Critical Social Theory and Sustainable Development: The Role of Class, Capitalism and Domination in a Dialectical Analysis of Un/Sustainability
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Abstract
It is still a relatively open question if and how sustainability fits into a critical theory of society. This paper's aim is to makes a contribution to the critical social theory foundations of sustainability and to reflect on the links between capitalism, class and sustainability. Sustainability has not been a very popular concept in sociological theory. One of the reasons may be that sociology has a strongly critical tradition focusing on the analysis and critique of power structures in modern society. It is therefore often sceptical of ideas coming from the policy world that are susceptible to have an administrative character. The article argues that although sustainability has a strongly ideological character, a critical theory of society should not simply discard this notion, but aim to sublate it. Some foundations of a way to integrate sustainability into a critical theory of society are presented.

1. Introduction

The sustainability concept has a strong policy background in institutions such as the United Nations and the European Union. Its links to social theory are fairly weak. It is still a relatively open question how sustainability fits into a theory of society. Sustainability has not been a very popular concept in sociological theory. One of the reasons may be that sociology has a strongly critical tradition focusing on the analysis and critique of power structures in modern society. It is therefore often sceptical of ideas coming from the policy world that are susceptible to have an administrative character so that they do not question the main power inequalities of bureaucracies and capitalism. It is for example telling that since 2008, we have experienced the largest crisis of capitalism since 80 years that has also resulted in political crises, but sustainability discourses tend to ignore speaking of capitalism and class.

Based on this background, this paper asks the question: How can we integrate sustainability into a critical social theory framework? Section 2 re-visits the Brundtland Report's account of sustainability. Section 3 frames the sustainability discussion in terms of class and capitalism. Section 4 discusses multidimensional sustainability concepts. Section 5 introduces the notion of critical theory. Section 6

discusses how to use critical social theory for thinking about sustainability.

2. The Environmental Understanding of Sustainability

The United Nations World Commission on Environment and Development (WCED) in the years 1983-1987 conducted an investigation of possible solutions to the environmental crisis. Gro Harlem Brundtland, who then was Norway's prime minister, chaired the Commission that in 1987 published its report "Our Common Future" (WCED 1987). The Brundtland Report provided the most widely adopted and cited definition of sustainable development:

> "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:
> - the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
> - the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.
> Thus the goals of economic and social development must be defined in terms of sustainability in all countries – developed or developing, market-oriented or centrally planned" (WCED 1987, 41).

Sustainability is the basic survival capacity of humans in society. It means an institutional, social, economic, political, environmental, technological and cultural design of society that allows future generations to survive and to satisfy basic human needs for all. The Report was primarily concerned with the relationship of nature and society, i.e. the environmental crisis. The identified scope of global problems was centred on the nature-society relationship, whereas the solution was seen as having to be multidimensional. Other global problems – such as global conflicts, wars and violence, right-wing and religious extremism, precarious living and working conditions, the continued existence of slavery; social, income and wealth inequalities; illiteracy and educational inequalities, gender inequalities, racism and xenophobia, displacement and forced migration, human rights violations, etc. – only played a subordinated role in the Report.

The Reports' somewhat limited understanding of society's problems also becomes evident in its   uman needs (WCED 1987, 49-50). It mentions livelihood (employment), energy, housing, water supply, sanitation, and health care as the basic human needs that development needs to ensure. Needs that are missing in this list are cultural ones (such as education, communication possibilities for ensuring communication and social relations, recognition by others), political ones (the participation in collective decision-making [democracy], the guarantee of and realisation of human rights) and social ones (the protection from poverty, the social security of a population that has an increasing average age via publicly provided insurance, pension and care systems).

"The most basic of all needs is for a livelihood: that is, employment" (WCED 1987, 49). The Brundtland Report here reduces human needs to employment, i.e. wage-labour, which is the main organisation of labour in modern societies. In 2015, only half of the world's economically active population were wage and salaried employees, whereas the other half was working on its own account, in households or

families (ILO 2015, 13). The critical analysis of class, labour, and capitalism has often been ignored in discussions of sustainability.

3. Unsustainability, Class, Capitalism

Class is not an issue in the Brundtland Report and many other sustainability-reports and -studies (Deutz 2014). Although Western capitalism and the Soviet and Chinese versions of state command economies certainly had differences, they also shared the feature of being class societies: In Western capitalism, a capitalist class controls wealth and ownership of resources, from which everyday people are excluded. In the Soviet and Chinese model, a class of party bureaucrats, who enjoyed social privileges inaccessible to everyday people, controlled the economy and politics. Both models of society share the feature that the mass of everyday people produces use-values that they do not directly control in terms of ownership and decision-making. They are models of class society.

In class societies, those who are rich in terms of the amounts of the wealth, income and power they control, are likely to be less affected by unsustainability because a) resource inequality is itself a form of unsustainable development: Sustainability not just means that a social system can reproduce itself, but does so in a fair and just way. Wealth and abundance on one side and poverty and lack on the other side are an expression of a fundamental social mismatch in society. And b), those controlling significant amounts of money, influence, reputation and social relations can more easily escape unsustainable living conditions by changing their places, contexts and forms of work and life in the case of risks and crises. Unsustainability is class-structured and tends to affect those with the least power in society most drastically.

The disregard of class was certainly a tendency that strongly shaped the analysis of society in the 1980s. A prototypical example is the work of the popular German sociologist Ulrich Beck, who in 1986 published his most well-known book *Risikogesellschaft: Auf dem Weg in eine andere Moderne* (released in English in 1992 as *Risk Society: Towards a New Modernity*). Individualisation, education, mobility, and competition would have brought about an individualised, self-reflexive risk society. "Race, skin color, gender, ethnicity, age, homosexuality, physical disabilities" (Beck 1992, 101) would have become more important than class. In the risk society, "risks, risk perception and risk management in all sectors of society become a new source of conflict and social formation" (Beck 1992, 99). "At the center lie the risks and consequences of modernization, which are revealed as irreversible threats to the life of plants, animals, and human beings" (Beck 1992, 13). There is a striking parallel between Beck's dismissal of class and the class- and capitalism-blindness of sustainability concepts.

