



Capitalism or information society? The fundamental question of the present structure of society

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Abstract

Theodor W. Adorno asked in 1968: What is the fundamental question of the present structure of society? Do we live in late capitalism or an industrial society? In today's society, we can reformulate this question: What is the fundamental question of the present structure of society? Do we live in capitalism or an information society? This article deals with these questions. A typology of information society theories is presented. Radical discontinuous information society theories, sceptical views and continuous information society theories are distinguished. Second, an alternative concept that is grounded in Hegelian philosophy and Marxist political economy is presented. The basic argument is that the emergence of transnational informational capitalism is a transformational sublation, but not a radical one, and that informational capitalism is just one of the forms of capitalism that co-exist today. There is a unity of diversity of capitalism(s).

Keywords

Adorno, capitalism, contemporary society, information society theory, modern society, social theory

A web search for the phrase 'information society' in titles of articles indexed in the Social Sciences Citation Index (SSCI) for various years shows that there has been a continued academic interest in the concept of the information society since the 1980s. Two significant rises in the number of published articles took place. The first peak started in

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the years 1983 (1980: 1 published article, 1981: 2, 1982: 11, 1983: 22, 1984: 21), two years after the introduction of the IBM Personal Computer and around the time when the Apple Macintosh, the first computer with a graphical user interface, was put on the market in 1984. The second significant peak was around 1995, two years after the Mosaic World Wide Web (WWW) graphic browser was introduced that made surfing the WWW very user-friendly (1994: 4 published articles, 1995: 14, 1996: 24, 1997: 43). The rising popularity of computing in private lives, everyday life and the economy have resulted at these points in an increased interest in the concept of the information society.

Computerized society, digital society, information society, knowledge society, knowledge-based society, network society, ICT society, Internet society, communication society, cybersociety, media society, post-industrial society, postmodern society, virtual society – we can find many names for and claims about the present structure of Western societies in political discussions, the media, everyday life and academic discourse. Most of these concepts and claims have in common that they stress the importance of knowledge, the production, generation, diffusion and use of information, the rise of the computer and digital network technologies such as the Internet or the mobile phone. Two important questions related to discussions about the information society are how to define the informational dimension of society and how to measure to what degree a certain subsystem or dimension of society is informational. This article deals with the first aspect and presents some reflections on the question: if and under which circumstances is it theoretically feasible to speak of an information society?

Theodor W. Adorno asked in 1968: What is the fundamental question of the present structure of society? Do we live in late capitalism or an industrial society ([1968] 2003)? In today's society, where knowledge and creative work, media, the computer, and the Internet are said to be important, we can reformulate Adorno's question in the following way: What is the fundamental question of the present structure of society? Do we live in capitalism or an information society? This article deals with these questions.

First, we present a classification of information society theories and discuss radical discontinuous information society theories, sceptical views and continuous information society theories. Second, we introduce an alternative concept that is grounded in Hegelian philosophy and Marxist political economy. Third, we give a methodological note on measuring the information society. Finally, we draw some conclusions.

A classification of information society theories

Frank Webster (1995, 2002) has identified five ways of defining an information society: (1) technological innovation; (2) occupational change; (3) economic value; (4) information flows; and (5) the expansion of symbols and signs. The theoretical criterion that Webster uses to classify information society theories is the dimension of society that they primarily focus on. Another classification of theories can be achieved by combining the degree of novelty and the type of sociological theorizing as distinguishing criteria. The information society theory discourse can then be theoretically categorized by making use of two axes: the first axis distinguishes aspects of societal change, the second the informational qualities of these changes. There are theories that conceive of the transformations of the past decades as constituting radical societal change. These are discontinuous

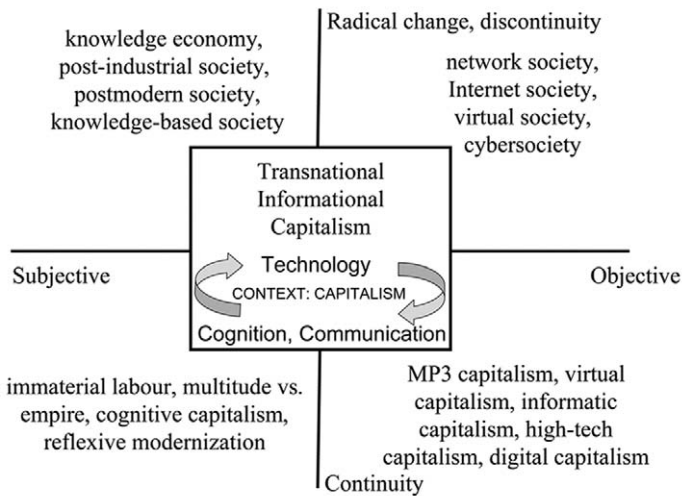


Figure 1. The typology of information society theories.

theories. Other theories stress the continuities of modern society. Subjective social theories stress the importance of human individuals and their thinking and actions in society, whereas objective social theories stress structures that transcend single individuals (Giddens, 1984: xx). Subjective information society theories place emphasis on the importance of human knowledge (thought, mental activities) in contemporary society, whereas objective information society theories foreground the role of information technologies such as the mass media, the computer, the Internet, or the mobile phone. Figure 1 shows the typology of information society theories.

Discontinuous subjective concepts are, for example, the knowledge economy (Machlup, 1962; Drucker, [1969] 1992; Porat, 1977), the post-industrial society (Bell, 1974; Touraine, 1974), the postmodern society (Lyotard, 1979), or the knowledge-based society (Stehr, 1994). Objective discontinuous notions that stress the importance of information technologies are, for example, the network society (Castells, 1996, 2000b; van Dijk, 2006), the virtual society (Bühl, 2000; Woolgar, 2002), cybersociety (Jones, 1998), or the Internet society (Bakardjieva, 2005).

