

Labor in Informational Capitalism and on the Internet

Christian Fuchs

Unified Theory of Information Research Group, University of Salzburg, Salzburg, Austria

This article argues that in informational capitalism, the notion of class should not be confined to capital as one class and wage labor as the other class. The notion of class needs to be expanded to include everybody who creates and recreates spaces of common experience, such as user-generated content on the Internet, through their practices. These spaces and experiences are appropriated and thereby expropriated and exploited by capital to accumulate capital. The rise of informational capitalism requires us to rethink the notion of class and to relate the class concept to knowledge labor.

Keywords class, exploitation, information economy, information society, informational capitalism, knowledge capitalism, knowledge labor, Marx, multitude, new media

Catherine McKercher and Vincent Mosco (2006, 2007) recently edited two collections on knowledge work, offering thirty-two papers in total. The critical tenor intended to contribute to the resolution of the problem that “labour remains a blind spot of western communication studies” (McKercher and Mosco 2006, 493). Given these essays, which concentrate mainly on concrete analyses of labor struggles and unionization, it becomes clear that Marxian class is the blind spot of the analysis of knowledge labor in critical communication studies. This article intends to remedy this blind spot, the lack of Marxian class in our theorization of knowledge labor, by discussing how the notion of class should be conceived best in the age of the Internet.

The main research questions are as follows:

- What is class?
- How should class be conceived in a “knowledge society”?

Received 11 September 2008; accepted 7 February 2010.

Address correspondence to Christian Fuchs, Unified Theory of Information Research Group, University of Salzburg, Sigmund Haffner Gasse 18, 5020 Salzburg, Austria. E-mail: christian.fuchs@sbg.ac.at; URL <http://fuchs.uti.at> and <http://www.uti.at>

- What is the relevance of the notion of class for new media?

The two main approaches on class in the social sciences are the Marxian and the Weberian concepts of class (Wright 2005b). The Marxian class concept stresses exploitation, whereas the Weberian concept takes class as a group of people who have certain life chances in common, with regard to opportunities for earning income and possessing goods, in the market (Weber 1978, 926). The approach advanced in this article is a Marxian one, which stresses the concept of exploitation in class formation, and non-Weberian notion of class. This distinction is not just an analytical difference, but also a political one, because the Marxian concept of class is explicitly normative and political—it aims at the abolition of exploitation and the establishment of a participatory democracy. As Wright (2008b, 718) observes, the Marxian concept of class “figures centrally in a political project of emancipatory social change.” The Marxian notion is dynamic, historical, and relational—class is a historical social relationship between antagonistic, opposing classes that have conflicting interests (Thompson 1960b, 24, 1968, 8–10).

Karl Marx argued that his critique represents “the class whose historical task is the overthrow of the capitalist mode of production and the final abolition of all classes—the proletariat” (Marx 1867, 98). Thus we see that for Marx class is one of the central features of capitalism. Accordingly, we need to examine class and its continuities and discontinuities under informational capitalism. For Manuel Castells, the economy consists of an interrelation between a mode of production (capitalism) and a mode of development (informationalism) (Castells 2000, 14). He argues that informationalism is a new mode of development that has been accelerated, channeled, and shaped by “the process of capitalist restructuring undertaken since the 1980s, so that the new techno-economic system can be adequately characterized as informational capitalism” (Castells 2000, 18). In effect, the informational productive forces are dialectically connected to class relationships. This dialectic produces the dynamic and antagonisms of the contemporary capitalist economy (Fuchs 2008b).

The informational productive forces are medium and outcome of capitalist interests, strategies, and restructuring—technology is shaped by and shapes society in complex ways. A historical novelty of contemporary society is not that there are networks in society, but that processes of production, power, exploitation, hegemony, and struggles take on the form of transnational networks that are mediated by networked information and communication technologies and knowledge processes (Fuchs 2008b). Informational capitalism is based on a transnational organizational model—organizations cross national boundaries; the novel aspects are that organizations and social networks are increasingly globally distributed, that actors and substructures are located globally and change dynamically (new nodes can be continuously added and removed), and that the flows of capital, power, money, commodities, people, and information are processed globally at high speed. Global informational network capitalism is a nomadic dynamic system in the sense that it and its parts permanently reorganize by changing their boundaries and including or excluding various systems by establishing links, unions, and alliances or getting rid of or ignoring those actors that do not serve or contribute to the aim of capital accumulation. Informational capitalism is a category that is used for describing those parts of contemporary societies that are basing their operations predominantly on information, which is understood as processes of cognition, communication, and cooperation, and on information technologies (Fuchs 2007, 2008b, 2009a).

The degree of informationalization of capitalism varies depending on which variable and society one selects for analysis. If information labor is defined as producing goods and services that are primarily oriented toward cognition, communication, or cooperation, then information jobs make up 47.9 percent of all wage labor in the U.S. economy, 41.7 percent in Germany, 48.5 percent in Norway, 48.7 percent in France, 36.4 percent in Australia, 35.4 percent in Austria, 46.0 percent in Finland, and 34.1 percent in Italy.¹ In the United States, the information sector accounts for 31.2 percent of total value added at current prices, and noninformational manufacturing for 40.5 percent (Norway: 23.2 percent, 32.8 percent; France: 31.0 percent, 38.2 percent; Austria: 26.1 percent, 51.3 percent; Finland: 33.0 percent, 44.6 percent; Italy: 26.8 percent, 46.8 percent).² An analysis of economic data of the world's 2,000 largest transnational corporations shows that the financial sector accounted for 74.9 percent of the total capital assets of these companies in 2009, oil, gas, and utilities for 6.2 percent, and the information economy for 4.6 percent.³

If one takes the distribution of different kind of jobs as an indicator, then based on the preceding data one can speak of the dominance of the informational economy. However, this is not the case if one analyzes in-

dicators such as the distribution of value added or capital assets. Therefore, it is wise not to overdraw claims of informationalization. Instead, we should limit the notion of informational capitalism to a category that describes that section of society that is information based, as opposed to the dominant societal paradigm. The extent to which we can observe informational capitalism can only be determined by theoretically grounded empirical analysis. Informatization is one of several important processes (e.g., financialization, globalization, hyper-industrialism, and imperialism) that shape contemporary capitalism.

Daniel Bell (1973) argued that with the rise of knowledge society, class struggle vanishes and is displaced by conflicts between professionals and the populace. Richard Florida (2002) claimed that through the rise of a creative class, the distinction between capitalists and proletariat becomes outdated. David Brooks (2000) made similar claims by describing the emergence of bourgeois bohemians. Ulrich Beck (1983; 1992) argued that individualization and the emergence of global risks have resulted in risk societies that “are not class societies” (Beck 1992, 205).

Such accounts ideologically forestall insight into the economic differences and relations between the rich and the poor, owners and nonowners of capital and wealth, the wealthy and precarious workers, employers and employees. Therefore, a Marxian concept of class is employed in this article.

Even though some knowledge workers become successful knowledge entrepreneurs and some knowledge workers tend to hold small amounts of share options, class divisions are not vanishing. Nowadays, “corporations are typically owned by various institutions such as banks and insurance companies, with individual shareholders usually accounting for small percentages of total shares” (Webster 2002, 118). For example, Google, Inc., which in 2008 made U.S.\$4.23 billion in profits, held capital assets of U.S.\$31.77 billion, had a market value of U.S.\$106.57 billion, and was ranked number 155 in the Forbes World List of Largest Corporations 2009, is not owned by its workers but by shareholders. Among the major shareholders are top executives such as Eric Schmidt (the chief executive officer), the cofounders Sergey Brin and Larry Page, and L. John Doerr, but not Google's 20,000 workers. In 2009, these top four directors and officers held 93.1 percent of class B stocks and a total of 70.6 percent of the total voting power (Google Proxy Statement 2009). That makes them primarily knowledge capitalists, whereas the 20,000 employees are knowledge workers.

Marx and Friedrich Engels defined class in the following way:

By bourgeoisie is meant the class of modern capitalists, owners of the means of social production and employers of wage labour. By proletariat, the class of modern wage

labourers, who, having no means of production of their own, are reduced to selling their labour power in order to live. (Marx and Engels 1848, 35)

In contemporary society, large groups that are outside of traditional wage labor work live under precarious conditions. In the EU25 countries, the combined unemployment rate has always been above 7 percent in the past ten years, reaching 9 percent in 2002 and 2003 (Eurostat, online). In many of these countries (like Bulgaria, France, Greece, Italy, Latvia, Lithuania, Poland, Slovakia, and Spain) an unemployment rate well above 10 or even 15 percent has not been an exception from the rule (Eurostat 2009). The peak between the years 1996 and 2007 was a rate of 20.0 percent in 2002 in Poland (Eurostat, online). In the course of the new global economic crisis, the unemployment rate rose from 7.0 percent in June 2008 to 9.7 percent in December 2009 in the EU25 countries. The national rates reached peak levels in countries like Spain (19.5 percent), Latvia (22.8 percent), Estonia (15.2 percent), Lithuania (14.6 percent), Ireland (13.3 percent), Slovakia (13.6 percent), Hungary (10.7 percent), and Portugal (10.4 percent). In the United States, the unemployment rate rose from 7.7 percent in January 2009 to 10.0 percent in December 2009. These data are an indication that unemployment (and its consequences like increased poverty) is a pressing structural problem of contemporary society. Self-employed persons in Europe have an in-work poverty risk that is 2.5 times greater than the one of regular employees. Sixteen percent of the self-employed in the EU15 countries have an in-work poverty risk, compared to 6 percent of dependent employees (European Foundation for the Improvement of Living and Working Conditions 2007). These data are an indication that many people outside of regular employment relations are facing precarious living and working conditions. Their material situation is comparable to many people who are wage laborers. Therefore, it would be an analytical and political error to not include these people into the category of the proletariat. The data are an indication that today the category of the proletariat should not be limited to industrial wage labor. These days the definition of the proletariat as “the class of modern wage laborers” is not suitable anymore.