It is inappropriate to neglect class in the analysis of sustainability and society. According to estimations, the world's richest 10% in 2014 owned 87% of the global wealth, the richest 1% 48.2%, and the bottom half less than 1% (CSRI 2014, 11). In 2014, 69.8% of the world's population owned a wealth of less than US$ 10,000 and 0.7% more than US$ 1 million (CSRI 2014, 23-24). In 2015, the share of those owning less than US$ 10,000 increased to 71.0% and the share of those having more than US$ 1 million remained constant (CSRI 2015, 104). The worldwide Gini coefficient (a measure of inequality) was 0.915, which is a very high level (CSRI 2015, 104). The same study also found that the financial crisis and the neoliberal responses to it in the form of austerity measures resulted in an increase of wealth inequality: In the years 2007-2014, "wealth inequality rose in 35 countries and fell in

only 11" (CSRI 2014, 32). For example, the share of the richest decile increased in China from 56.1% in 2007 to 64.0% in 2014, from 65.3% to 73.3% in Egypt, from 72.3% to 74.0% in India, from 75.4% to 84.8% in Russia, from 52.0% to 54.0% in the UK, from 52.0% to 55.6% in Spain, from 48.6% to 56.1% in Greece, from 56.0% to 58.3% in Ireland, from 69.0% to 71.7% in South Africa, from 47.9% to 51.5% in Italy, from 62.6% to 67.5% in Denmark, from 51.1% to 53.1% in France (CSRI 2014, 33: Table 2).

The labour share is the share of wages in the global GDP. Karabarbounis and Neiman (2014) created a model that analyses the development of the labour share in 59 (developing and developed) countries from 1975 until 2012. They found "a 5 percentage point decline in the share of global corporate gross value added paid to labor over the past 35 years" (61). "Of the 59 countries with at least 15 years of data between 1975 and 2012, 42 exhibited downward trends in their labor shares" (62). "From a level of roughly 64%, the global corporate labor share has [in the period from 1975 until 2012] exhibited a relatively steady downward trend, reaching about 59% at the end of the sample" (Karabarbounis and Neiman 2014, 69). The share of the world's 2,000 largest corporations revenues' in the world GDP increased from 50.8% in 2004 to 51.4% in 2014 (Fuchs 2016c).

Moris Triventi (2013) analysed data on educational achievement from 11 European countries. "Individuals with more educated parents have the highest likelihood of graduating from the best institutions, and differences with individuals with less educated parents are significant in all the countries except Germany. […] parental education is strongly associated with the probability of attaining different types of qualifications in tertiary education. In particular, students from culturally advantaged families have a higher probability of graduating from the best educational paths in terms of quality and future occupational outcomes" (Triventi 2013, 495, 499).

Barro and Lee (2013) provide data for 146 states that shows that the share of the combined population in these countries, who have completed tertiary education, has increased from 1.1% in 1950 to 7.8% in 2010. There are, however, significant inequalities between developed and developing countries: Whereas the share was 17.9% in developed countries (N=24), it was only 5.7% in developing countries (N=2010), which indicates that wealth differences play a role in possibilities for educational attainment.

Bukodi and Goldthorpe (2013) analysed how parents' occupational groups, occupational status, and education influence the educational attainment of children born in 1946, 1958 and 1970. Children of "parents in Classes 6 and 7 [semi-routine and routine workers], which can be equated with the working class, tend to do worst" (Budoki and Goldthorpe 2013, 1030). "We find that level of family income does itself have an independent – positive – effect on children's educational attainment" (1030). "[L]ittle change is evident in the tendency for children from relatively disadvantaged class backgrounds to be less ready than children from more advantaged backgrounds to take a given standard of secondary school performance as a basis for seeking tertiary level qualifications" (1036).

It is a consistent pattern that children from households, where the parents have low income, low skills and low educational attainments are more unlikely to attain a university degree than those who come from more privileged backgrounds.

The ND-GAIN Vulnerability Index measures countries' vulnerability to climate change by considering six aspects, namely how climate change affects ecological resources that support livelihood, food provision, public health, human habitat, costal and energy infrastructure, and fresh water supplies. Figure 1 shows the climate

change vulnerability of the world's countries in 2014. 38 of the 50 most vulnerable countries are located in Africa. Most highly vulnerable countries are poor and have low human development. Two of the countries most at risk of climate change, Sudan and Eritrea, were in 2015 ranked on position 167 and 186 out of 188 countries in the inequality-adjusted Human Development Index (UNHDR 2015)[1]. Whereas Africa in contrast to the two largest carbon dioxide-emitting countries China (25%) and the USA (16%), as a whole produces only around 4% of global carbon dioxide emissions, it is the part of the world that is most at risk of climate change's negative impacts.

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[1] Somalia, the country most at risk of climate change's impacts, was not included in the UN Human Development Report 2015.
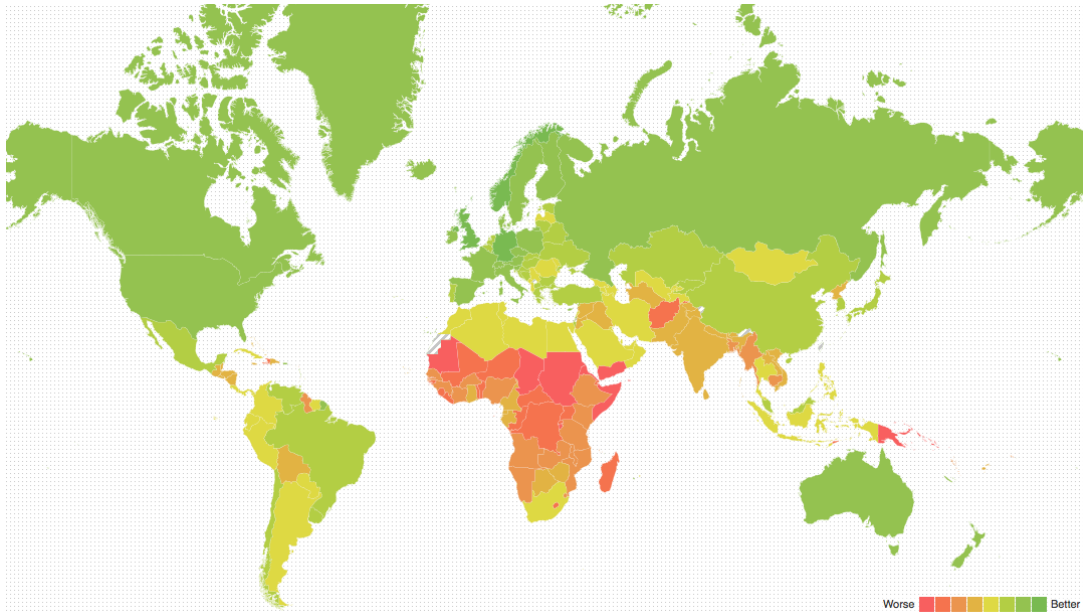
Figure 1: Vulnerability to climate change in 2014 (data source: http://index.gain.org)