Discontinuous information society theories prefix certain terms to macro-sociological categories such as society or economy, which implies that they assume that society or the economy has undergone a radical transformation in the past decades and that we now live in a new society or economy. These approaches stress discontinuity, i.e. that we live in a new society that has almost nothing in common with society, as it was 100 or 150 years ago. Alain Touraine (1974: 4) for example says that the post-industrial or programmed society is 'a new type of society'. For Daniel Bell, the 'post-industrial society' has brought about 'a vast historical change in which old social relations (which were property-bound), existing power structures (centered on narrow elites), and bourgeois culture (based on notions of restraint and delayed gratification) are being rapidly eroded'

(1974: 37) and 'the emergence of a new kind of society [that] brings into question the distributions of wealth, power, and status that are central to any society' (1974: 43). Alvin Toffler argues that a third-wave society, which he also terms the 'knowledge age' means a 'giant wave of change battering our lives today' (1980: 5), a 'massive historical shift' (1980: 243), 'dramatic changes' (1980: 243), and a 'revolutionary advance' (1980: 168) so that the result is a 'wholly new society' (1980: 261). Peter Drucker argues that the 'knowledge society' means 'an Age of Discontinuity in world economy and technology' (Drucker [1969] 1992: 10) and that

work and workforce, society and polity, are all, in the last decade of this century, qualitatively and quantitatively different both from those of the first years of this century and from anything ever experienced before in human history: different in their configuration, in their processes, in their problems, and in their structures. (Drucker, 2001: 227)

For Nico Stehr (1994), the emergence of what he terms the knowledge society means that 'the age of labor and property is at an end', that the 'emergence of knowledge societies signals first and foremost a radical transformation in the *structure of the economy*' (1994: 10) and the 'emergence of a new structure and organization of economic activity' (1994: 122). For Manuel Castells, the rise of the 'network society' means that a 'new world is taking shape at this turn of the millennium' (Castells, 2000a: 367) and that the 'information technology revolution induced the emergence of informationalism, as the material foundation of a new society' (Castells, 2000a: 367).

These examples show that many, but certainly not all, information society theorists assume that the effects of information technologies, knowledge, science, and communication on society have brought about a new kind of society. It is therefore no surprise that as an answer, approaches have emerged that question the discontinuity hypothesis' claim that society has been radically transformed. 'If there is just more information, then it is hard to understand why anyone should suggest that we have before us something radically new' (Webster, 2002: 259). Nicholas Garnham ([1998] 2004, 2000) therefore characterizes information society theory as ideology. Garnham ([1998] 2004: 165) says that information society theory is 'the favoured legitimating ideology for the dominant economic and political powerholders'. Garnham's basic argument is that the claim that there is a new information, network, knowledge, or post-industrial society denies the continued existence of exploitative class relations between capitalists and workers.

But in terms of the claims for epochal change, we need also to ask whether these characteristics are new or whether on the contrary they are the product of the problems of creating value with information commodities, which drives a constant search for novelty and new cycles of cultural consumption of commodities, which are not destroyed in use. (Garnham [1998] 2004: 179)

The discontinuity hypothesis has ideological character because it agrees with the view characteristic of neoliberal ideology that we can do nothing about change and have to adapt to existing political realities (Webster, 1995: 267). Peter Golding (2000: 170) argues that information society discourse is an ideology that 'anticipates and celebrates

the privatization of information, and the incorporation of ICT developments into the expansion of the free market'. The danger in sociology's fascination with the new would be that it becomes distracted from the focus on radical potentials and the critique of how these potentials are suppressed (Golding, 2000: 171).

Stehr (1994) explicitly discusses such critiques that state the hypothesis that the knowledge/post-industrial society constitutes a radical change and that stress the continuities of contemporary society. He says that these critiques ignore the dynamic character of society and cannot explain changes.

The radical critique of the theory of post-industrial society affirms the continuity of the modern world while post-industrial theorists assert that modern life is a world of change. But the fixation of the more radical critique of the theory of post-industrial society on features of industrial society which are more or less persistent, if not permanent, attributes of modern society, namely the existence of power elites, social inequality, unemployment, poverty, a concentration of control in the economy, societal antagonisms and contradictions, social control and constraints, can, in my view, only distract from gaining insights into the *dynamic* character of modern society. That is, the radical critique is long on constant, static and fixed ills and somewhat short on dynamic and evolving configurations of socio-economic and political realities in modern society. (Stehr, 1994: 55)

In a comparable way, Castells asks: 'After all, if nothing is new under the sun, why bother to try to investigate, think, write, and read about it?' (2000a: 367).

The views of Stehr and Castells do not advance the discussion because they simply posit the notion that there is a radical break against the very critique of this notion. Stehr is a vehement advocate of the radical break hypothesis. He does not answer the criticism that assuming a radical break obscures the continuity of capital accumulation, inequality, exploitation, and stratification in capitalism and therefore constitutes an affirmative ideology.

Continuous information society theories take the sceptical views to a certain extent into account and stress that we still live in a modern capitalist society, but that certain changes of the forms that express basic capitalist structures have taken place. Subjective continuous information society concepts are, for example, reflexive modernization (Beck et al., 1994), cognitive capitalism (Vercellone, 2007; Negri, 2008), semicapitalism (Berardi, 2009a, 2009b), and general intellect and immaterial labour (Hardt and Negri, 2000, 2005; Virno, 2004). They stress the importance of mental labour for capital accumulation in contemporary capitalism. Objective continuous information society concepts include, for example, digital capitalism (Glotz, 1999; Schiller, 2000), virtual capitalism (Dawson and Foster, 1998), high-tech capitalism (Haug, 2003), MP3 capitalism (Sennett, 2006), and informatic capitalism (Fitzpatrick, 2002).

Such approaches stress the continuity of capitalism, but still share the view of continuous information society theories that information technology or knowledge is the central factor in contemporary society. They hardly account for the continued importance of, for example, very material resources like oil, over which wars are fought, or the importance of finance capital that has played a crucial role in the emergence of a new global economic crisis in 2008.

