in promoting the Trade-Related Aspects of Intellectual Property Rights agreement as a key element in the World Trade Organization and in using bi- and multilateral trade agreements, conditionalities and other pressures to seek to enforce its interests in intellectual property rights.

Whatever their position on such issues, all states must try to resolve various contradictions and dilemmas in knowledge production whilst eschewing any direct, hierarchical control over it. For example, they 'must balance the need to protect and maintain the intellectual commons against the need to stimulate inventive activity' (Dawson 1998: 278). Likewise, in the latter context, they need to balance the protection of individual intellectual property and its associated revenue flows against the collective benefits that derive from the general diffusion of its applications 'by creating open systems, by moving key intellectual properties into the public domain, by releasing source code democratically' (Kelly 1998: 28). The latter task is often pursued through state promotion of innovation and diffusion systems (including social capital), broad forms of 'technological foresight', co-involvement and/or negotiated 'guidance' of the production of knowledge, and the development of suitable metagovernance structures (Messner 1998; Willke 1997). Thus states sponsor information infrastructures and social innovation systems on different scales; develop intellectual property rights regimes and new forms of governance and/or regulation for activities in cyberspace; promote movement away from national utility structures with universal supply obligations suited to an era of mass production and mass consumption to more flexible, differential, multiscale structures suited to a post-Fordist era; and intervene to restructure research in universities to bring it more closely into alignment with the perceived needs of business and to encourage the management and exploitation of intellectual property through spin-offs, licensing, partnerships, science parks, technology parks, industry parks, and so on.

More particularly some states are getting heavily involved in promoting the primitive accumulation of capital in the form of intellectual property in each of the forms discussed above. States have a key role here in changing IPR laws and protecting domestic firms' appropriation of the intellectual commons at home and abroad. They also promote the commoditization of knowledge and the integration of knowledge and intellectual labour into production. This is reflected in the increased emphasis on the training of knowledge workers and lifelong learning, including distance learning, the introduction of ICTs into its own spheres of activity and the more general prosyletization of the knowledge-based economy and information society. It promotes these strategies in the private sphere and third sector. There is also increasing emphasis on flexibility in manufacturing and services (including the public sector) based on new technologies (especially microelectronics) and more flexible forms of organizing production. Hence it attempts to introduce post-Fordist labour practices into the state sector itself and into new public-private sector partnerships. New technologies actively promoted by the state include: information and communication technologies; manufacturing technology; nanotechnology; biotechnology; optoelectronics; genetic

engineering; marine sciences and technology; new materials; and biopharmaceuticals;

The state also heavily promotes the dynamics of technological rents generated by new knowledge as part of a more general promotion of innovation. This serves to intensify the self-defeating character of the informational revolution from the viewpoint of capital, insofar as each new round of innovation is prone to ever more rapid devalorization. But it nonetheless wins temporary advantages and technological rents for the economic spaces it controls and, insofar as there are sustainable first-mover advantages, it can consolidate longer-term advantages for a region, nation, or triad. This strategy is an important and quite explicit element in the reassertion of US hegemony since the years of pessimism about the growing threat of the Japanese and East Asian economies, and helps to explain the American commitment to the consolidation of a robust IPR regime (cf. Lehman 1996; Schiller 1999). Moreover, if firms in the information economy are to maintain above average- profit rates despite the tendency for technological rents to be competed away, less technologically advanced sectors must secure below-average profits. This is another driving force behind globalization insofar as less profitable firms are forced to relocate or outsource to lower cost production sites and reinforces the tendencies towards unequal exchange and development associated with globalization. States also get involved in often-contradictory ways in promoting and retarding the mobility of productive capital.

### **Beyond Marx and Polanyi**

I conclude with five preliminary remarks that will be refined and developed in the final version of this contribution. First, both Marx and Polanyi regard land, labour, and money as fictitious commodities distinct from (capitalist) commodities produced in a distinct economic labour process governed by profit-oriented, market-mediated calculation and subject to the class struggle to reduce the socially necessary labour-time in their production and capitalist competition to reduce the socially necessary turnover time in the circulation of capital invested in their production.<sup>9</sup> Second, both nonetheless recognize that land, labour, and money have a price and that the logic of capital requires that they be treated as if they were real (rather than fictitious) commodities. This produces ambiguities in the analysis of these fictitious commodities that are resolved in different but not mutually exclusive ways by Marx and Polanyi. Whereas the former inclining more towards commodity fetishism (in part because he never wrote the 'missing book' on wage-labour and because his comments on nature are interspersed with the more general analysis of the logic of capital), the latter gives more weight to their fictitious character and the contradictions that this poses at the level of social reproduction rather than capitalist reproduction narrowly conceived. Third, a brief analysis of knowledge shows that it can also be seen as a non-commodity and a fictitious commodity; but it also appears clearly as a quasi-commodity and a fictive commodity. These insights can be applied retrospectively to land, labour-power, and money to reveal the limitations of Polanyi's analysis of these 'three

factors of production'. More specifically, it becomes clear that the treatment of these fictitious commodities as if they were real commodities produces distinctive effects that can be analysed under the rubric of 'quasi-commodities' and that this, in turn, produces the opportunities that enable them to become 'fictive commodities'.