In 2015, 10 of the world's largest 100 companies were oil and gas producers (data sources: Forbes 2000, 2015 list): Exxon Mobil (#7), PetroChina (#8), Royal Dutch Shell (#13), Chevron (#16), Sinopec (#24), Gazprom (#27), Total (#35), BP (#41), Rosneft (#59), ConocoPhillips (#89). In addition, there were 9 companies producing cars, trucks and airplanes in the top 100: Toyota (#11), VW (#14), Daimler (#26), BMW (#45), Honda (#63), General Motors (#64), Ford (#69), Boeing (#72), Nissan (#96). These data indicate that the mobility industry that generates vast amounts of carbon dioxide is one of the world's most profitable industries. The global environmental crisis has been created and sustained by profitable businesses.

Waste is another environmental problem that disproportionally affects the poor. "Waste, including highly toxic industrial waste, is frequently exported to poor countries for disposal or supposed recycling. Beginning in the 1970s, African countries – such as Nigeria, Ghana, and Ivory Coast – have been prime recipients of the industrial and sewage wastes of developed countries" (Magdoff and Foster 2011, 86). In 2014, 41.8 million tonnes of e-waste were produced in the world (UNU 2014, 22). In 2015, it was 43.8 million tonnes (24). Whereas in Africa the e-waste generated per person was just 1.7 kg, it was 12.2 kg in the Americas and 15.6 kg in Europe (25). Africa is hardly a source, but the world's largest dumping ground for e-waste (UNU 2014, 38).

The discussed examples of the inequality of wages and profits, educational achievements, climate change and waste show that class is an important factor in all forms of unsustainable development. Sociologists like Ulrich Beck are mistaken in dismissing and ignoring class and capitalism in the analysis of contemporary society. The implication for theorising un/sustainable development is that they need to take issues of class and capitalism serious. A critical concept of un/sustainability is needed.

The rich form an elite that owns large shares of the world's wealth that the mass of the world population creates, but that everyday people do not own. The unequal distribution of the world's income between capital and labour has in the past forty years significantly increased globally. Wealth inequality has increased. Children from

elite and upper class families that control large amounts of economic, cultural and social capital are more likely to obtain a university degree and attend elite universities. There are much fewer university graduates in poor than in rich countries. Children with parents belonging to the elite are very likely to themselves be part of the elite, whereas working class children are unlikely to attain such a status in society. The world's poor are most hit by the negative impacts of global environmental problems such as pollution and climate change, whereas transnational corporations are turning environmental devastation into profit by fostering carbon dioxide emissions and polluting nature as a negative externality. These are just some examples that indicate that class inequalities form a crucial factor in the advancement of unsustainability.

It is paradoxical that at the time of the rise of neoliberal capitalism that has brought about a massive increase of inequalities, claims that we are witnessing the end of class structures and capitalism intensified.

In the *Grundrisse*, Marx (1857/1858) conceptualises class as a relationship between those who own and control resources and those who do not. The poor are for Marx the dominated class because they produce society's wealth, but do not own and control it:

> "Labour posited as not-capital as such is […] not-raw-material, not-instrument of labour, not-raw-product: labour separated from all means and objects of labour, from its entire objectivity. […] Labour as absolute poverty: poverty not as shortage, but as total exclusion of objective wealth. […] Labour [is] the living source of value. [Namely, it is] general wealth (in contrast to capital in which it exists objectively, as reality) as the general possibility of the same, which proves itself as such in action. Thus, it is not at all contradictory, or, rather, the in-every-way mutually contradictory statements that labour is absolute poverty as object, on one side, and is, on the other side, the general possibility of wealth as subject and as activity, are reciprocally determined and follow from the essence of labour, such as it is pre-supposed by capital as its contradiction and as its contradictory being, and such as it, in turn, presupposes capital" (Marx 1857/1858, 295-296).

The mass of everyday people produces the goods that sustain the existence of humans and society and the social relations that enable, govern and reproduce everyday life in society. But it is just an elite that controls and accumulates vast amounts of money (economic capital), decision-power (political capital), influence and reputation (cultural capital). Modern society's logic of accumulation creates a class structure, in which the mass of the producers of (economic, political, cultural) capital are kept poor by not being able to control the structures they create and that enable society's reproduction. Inequalities are built into the logic of accumulation on which modern society is built.

The sustainability concept has developed from an initial environmental focus towards multidimensionality. Has this multidimensionality also resulted in a focus class and capitalism?

4. The Emergence of a Multidimensional Concept of Sustainability

In 1992, the UN Conference on Environment and Development ("Earth Summit") took place in Rio de Janeiro, Brazil. It passed the Rio Declaration on Environment and Development (UNCED 1992, principle 1). Although the Rio Declaration covers a wide range of issues such as the environment, poverty, demography, the economy, gender, youth, indigenous people, or peace, its primary focus is still the natural environment, which becomes evident by the fact that it contains the keywords "environment" and "environmental" 40 times and the keywords "society" and "societies" just twice. Whereas the Earth Summit focused on the environmental issues of sustainability, the 2002 World Summit on Sustainable Development (WSSD) conference more effectively integrated economic and equity issues into the discussion.