There is a second line of thought in Marx’s class theory that is more appropriate under contemporary conditions. Marx highlights exploitation as the fundamental aspect of class in another passage where he says that “the driving motive and determining purpose of capitalist production” is “the greatest possible exploitation of labour-power by the capitalist” (Marx 1867, 449). Antagonistic class relations arise due to exploitation:

The control exercised by the capitalist is not only a special function arising from the nature of the social labour process,

and peculiar to that process, but it is at the same time a function of the exploitation of a social labour process, and is consequently conditioned by the unavoidable antagonism between the exploiter and the raw material of his exploitation. (Marx 1867, 449)

The exploited class is “free from, unencumbered by, any means of production of their own,” which would mean the “complete separation between the workers and the ownership of the conditions or the realization of their labour” (Marx 1867, 874). 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).

In his analysis, Marx had to limit the class concept to wage labor under the conditions of nineteenth-century industrialism. The article at hand will try to show that today it is useful to define class as being based on processes of exploitation. It makes use of the second line of thought of the Marxian class analysis that has just been pointed out.

The discussion starts with an overview of some basic Marxian categories. Then a typology of existing understandings of the relationship between knowledge and class is provided and an alternative approach offered. Finally, some conclusions are drawn.

CATEGORIES OF MARXIAN THEORY

In the three volumes of *Capital*, Marx analyzes the accumulation process of capital. This process, as described by Marx, is visualized in figure 1. Marx’s theory is a labor theory of value, which draws conclusion from the analysis of the total labor time that is needed for the production of goods. It is also a critique of value (i.e., the forms that value takes in capitalism and the practices and ideologies that are based on this form are questioned). The value of a good is the total time that is needed for its production. The more value a good has, the longer its production takes. At the level of prices, this can be observed in the fact that labor-intensive goods are frequently more expensive than goods with low labor intensity. Marx argues that the fundamental element of capitalism is the commodity, goods that are exchanged in a certain quantitative relationship with money (x amount of commodity $A = y$ units of money). He says that in societies that are based on the economic principle of exchange, goods have a use value and an exchange value. The use value is the qualitative aspect of a good; it is a utility that satisfies certain human needs. In exchange-based societies, humans can only get such goods by exchanging other goods (e.g., money or labor power) with the needed goods in certain quantitative relationships (x amount of commodity $A = y$ amount of commodity B). Concrete labor is a concept that

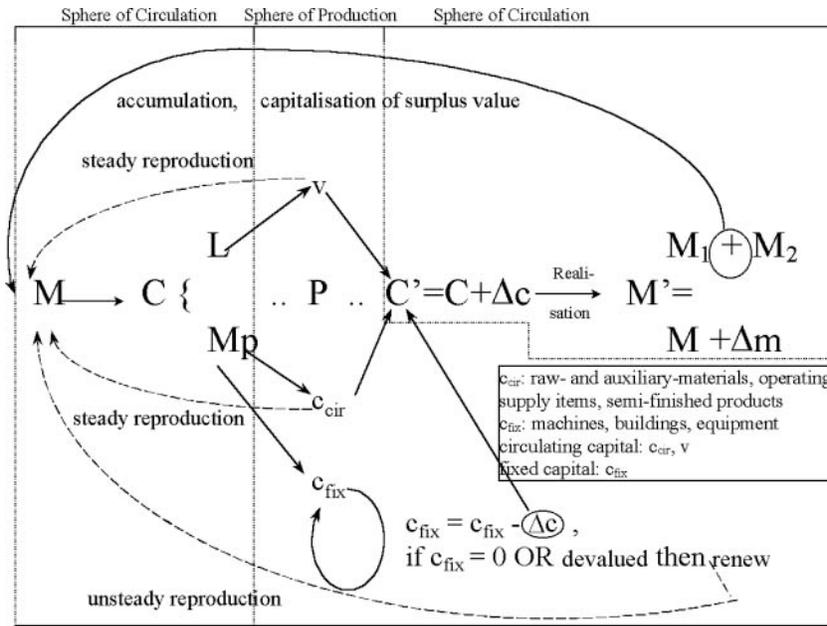


FIG. 1. Accumulation/expanded reproduction of capital.

is used for describing the creation of the use value of a good by humans. Abstract labor is a concept employed for signifying the creation of the value of a good (i.e., the objectified labor time needed for its production). Marx sees money as the general equivalent of exchange; it simplifies the exchange of commodities and is therefore a general commodity.

In the accumulation of capital, capitalists buy labor power and means of production (raw materials, technologies, etc.) to produce new commodities that are sold with the expectation to make money that is partly reinvested. Marx distinguishes two spheres of capital accumulation: the sphere of circulation and the sphere of production. In the sphere of circulation, capital transforms its value form: First money M is transformed into commodities C (from the standpoint of the capitalist as buyer), and the capitalist purchases the commodities labor power L and means of production Mp . $M-C$ is based on the two purchases $M-L$ and $M-Mp$. In capitalism, labor power is separated from the means of production: “the mass of the people, the workers, . . . come face to face with the non-workers, the former as non-owners, the latter as the owners, of these means of production” (Marx 1885, 116). This means that due to private property structures, workers do not own the means of production, the products they produce, and the profit they generate. Capitalists own these resources.

In the sphere of production, a new good is produced: The value of labor power and the value of the means of production are added to the product. Value takes on the form of productive capital P . The value form of labor is

variable capital v (which can be observed as wages), the value form of the means of production constant capital c (which can be observed as the total price of the means of production/producer goods).

That part of capital, therefore, which is turned into means of production, i.e. the raw material, the auxiliary material and the instruments of labour, does not undergo any quantitative alteration of value in the process of production. For this reason, I call it the constant part of capital, or more briefly, constant capital. On the other hand, that part of capital which is turned into labour-power does undergo an alteration of value in the process of production. It both reproduces the equivalent of its own value and produces an excess, a surplus-value, which may itself vary, and be more or less according to circumstances. This part of capital is continually being transformed from a constant into a variable magnitude. I therefore call it the variable part of capital, or more briefly, variable capital. (Marx 1867, 317)

Constant capital consists of two parts: circulating constant capital c_{cir} (the value of the used raw materials, auxiliary materials, operating supply items, and semifinished products) and fixed constant capital c_{fix} (the value of the utilized machines, buildings, and equipment) (Marx 1885, chap. 8). Together, c_{cir} and v form circulating capital: They transfuse their value totally to the product and must be constantly renewed. c_{fix} remains fixed in the production process for many turnovers of capital. The turnover time of capital is the sum of its circulation time and its production time (Marx 1885, 236). Circulation time is the time that capital takes to be transformed from its commodity

form into the money form and later from its money form to its commodity form. Production time is the time that capital takes in the sphere of production.

Fixed constant capital decreases its value in each turnover of capital. Its value is decreased by the amount of Δc , which is a flexible value. Fixed constant capital like machinery does not create value and its value is never entirely transfused to capital at once. It is depreciated by wear and tear, nonusage, and moral depreciation (i.e., the emergence of new machinery with increased productivity).

A part of the capital value advanced is fixed in this form, which is determined by the function of the means of labour in the process. As a means of labour functions and is used up, one part of its value passes over to the product, while another part remains fixed in the means of labour and hence in the production process. The value fixed in this way steadily declines, until the means of labour is worn out and has therefore distributed its value, in a longer or shorter period, over the volume of products that has emerged from a series of continually repeated labour processes. (Marx 1885, 237f)

In the sphere of production, capital stops its metamorphosis so that capital circulation comes to a halt. New value V' of the commodity is produced; V' contains the value of the necessary constant and variable capital and surplus value Δs of the surplus product. Surplus value is generated by unpaid labor. Capitalists do not pay for the production of surplus, therefore the production of surplus value can be considered as a process of exploitation. The value V' of the new commodity after production is $V' = c + v + s$. The commodity then leaves the sphere of production and again enters the circulation sphere, in which capital conducts its next metamorphosis: By being sold on the market it is transformed from the commodity form back into the money form. Surplus value is realized in the form of money value. The initial money capital M now takes on the form $M' = M + \Delta m$; it has been increased by an increment Δm . Accumulation of capital means that the produced surplus value is (partly) reinvested/capitalized. The endpoint of one process M' becomes the starting point of a new accumulation process. One part of M' , M_1 , is reinvested. Accumulation means the aggregation of capital by investment and exploitation in the capital circuit $M-C \dots P \dots C'-M'$, in which the end product M' becomes a new starting point M . The total process makes up the dynamic character of capital. Capital is money that is permanently increasing due to the exploitation of surplus value.

Commodities are sold at prices that are higher than the investment costs so that monetary profit is generated. For Marx, one decisive quality of capital accumulation is that profit is an emergent property of production that is produced by labor, but owned by the capitalists. Without labor no profit could be made. Workers are forced to enter class relations and to produce profit in order to survive, which enables capital to appropriate surplus. The

notion of exploited surplus value is the main concept of Marx's theory, by which he intends to show that capitalism is a class society. "The theory of surplus value is in consequence immediately the theory of exploitation" (Negri 1991, 74), and, one can add, the theory of class and as a consequence the political demand for a classless society. David Harvey (2010, 125) stresses that it is Marx's "fundamental theorem . . . that surplus value originates from the difference between what labor gets for its labor-power as a commodity and what the laborer produces in a labor process under the command of capital".