In its extreme form, the continuity hypothesis is the claim that contemporary society does not differ in any significant way from nineteenth-century capitalism. For example, Walter Runciman (1993: 65) has argued that 'it cannot be claimed that any new sub-type of the capitalist mode of production has emerged' in Great Britain in the 1970s and 1980s. The United Kingdom is a 'capitalist-liberal-democratic' society with a 'capitalist mode of production', a 'liberal mode of persuasion', and a 'democratic mode of coercion' (Runciman, 1993: 65). 'Terms such as "managerial" capitalism, or "late" capitalism, or "finance" capitalism, or "corporatist" capitalism have all generated more confusion than illumination' (Runciman, 1993: 54). A similar argument has been put forward by Jonathan Friedman (2002: 302):

Capitalism has not changed in its general tendencies to the deepening of commodification, the increase in the rate of accumulation of fictitious capital relative to real accumulation, the increasing lumpenization of large portions of the world's population. All these processes are abetted by the new high technology, but they are certainly not its cause, and if anything, they are the symptoms of a capitalism in dire straits, a situation quite predictable from the logic of the system.

The only new quality would be the ideological claim that we live in a new society, 'the strange air of radical identity or self-identity among those intellectuals who are both representatives of the privileged classes and translators of ordinary liberalism into the language of radicalism' (Friedman, 2002: 302).

There is no doubt that capitalism requires a continuity of the structures of accumulation and exploitation to exist. These processes are, however, not smooth, but rather contradictory and dynamic, which results in the crisis-proneness and reality of capitalist crises. Marx saw the contradictory and crisis-ridden nature of capitalism as a source of internal capitalist change (and potential transition to socialism). Capitalism requires a change in the organization of the structures of accumulation and exploitation in order to overcome crises. Crises as 'periodic revolutions in value . . . confirm what they ostensibly refute: the independence which value acquires as capital, and which is maintained and intensified through its movement' (Marx, 1885: 185). 'The accumulation of capital, which originally appeared only as its quantitative extension, comes to fruition, as we have seen, through a progressive qualitative change in its composition' (Marx, 1867: 781).

The position taken in this article is that both the continuity and the discontinuity hypotheses are at the same time to a certain extent right and wrong and that we need a dialectical methodology to understand the development of society. Such a methodology stresses that development works through preserving changes at a fundamental level by transformations in the upper levels of the organization of society and that fundamental changes of society can be grounded in aspects and contradictions taking place on the upper levels of the organization of society.

If one applies a dialectical methodology, the rise of transnational informational capitalism is neither only a subjective, nor only an objective transformation, but is based on a subject-object dialectic. Objective approaches are techno-deterministic and ignore how forms of labour and agency have changed, subjective approaches ignore that technology

is a force that shapes and is shaped by agency. Hence both technology-oriented objective and the subjective knowledge-oriented approaches are insufficient. But at the same time they are right in stressing one pole of a dialectic of a larger framework: The notion of transnational informational capitalism sublates both lines of thinking dialectically because information and networks have both an objective and a subjective aspect, they transform the means of production and the relations of production. The search by capital for new strategies and forms of capital accumulation transforms labour in such a way that cognitive, communicative, and co-operative labour forms a significant amount of overall labour time (a development enforced by the rise of the ideology of self-discipline of 'participatory management'), but at the same time this labour is heavily mediated by information technologies and produces to a certain extent tangible informational goods (as well as intangible informational services) (Fuchs, 2008). The notion of transnational informational capitalism grasps this subject-object dialectic, it conceptualizes contemporary capitalism based on the rise of cognitive, communicative, and co-operative labour that is interconnected with the rise of technologies and goods that objectify human cognition, communication, and co-operation. Informational capitalism is based on the dialectical interconnection of subjective knowledge and knowledge objectified in information technologies. The reason why this approach is better grounded is that dialectics allow reality to be conceived of as complex and dynamic, which questions one-dimensional and static accounts of reality.

Transnational informational capitalism is the result of the dialectic of continuity and discontinuity that shapes capitalist development. Surplus value, exchange value, capital, commodities and competition are basic aspects of capitalism, how such forms are exactly produced, objectified, accumulated, and circulated is contingent and historical. They manifest themselves differently in different capitalist modes of development. In the informational mode of capitalist development, surplus value production and capital accumulation manifest themselves in symbolic, 'immaterial', informational commodities and cognitive, communicative, and co-operative labour. Digital media mediates the accumulation of capital, power, and definition capacities on a transnational scale. Roy Bhaskar (1993: 12) has distinguished between real negation \geq transformative negation \geq radical negation in order to stress the non-deterministic and complex character of sublation. Not all negations of negations are at the fundamental level, there are also partial sublations that are transformative, but not radical. The emergence of transnational informational capitalism is a transformational sublation, but not a radical one.

Transnational informational capitalism is a tendency and relative degree in the development of contemporary capitalism, which does not mean that it is the only or the dominant tendency. Capitalism is many things at the same time, it is to a certain degree informational, but also at the same time to a certain degree finance capitalism, imperialistic capitalism, hyperindustrial capitalism, etc. We have many capitalisms today existing within one overall capitalist mode of organizing society. Capitalism is at the same time a general mode of production and exploitation and a specific realization, co-existence and interaction of different types and forms of capitalist production and exploitation.

Why am I talking about *transnational* informational capitalism? Hirst and Thompson (1999: 95) have argued that 'the extent of the internationalization of business activity is

Table 1. Transnationality of the world's largest informational TNCs (year 2008).

Company	Industry	Foreign assets share	Foreign sales share	Foreign employment share	Transnationality index
Vodafone	Telecommunications	92.1	86.9	86.9	88.6
Siemens	Electronic equipment	77.3	72.6	69.1	73.0
Telefonica	Telecommunications	68.6	63.8	78.3	70.3
Deutsche Telekom	Telecommunications	55.4	53.2	42.2	50.3
France Telecom	Telecommunications	61.4	46.6	45.0	51.0
Sony	Electronic equipment	46.6	75.8	63.0	61.8
IBM	Electronic equipment	47.5	64.6	71.1	61.1
Nokia	Electronic equipment	90.8	99.3	80.7	90.3
Hewlett-Packard	Electronic equipment	42.6	68.8	65.3	58.9
Vivendi Universal	Telecommunications	45.5	37.1	68.1	50.2
Liberty Global	Telecommunications	99.8	100	58.9	86.2
TeliaSonera	Telecommunications	86.3	65.4	66.2	72.6
Samsung	Electronic equipment	34.4	80.6	47.8	54.2
AVERAGE		65.3	70.4	64.8	66.8

Source: UNCTAD Statistics, <http://archive.unctad.org/Templates/Page.asp?intItemID=2443&lang=1> (accessed 27 July 2012).

often exaggerated in both popular and academic accounts'. Kevin Doogan (2009: 65) therefore speaks of the emergence of 'the global ideology of globalization' that 'overstates the mobility of capital' (Doogan, 2009: 87) and ignores that 'processes and mechanisms of globalization have a strong national dimension' (Doogan, 2009: 210). In the context of the media economy, some scholars doubt the emergence of global media, or argue that their existence is a myth (for example, Flew, 2007; Hafez, 2007).