In the discourse on sustainability, there has been a shift from a focus on ecological issues towards the inclusion of broader societal issues. "Sustainability discourse shifted from an emphasis on pollution and availability of natural resources to […] more complex and integrated frameworks" (Quental, Lourenço and Nunes da Silva 2011, 27). The "triangle of sustainability" introduced by the World Bank has been important in shifting the sustainability discussion from purely ecological aspects towards more integrative concepts (Serageldin 1995). By 2002, it had become common to identify an ecological, an economic, a social, and an institutional dimension of sustainability (Heinrich Böll Foundation 2002, 22; WSSD 2002, principle 5).

Also the 2012 Rio+20 Conference's outcome document *The Future We Want* foregrounds the importance of the three pillars of sustainability that the Johannesburg Conference stressed (UNCSD 2012, principle 1). It accentuates the importance of institutions that foster these three pillars of sustainable development (UNCSD 2012, 75). As a follow-up to Rio+20, the *2030 Agenda for Sustainable Development* (United Nations 2015) contains 17 goals. They are visualised in figure 2.

Figure 2: The UN 2030 Agenda for Sustainable Developments' 17 Goals (source: https://sustainabledevelopment.un.org)

There is certainly a multidimensional understanding of sustainability as social, environmental and economic underlying these objectives. But there are two problems that are characteristic for all the mentioned policy documents:
1) Communication and culture are not mentioned as realms of sustainability (except for education),
2) Class and capitalism are not mentioned a single time as problems negatively impacting sustainability. This is particularly striking in the 2012 and 2015 documents because they were written in the course of the global capitalist crisis that started in 2008.

Whereas these declarations are silent on class and capitalism, they express the need of economic sustainability, a term that has no straightforward meaning. It would be a meaningful general term if conceived as the satisfaction of basic human needs for all humans on the planet in ways that guarantee equality and the protection of the environment. But the understanding of economic sustainability tends to be much more fetishistic and focused on GDP growth, which mainly means the growth of private businesses' profits. The Rio+20 outcome document speaks of the need for "sustained economic growth" (UNCSD 2012, 2) and "sustained, inclusive and equitable economic growth" (UNCSD 2012, 19). Similar formulations can be found in the *2030 Agenda for Sustainable Development*: "We envisage a world in which every country enjoys sustained, inclusive and sustainable economic growth and decent work for all. […] Sustained, inclusive and sustainable economic growth is essential for prosperity. This will only be possible if wealth is shared and income inequality is addressed. […] Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries" (United Nations 2015, 4, 8, 19).

The GDP is a peculiar variable that lumps together labour costs, the costs for new means of production, and profits, i.e. labour and capital. GDP growth is no guarantee at all for socio-economic equality because profits can grow faster than labour income, which, as we saw earlier, has been an important tendency in neoliberal capitalism since the 1970s. "[M]ost people have not benefited from the growth of GDP as quality of life has become separated from economic growth" (Giddings, Hopwood and O'Brien 2002, 190). Should "progress be purely a growth-only (economic) phenomenon and be measured mainly in GDP terms; should we not rather be treating economy as a means and target to achieve what we term 'good society' as our end goal?" (Khan 2015, 69). Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi (2010) argue that the GDP is of limited use for measuring social progress and that it is "an inadequate metric to gauge well-being over time" (Stiglitz, Sen and Fitoussi 2010, 8). Measuring well-being by the GDP could for example "send the aberrant message that a natural catastrophe is a blessing for the economy, because of the additional economic activity generated by repairs" (Stiglitz, Sen and Fitoussi 2010, 265). "If inequality increases enough relative to the increase in average […] GDP, most people can be worse off even though average income is increasing" (8). They call for a shift of emphasis "*from measuring economic production to measuring people's well-being*" (12) in policymaking and research in the context of sustainability.

We saw that the mobility industry that is based on non-renewable energy resources and produces large amounts of carbon dioxide is among capitalism's most profitable industries. Approaches calling for GDP growth without questioning capitalist interest therefore leave an important factor contributing to environmental and social unsustainability untouched. They also act as a legitimating ideology that supports neoliberalism. Such ideologies are dualistic in character: They want to develop

capitalist profits and formulate at the same time a list of desirable social and environmental moral values without considering that capitalism and capitalist expansion may negatively impact society.

The sustainability concept's ideological character has to do with the fact that just like the concept of the network society it sounds immensely positive and allows diverse groups that have opposing interests to project their political goals into it. "Who in his or her right mind would be against 'sustainability'?" (O'Connor 1994, 152). Does this mean we have to drop the sustainability concept in a critical theory of society because of its ideological character? Or is it possible to ground a critical theory concept of sustainability?

5. What is Critical Theory?

Critical theory is a term that theorists based at the Frankfurt Institute for Social Research introduced in the 1920s and 1930s. They became also known as the Frankfurt School. Their most important representatives include Theodor W. Adorno, Max Horkheimer, Herbert Marcuse, Jürgen Habermas, and Axel Honneth. Whereas some observers argue that critical theory are the works of these authors, another interpretation that the present author follows is that many of their works foregrounded principles of social theory that are more general characteristics of approaches that critically scrutinise society (Fuchs 2016a, 2016b). In a general understanding, critical theory has been influenced by the works of Karl Marx (Fuchs 2016c) and tries to understand the role of power, domination and exploitation in society by investigating contradictions, structures, practices, ideologies, relations, and political praxis.

One can now ask: Is not all science critical of other approaches, theories, methods, and paradigms? Does the term critical theory therefore make sense? This question was at the heart of the *Positivist Dispute in German Sociology* (Adorno et al. 1976). Karl Popper argued that criticism means the testing of scientific assumptions by empirical research, falsification, and deduction. He understood critique as epistemological and methodological criticism. Theodor W. Adorno in contrast argued for a critique of society, societal problems, domination, and power. He spoke of the need for a critical theory of society.

Based on Popper, any study of sustainability is critical in so far as it is based on and goes beyond other studies. Such a general understanding of critique makes it impossible to give special attention to the role of power asymmetries having to do with class inequalities, gender inequalities, racism, nationalism, etc in the analysis of sustainability. Adorno's notion of a critical theory of society is therefore more suited and implies the need for a critical theory of sustainability.