Enrique Dussel argues that in his work on the *Grundrisse*, Marx "for the first time in his work . . . discovered the category of surplus value" (Dussel 2008, 77) in December 1857. "If the worker needs only half a working day in order to live a whole day, then, in order to keep alive as a worker, he needs to work only half a day. The second half of the day is forced labour; surplus labour" (Marx 1857/58, 324). Surplus value also means that workers are compelled to work more than necessary for satisfying their immediate needs—they produce an excess for free that is appropriated by capitalists: "What appears as surplus value on capital's side appears identically on the worker's side as surplus labour in excess of his requirements as worker, hence in excess of his immediate requirements for keeping himself alive" (Marx 1857/58, 324f).

The surplus value which capital obtains through the production process consists only of the excess of surplus labour over necessary labour. The increase in productive force can increase surplus labour—i.e. the excess of labour objectified in capital as product over the labour objectified in the exchange value of the working day—only to the extent that it diminishes the relation of necessary labour to surplus labour, and only in the proportion in which it diminishes this relation. Surplus value is exactly equal to surplus labour; the increase of one [is] exactly measured by the diminution of necessary labour. (Marx 1857/58, 339)

The capitalist

. . . wants to produce a commodity greater in value than the sum of the values of the commodities used to produce it, namely the means of production and the labour-power he purchased with his good money on the open market. His aim is to produce not only a use-value, but a commodity; not only use-value, but value; and not just value, but also surplus value . . . The cotton originally bought for £100 is for example resold at £100 + £10, i.e. £110. The complete form of this process is therefore $M-C-M'$, where $M' = M + \Delta M$, i.e. the original sum advanced plus an increment. This increment or excess over the original value I call 'surplus-value.' (Marx 1867, 293, 251)

Capital is not money, but money that is increased through accumulation, "money which begets money" (Marx 1867, 256). Marx argued that the value of labor power is the average amount of time that is needed for the production

of goods that are necessary for survival (necessary labor time), which in capitalism is paid for by workers with their wages. Surplus labor time is all of labor time that exceeds necessary labor time, remains unpaid, is appropriated for free by capitalists, and is transformed into money profit.

Surplus value “is in substance the materialization of unpaid labour-time. The secret of the self-valorization of capital resolves itself into the fact that it has at its disposal a definite quantity of the unpaid labour of other people” (Marx 1867, p. 672). Surplus value “costs the worker labour but the capitalist nothing,” but “none the less becomes the legitimate property of the capitalist” (Marx 1867, 672). “Capital also developed into a coercive relation, and this compels the working class to do more work than would be required by the narrow circle of its own needs. As an agent in producing the activity of others, as an extractor of surplus labour and an exploiter of labour-power, it surpasses all earlier systems of production, which were based on directly compulsory labour, in its energy and its quality of unbounded and ruthless activity” (Marx 1867, 425). Surplus value also means that workers are compelled to work more than necessary for satisfying their immediate needs, and they produce an excess for free that is appropriated by capitalists: “What appears as surplus value on capital’s side appears identically on the worker’s side as surplus labour in excess of his requirements as worker, hence in excess of his immediate requirements for keeping himself alive” (Marx 1857/58, 324f).

Marx argues that capitalists are unproductive, that they do not produce value, and that profit stems from the production of value by workers that is exploited and appropriated by capitalists. He uses the term *productive labor* in this context: Productive labor “produces surplus-value for the capitalist, or in other words contributes towards the self-valorization of capital” (Marx 1867, 644). For Marx, capitalism is based on the permanent theft of unpaid labor from workers by capitalists. 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).

The production and exploitation of surplus value are, according to Marx, the heart of class structuration and capitalism. Therefore, we today have to deal with the question of who the producers of surplus value are in an information age, a question to which we will return after an overview of existing approaches on the relationship of class and knowledge labor.

A TYPOLOGY OF APPROACHES ON KNOWLEDGE LABOR AND CLASS

Seven approaches on knowledge and class in the information society can be identified. Examples for each approach are given.

1. Internet users as a new class: Terranova (2000) argues that Internet users constitute a kind of free labor that is exploited by capital. Margonelli (1999) speaks in this context of cybersweatshops.
2. Knowledge labor as a new class: Ursula Huws (2003) says that deskilling and delocalization result in the emergence of a new class of information-processing workers—the cybertariat. McKenzie Wark (2004) speaks of an antagonism between the hacker class that produces information and the vectoral class that dispossesses the hacker class of its intellectual property by patents and copyrights. Franco Berardi speaks of the emergence of the cognitariat—a “new consciousness of cognitive workers” (Berardi 2003, 4).
3. Knowledge labor as revolutionary class: For Hardt and Negri, the multitude is a new class that is “embedded in cooperative and communicative networks” (Hardt and Negri 2004, xv). Its labor is “immaterial labour” “that creates immaterial products, such as knowledge, information, communication, a relationship, or an emotional response” (Hardt and Negri 2004, 108). Hardt and Negri argue that immaterial labor is collective and cooperative and that capital exploits the commons of society for accumulating. They see the multitude as a revolutionary class that struggles in common (Hardt and Negri 2004, 104) and speak of “revolutionary processes of liberation determined by the multitude” (Hardt and Negri 2000, 249).
4. Precarious knowledge labor as new class: Nick Dyer-Witheford says that “poorly paid, insecure, untrained, deskilled” (Dyer-Witheford 1999, 88) service workers constitute the “new high-technology proletariat” (Dyer-Witheford 1999, 96), the “virtual proletariat” (123). Manuel Castells sees the group of low-paid service workers as a new “white collar proletariat” (Castells 2000, 244). Nelson Peery (1997) argues that the unemployed and precarious workers form a new working class. They would be throw-away workers with few benefits and no job security created by the new means of production. André Gorz sees those expelled from production by automation and computerisation, the underemployed, probationary, contracted, casual, temporary, and part-time labor as “post-industrial neo-proletariat” (Gorz 1980, 69).

5. Knowledge labor as unproductive subsumed labor class: Resnick and Wolff (1987) distinguish between fundamental class processes, in which surplus value is directly produced, and appropriated and subsumed class processes, in which already appropriated surplus value or its products are distributed. Subsumed classes are for them unproductive and include, for example, merchants, moneylenders, landlords, managers, owners, shareholders, bookkeepers, supervisors, bank employees, sales personnel, and public servants. Resnick and Wolff tend to classify service jobs as unproductive labor.
6. Knowledge labor and knowledge capital as one new class: Florida (2002, 8) speaks of the rise of a “creative class” that is made up of a super-creative core that he defines “to include people in science and engineering, architecture and design, education, arts, music and entertainment, whose economic function is to create new ideas, new technology and/or creative content.” and of a “broader group of creative professionals in business and finance, law, health care and related fields” who “engage in complex problem solving that involves a great deal of independent judgement and requires high levels of education or human capital.” The “boundaries of this new class” are “drawn so widely” (Barbrook 2006, 32) in this approach so that Florida downplays “the divide between employers and employees within the Creative Class” (41). Kroker and Weinstein (1994, 15) speak of the “virtual class” that consists of visionary capitalists and business capitalists of the “new economy,” but also of “the perhaps visionary, perhaps skill-oriented, perhaps indifferent techno-intelligentsia of cognitive scientists, engineers, computer scientists, video game developers, and all the other communication specialists, ranged in hierarchies, but all dependent for their economic support on the drive to virtualization.”
7. Knowledge labor as petty bourgeoisie: For Nicos Poulantzas, knowledge workers are part of “the ‘new’ petty bourgeoisie composed of non-productive wage earners” (Poulantzas 1973, 106). For Mike Wayne (2003), the crucial feature of the middle class is that its members are knowledge workers and have a higher remuneration than the working class, cultural privileges, and relative workplace independence. Intellectuals would be contradictory located between capital and labor and the petty bourgeoisie.

This analysis shows that the understandings of the class position of knowledge producers are very diverse. They range from the assumption that they are revolutionary to the argument that they are part of the bourgeoisie. If one

assumes, for example, as Florida does, that the kind of end product (e.g., information) determines the class status of individuals, then one advances a Weberian notion of class that lumps together capitalists and workers, which is an intellectual move that was characteristic for European fascists in the 1930s, who spoke of status (*Stand*) instead of class. To ground a Marxian class analysis of knowledge labor, class is seen as an exploitative relationship. The problem of most of the approaches that were just presented is that they lack a concise theoretical model of class.

KNOWLEDGE LABOR AND CLASS: A NEW APPROACH

The most important neo-Marxist concept of economic class is the one by Erik Olin Wright (1997, 10; 2005a, 23), who defines three aspects of exploitation and class formation:

1. Inverse interdependent welfare: The material welfare of one group of people causally depends on the material deprivations of another.
2. Exclusion: The exploited are asymmetrically excluded from accessing certain productive resources (frequently by force and property rights)
3. Appropriation: Those who control the productive resources appropriate the fruits of labor of the exploited.

If only the first and the second criteria are given, Wright speaks of nonexploitative economic oppression. For Wright, groups such as the unemployed, retirees, permanently disabled, students, people on welfare, and houseworkers form underclasses that are not exploited, but excluded and hence economically oppressed by capital (Wright 1997, 26–28). This idea does not take into account that the “economically oppressed” are growing in number and that it therefore is an analytical and political error to see their existence only as a side effect of economic exploitation. Wright limits his concept of economic class to wage labor and capital (as well as contradictory class positions).