Foreign Direct Investment (FDI) stocks have increased from a level of about 5 per cent of world GDP at the beginning of the 1980s to 25–30 per cent of world GDP at the end of the first decade of the second millennium, according to UNCTAD. This does not prove that capital accumulation is global, but it is an indication that in comparison to the phase of Fordist capitalism, capital exports through the global outsourcing of production in order to reduce labour costs and fixed costs have become more important. The economy has become more global in the past 30 years in comparison to the years 1945–1975 (see also Fuchs, 2010a, 2010c).

The international share of assets of the world's 100 largest transnational corporations (TNCs) was 62 per cent in 2009, 63 per cent in 2010, and 63 per cent in 2011. TNCs' international share of sales was 66 per cent in 2009, 64 per cent in 2010, and 65 per cent in 2011. Their international share of employment was 57 per cent in 2009, 57 per cent in 2010, and 59 per cent in 2011 (all data: World Investment Report, 2012: 25). Table 1 shows for the year 2008 the international share of assets, sales, employment, as well as the transnationality index (TNI) for those companies in the list of the world's 100 largest TNCs that can be considered to be informational companies (i.e. companies that create goods or services that are necessary in the context of the production, distribution, or consumption of information). UNCTAD's transnationality index (TNI) measures the

Hegel, logic of the concept (third subdivision of the logic, Encyclopaedia I, §§ 160-244)

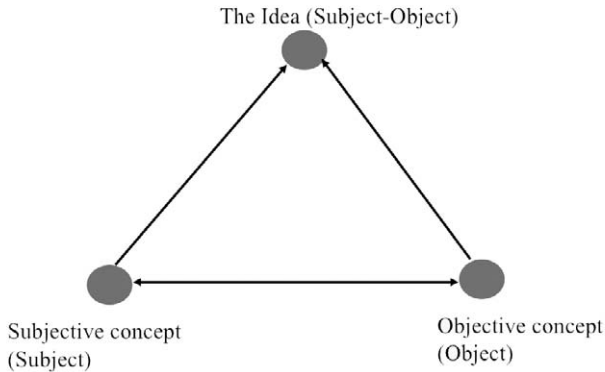


Figure 2. The dialectical triangle of subject–object–subject/object.

global dimension of a company by a composite index that covers the world's largest companies' shares of assets, sales, and employees outside of the home country. Some 13 out of the top 100 companies are informational companies. Their average international asset share is 65.3 per cent, their average international sales share 70.4 per cent, their average foreign employment share 64.8 per cent, and their average transnationality index was 66.8 per cent.

Statistical data suggest that the globalization of media/information corporations is not a myth. There surely is not a purely global media system – as transnational corporations are grounded in their respective national economies. But global production in the form of outsourcing, subcontracting, and spatially diffused production seems to be an emergent quality of capitalism and therefore also of information corporations. Indicators such as the transnationality index, the foreign assets share, the foreign sales share, the foreign employment share, and the foreign affiliates share allow the degree of transnationality of information companies to be measured.

An alternative view of the information society

Hegel (1991) has spoken of the dialectical relation of subject and object: the existence of a producing subject is based on an external objective environment that enables and constrains, i.e. conditions, human existence. Human activities can transform the external (social, cultural, economic, political, natural) environment. As a result of the interaction of subject and object, new reality is created – Hegel terms the result of this interaction subject–object. Figure 2 shows that Hegel's notion of subject, object, and subject-object forms a dialectical triangle.

Hegel (1991) characterizes the 'subjective concept' as formal (§162), finite, determinations of the understanding, general notions (§162), 'altogether concrete' (§164). He defines 'the subject' (§164) as 'the posited unseparatedness of the moments in their

distinction' (§164). Hegel characterizes objectivity as totality (§193), 'external objectivity' (§208), 'external to an other' (§193), 'the objective world in general' (§193) that 'falls apart inwardly into [an] undetermined manifoldness', 'immediate being' (§194), 'indifference vis-à-vis the distinction' (§194), 'realisation of purpose' (§194), 'purposive activity' (§206), 'the means' (§206). The Idea is 'the Subject–Object' (§162), absolute Truth (§162), the unity of the subjective and the objective (§212), 'the absolute unity of Concept and objectivity' (§213), 'the Subject–Object' understood as 'the unity of the ideal and the real, of the finite and the infinite, of the soul and the body' (§214). Hegel also says that the 'Idea is essentially process' (§215).

Marx applied Hegel's dialectic of subject and object on a less abstract level to the economy in order to explain how the process of economic production works. 'The simple elements of the labour process are (1) purposeful activity, (2) the object on which that work is performed, and (3) the instruments of that work' (Marx, 1867: 284). There is the purposeful activity of human subjects – labour power: 'The use of labour-power is labour itself . . . Labour is, first of all, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature' (Marx, 1867: 283). Labour power is used on an object – the object of labour (*Arbeitsgegenstand*): The land is 'the universal material for human labour' (Marx, 1867: 284), 'the object of labour counts as raw material only when it has already undergone some alteration by means of labour' (Marx, 1867: 284–5). To transform nature by labour, instruments of labour (technologies) are needed:

An instrument of labour is a thing, or a complex of things, which the worker interposes between himself and the object of his labour and which serves as a conductor, directing his activity onto that object. He makes use of the mechanical, physical and chemical properties of some substances in order to set them to work on other substances as instruments of his power, and in accordance with his purposes. (Marx, 1867: 285)

The result of the labour process is a labour product:

In the labour process, therefore, man's activity via the instruments of labour, effects an alteration in the object of labour which was intended from the outset. The process is extinguished in the product. The product of the process is a use-value, a piece of natural material adapted to human needs by means of a change in its form. Labour has become bound up in its object: labour has been objectified, the object has been worked on. (Marx, 1867: 287)

Marx terms this whole system the productive forces (see Figure 3): human subjects have labour power that in the labour process interacts with the means of production (object). The means of production consist of the object of labour (natural resources, raw materials) and the instruments of labour (technology). In the labour process, humans transform the object of labour (nature) by making use of their labour power with the help of instruments of labour. The result is a product of labour, which is a Hegelian subject–object, or, as Marx says, a product, in which labour has become bound up in its object: labour is objectified in the product and the object is as a result transformed into a use value that serves human needs. Figure 3 summarizes the dialectical subject–object

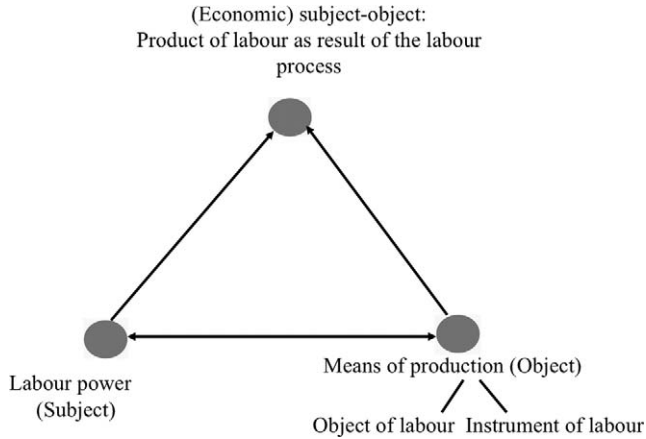


Figure 3. The system of productive forces: the labour process as dialectical subject–object process.

process in the economy. The productive forces are a system, in which subjective productive forces (human labour power) make use of technical productive forces (part of the objective productive forces) in order to transform parts of the natural productive forces (which are also part of the objective productive forces) so that a labour product emerges. The goal of the development of the system of productive forces is to increase the productivity of labour, i.e. the output (amount of products) that labour generates per unit of time. Marx therefore defined the concept of the development of the productive forces (= the increase of the productivity of labour) as ‘an alteration in the labour process of such a kind as to shorten the labour-time socially necessary for the production of a ... [good], and to endow a given quantity of labour with the power of producing a greater quantity of use-value’ (Marx, 1867: 431).

Production and the development of the productive forces do not form an abstract process. Although it is a common process in the economy of all societies, of course it takes place within concrete historical conditions, in which humans enter certain social relations with each other. Marx talks in this context about the relations of production. He says that in societies that are based on a division of labour, the relations of production are class relations: a dominant class exploits the labour power of a dominated class, which works to a certain extent for free and does not own the fruits of its labour. The system is enabled by the circumstance that the dominant class privately owns the means of production and has the means of violence (means of coercion, the state and laws, the dull economic compression that forces workers to work for others in order to be able to obtain in return products or money that allow them to consume and to survive) at hand that force the dominated class into being exploited.

In capitalism, the capitalist class owns the means of production and holds the power to exploit the labour power of the proletariat. The latter is forced to sell its labour power as commodity to the capitalists or to work without payment or as low-paid workers. The proletariat cannot survive without selling its labour power to the capitalists in order to

obtain wages. Capitalists need the labour power of the proletariat in order to produce commodities that are sold on markets and contain unpaid surplus value (unpaid labour time) that is transformed into profit so that capital is accumulated. Marx characterizes the capitalist class relation of production as constituting the 'antagonistic character of capitalist accumulation', which means that class relations 'produce bourgeois wealth, i.e. the wealth of the bourgeois class, only by continually annihilating the wealth' of the proletariat (Marx, 1867: 799). Proletarians and capitalists are dialectically connected. The relative 'deprivation' of the proletariat and the 'plenitude' of capital 'match each other exactly' (Marx, 1867: 1062). The proletariat is 'a machine for the production of surplus-value,' and capitalists are 'a machine for the transformation of this surplus-value into surplus capital' (Marx, 1867: 742). For Marx, capitalism is based on the capitalists' permanent theft of unpaid labour from workers. This is the reason why he characterizes capital as vampire and werewolf. 'Capital is dead labour which, vampire-like, lives only by sucking living labour, and lives the more, the more labour it sucks' (Marx, 1867: 342). The production of surplus value 'forms the specific content and purpose of capitalist production' (Marx, 1867: 411); it is 'the *differentia specifica* of capitalist production', 'the absolute law of this mode of production' (Marx, 1867: 769), the 'driving force and the final result of the capitalist process of production' (Marx, 1867: 976).

Within capitalist relations of production, the productive forces are not just the means for producing human wealth and use-values, they are means for the exploitation of the labour of the proletariat and for intensifying this exploitation so that more labour is exploited per unit of time, which results in the production of more commodities in the same time period and in the creation of more surplus value and more profit. Marx therefore speaks of the capitalist antagonism between the productive forces and the relations of production. Within 'the capitalist system all methods for raising the social productivity of labour are put into effect at the cost of the individual worker; . . . all means for the development of production undergo a dialectical inversion so that they become means of domination and exploitation of the producers' (Marx, 1867: 799).

Marx's distinction between productive forces and relations of production can help us to better understand the discussion about the information society. When scholars like Alain Touraine (1974), Daniel Bell (1974), Alvin Toffler (1980), Peter Drucker ([1969] 1992, 2001), Nico Stehr (1994), or Manuel Castells (1996, 2000a, 2000b) talk about the emergence of a post-industrial society/knowledge society/information society/network society, what they actually mean is a change of the productive forces: knowledge and information technology have become important means for producing commodities that serve the purpose of capital accumulation. It is a mistake to characterize this transformation as radical discontinuity or new society because the economy not only consists of the productive forces, but of the interaction of productive forces and relations of production or what Marx termed the mode of production (*Produktionsweise*). It is furthermore a mistake to assume that the economy equals society, although it of course does form a central part of society.