An important aspect of critical theory is the critique of instrumental reason. This notion is grounded in Karl Marx's (1867) concept of fetishism and Georg Lukács' (1971) concept of reification (Fuchs 2016b). Instrumental reason is a logic that treats humans and society like things so that specific groups benefit at the expense of others. Instrumental logic instrumentalises humans, society, and nature in processes of domination. In the form of ideology, instrumental reason tries to instrumentalise human consciousness, i.e. it tries to justify and rationalise structures of domination and exploitation. We can on the one hand say that unsustainability is always based on instrumental reason. On the other hand, we saw in the previous sections that sustainability concepts often disregard aspects of class and capitalism. Critical theory could therefore also argue that sustainability is an ideology that justifies capitalism and class societies. The question that arises as a consequence of this analysis is

whether the sustainability concept should then be dropped in a critical theory of society or whether it can be reconstructed in the form of the notion of critical sustainability.

It is in this context interesting that Karl Marx in his works provided an understanding of society's development that in a striking manner parallels the Brundtland Commission's definition of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, 43):

> "From the standpoint of a higher economic form of society, private ownership of the globe by single individuals will appear quite as absurd as private ownership of one man by another. Even a whole society, a nation, or even all simultaneously existing societies taken together, are not the owners of the globe. They are only its possessors, its usufructuaries, and, like *boni patres familias,* they must hand it down to succeeding generations in an improved condition" (Marx 1894, 784).

We can therefore say that Marx was an early theorist of sustainability. Marx just like the Brundtland Commission understands sustainability as the organisation of society in a manner that allows future generations to satisfy their needs and that improves society. For Marx, the "improved condition" of society implied the quest for participatory democracy and democratic socialism. Given that Marx, who is one of the most important critical theories, was an early theorist of sustainability, the quest for a critical theory of un/sustainability is certainly feasible.

Critical theory is also interested in how economic and non-economic forms of domination are related. It investigates the relationship of capitalism and domination, class and exclusion, the economic and the non-economic. Just like it opposes ignoring class and capitalism, critical theory also opposes reducing all societal problems to the economy. It sees capitalism and class as conditioning, but not determining society's problems. Capitalism exerts pressure on and interacts with all realms of contemporary society. Societal problems therefore simultaneously have aspects of class and go beyond class in specific ways. The implication of this insight for a critical theory of sustainability is that societies' unsustainability is grounded in global capitalism's destructive, dominative, exploitative and exclusionary character that interacts with specific forms of domination such as patriarchy, racism, nationalism, bureaucracy, destructive industrialism, etc. What all these is that they are forms of instrumental reason.

Critical theory analyses society based on dialectical reason (Fuchs 2011, 2016b). Dialectical reason is opposed to instrumental reason that it sees as reducing the complexity of the world and society to one dimension only. A dialectic is a contradictory relationship between two entities (Fuchs 2014). They simultaneously are identical and different. They require and exclude each other. Dialectical logic challenges classical binary and reductionist thought. It questions the reduction of the world to just one dimension. It is, however, not just relational and multidimensional, but also sees the world as being in flux and development. Development potentialities emerge out of poles that contradict each other. At a certain level of organisation, everything constantly develops. There are, however, also more continuous processes that only change at specific critical points. Dialectical development includes situations of crisis and change and the emergence of novelty at such critical points. In society, there are two basic forms of the dialectic: One has to do with the very basic

conditions and the basic development of society. So for example there is a social dialectic between human beings: In order to exist, humans have to communicate with each other. They are different individuals, but can only inform themselves by mutual symbolic interaction. The second form of societal dialectic has to do with power relations. In a power dialectic, we find conflicting interests and conflicting structures.

A critical, dialectical theory of society is well suited as a framework for theorising un/sustainability. Critical theory has, however, thus far not played a major role in the discourse on sustainability. But some work has been done on it.

First, some authors have acknowledged the importance of Marx's works. Harlow, Golub and Braden (2011, 278) argue that the critical tradition that goes back to Marx allows to "address the structures in which conventional sustainable development discourse takes place, and question the opening of countless local communities to global markets and the modern vision of a one-world system based on the expansion of western culture and capitalism". Hopwood, Mellor and O'Brien (2005, 46) argue that in the sustainability discourse, Marx and Engels' works have had influence on ecosocialist thinking, which is a specific form of a transformatory approach on sustainable development. O'Connor (1998), Foster (2002), and Fuchs (2006) are among those authors who have based on Marx explored the relationship of capitalism and nature.

Second, there have been authors, who in the tradition of Frankfurt School ideology critique have argued that sustainability is an ideology. Luke (2005, 235) says based on Herbert Marcuse that "sustainability is the dominant ideological guise of the capitalist mode of production". Redclift and Woodgate (2013, 99) argue in a similar vain that sustainable development "has turned into a thinly disguised mantra for economic growth, and this growth has proved, in turn, something of a chimera".

Third, there have been approaches on sustainability that have used Habermas's theory. Redclift (2005) argues that Habermas's theory allows us to understand how capitalism colonises nature and society so that "much wealth is created in ways that undermine sustainability" (215). Habermas would also allow understanding how sustainability discourses "hid, or marginalized, the inequalities and cultural distinctions that had driven the 'environmental' agenda internationally" (224). O'Mahony and Skillington (1996) argue that combining the sustainability discourse with Habermas's concept of discursive and deliberative democracy allows exploring foundations of an alternative model of democracy.

What is missing is a systematic framework that allows grounding theoretical foundations of a critical theory of un/sustainability.

6. Towards a Critical, Dialectical Understanding of Sustainability

The three dimensions of sustainability seem to have been relatively arbitrary chosen. They are not underpinned by a theory of society. "While the use of the term 'sustainability' has become almost inflationary in both science and society, the work on theories of sustainable development has received much less attention" (Enders and Remig 2015, 1). Giddings, Hopwood and O'Brien (2002) argue that the three dimension model sees the economy, society and nature as autonomous and encourages "a technical fix approach to sustainable development issues" (189), focuses on parts instead of the whole (190), and provide an ideology that allows to reduce society and the environment to capitalist resources (191). They instead of the three-ring model suggest a nested model of sustainability.