Wright (1997) and Bourdieu (1986) characterized the self-employed as the class of the petty bourgeoisie, which implies that this class is closely related to the capitalist class. Given the case, as already argued, that the material conditions of many self-employed persons are comparable to the ones of wage labor, such a characterization does not make sense. In informational capitalism the human brain has become an important productive force (Fuchs 2008b). Many workers performing precarious jobs—a characteristic for service jobs and knowledge labor—and work as freelancers or one-man companies (Fuchs 2008b). Formally they are self-employed and own and control their means of production (brain, computer, etc.), but they are

forced to permanently sell their own labor power per contracts to capitalist corporations that outsource or subcontract labor power. Therefore, it might be better to speak of the self-employed working-class fraction, which posits this group on the side of labor and not on the side of capital. The emergence of this class is a characteristic expression of capital's movement under neoliberal conditions to outsource labor (which means not having to take care of labor rights, ancillary wage costs, technology, etc.) to reduce variable capital. Knowledge labor requires little physical capital and hence is predestined for new forms of employment and exploitation (Wright 1997, 130, 135). Self-employed labor in informational capitalism is very much likely to be precarious labor; it is not a fixed, but a dynamic category, as many of these individuals shift from self-employment to temporary labor, unpaid labor, and back again, and so on.

Wright argues that under contemporary conditions a more complex economic class model is appropriate, and hence besides the relation to the means of production he adds authority (or political capital in Bourdieuan terms) and skills/knowledge (or cultural capital in Bourdieuan terms) as defining characteristics of class positions. Based on this distinction, he creates a class model that is based on twelve different class locations. Wright's class concept takes into consideration the two structural aspects of sociopolitical capital and cultural capital that have been stressed by Bourdieu (1986) as important aspects of class formation besides economic capital. For Wright, skills exploitation means that higher skilled workers "receive incomes above the costs of producing those skills" (Wright et al. 1989, 12); they have some extra remuneration due to their position.

For a skill to be the basis of exploitation, therefore, it has to be in some sense scarce relative to its demand, and there must be a mechanism through which individual owners of scarce skills are able to translate that scarcity into higher incomes. (Wright et al. 1989, 21)

The same would be true for organizational assets/authority, which would allow managers to "extort wages out of proportion to the costs of producing managerial labor power" (Wright et al. 1989, 201). Wright here speaks of organizational exploitation.

If one defines economic exploitation as the existence of an exploiting class that deprives at least one exploited class of its resources, excludes it from ownership, and appropriates resources produced by the exploited, one stays within a Marxist framework of class, but must not necessarily exclude the "underclasses" from this concept if one considers knowledge labor as central to contemporary society. Knowledge labor is labor that produces and distributes information, communication, social relationships, affects, and information and communication tech-

nologies. It is a direct and indirect aspect of the accumulation of capital in informational capitalism: There are direct knowledge workers (either employed as wage labor in firms or outsourced, self-employed labor) that produce knowledge goods and services that are sold as commodities on the market (e.g., software, data, statistics, expertise, consultancy, advertisements, media content, films, music, etc.) and indirect knowledge workers that produce and reproduce the social conditions of the existence of capital and wage labor such as education, social relationships, affects, communication, sex, housework, common knowledge in everyday life, natural resources, nurture, care, etc. These are forms of unpaid labor that are necessary for the existence of society, they are performed not exclusively but to a certain extent by those who do not have regular wage labor—houseworkers, the unemployed, retirees, students, precarious and informal workers, underpaid workers in temporal or part-time jobs, and migrants. This unpaid labor is reproductive in the sense that it reproduces and enables the existence of capital and wage labor that consume the goods and services of unpaid reproductive workers for free. Therefore, both capital and wage labor exploit reproductive workers—which is just another term for indirect knowledge workers. Capital could not be accumulated without activities in a common societal infrastructure in the areas of education, spare time, health and social care, natural resources, culture, art, sexuality, friendship, science, media, morals, sports, housework, and the like, which are taken for granted and do not have to be paid for by capital (in the form of shares of its profits). Marx (1895, 175) remarks in this context that the rise in the rate of profit in one line of industry depends on the development of the productive power of labor in another sector of the economy. This can also mean that accumulation in the wage labor economy is based not only on its own advances but also on the nonwage labor economy. "What the capitalist makes use of here are the benefits of the entire system of the social division of labour" (Marx 1895, 175). This system of the division of labor also includes a nonwage economy that is dialectically separated from and connected to the wage economy and is exploited by capital.

By consuming reproductive labor and public goods and services, wage labor is reproducing itself. Wage laborers exploit reproductive workers to be able to be exploited by capital. Therefore we can define the multitude, the contemporary proletariat, as the class of those who produce material or knowledge goods and services directly or indirectly for capital and are deprived and expropriated of resources by capital. Such exploited resources are consumed by capital for free. In informational capitalism, knowledge has become a productive force, but knowledge is produced not only in corporations in the form of knowledge goods, but also in everyday life, for example, by

parents who educate their children; citizens who engage in everyday politics; consumers of media who produce social meaning and hence are prosumers; users of MySpace, YouTube, Facebook, and similar sites, who produce informational content that is appropriated by capital; radio listeners and television viewers who call in live on air to discuss with studio guests and convey their ideas that are instantly commodified in the real-time economy, and so on. The production process of knowledge is a social, common process, but knowledge is appropriated by capital. By this appropriation the producers of knowledge become just like traditional industrial labor an exploited class that can, with reference to Hardt and Negri (2000; 2004), be termed *the multitude*. The multitude is an expanded notion of class that goes beyond manual wage labor and takes into account that labor has become more common.

Hardt and Negri (2000, 2004) never outlined the subclasses of the multitude. The multitude, as the class of all those who are in some sense exploited, in my opinion consists of the following class fractions:

1. Traditional industrial workers, who are wage laborers and produce physical goods. Capital appropriates the physical goods of these workers and the surplus value contained in them.
2. Knowledge workers, who are wage laborers and produce knowledge goods and services in wage-relationships or self-employed labor relations. Capital appropriates the knowledge goods and services of these workers and the surplus value contained in them. One must note that public servants in areas such as health, education, transport, social care, housing, energy, and so on are not under the direct command of capital. Most of them are waged knowledge workers who produce parts of the commons that are a necessary condition for the existence of society and capital. The latter exploits these public goods in an indirect way.
3. Houseworkers: These workers—who are still predominantly female—produce knowledge in the broad sense of communication, affects, sexuality, domestic goods and services that are not sold as commodities, but consumed by capitalists and wage laborers for free to reproduce manpower.
4. The unemployed: This class is deprived of job assets by capital and wage labor (Van Parijs 1995). It is the result of the tendency of the organic composition of capital to rise (the relationship of constant and variable capital), which is due to technological progress. The unemployed are, just like houseworkers, involved in unpaid reproductive knowledge labor that is a necessary condition for the existence of capital. Furthermore, the unemployed are frequently forced to take on very low-paid and often precarious or illegal jobs and hence are also subjected to extreme economic appropriation. Unemployed persons are in numerous instances forced by the state to perform extremely low-paid, compulsory, overexploited work.
5. Migrants and workers in developing countries: Migrants are frequently subjected to extreme economic exploitation in racist relations of production as illegal, overexploited workers. They are exploited by capital. Developing countries either are completely excluded from exploitation or are considered as a sphere of cheap, unskilled wage labor that capital overexploits by paying extremely low wages and ignoring labor rights and standards.
6. Retirees: Retirees are exploited to the extent that they act as unpaid reproductive workers in spheres such as the family, social care, home care, and education.
7. Students: Students are exploited in the sense that they produce and reproduce intellectual knowledge and skills that are appropriated by capital for free as part of the commons. Students are furthermore frequently overexploited as precarious workers, a phenomenon for which terms such as “precarariat,” “generation internship,” or “praktikariat” (from the German term “Praktikum,” which means internship, combined with the term “precarariat”) can be employed.
8. Precarious and informal workers: Part-time workers, temporary workers, the fractionally employed, contract labor, bogus self-employment, and the like are work relations that are temporary, insecure, and low-paid. Hence these workers are overexploited by capital in the sense that such jobs would cost much more for capital if they were performed by regularly employed workers. The same situation can be found in the case of racist labor relations and compulsory work performed by unemployed persons. Self-employed persons who do not employ others themselves are forced to sell their own labor power by contracts. They control their means of production, but produce surplus for others who control capital and use the appropriated labor for achieving profit.

I have used the term *overexploitation* here several times. Capital can gain extra surplus value by overexploitation. *Extra surplus value* is a term coined by Marx for describing relations of production, in which goods are produced in a way that the “individual value of these articles is now below their social value” (Marx 1867, 434). By employing illegal migrants, unemployed compulsory or illegal workers, students, and precarious and informal workers, capital can produce goods at a value that is lower than

the average social value because its wage costs are lower than in a regular employment relationship. As a result the commodities produced contain less variable capital, but are nonetheless sold at regular prices so that an extra profit can be obtained. The total value of a commodity is $V = c + v + s$ (constant capital + variable capital + surplus value). By overexploitation, variable capital and the total value of the commodity are lowered, the commodity can be sold at regular market prices and thus extra profit can be achieved. Those who are outside of regular employment, such as students, pensioners, the unemployed, and illegal immigrants, are particularly active in reproductive labor that produces the social, educational, and knowledge commons of society. All of these activities indirectly benefit capital accumulation. If capital had to pay for this labor, its profits would probably decrease drastically. Therefore, it can be argued that capital accumulation is advanced by outsourcing reproductive labor from corporations to the private and public realm, where especially groups like young people, parents, teachers, the unemployed, pensioners, and illegal immigrants engage in producing these commons of society that are a necessary condition for the existence of the capitalist economy. This process of outsourcing is free for capital; the informal workers are overexploited to an extreme extent (if they receive no money at all, the rate of exploitation is infinite). Capital makes use of gratis labor, which is just another formulation for saying that capital exploits all members of society except for itself.