When scholars like Nicholas Garnham ([1998] 2004, 2000, 2004), Peter Golding (2000) and Frank Webster (1995, 2002) object to the information society hypothesis, they want to warn us that a reduction of the contemporary economy to the changes of the productive forces obscures the continued existence of capitalist class relations that

are exploitative in character. The argument is that such a reductionism constitutes an ideology that celebrates contemporary society and conceals and denies that changes of the productive forces take place within, advance, and are driven by relations of exploitation. When Garnham ([1998] 2004: 178) says that ‘the shift from energy to brainpower does not necessarily change the subordination of labour to capital’, he does not deny that capitalism is undergoing changes, but rather wants to alert us to the fact that changes of the productive forces are not revolutionary and do not transform, but rather stabilize the capitalist class system. But it is not satisfying to say that nothing has changed in the contemporary economy, nor to say that there are radical changes. It is important to see, like Marx, the dialectical relation of productive forces and relations of production.

The information society hypothesis is problematic if interpreted as a radical discontinuity in the development of society, but *vis-à-vis* the continuists it needs to be stressed that the hypothesis also reminds us that there are significant changes in the productive forces that are needed for the reproduction of capital accumulation and class relations. As Marx knew, capitalism permanently tries to overthrow its productive forces in order to be able to accumulate ever more capital by technically intensifying the exploitation of labour. Even Erik Olin Wright, arguably the most important class analysis scholar and the most important Marxist analyst of class relations and therefore not at all suspected of wanting to conceal the continued existence of capitalism,¹ concedes that the information society thesis has some significance to explain the inner transformation of capitalism. His empirical analysis of the class structure in the USA showed that the use of knowledge, services, and information technology in production has brought about a ‘trajectory of change within developed capitalist societies towards an expansion, rather than a decline, of contradictory locations within class relations’ and that as a result it ‘appears that the class structure of capitalism continues to become increasingly complex’ (Wright, 2000: 66).

Information society indicators: measuring the information society

It makes sense to empirically analyze to what extent the productive forces are today informational productive forces. This can be done with the help of information society statistics, by calculating the degree of informationalism with the help of certain indicators, such as, for example, the share of workers in information industries in the total workforce, the share of information occupations in the total workforce, the share of information industries in total value added, the wage share of workers in information industries in total wages, the share of information companies in total capital assets/total profits/total market value of the world’s largest 2000 corporations, the share of information industries in total foreign direct investment inflows/outflows/instock/outstock, the share of information products in total imports/exports, etc. (for example calculations, see Fuchs, 2011: Chapters 3 and 5). It is important to observe the development of these indicators over certain time periods for different countries and the world economy. Such measurements cannot inform us about the existence of a new society because they only relate to the changes in the productive forces. One therefore should be pragmatic about using these indicators; the task is to show to what degree the productive forces are

informational and non-informational. Depending on which indicator is employed, the results will be different. The term 'informational productive forces' does not characterize entirely new productive forces, but depending on a specific indicator, indicates the degree to which a certain aspect of the productive forces is informational and the composite degree to which it is non-informational.

Depending on which indicator one uses to measure the information-intensity of the capitalist productive forces, one will find different replies to the question to what degree we live in informational capitalism. Informational capitalism is a tendency in the development of the productive forces, not a society. I would argue in a pragmatic way that informational capitalism should be used as a term that characterizes all those parts of the productive forces that are based on information. The extent to which the capitalist economy is information-based can only be determined by empirical research and by a discussion and selection of relevant indicators.

Information has traditionally been understood either subjectively (as knowledge stored in the human brain) or objectively (information as a thing, the outcome of mental work that is stored in artefacts). In contrast, I see information as a process of cognition, communication, and co-operation, in which human beings form and change their ideas by recognizing the world, symbolically interacting with other humans in social relations, and communicating in collaborative ways so that they create new qualities of the social world (Fuchs and Hofkirchner, 2005). Such a definition of information includes certain industries into the category of the information economy and excludes others. Money is the expression of the price of commodities whose exchange it mediates. The finance industry is a realm that sells money as a commodity. Marx (1894) describes the capital accumulation cycle of finance as M-M': money begets more money in a direct way without an active commodity production cycle; money itself is the commodity that is sold. Money's role as general medium of exchange in the capitalist economy is not primarily based on cognitive or communicative activities, but on the anonymity of exchange that hides actual relations of production in the money form. In contrast, companies like Google or Facebook create software tools that are used by humans to acquire knowledge about the world and interact with others. In contrast to banking, these tools are oriented primarily on enabling human cognition and communication. Information economies, especially the Internet industry, are not separate from the finance industry. Google and Facebook are based on venture capital and are listed on the stock market. Although there is financialization of the information economy, the products of the two realms of finance and the information economy are significantly different in character.

Statistical analysis should not stop at an analysis of the productive forces. It is also important to measure the development of the class structure of capitalist societies. This can, for example, be done with the help of the following indicators: the measurement of the size of the working class, of the capitalist class, of intermediary classes, of the unemployed, etc. (Wright, 2000), the relation of wage share and profit share, the relation of the poorest and richest groups in society (for example, the 90:10 ratio), the relation of wage growth and living quality growth to GDP growth and the growth of profits, the development of profits of certain companies/company groups/industries, the development of total profits in the world and in certain countries, world gross capital formation, market capitalization of listed companies, the growth of total capital assets, and the growth of