In figure 3, models 1 (M1) and 2 (M2) visualise the two models of sustainability that Giddings, Hopwood and O'Brien discern. I argue for a third model (M3) that is a further development of M2. It besides the economy also foregrounds the political and the cultural system as parts of society and is based on a dialectic of nature/society and a dialectic of the economy/the non-economic (the political and the cultural). In model M3, society is made up of the economy, politics and culture and these 3 interacting realms of society are grounded in nature, with which society interacts.
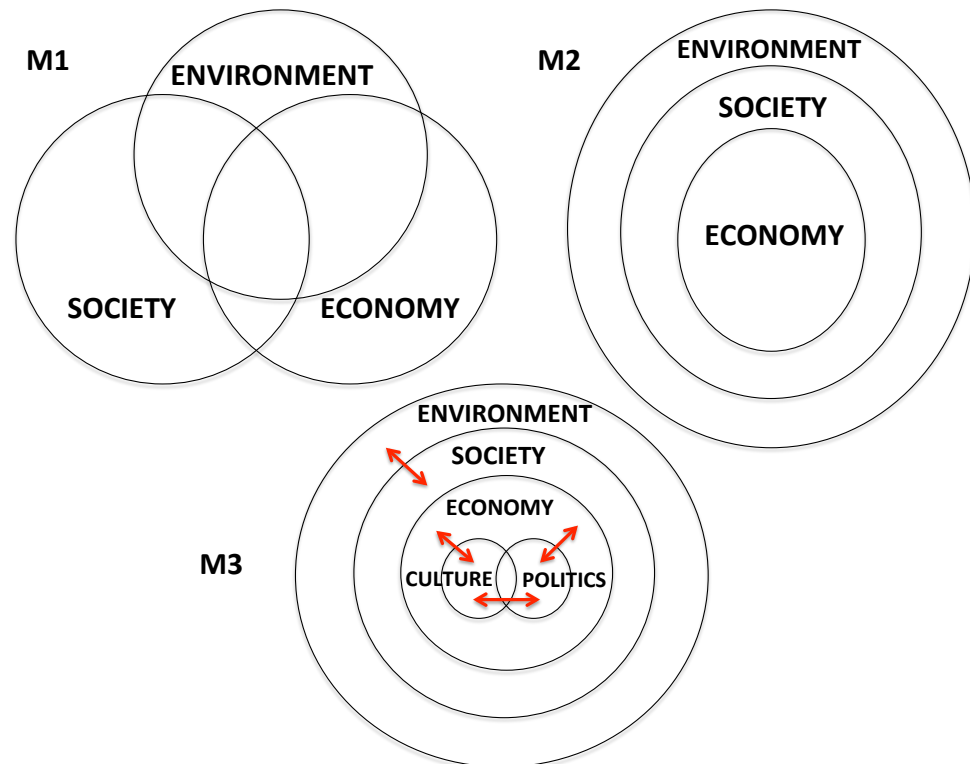

Figure 3: 3 models of sustainability

A distinction of three subsystems of society (economy, polity, culture) can be found in several widely adopted social theories: Giddens (1984, 28–34) distinguishes between economic institutions, political institutions and symbolic orders/modes of discourse as the three types of institutions in society. Bourdieu (1986) speaks of economic, political and cultural capital as the three types of structures in society. Jürgen Habermas (1987) differentiates between the lifeworld, the economic system and the political system. Daniel Bell (1974) discerns between society's social structure (economy, technology, occupational system), polity and culture.

These social theories have different theory backgrounds and implications for society. They do however broadly share a distinction between economy, politics and culture as the three main domains of society (Fuchs 2008, 2011): The economy is the realm of society, where humans enter a metabolism with nature so that work organises nature and culture in such a way that use-values that satisfy human needs emerge. Given that it is the economy, where the man-nature relationship is established and that the ecological system is closely linked to the economy, one could treat the ecological system as part of the economy. But the circumstance that society is part of nature, but at the same time a sublation of nature, allows giving specific analytical attention to the ecological system as part of society. Nature is larger than society and

there are vast parts of it that are unknown to humans. But the part of nature that stands in a metabolism with humans is part of society. Nature is at the same time part and no-part of society. The political system is the realm of society, where humans deliberate on or struggle about the distribution of decision power in society. Culture is the realm of the recreation of the human body and mind in such ways that meanings, identities and values emerge and are renegotiated in everyday life. It includes aspects of society such as the mass media, science, education, the arts, ethics, health care and medicine, sports, entertainment, and personal relations.

   Society is an interconnection of social systems. In a social system, humans enter into social relations, in which they make meaning of each other and in their practices produce and reproduce specific social structures that enable and constrain individual thought, individual action, and further social practices that again produce and reproduce social structures, and so on ad infinitum. A social system is a dialectic of social practices and social structures (Fuchs 2003a, 2003b). Marx (1988, 104) described society's dialectic when writing that "just as society itself produces man as man, so is society produced by him". Communication plays a very basic role in social systems: It is the means, by which humans relate to each other symbolically (either in linguistic and non-linguistic ways) and establish and produce social relations. A social system exists as long as the structure-agency dialectic is organised regularly via communication in time and space. Without communication and the social dialectic there can be no social system. A social system therefore ceases to exist when its dynamic comes to an end. Figure 4 illustrates society's social dialectic.
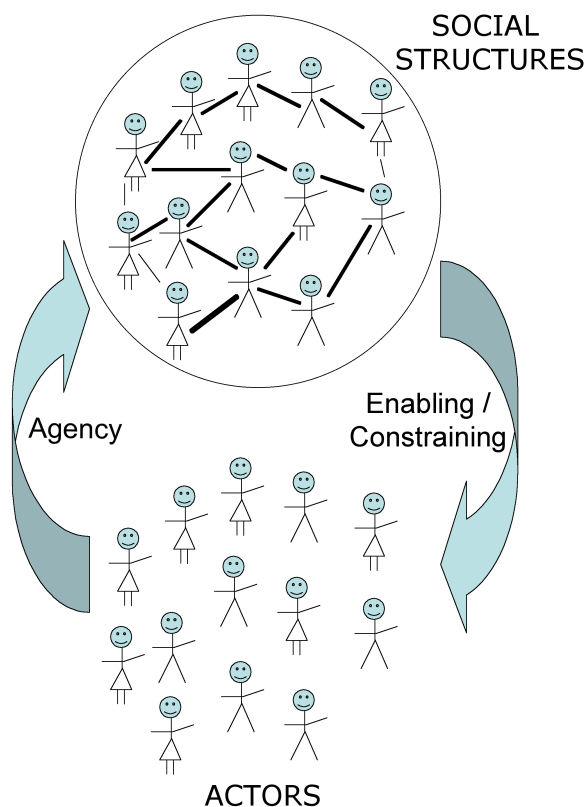