Rosa Luxemburg (1913, 363) argued that capital accumulation feeds on the exploitation of milieus that are drawn into the capitalist system: “capital feeds on the ruins of such organisations, and, although this non-capitalist milieu is indispensable for accumulation, the latter proceeds, at the cost of this medium nevertheless, by eating it up” (Luxemburg 1913/2003, 363). This idea was used for explaining the existence of imperial colonies by Luxemburg and was applied by Marxist feminism to argue that unpaid reproductive labor can be considered as an inner colony and milieu of primitive accumulation of capitalism. (Mies, Bennholdt-Thomsen, and Werlhof 1988; Mies 1986; Werlhof 1991). Nonwage labor “ensures the reproduction of labour power and living conditions” (Mies, Bennholdt-Thomsen, and Werlhof 1988, 18). It is labor spent “in the production of life, or subsistence production” (70). Primitive accumulation “is overt violence, with the aim of robbery wherever, whenever, and against whomever this is ‘economically’ necessary, politically possible and technically feasible” (102). In post-Fordist capitalism, the inner colonies of capitalism are expanded so that profits rise by generating milieus of low-paid and unpaid labor. The formation of these colonies is a form of ongoing primitive accumulation that uses violence for expropriating labor. “Women, colonies and nature”

are “the main targets of this process of ongoing primitive accumulation” (6). This phenomenon has been termed “housewifization” (Mies, Bennholdt-Thomsen, and Werlhof 1988; Mies 1986): More and more people live and work under precarious conditions that have traditionally been characteristic for patriarchal relations. People working under such conditions are like housewives, a source of uncontrolled and unlimited exploitation. Toni Negri (1982, 209) uses the term “social worker,” arguing that there is a broadening of the proletariat that is “now extended throughout the entire span of production and reproduction.” The concept of the social worker has been combined with the one of immaterial labor so that the category of the multitude emerged. According to Hardt and Negri (2004, 150), relationships, communication, and knowledge are goods that are produced in common, but appropriated by capital for economic ends. Hence, exploitation today is “the expropriation of the common.” Exploitation today is also the exploitation of human creative capacities. The multitude or proletariat is formed by “all those who labour and produce under the rule of capital” (Hardt and Negri 2004, 106), “all those whose labour is directly or indirectly exploited by and subjected to capitalist norms of production and reproduction” (Hardt and Negri 2000, 52), the “entire cooperating multitude” (402). The formation of the multitude can be seen as the colonization and housewifization of all of society.

Rosa Luxemburg’s work showed that capital generates new spheres of exploitation. Marxist feminist analyses applied these accounts to housework. We can base our analyses on these insights, but need to go beyond them because these accounts did not discuss the role of knowledge and network digital media in capitalism. Hardt and Negri can be read as expanded concretization of Luxemburg and the notion of reproductive labor. Their category of immaterial labor broaches the issue of knowledge labor in capitalism, but still remains at a level of high abstraction so that their account does not identify which groups exactly belong to the multitude and lacks a theoretical class model. It is therefore necessary to build on and go beyond these approaches.

Class relationships have become generalized. The production of surplus value and hence exploitation is not limited to wage-labor, but reaches society as a whole. Houseworkers, the unemployed, migrants, developing countries, retirees working in reproduction, students, and precarious and informal workers should, besides wage labor, be considered as exploited classes that form part of the multitude. The latter is antagonistic in character and traversed by inner lines of exploitation, oppression, and domination that segment the multitude and create inner classes and class fractions. Nonetheless, the multitude is objectively united by the fact that it consists of all those individuals and

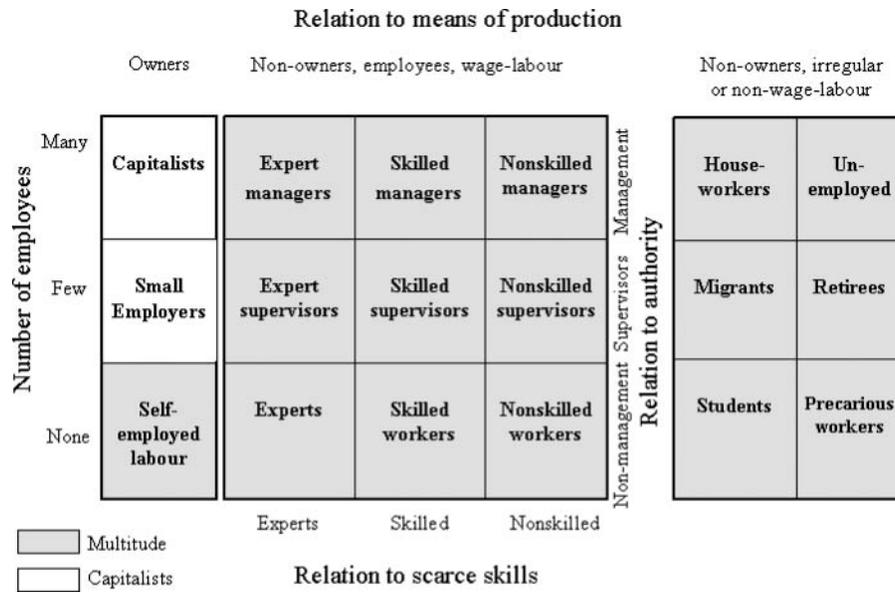


FIG. 2. Expanded class model.

groups that are exploited by the capital, those that live and produce directly and indirectly for capital that expropriates and appropriates resources (commodities, labor power, the commons, knowledge, nature, public infrastructures and services) that are produced and reproduced by the multitude in common.

The growing number of those who produce the commons and are exploited outside of regular wage relationships can be included in a class model as exploited classes (see figure 2). Note that an individual can be positioned in more than one class at a time. Class positions are not fixed, but dynamic, meaning that in informational capitalism people have a fluid and transient class status. So, for example, female wage workers are frequently at the same time houseworkers, many students are also precarious workers, many precarious workers form a type of self-employed labor, and so on. That class positions are antagonistic also means that there is no clear-cut separation between the multitude and the capitalist class, so, for example, managers can be considered as having a contradictory class position: They work for a wage, but at the same time execute the command over workers in the name of capital.

Knowledge is a social and historical product; new knowledge emerges from the historical heritage of knowledge in society and is in many cases produced cooperatively. Hence, Marx argued that knowledge is “universal labour” that is “brought about partly by the cooperation of men now living, but partly also by building on earlier work” (Marx 1894, 199). Nature, knowledge, and societal infrastructures, due to their collective or natural form of production, are common aspects of society. They are not

produced by single individuals. “Communal labour, however, simply involves the direct cooperation of individuals” (Marx 1894, 199): Marx stresses the cooperative character of knowledge production. Knowledge and infrastructures can only exist due to the collective activities of many. Nature produces itself and is transformed into resources by metabolic processes organized by many. Knowledge, nature, and infrastructures are collective goods that cost nothing for capital, but they are a necessary condition for capital accumulation, entering production processes, and capital profits from them. Capital consumes the commons for free; it exploits the results of societal and natural production processes such as education, science, health, reproductive labor, and so on. The essence of the commons is its social character, but in capitalism the commons are individually appropriated as proprietary goods by capital. In categories of the Hegelian logic, one can argue that essence and existence of knowledge and the commons are nonidentical. Exploitation alienates the existence of the commons from their essence and their truth, reason, and reality (Fuchs 2008b).

All humans benefit from knowledge in society that was produced in the past (inherited, historical knowledge) in the form of organizations that allow the development of skills (educational knowledge), in the form of cultural goods (music, theatre performances, literature, books, films, artworks, philosophy, etc.) that contribute to mental reproduction (entertainment knowledge), and in the form of traditional practices as aspects of education and socialization (practical knowledge). These three forms of knowledge are handed over to future generations and enriched by present generations through the course of the

development of society. All humans contribute and benefit therefrom (although to different degrees under the given circumstances). Another form of knowledge is technological knowledge that is objectified in machines and practices that function as means for reaching identified goals so that labor processes are accelerated and the amount of externalized labor power can be reduced. Not all humans and groups benefit from the five types of knowledge to the same extent. Especially corporations consume a share above average. Educational, entertainment, and practical knowledge are aspects of the reproduction of manpower. Individuals and society perform these processes to a large extent outside of firms and labor time. Technological progress helps corporations to increase their productivity, that is, the ability of capital to produce ever more profit in ever less time. Technological knowledge does not enter the production process indirectly as the other three forms of knowledge do; it is directly employed in the production process by capital. Technological knowledge is produced by society, but it is individually appropriated as a means of production by capital. One argument that some scholars and observers employ is that corporations pay for technological progress in the form of machines, software, hardware, and so on, that they buy as fixed capital. However, the value produced by labor with the help of technology is much larger than the value of technology as such, and each individual item of technology is based on the whole history of technology and engineering that enters the product for free. Another argument is that technological knowledge and progress are created in an industry that produces technology and in the research departments of corporations. This argument is deficient because a certain part of knowledge is produced in public research institutions and universities and each technological innovation is based on the whole state of the art of science, for which one does not have to pay and which is consumed by research departments and technology-producing corporations for free as an external resource.