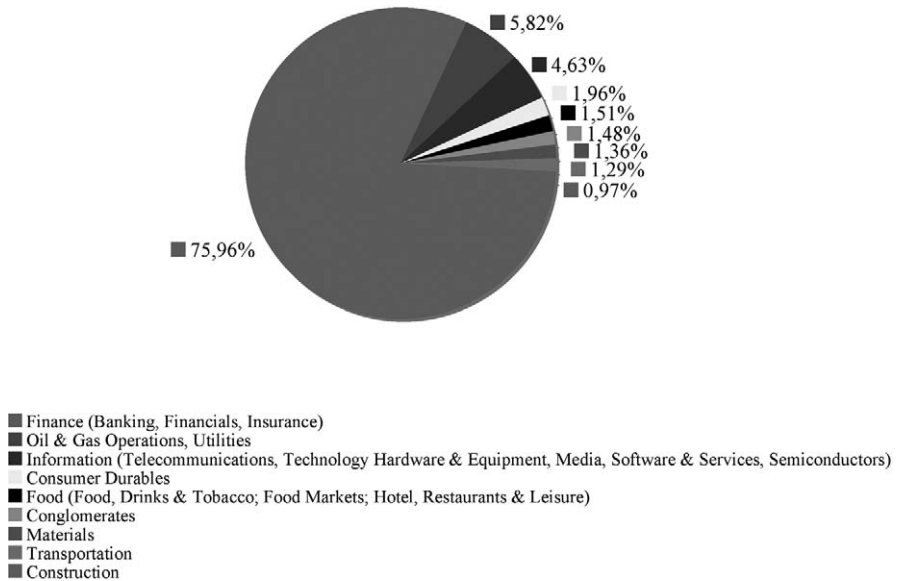


Figure 4. The share of selected industries in total capital assets of the world's largest 2000 corporations in 2008.

Source: (Forbes 2000: 2009 list).

capital assets/profits/market values of certain companies/groups of companies/industries/economies.

Combining class analysis and analyses of the degrees of informationalism of the productive forces reveals the degree to which capitalism has been transformed into informational capitalism. The basic assumption underlying the category of informational capitalism (Fuchs, 2008, 2009a, 2010b, 2010c, 2011) is that the development of knowledge, services, and information technologies in production serves capitalist purposes, i.e. it is a conscious class project of the dominant class to advance new strategies of capital accumulation and surplus value production and to aim to reduce constant and variable wage costs in order to maximize profits. To which degree these strategies are successful or embedded into crisis-inducing economic antagonisms is another important matter. One should be modest in claiming the existence of informational capitalism. It is unlikely that all aspects of contemporary society or of contemporary capitalist economies have suddenly become informational. Therefore, the notion of informational capitalism does not make sense as a category of totality. It only makes sense when describing the degree, to which the capitalist mode of production is using informational productive forces to accumulate capital in class relations, i.e. by exploiting surplus value.

Let us briefly consider an example of the kind of analysis that I have in mind. Figure 4 shows the share of selected industries in total capital assets of the world's largest 2000 corporations in 2008. I have analyzed the 2008 Forbes list of the world's 2000 biggest companies by economic sectors. The results are presented in Figure 4. Finance

companies and financial service corporations together accounted for the vast share of capital assets in 2008 (74.9 per cent). The second largest sector was oil, gas, and utilities (6.2 per cent). The third largest sector was the information sector (4.6 per cent), comprised (for statistical reasons) of the following subdomains: telecommunications, technology hardware and equipment, media content, software, and semiconductors.

These data show that if we are interested in the informational character of globally operating companies, we will find on the level of productive forces that informatization is not the dominant characteristic of the global productive forces, but rather an important, non-dominant trend. Finance capital is the dominant section of capital today, which shows that an important characteristic of imperialistic capitalism is still present today (Fuchs, 2010a, 2010c). Fossil fuels are also still very important in the contemporary economy, which is an indication that industrial society is still at work, and that we have entered a hyperindustrial era, in which information production, selling, and consumption have become an important factor in the overall economy, but have not replaced the economic importance of finance capital and fossil fuels. Financialization, hyperindustrialization, and informatization characterize contemporary imperialist capitalism. Information companies are important in the global capitalist economy, which reflects a trend towards informatization, that is, the rise of the importance of information in the economy, but they are less important than finance and the oil and gas industries. Such an analysis of the global productive forces can be related to the relations of production, i.e. capital accumulation stands in a relationship to the working and living conditions of the mass of the world population. Information corporations are not the dominant corporations. Therefore, based on the indicators of assets and profits of the world's largest corporations one *cannot conclude* that the capitalist mode of production can be characterized as informational capitalism. Given these indicators, the capitalist mode of production in 2007 was informational to a degree of 4.6 per cent (assets) respective to 12.4 per cent (profits).

In 2007, the profits of the world's largest 2000 companies amounted to US\$2357.06 billion (Forbes 2000, 2008 list). Data on the wage share of African countries are not easily available. But existing data allow the calculation of an average African unadjusted wage share of 29.5 per cent in the years 2001–2006 (data source: International Labour Organisation, 2008: appendix A1). There is no reason to assume that this average number has dramatically increased since 2006, so assuming an African wage share of 30 per cent is feasible. In 2007, the total African GDP was US\$1291.7 billion (United Nations, 2009: table M). Assuming an average wage share of 30 per cent gives a total African wage sum of US\$387.5 billion. This means that the total profits of the world's largest 2000 companies were roughly six times as large as the total wages paid to all employees in Africa. This relation shows the huge difference in wealth and income of the capitalist class and the poorest workers in the world. Information companies accounted for 12.4 per cent of the profits of the world's largest 2000 companies in 2007, which is a sum of US\$293.07 billion, which is roughly US\$100 billion less than the total wages of African workers, but still shows the economic power of global information corporations. These data show that capitalist relations of production are highly stratified, that large companies have huge economic money power, whereas workers are, as Marx said, deprived of economic wealth that is being directly transformed into capitalist plenitude. The poverty of labour is the wealth of capital.

Table 2. Share of low paid jobs and wage inequality in selected countries.

Country	Share of low paid jobs:			Decile ratio D9/D1		
	1995–2000 (%)	2001–2006 (%)	2007–2009 (%)	1995–2000	2001–2006	2007–2009
Australia	13.5	14.5	16.8	3.0	3.1	3.3
Canada	22.4	22.1	22.0	3.6	3.7	3.8
Germany	16.6	19.2	21.2	3.1	3.2	3.3
UK	20.5	20.6	20.8	6.8	7.0	7.2
USA	24.8	23.8	24.5	4.6	4.7	4.9

Source: International Labour Organisation (2010).

Table 2 shows for selected countries the share of low paid jobs and the relationship of wages of the 10 per cent that form the upper income group (usually managers) and the 10 per cent that form the lowest income group. In many countries, the gap between high incomes and low incomes has widened and the share of low paid jobs in total jobs has climbed to rates that are often above 20 per cent.