Figure 4: The dialectic of structure and agency in society (source: Fuchs 2008, 52)

All social systems have an economic, a political and a cultural dimension: Humans in all social systems use resources, take decisions, and produce meanings. Depending on

the social system and the social role that humans have in it, one of these dimensions can be primary, which allows us to distinguish between economic, political and cultural social systems. So for example in modern society, companies and markets belong to the economic systems; states, parliaments, political parties and protest movements to the political system; universities, religions, libraries, museums, the mass media, hospitals, leisure clubs and families to the cultural system. The economic, the political and the cultural system are society's subsystems. Each of these three systems consists of the networks of interaction between all humans and between all social systems that orient their communication and their social dialectic primarily on the (re)production of specific social structures. Table 1 and figure 5 provide an overview of this distinction.

Society's subsystems are distinct, but not autonomous. They interact with each other. Politics and culture have in modern society their own economies: There are particular workers, who as their profession and in order to economically survive engage in the production of political and cultural structures. They are, however, not the only actors. There is also a multitude of voluntary activities. The political and cultural system are grounded in work that produces specific political and cultural use-values, but they at the same time go beyond these systems because political decisions and cultural meanings take effect all over society. A basic premise of a cultural materialist approach in social theory is therefore that the economic and the non-economic are identical and non-identical at the same time (Fuchs 2016c, chapters 2 and 3).
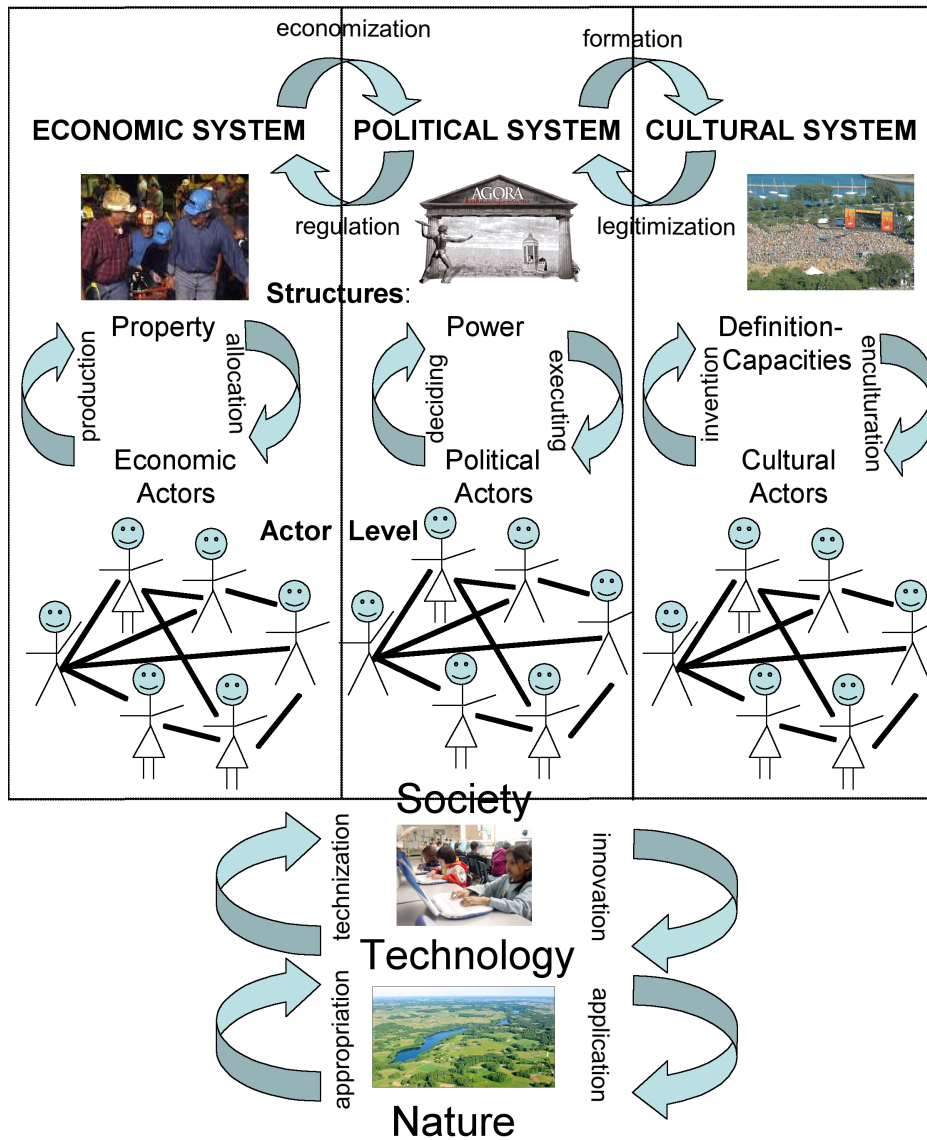
Figure 5: Society as a dialectic of dynamically reproducing subsystems (source: Fuchs 2008, 52)

Dimension	Social structures	Definition	Social structures in modern society
Nature	Natural structures: Natural resources	Physical matter that is extracted in labour processes from nature and that is changed by human activities.	Natural resources as the physical body of commodities
Society: Economy	Economic structures: Property	Use-values are created by human work, distributed and consumed in order to satisfy humans needs	Commodities and capital that objectify specific average amounts of human labour and take on the exchange-value form when being traded as commodities on markets
Society: Political system	Political structures: Decision-power	Collective decisions that define basic rules of behaviour in society	Laws and policies that regulate social conflicts in specific ways
Society: Cultural system	Cultural structures: Definitions, meanings	Collective definitions of reality that give meaning to social systems and provide identities to human actors.	Knowledge, worldviews and ideologies that provide meaning to modern society's antagonisms and provide status and reputation to humans.