The result of this discussion is that corporations consume the commons of society that consist of nature, educational knowledge, entertainment knowledge, practical knowledge, technological knowledge, and public infrastructures (labor in the areas of health, education, medical services, social services, culture, media, politics, etc.) for free. Hence, one important form of exploitation in the knowledge society is the exploitation of the commons by capital, which is also exploitation of the multitude and of society as a whole. But are capitalists and small employers not as well part of the multitude in the sense that they contribute to the production and reproduction of the commons in everyday life? There is no doubt that all humans contribute certain shares of unpaid labor to the production and reproduction of nature, knowledge, an public services, and so on. But the capitalist class is the only class in so-

ciety that exploits and expropriates the commons; it is the only class that derives economic profit and accumulates capital with the help of the appropriation of the commons. All humans produce, reproduce, and consume the commons, but only the capitalist class exploits the commons economically. Hence, this class should not be considered as a part of the multitude. With the rise of informational capitalism, the exploitation of the commons has become a central process of capital accumulation.

NEW MEDIA, CLASS, AND EXPLOITATION

The relationship of new media and class has thus far been mainly discussed in a way that suggests that lower income groups and people from poor countries lack physical, motivational, skills, and usage access to new media (for example, Van Dijk 2005). The mechanisms of surplus production that underlie the development of new media have been overlooked.

The immediate effects of surplus-value production in class relations are that the product belongs to the capitalist and not to the worker and that surplus value “costs the worker labour but the capitalist nothing, and . . . becomes the legitimate property of the capitalist” (Marx 1867, 731). If one does not use as the object of analysis the production of cotton, the example used by Marx (1867, 251) for explaining surplus value, but rather knowledge, such as the Microsoft Windows Vista operating system, one sees a decisive difference in the industrial and informational production. Knowledge only needs to be produced only once, can be infinitely reproduced at low costs, and can be distributed at high speed. There is no physical wear and tear of the product; knowledge is not used up in consumption, but can be reworked and built upon. There are high initial production costs, but once an informational product such as software is produced, it can be cheaply copied and sold at high prices. The constant and variable capital costs for reproduction are low, which is beneficial for sustained capital accumulation in the knowledge industries (Fuchs 2008b).

The situation again changes a little if knowledge is produced for new media and carried and distributed by it. A central characteristic of networked digital media is that the consumer of knowledge has the potential to become its producer. Alvin Toffler (1980) spoke of the emergence of the *prosumer* within the information society. Axel Bruns (2007) applied this notion to new media and speaks of *producers*—users become producers of digital knowledge and technology. Philip Graham (2000) argues that hypercapitalism’s immediacy and pervasiveness has resulted in the entanglement of production, circulation, consumption, material and nonmaterial production, productive and unproductive labor, base and superstructure, forces and relations of production. Therefore, value creation “becomes

an immediate, continuous process” (Graham 2000, 137). New media are simultaneously used for the production, circulation, and consumption of knowledge. They support cognition (thought, language), communication (one-to-one, one-to-few, one-to-many, few-to-one, few-to-few, few-to-many, many-to-one, many-to-few, many-to-many), and cooperation (peer production, sharing, virtual communities, social networking, cyberlove, online collaboration, etc.) by combining the universal digital machine of the computer with networking functions as structural principles (Fuchs 2008b). In informational capitalism, the brain and its bodily mediations are enabled to engage in organic practices of economic production, surplus-value generation, coproduction, communicative circulation, and productive consumption by new media. The production of knowledge is based on the prior consumption of other knowledge, in coproduction as well on communicative interchange as a coordinative mechanism. Consumption of knowledge produces individual meaning and incentives for further social production and communication. Circulation of knowledge is the consumption of bandwidth and technical resources and the production of connections.

For Marx, the profit rate is the relation of profit to investment costs: $p = s / (c + v) = \text{surplus value} / (\text{constant capital} + \text{variable capital})$. If the users become productive, then in terms of Marxian class theory this means that they become productive laborers who produce surplus value and are exploited by capital, because for Marx productive labor generates surplus. Therefore, the victims of exploitation of surplus value in cases like Google, YouTube, MySpace, or Facebook are not merely those employed by these corporations for programming, updating, and maintaining the soft and hardware, performing marketing activities, and so on, but also the users and the producers engaged in the production of user-generated content. New media corporations do not (or hardly) pay the users for the production of content. One accumulation strategy is to give them free access to services and platforms, let them produce content, and to accumulate a large number of producers that are sold as a commodity to third-party advertisers. While no product is sold to the users, the users themselves are sold as a commodity to advertisers. The more users a platform has, the higher the advertising rates can be charged. The productive labor time that is exploited by capital, on the one hand, involves the labor time of the paid employees and, on the other hand, all of the time that is spent online by the users. For the first type of knowledge labor, new media corporations pay salaries. The second type of knowledge is produced completely for free. There are neither variable nor constant investment costs. The formula for the profit rate needs to be transformed for this accumulation strategy:

$$p = s / (c + v1 + v2)$$

in which s is surplus value, c is constant capital, $v1$ is wages paid to fixed employees, and $v2$ is wages paid to users.

The typical situation is that $v2 \geq 0$ and that $v2$ substitutes $v1$. If the production of content and the time spent online were carried out by paid employees, the variable costs would rise and profits would therefore decrease. This shows that produsage in a capitalist society can be interpreted as the outsourcing of productive labor to users who work completely for free and help maximizing the rate of exploitation ($e = s/v$; i.e., surplus value/variable capital) so that profits can be raised and new media capital may be accumulated. The rate of exploitation converges toward infinity if workers are unpaid. They are infinitely exploited. Capitalist Internet produsage is an extreme form of exploitation, in which the producers work completely for free and are therefore infinitely exploited.

That surplus value generating labor is an emergent property of capitalist production, means that production and accumulation will break down if this labor is withdrawn. It is an essential part of the capitalist production process. Imagine what would happen if producers stop using platforms like YouTube, MySpace, and Facebook: The number of users would drop, corporations would reduce or stop buying advertisement because of diminished audiences, the profits of the new media corporations would drop, and they would go bankrupt. If such activities were carried out on a large scale, a new economy crisis would arise. This thought experiment shows that users are essential for generating profit in the new media economy. Furthermore, they produce and coproduce parts of the products, and therefore parts of the use value, exchange value, and surplus value that are objectified in these products.

Dallas Smythe (1981) suggests that in the case of media advertisement models, the audience is sold as a commodity to advertisers:

Because audience power is produced, sold, purchased and consumed, it commands a price and is a commodity. . . . You audience members contribute your unpaid work time and in exchange you receive the program material and the explicit advertisements. (Smythe 1981 [2006], 233, 238)

With the rise of user-generated content, free access social networking platforms, and other free access platforms that yield profit by online advertisement—a development subsumed under categories such as web 2.0, social software, and social networking sites (see Fuchs [2009b] for a theoretical discussion of the notions of web 2.0 and social software)—the Web seems to come close to accumulation strategies employed by the capital on traditional mass media like TV or radio. The users who google data, upload or watch videos on YouTube, upload or browse personal images on Flickr, or accumulate friends with whom they exchange content or communicate online via

social networking platforms like MySpace or Facebook constitute an audience commodity that is sold to advertisers. The difference between the audience commodity on traditional mass media and on the Internet is that in the latter case the users are also content producers; there is user-generated content, and the users engage in permanent creative activity, communication, community building, and content production. The fact that the users are more active on the Internet than in the reception of television or radio content is due to the decentralized structure of the Internet, which allows many-to-many communication. Due to the permanent activity of the recipients and their status as producers, we can say that in the case of the Internet the audience commodity is a produsage/prosumer commodity. The category of the produsage/prosumer commodity does not signify a democratization of the media toward a participatory or democratic system, but the total commodification of human creativity. During much of the time that users spend online, they produce profit for large corporations like Google, News Corp. (which owns MySpace), or Yahoo! (which owns Flickr). Advertisements on the Internet are frequently personalized; this is made possible by surveilling, storing, and assessing user activities with the help of computers and databases. This is another difference from television and radio, which provide less individualized content and advertisements due to their more centralized structure. But one can also observe a certain shift in traditional mass media, as in the cases of pay-per-view, tele-votes, talk shows, and call-in television and radio shows. In the case of the Internet, the commodification of audience participation is easier to achieve than with other mass media.

Marx has anticipated the exploitation of producers by arguing that as a result of the development of the productive forces a time of capitalist development will come, in which “general intellect,” the “power of knowledge, objectified,” “general social knowledge has become a direct force of production” (Marx 1857/58, 706). The productive forces would not only be produced in the form of knowledge, but also as “immediate organs of social practice, of the real life process.” Marx here describes that in a knowledge society, social life becomes productive. The notion that knowledge labor, such as the one performed online by producers, is productive, then also means that under capitalist class relations it is exploited and that all knowledge workers, unpaid and paid, are part of an exploited class.