Fourth, given that Marx and Polanyi wrote during the period of industrial and financial capitalism (seen misleadingly from the Ricardian viewpoint of the dominant factor or factors of production) rather than during the period proclaimed as 'the knowledge-based economy' or 'informational capitalism', they paid less attention to the contradictions of treating knowledge as if it were a commodity than would be justified today. Interestingly, Marx does adumbrate some aspects of these contradictions in his discussions, notably in the Grundrisse and, to some extent, in Theories of Surplus Value, of the significance of the 'general intellect' or knowledge as a generic factor of production that is not amenable to private appropriation and valorization. And, even more interestingly, Michael Polanyi developed some important insights into the role of tacit knowledge in scientific innovation and the ways in which state planning of science and, to a lesser extent, its subordination to a profit-oriented, market-mediated logic would weaken or even block capacities for innovation.

Fifth, and finally, if we recognize these limits to a capitalist knowledge-based economy, then we should recognize, with Marx and Polanyi, the need to re-embed the transformation of nature and human creativity into a re-moralized society. In this sense the critique of political economy must be extended to the critique of political ecology and combined with a new moral economy. Given Bell's earlier distinction between an economizing and sociologizing logic, it is tempting to call for a transition from a knowledge-based economy to a knowledge-based society. But re-reading *The Great Transformation* and reflecting on the recent non-identical repetition of its lessons in the form of global neo-liberalism, it would be better to call for a wisdom-based society that draws on the collective good sense as well as accumulated knowledge of humankind. I conclude with the wise words of the Cree Indians:

Only after the last tree has been cut down  
Only after the last river has been poisoned  
Only after the last fish has been caught  
Only then you will find out that money cannot be eaten

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## Endnotes

	Produced for sale in capitalist labour process subject to competition to reduce socially necessary labour and turnover times
Labour	<b>Farm and laboratory animals – limit case would be cloning human slave labour for profit Commercial training and re-skilling</b>
Land	<b>Land reclamation; biofuels; solar energy; genetically engineered organisms</b>
Money	<b>Commodity money; securitized financial assets</b>
Know-ledge	<b>News production; new drugs produced entirely within capitalist labour process for sale</b>

#### Genuine Capitalist Commodities?

<sup>1</sup> Labour-power as a fictitious commodity is unusual here because it is not produced as an exchange-value; and, in addition, its use-value in capitalism is its capacity to produce exchange-value.

<sup>2</sup> In the presentation that forms the basis of this contribution, I referred to ‘quasi-commodities’. ‘Quasi-commodities’ and ‘fictive commodities’ are both misleading terms for what I have in mind, albeit in different ways. The usual meaning of quasi-commodity refers to the tendential commoditization of goods and services as they move through the product life-cycle (as in the commoditization of personal computers). ‘Fictive capital’ usually refers to immaterial financial assets (e.g., government bonds backed by future tax revenues). On balance, the latter term is closer to the analysis adopted below; and, in addition, it enables me to use the term in another context (see below).

<sup>3</sup> ‘An operational definition of equivalency would have to center on the fact that the term indicates the number of units of one kind of object which, when substituted for a number of units of another kind, leaves the result unaffected with respect to a definite operation such as reciprocating, redistributing, or exchanging’ (Polanyi 1977: 64).

<sup>4</sup> See footnote above on alternative definition of ‘quasi-commodity’.

<sup>5</sup> Cf. Cleaver on the wage form: ‘It is exactly because workers have needs (and no means of producing what they need) that capital can sell those use-values and realize the exchange-values it desires. It is exactly because labor-power is a use-value for capital that it is an exchange-value for labor’ (1979: 92).

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<sup>6</sup> The same principle applies where money circulates within plurinational spaces, such as formal or informal empires, dominated by one state.

<sup>7</sup> Interestingly, Castells, who introduced the notion of informational capitalism, neglects the significance of intellectual property in its dynamic, focusing instead on knowledge as a factor of production (Castells 1996, 2000b).

<sup>8</sup> Interestingly, Castells, who introduced the notion of informational capitalism, neglects the significance of intellectual property in its dynamic, focusing instead on knowledge as a factor of production (Castells 1996, 2000b).

<sup>9</sup> In this sense, I disagree with Fred Block's evaluation of the relation between Marx and Polanyi, which rests on his mistaken attribution of a labour theory of value rather than a value theory of labour to Marx and his mistaken acceptance of Polanyi's view that the concept of fictitious commodity has nothing in common with the theory of commodity fetishism – something contra-indicated by Polanyi's discussion of the economic fallacy in market economies and societies as well as his analysis of land, labour, and money as if they were commodities (Block 2003). On the distinction between a labour theory of value and a value theory of labour, see Elson (1979) and Lebowitz (2003).