Table 1: Structures in society

Table 1 provides not only an overview of natural and social structures in general, but also shows the forms they take on in modern society. Modern society is a societal formation that is based on the accumulation of economic, political and cultural capital. In modernity, society's basic structures take on the form of capital that is accumulated. Modern society is in a general sense a capitalist society that is based on the logic of accumulation. In modern society, natural resources are the physical body of commodities, economic property is organised as commodities and capital, collective decisions take on the form of laws and policies, collective definitions and meanings are worldviews, knowledge and ideologies that provide status and reputation. The accumulation of various forms of capitalism shows that modern society is based on the logic of instrumental reason.

7. Conclusion

I have in this article argued that critical social theory foundations of the sustainability concept are largely missing because critical sociology tends to see sustainability as

ideology that neglects issues of capitalism and class. The approach that I suggest is not to abandon the notion of sustainability, but to sublate it based on a critical theory of society.

Sustainability is an inherently ethical concept (Ziegler and Ott 2015, 56) that poses the question: What is a good society? Sustainability asks the long-term question about how present and future generations can lead a good life in society. Table 2 provides an overview of the dimensions of sustainability and a check-list of questions that can be asked when determining the sustainable or unsustainable character of social systems.

Dimension	Dimension of sustainability	Question	Dimension of unsustainability	Question
Nature	Environmental sustainability: Biodiversity	To which degree are natural resources protected and preserved so that the survival of nature and society is guaranteed? To which degree is there an equitable distribution of environmental harms and benefits to certain groups and places?	Environmental unsustainability: Environmental pollution, degradation and depletion	To which degree are natural resources depleted and polluted so that the survival of nature and society is threatened? To which degree is there an unequal and inequitable distribution of environmental harms and benefits to certain groups and places?
Society: Economy	Economic sustainability: Wealth for all	To which degree are economic relations organised in a way that allows the production of wealth for all and a fair distribution of wealth?	Economic unsustainability: Poverty, inequality, economic crisis	To which degree are economic relations organised in a manner that does not guarantee satisfaction of the needs of all humans (poverty), that results in unfair distribution of need satisfaction (inequality) or the

				irreproducibility of the economy (economic crisis) ?
Society: Political system	Political sustainability: Participation and peace	To which degree does the political system enable humans to participate in collective decision-making? To which degree does the political system guarantee the peaceful existence and interaction of and within societies and the guarantee of basic rights?	Political unsustainability: Dictatorship and war	To which degree is the political system ruled by an elite that excludes the population from participation in collective decision-making? To which degree does the political system foster violence and the violation of basic rights and warfare?
Society: Cultural system	Cultural sustainability: Recognition	To which degree does culture enable the development of the human mind, the recognition of identities in society, and the reproduction of the human body?	Cultural unsustainability: Disrespect and malrecognition	To which degree does culture limit the development of the human mind, the recognition of identities and the reproduction of the human body?

Table 2: Dimensions of un/sustainability

This typology of un/sustainability is grounded in social theory. It suggests not just three dimensions of sustainability (environmental, economic, social), but distinguishes between environmental, economic, political and cultural un/sustainability. The latter three constitute the societal dimension of un/sustainability of the communication between humans. The first aspect is the natural dimension in the interaction between society and nature. Sustainability has to do with the good life for all and the satisfaction of human needs for all.

Human needs are not fixed over time, but change historically with the

development of society. Human needs today are different than 500 years ago. So for example today the Internet, a global communication system, exists as a still relatively novel form for the organisation of communication. It poses both opportunities and risks for society's organisation of the environment, the economy, politics and culture (Fuchs 2008). Discussions about sustainability cannot ignore that Internet communication has become just like electricity supply, water supply, sewage systems, health care, and education systems a basic utility. Communications as utility form a basic human need today. The information society has developed both the communication and cultural capacities in society. It is therefore disturbing that discussions, policy agendas and declarations have thus far not adequately taken communications and culture into account (see Parodi 2015).

The definition of cultural sustainability in table 2 is based on an understanding of culture as the system of the reproduction of the human mind and body. The human mind can only develop if humans' identities and personalities are recognised in society and by others; if there are institutions that nourish human skills; if their ideas are taken serious, acknowledged and recognised; and if there are no large status and reputational inequalities. That the human body can reproduce itself means that there should be adequate amounts of leisure available to all that allows recreation and that health system protects humans from illnesses and helps them in the case of sickness. Cultural sustainability therefore has to do with the role of education, science, health care, personal and family life, arts and culture, leisure, entertainment, sports, the mass media, morality, and belief systems in society.

One should note that the typology of sustainability in table 2 does not define economic sustainability in terms of GDP growth and monetary profitability of companies. It takes a critical perspective on economic sustainability that considers that it is labour and not capital that produces human wealth. The structures of modern society are class structures in that specific groups tend to accumulate economic, political and cultural capital and to exclude others from wealth, participation and recognition. Unsustainability arises in modern society to the extent that the class interests of elites become the governing principles of social systems and society's subsystems. Whereas we can speak of class relations in economic, political and cultural systems, it is not feasible to speak of a class relation between nature and society. Class is a specific social structure of human interaction.

James O'Connor argues that besides the social contradictions of modern society, there is a "second contradiction of capitalism" (O'Connor 1998, 158-177), "the contradiction between capitalist production relations (and productive forces) and the conditions of capitalist production, or 'capitalist relations and forces of social reproduction'" (O'Connor 1998, 160). Capitalism is based on social antagonisms in society, i.e. economic, political, and cultural antagonisms. What O'Connor terms the second contradiction is a contradiction between society's mode of production and natural forces. Productive forces turn into destructive forces in the metabolism of nature and society to the degree that they deplete and destroy natural resources. There are complex relations between class structures in society and environmental unsustainability. We have for example discussed that the poor tend to be most affected by environmental degradation that poses a threat to their lives.

The task for a critical theory of sustainability is to turn sustainability into a concept suited for the critique of capitalism, class and power inequalities.

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