The basic business models that dominate the Web are the advertising model, selling services to users, and combinations of the two (Fuchs 2008b). The dominance of the first model can be seen in the fact that 9 out of the 10 most accessed Web platforms make use of it for accumulating capital: (1) Google, (2) Yahoo.com, (3) YouTube, (4) Facebook, (5) Windows Live Search, (6) Microsoft Network, (8) Blogger.com, (9) Baidu.com, and (10) Yahoo.co.jp.⁴

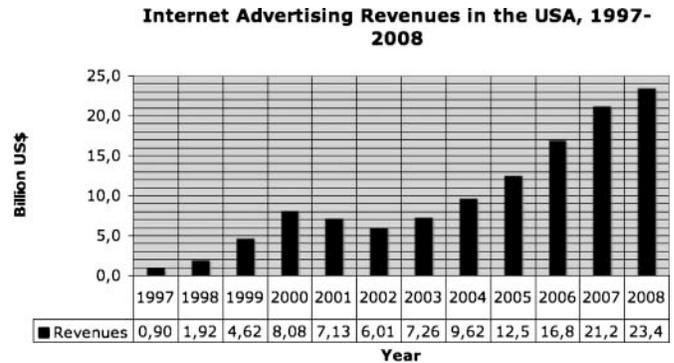


FIG. 3. Internet advertising profits in the United States. Source: IAB Internet Advertising Revenue, “Full Year Highlights,” (report, Author, 2008), http://www.iab.net/media/file/IAB_PwC_2008_full_year.pdf (accessed March 25, 2010).

The only exception is Wikipedia (number 7), which is a nonprofit initiative.

Figure 3 shows the rapid growth of profits from Internet advertising in the United States. These profits amounted to U.S.\$23.4 billion in 2008, which makes up 11.0 percent of the total U.S. advertising profits. The online advertising profits were higher than the profits made by radio and cable television advertising in 2008 and were only exceeded by profits in newspaper and television distribution advertising (IAB Internet Advertising Revenue Report 2008).

Internet users come from all backgrounds. So, for example, 49 percent of U.S. MySpace users come from lower income classes; 58 percent of U.S. Facebook and also 58 percent of U.S. Google users come from upper income classes; 56 percent of U.S. MySpace users have attended no college or graduate school; 42 percent of U.S. Facebook users have attended college and 14 percent have graduated; 58 percent of YouTube users, 73 percent of Facebook users, and 76 percent of Facebook users in the United States are in the 3–34 year-old age group; 36 percent of YouTube user are in the 18–34 year-old age group and 13 percent have graduate degrees.⁵ Such data show that Internet users have diverse backgrounds in terms of age, income, and education. The class structure of the virtual world is not a reproduction of the class structure of the offline world. The most decisive difference is that more young persons produce online than offline. Children, pupils, and students who do not have a regular paid employment are the primary group of exploited producers. Expressed cynically, we can say that the Internet is one of the primary spaces for the exploitation of child labor. Thus, it is necessary to go beyond the traditional class concept that considers only wage labor as productive and exploited because there are also many unpaid laborers who are necessary for the accumulation of capital accumulation.

CONCLUSION

The aim of this article was to make a contribution to the debate on the role of class in informational capitalism. If one does not narrowly consider knowledge as an economic asset but as a social resource, then it becomes clear that it lies at the heart of class formation in informational capitalism. Knowledge forms part of the commons of society; it is a social product produced and consumed by all. All humans produce, reproduce, and consume the commons, but only the capitalist class exploits the commons economically. The multitude is an expanded Marxist class category that is used to describe the common labor class that produces the commons and is exploited by capital, which appropriates the commons for free and subsumes it under capital in order to gain profit. The political demand underlying the argument that that nobody is unproductive since each human being is producing and reproducing the commons appropriated by capital is that capital should in return give something back to society in the form of taxes as compensation. These taxes could then be used for introducing and financing a redistributive guaranteed basic income for everyone.

This broadening of the notion of class is necessary because the development of capitalism and the productive forces have increased the significance of nonwage workers. Therefore, if Marxian thinkers want to maintain class analysis as an effective political project, they need to refine their conception of the potential agents of change. As Thompson (1960b, 24f) tells us, the proletariat “falls into a great number of constituent parts.” The involvement of more people “in the exchange of human services (welfare, education, entertainment and the like” in today’s economy, shatters “traditional notions of the working-class as a fixed, unchanging category with a fixed consciousness and unchanging forms of expression” (27).

Broadening of the notion of the proletariat is not a post-Marxist project. Post-Marxism sees universality as a totalitarian endeavor (Laclau and Mouffe 1985, 188) and argues for the primacy of a plurality of political subjects that are at best loosely connected. Laclau and Mouffe (84–87) speak in this context of “the plurality of diverse and frequently contradictory positions . . . decentred subject positions,” the “plurality of political spaces” (137), the “rejection of privileged points of rupture and the confluence of struggles into a unified political space” (152), or the “polysemic character of every antagonism” (170). This article was specifically concerned with economic relationships, not with the relationship of the economic and the non-economic. Laclau and Mouffe have been primarily talking about the relationships of new social movements and the working class, but they have also pointed out “that also workers’ struggles are not universal, but “have been

numerous, and have assumed an extraordinary variety of forms” (167).

Slavoj Žižek has in this context, in my opinion, correctly said that postmodernism and post-Marxism by assuming an “irreducible plurality of struggles” have accepted “capitalism as ‘the only game in town’” and have renounced “any real attempt to overcome the existing capitalist liberal regime” (Butler, Laclau, and Žižek 2000, 95). Subordination or equalization of the category of class to other antagonistic categories (gender, ethnicity, age, capabilities, etc.) poses the danger of burying the project and demand to establish participatory alternatives to the capitalist totality. All nonclass antagonisms are articulated with class, whereas not all nonclass antagonisms are articulated with each other, which means that all antagonisms of contemporary society have class aspects and are conditioned by class. Class is the antagonism that binds all other antagonisms together; it prefigures, conditions, enables and constrains, and exerts pressure on possibilities for other antagonisms (Fuchs 2008b). At the same time, non-class antagonisms influence the class antagonism so that complex dynamic relationships are present. If class is the super-antagonism of capitalism that does not determine or overdetermine, but conditions other antagonisms, then it is important to give specific attention to this category. The subdomains of the exploited class that were identified in this paper can stand in antagonisms to each other, which in the actual world is frequently the case. So, for example, there are countries like Austria, where the majority of workers tend to vote for right-wing extremist parties and thereby politically support racism and racist classism because they hope to improve their class position by downgrading the class position of immigrant workers.

But given the possibility of the existence of internal antagonisms of the multitude, can there be a combined political project of the multitude that aims to overthrow capitalism? As Marx knew, a class-in-itself is not automatically a class-for-itself. There can be classes without class consciousness and without class struggles because basing the definition of the existence of a class on the existence of a specific consciousness or practical political project is a philosophically idealistic, subjectivistic, and therefore also reductionistic move that negates Marxian analysis. The task is to construct political projects that aim at the connection of the multiplicity of subject positions that are immanent in the multitude and that have the potential to advance struggles that transcend capitalism and anticipate a participatory alternative to capitalism (i.e., grass-roots participatory democracy). Such projects can be organized around particular political demands (as, e.g., the demand for a redistributive universal basic income

that is financed by the taxation of capital and wealth; see Fuchs 2008a) as part of a politics of radical reformism that creates frameworks that work within established institutions against these institutions. Workers' consciousness, demands, and struggles are not automatically progressive, but there can be no emancipation without abolishing the proletariat, which makes the task of advancing emancipatory proletarian struggles important. A widely given condition today is that the proletariat is a "revolutionary class 'in-itself' but not 'for-itself', objectively but not subjectively" (Marcuse 1969, 54).

Classes exist as objective economic groups that have certain subjective practices (in economic, political, and everyday popular settings) that to a certain extent allow the class subjects to perceive their economic relationships as common or uncommon. Class as political class emerges if a class as a group perceives itself as a common economic and political entity, builds a common identity, and starts to act based on this entity. The subjective and the objective class dimension interact, class structures produce human practices that reproduce and (potentially) differentiate class structures, but there is not an automatic guarantee that these practices acquire a political character nor that they acquire an emancipatory political character. Classes owe "as much to agency as to conditioning" (Thompson 1968, 8).

The political task is to create a political unity in plurality of the multitude so that the internal antagonisms are externalized and the strength of the now fragmented powers synergistically combined. An objective foundation for a political unity in plurality of the multitude is the experience of the lack of control of the commons and the lack of affluence that generates precariousness in one or the other sense. Such projects of creating unity in plurality are open and complex experiments without guarantees for success or failure, but at best trial-and-error approaches that have learned from the lessons taught by political history. Fundamental social change might be triggered, but it cannot be determined, which also means that emancipation can only be the result of the self-activity of the proletariat. "It is the business of socialists to draw the line . . . between the monopolists and the people—to foster the 'societal instincts' and inhibit the acquisitive" (Thompson 1960a, 8). Either the proletariat makes its own emancipation and thereby creates participatory democracy through its own destruction as class and the destruction of classes as such or there can be no emancipation.

Informational capitalism is an antagonistic system that by transnationalization and informatization produces at the same time new potentials of class domination and class struggle (Fuchs 2008b). Class domination can be observed in our everyday life, whereas class struggle from below is the exception from the rule, but nonetheless exists, as examples like the practice of file sharing that puts pressure

on corporate interests show. The forces of emancipation are only developed rudimentarily and it is not determined how the future will look.