The gap between the lowest paid 10 per cent of workers and the best paid 10 per cent has increased in 17 out of 30 selected countries, for which at least one data point is available to compare the periods 1995–2000 and 2007–2009. Although the largest part of this increase in inequality was due to top earners ‘flying away’ from the majority, another part was due to the so-called ‘collapsing bottom’, where the distance between median workers and low-paid workers has increased in 12 out of 28 countries (International Labour Organisation, 2010: 31).

The wage share is the share of total compensation in total value added. For ‘the period 1980–2007, 17 out of 24 countries [included in the study] registered a falling wage share’ (International Labour Organisation, 2010: 22). This development has especially affected the manufacturing and construction industries, whereas the wage share has generally been rising in finance, real estate, renting, and business services (International Labour Organisation, 2010: 25ff).

There are indications that profits have been increasing due to the relative decrease in wages and the increase in low-paid precarious employment. The presented data suggest that the capitalist relations of production have in the latter decades of the twentieth century and the first decade of the twenty-first century been shaped by an increase in socio-economic inequality that benefits capital at the expense of labour. Neoliberalism has been a political class struggle project aimed at the ‘reconstruction of the power of economic elites’ and ‘a system of justification and legitimation for whatever needed to be done to achieve this goal’ (Harvey, 2005: 19). The relations of production are shaped by a deep class conflict between the interests of capital and labour.

Conclusion

In 1968, six years before the publication of Daniel Bell’s book *The Coming of Post-Industrial Society* that was path-breaking for the information society discourse, i.e. in

a time before the rise of the information society hypothesis, Theodor W. Adorno ([1968] 2003) gave an introductory keynote talk on the topic of 'Late capitalism or industrial society?' at the annual meeting of the German Sociological Association. He said that the 'fundamental question of the present structure of society' is 'about the alternatives: late capitalism or industrial society'. It is about

Whether the capitalist system still predominates according to its model, however modified, or whether the development of industry has rendered the concept of capitalism obsolete, together with the distinction between capitalist and noncapitalist states and even the critique of capitalism. In other words, the question is whether it is true that Marx is out of date. (Adorno [1968] 2003: 111)

Adorno pointed out that dichotomous answers to this question (either/or) 'are themselves predicaments modelled on dilemmas taken from an unfree society' (Adorno, [1968] 2003: 113). Adorno gave an answer to the question that took into account the importance and relation of the productive forces and the relations of production in the capitalist mode of production:

In terms of critical, dialectical theory, I would like to propose as an initial, necessarily abstract answer that contemporary society undoubtedly is an industrial society according to the state of its *forces* of production. Industrial labor has everywhere become the model of society as such, regardless of the frontiers separating differing political systems. It has developed into a totality because methods modeled on those of industry are necessarily extended by the laws of economics to other realms of material production, administration, the sphere of distribution, and those that call themselves culture. In contrast, however, society is capitalist in its *relations* of production. People are still what they were in Marx's analysis in the middle of the nineteenth century . . . Production takes place today, as then, for the sake of profit. (Adorno [1968] 2003: 117)

Paraphrasing Adorno and transferring his question and answer to a time that is shaped by information society discourse, one can hypothesize that a fundamental question of the present structure of society is about the alternatives: capitalism or information society. In terms of critical, dialectical theory, I would like to propose as an initial, necessarily abstract answer that contemporary society is an information society according to the state of its *forces* of production. In contrast, however, contemporary society is capitalist in its *relations* of production. People are still what they were in Marx's analysis in the middle of the nineteenth century. Production takes place today, as then, for the sake of profit and to achieve this end it to a certain extent makes use of knowledge and information technology in production.

Productive forces and relations of production are interlocking phenomena, they contain each other. My argument in this article has been that the informational forces of production (knowledge labour, information technology, science, theoretical knowledge) and the capitalist class relations should not be seen as polar opposites and that the discussion about the existence or non-existence of an information society should not be reduced to the level of the productive forces nor to the level of the relations of production. The first

reduction will result in the assumption that we live in a new society, the information society, the second reduction in the response that nothing has changed and we still live in a capitalist society. The informational forces of production (just like the non-informational ones) are mediated by class relations, which means that the establishment of information technologies (as part of the instruments of production) and knowledge work (which is characterized by a composition of labour, where mental and communicative features dominate manual features) as features of economic production are strategies to advance surplus value exploitation, and the reduction of variable and constant capital. Capital thereby hopes to achieve higher profit rates. The idea that the notion of society can today solely be constructed by reference to the informational forces of production is an ideological illusion. The counter-claim that nothing has changed because we still live in a society dominated by capitalist class relations is an understandable reaction and a strategy of ideology critique. But a dialectical analysis cannot leave out that there are certain changes taking place that are intended to support the deepening of the class structure, but also contain what Marx termed *Keimformen* (germ forms of an alternative society). That the development of the informational productive forces is itself contradictory and comes into conflict with the capitalist relations of production can be observed by phenomena such as file sharing on the Internet, the discussions about intellectual property rights, the emergence of pirate parties in the political landscape of advanced capitalist countries, or the popularity of free software (Fuchs, 2008, 2009b).

Marx predicted the emergence of informational productive forces as the result of the development of fixed capital, i.e. the increasing technical and organic composition of capital that is characterized by an increase of the role of technology in production at the expense of living labour power.

The development of fixed capital indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the general intellect and been transformed in accordance with it. To what degree the powers of social production have been produced, not only in the form of knowledge, but also as immediate organs of social practice, of the real life process. (Marx, 1857/58: 706)

Marx argued that by technological development ‘the entire production process’ becomes ‘the technological application of science’ (Marx, 1857/58: 699). The ‘transformation of the production process from the simple labour process into a scientific process . . . appears as a quality of fixed capital in contrast to living labour’ (Marx, 1857/58: 700). So, for Marx, the rise of informational productive forces was immanently connected to capital’s need to find technical ways to accumulate more profits. That society has to a certain degree become informational is, just like the discourse about this circumstance, a result of the development of capitalism.

Note

1. The paper, ‘Marxist class categories and income inequality’ (Wright and Perrone, 1977) is the most frequently cited paper on issues of economic class analysis in the Social Sciences Citation Index (275 citations, date of access: 18 June 2010).

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