The multitude lacks the control of the commons of society and all of its members lack the actual experience of affluence. The multitude is connected by its position in the production of the commons and by the confrontation with the expropriation and exploitation of the commons, as well as by the lack of affluence and the control of the commons. This exploitation of the commons also poses a threat of the destruction of the fundamental foundations of life itself (nature, health, education, etc). These are common experiences that distinguish the multitude objectively and subjectively from the capitalist class that exploits the commons for profit. The proletariat constantly creates and recreates spaces of common experience, such as the Internet, educational institutions, knowledge spaces, and culture, through its practices. These spaces and experiences are appropriated and thereby expropriated and exploited by capital to accumulate capital. Slavoj Žižek (2008, 428f; 2009, 53–55) distinguishes three kinds of commons that are enclosed by capital and thereby endangered: the commons of culture, the commons of external nature, and the commons of internal nature. Žižek argues that the notion of the commons "enables us to see their progressive enclosure as a process of proletarianization of those who are thereby excluded from their own substance; a process that also points towards exploitation—for instance, that of anonymous 'knowledge workers' by their companies" (Žižek 2009, 54). The exploitation of unpaid knowledge workers, such as Web 2.0 users, has the potential to be channeled into political demands, such as the demand for a wage for all unpaid knowledge workers, which is equivalent to the demand for the introduction of a universal basic income guarantee.

NOTES

1. Own calculations based on 2006 data, Organization for Economic Cooperation and Development (OECD) Database for Structural Analysis, for methodological details see Fuchs (2008b, 193–200).
2. Author's calculations based on 2006 data, OECD Database for Structural Analysis.
3. Own calculations based on Forbes (2000; 2009) list; in this calculation the information economy includes the Forbes categories telecommunications, technology hardware and equipment, media, software and services, and semiconductors.
4. Data from Alexa Global Top 500 (alexa.com) (accessed on July 18, 2009).
5. Data from quantcast.com (accessed on July 18, 2009).

REFERENCES

- Barbrook, R. 2006. *The class of the new*. London: Openmute.org.
- Beck, U. 1983. *Jenseits von Stand und Klasse?* In *Soziale Welt, Sonderband 2*, ed. R. Kreckel, 35–74. Göttingen: Schwarz.

- . 1992. Modern society as a risk society. In *The culture and power of knowledge*, ed. N. Stehr, and R. V. Ericson, 199–214. Berlin: De Gruyter.
- Bell, D. 1973. *The coming of post-industrial society*. Hammondsworth, England: Penguin.
- Berardi, F. 2003. What is the meaning of autonomy? Republicart. http://www.republicart.net/disc/realpublicspaces/berardi01_en.pdf (accessed February 6, 2010).
- Bourdieu, P. 1986. *Distinction*. New York: Routledge.
- Brooks, D. 2000. *Bobos in paradise*. New York: Simon & Schuster.
- Bruns, A. 2007. Prodisage, Generation X, and their effects on the democratic process. In *Proceedings of the conference: Media in transition 5, MIT, Boston*. <http://web.mit.edu/comm-forum/mit5/papers/Bruns.pdf> (accessed August 2008).
- Butler, J., E. Laclau, and S. Žižek. 2000. *Contingency, hegemony, universality*. London: Verso.
- Castells, M. 2000. *The rise of the network society*. Malden, MA: Blackwell.
- Davies, J. B., S. Sandstrom, A. Shorrocks, and E. N. Wolff. 2006. The world distribution of household wealth. International Association for Research in Income and Wealth. <http://www.iariw.org/papers/2006/davies.pdf> (accessed June 2008).
- Dussel, E. 2008. The discovery of the category of surplus value. In *Karl Marx's Grundrisse: Foundations of the critique of the political economy 150 years later*, ed. M. Musto, 67–68. New York: Routledge.
- Dyer-Witheford, N. 1999. *Cyber-Marx. Cycles and circuits of struggle in high-technology capitalism*. Urbana: University of Illinois Press.
- European Foundation for the Improvement of Living and Working Conditions. 2007. Income poverty in the European Union. <http://www.eurofound.europa.eu/ewco/surveyreports/EU0703019D/EU0703019D.pdf> (accessed June 2008).
- Florida, R. 2002. *The rise of the creative class*. New York: Basic Books.
- Fuchs, C. 2007. Transnational space and the “network society.” *21st Century Society* 2(1):49–78.
- . 2008a. Foundations and two models of guaranteed basic income. In *Perspectives on work*, ed. O. Neumaier, G. Schweiger, and C. Sedmak, 235–48. Vienna: LIT.
- . 2008b. *Internet and society: social theory in the information age*. New York: Routledge.
- . 2009a. A contribution to the critique of transnational informational capitalism. *Rethinking Marxism* 21(3):387–402.
- . 2009b. Social software and web 2.0: their sociological foundations and implications. In *Handbook of research on web 2.0, 3.0, and x.0: Technologies, business, and social applications*, ed. S. Murgesan, 764–89. Hershey, PA: IGI-Global.
- Goetz, A. 1980. *Farewell to the working class*. London: Pluto.
- Graham, P. 2000. Hypercapitalism: A political economy of informational idealism. *New Media & Society* 2(2):131–56.
- Hardt, M., and A. Negri. 2000. *Empire*. Cambridge, MA: Harvard University Press.
- . 2004. *Multitude*. New York: Penguin.
- Harvey, D. 2010. *A companion guide to Marx's Capital*. London: Verso.
- Huws, U. 2003. *The making of a cybertariat*. New York: Monthly Review Press.
- Kroker, A., and M. Weinstein. 1994. *Data trash. The theory of the virtual class*. New York: St. Martin's Press.
- Laclau, E., and C. Mouffe. 1985. *Hegemony and socialist strategy*. London: Verso.
- Luxemburg, R. 1913/1979. *Die Akkumulation des Kapitals*. Berlin: Buchhandlung Vorwärts Paul Singer.
- Marcuse, H. 1969. *An essay on liberation*. Boston: Beacon Press.
- Margonelli, L. 1999. Inside AOL's “cyber-sweatshop.” *Wired* 7(10).
- Marx, K. 1857/58. *Grundrisse*. London: Penguin.
- . 1867. *Capital: Volume I*. London: Penguin.
- . 1885. *Capital: Volume II*. London: Penguin.
- . 1894. *Capital: Volume III*. London: Penguin.
- Marx, K., and F. Engels. 1848. Manifesto of the Communist Party. In *Selected works in one volume*, 35–62. London: Lawrence & Wishart.
- McKercher, C., and V. Mosco, eds. 2006. Special issue on the labouring of communication. *Canadian Journal of Communication* 31(3).
- , eds. 2007. *Knowledge workers in the information society*. Lanham, MD: Lexington.
- Mies, M. 1986. *Patriarchy & accumulation on a world scale*. London: Zed Books.
- Mies, M., V. Bennholdt-Thomsen, and C. von Werlhof. 1988. *Women: The last colony*. London: Zed Books.
- Morris, M., and B. Western. 1999. Inequality in earnings. *Annual Review of Sociology* 25:623–57.
- Negri, A. 1982. Archaeology and project. The mass worker and the social worker. In *Revolution retrieved: Selected writings on Marx, Keynes, capitalist crisis & new social subjects 1967–83*, 199–228. London: Red Notes.
- . 1991. *Marx beyond Marx*. London: Pluto.
- Peery, N. 1997. The birth of a modern proletariat. In *Cutting edge: Technology, information, capitalism and social revolution*, ed. J. Davis, T. Hirschl, and M. Stack, 297–302. London: Verso.
- Poulantzas, N. 1973/1982. On social classes. In *Classes, power, and conflict*, ed. A. Giddens and D. Held, 101–11. Berkeley: University of California Press.
- Resnick, S. A., and R. D. Wolff. 1987. *Knowledge and class. A Marxist critique of political economy*. Chicago: University of Chicago Press.
- Smythe, D. W. 1981. On the audience commodity and its work. In *Media and cultural studies*, eds. M. G. Durham, and D. M. Kellner, 230–56. Malden, MA: Blackwell.
- Terranova, T. 2000. Free labour. Producing culture for the digital economy. *Social Text* 18(2):33–57.
- Thompson, E. P. 1960a. Revolution. *New Left Review* 1(3):3–9.
- . 1960b. Revolution again! *New Left Review* 1(6):18–31.
- . 1968. *The making of the English working class*. London: Penguin.
- Toffler, A. 1980. *The third wave*. New York: Bantam.
- Van Dijk, J. 2005. *The deepening divide*. London: Sage.
- Van Parijs, P. 1995. *Real freedom for all*. Oxford: Oxford University Press.
- Wark, M. 2004. A hacker manifesto. Version 4.0. subsol. http://subsol.c3.hu/subsol_2/contributors0/warktext.html (accessed February 6, 2010).
- Wayne, M. 2003. *Marxism and media studies*. London: Pluto.

- Webster, F. 2002. *Theories of the information society*. New York: Routledge.
- Werlhof, C. von. 1991. *Was haben die Hühner mit dem Dollar zu tun? Frauen und Ökonomie*. München: Frauenoffensive.
- Wright, E. O., et al. 1989. *The debate on classes*. London: Verso.
- . 1997. *Class counts. Comparative studies in class analysis*. Cambridge, UK: Cambridge University Press.
- . 2005a. Foundations of a neo-marxist class analysis. In *Approaches to class analysis*, ed. E. O. Wright, 4–30. Cambridge, UK: Cambridge University Press.
- . 2005b. Social class. In *Encyclopedia of social theory*, ed. George Ritzer, vol. II, 717–24. Thousand Oaks, CA: Sage.
- Žižek, S. 2008. *In defense of lost causes*. London: Verso.
- . 2009. How to begin from the beginning. *New Left Review* 57(3):43–55.