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Towards the Utopian Identity of *Civitas* and *Multitudo*

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1. Introduction

In recent years the rise of the network society *(Fuchs 2008, 2007)* and of the internet in particular has brought up the discussion of new forms and potentials of democratic co-operation. Concepts such as "digital democracy", "teledemocracy", "cyberdemocracy", "eParticipation", "eDemocracy", "cyberprotest", and so forth have emerged that signify hopes that the internet and network organizations can in fact enhance democratic participation. The network society has advanced and reactualized the idea that all citizens could be enabled to decide all matters that they are concerned with in joint processes.

But of course democracy and participation are not really technological issues. New information and communication technologies (ICTs) are merely media that facilitate and/or obstruct democratic participation; practical democracy however is lived and enacted by concrete human beings in the first place.

In this present text we relate the discourse on participatory democracy and eParticipation to the Spinozist category of the multitude, which has recently been revived in

critical social theory by Antonio Negri and Michael Hardt. Research questions are:

- What are the implications of the concept of multitude for democracy and participation in contemporary society?

- What exactly is the multitude in the works of Spinoza, Hardt, and Negri (2.1)?

- How can participatory democracy as an implication of the concept of multitude be philosophically founded on a humanist materialism (2.2) or a transcendental materialism (2.3), respectively?

- What are the implications of the concept of multitude for the class concept (3)?

- More precisely, what is the relationship among class, multitude, and immaterial labour (3.1)?

- How important is dialectics for conceiving the multitude (3.2)?

- How can exploitation and class be conceived in terms of the concept of multitude in informational capitalism (3.3)?

- What are then, the implications for participatory democracy if the multitude enters cyberspace (4)?

- In particular, what is the economic potential of the cooperation of the multitude in cyberspace (4.1)?

- What is the political potential of this (4.2)?

- Finally, what is the cultural potential of this (4.3)?

- What kind of digital divides can be found in the concrete world?

- What are thus the limits of unfolding the multitude's potential?

2. The Concept of the Multitude and its Democratic Implications

2.1 The Multitude Defined

In the recent works of Antonio Negri and Michael Hardt the multitude shows up as a *whole of singularities* that act in common. *(Negri 2002)* It transcends the segmenting boundaries such as culture, race, gender, class, and sexuality, it is colourful and multilayered *(Hardt/Negri 2005: xiv)* and consists thus of what one may call "plural singularities" (Ibid. 99). The multitude is also composed of different exploited and oppressed classes constituted not only in terms of economic categories, but also by ethnicity, geography, gender, etc. These identifications are irreducible, but nonetheless there is also a *unity within the diversity* given by the fact of the overall oppression by capital, thus resulting in class struggles of various kind *(Ibid. 103 sqq.)*: "The frac-

turing of modern identities, however, does not prevent the singularities from acting in common. This is the definition of the multitude we started from above: singularities that act in common. [...] It means, in other words, that the innumerable, specific types of labor, forms of life, and geographical location, which will always necessarily remain, do not prohibit communication and collaboration in a common political project" *(Ibid. 106)*. The *decentered structure of the multitude* enables the decentering of authority *(Ibid. 85)*, the result is a polyphonous dialogue *(Ibid. 211)*: "The global cycle of struggles develops in the form of a distributed network. Each local struggle functions as a node that communicates with all the other nodes without any hub or center of intelligence. Each struggle remains singular and tied to its local conditions but at the same time is immersed in the common web. This form of organization is the most fully realized political example we have of the concept of the multitude. The global extension of the common does not negate the singularity of each of those who participate in the network. [...] In conceptual terms, the multitude replaces the contradictory couple identity-difference with the complementary couple commonality-singularity." *(Hardt/Negri 2005: 217 sq.)*

Hence, the multitude is "an *open and expansive network* in which all differences can be expressed freely and equally, a network that provides the means of encounters so that we can work and live in common." *(Hardt/Negri 2005: xiii-xiv – our emphasis)* The internet appears to be a good model of the multitude because its different nodes exist as connected

differences while the boundaries of the network are open in the sense that new nodes and relations can be added at any time. *(Ibid. xv)* "Not only do the [social] movements employ technologies such as the Internet as organizing tools, they also begin to adopt these technologies as models for their own organizational structures." *(Ibid. 82)* Such a social network has no centre, instead it is polycentric and distributed, and it undermines stable boundaries *(Ibid. 55)*. It is hence relatively uncontrollable, its actions are unpredictable, and it can be loosely compared with a swarm of ants or bees. *(Ibid. 57)*

This results in a property of non-representation such that the multitude is a subject that talks for itself and cannot be represented by itself. *(Negri 2002)* Moreover, the multitude is active and productive, it is thus a subject of production and an object of exploitation. It is in permanent movement and therefore changes itself in a dynamical manner. And parts of the multitude interfuse and produce hybrid forms. *(Loc. cit.)*

Nevertheless, the multitude is also a class concept, its co-operative labour is actually being exploited: "If we pose the multitude as a class concept, the notion of exploitation will be defined as exploitation of cooperation: cooperation not of individuals but of singularities, exploitation of the whole of singularities, of the networks that compose the whole and of the whole that comprises of the networks etc." *(Negri 2002)* In this sense, the multitude can be visualized as the contemporary proletariat which is constituted by all

those who produce under the rule of capital and hence potentially refuse the domination by capital. *(Hardt/Negri 2005: 106 sq.)* This does not only include wage labour, because labour today is co-operative and networked.

It is in fact *the commons*, which are precondition and result of the multitude at the same time. *(Negri 2002)* The multitude "relies on the common knowledge passed down from others and in turn creates new common knowledge." *(Hardt/Negri: xv)* Therefore, exploitation means today exploitation and private appropriation of the common production of society: "The common [...] has become the locus of surplus value. Exploitation is the private appropriation of part or all of the value that has been produced as common." *(Negri 2002)* The multitude would produce the commons based on the commons in a self-referential process. Hence one can say that the commons produce themselves by co-operative labour. "Singularities interact and communicate socially on the basis of the common, and their social communication in turn produces the common. The multitude is the subjectivity that emerges from this dynamic of singularity and commonality. [...] This is perhaps most easily understood in terms of the example of communication as production: we can communicate only on the basis of language, symbols, ideas, and relationships we share in common, and in turn the result of our communication are new common languages, symbols, ideas, and relationships." *(Hardt/Negri 2005: 197 sq.)* So the value of the labour of that multitude would not be meas-

urable, because it turns out to be social and co-operative. *(Negri 2002)*

On the other hand, the multitude possesses actually a constituent power. *(Negri 2002)* It shows up as "an active agent of self-organisation", subject and product of collective praxis. *(Loc. cit.)* The multitude can thus reorganize the forces of globalization "and redicrect them toward new ends. The creative forces of the multitude that sustain the empire are also capable of autonomously constructing a counter-empire, an alternative political organization of global flows and exchanges." (Hardt/Negri 2000: xv) The multitude struggles for a global democracy from below, *bottom up* (Hardt/Negri 2005: 237), an open-source society (Ibid. 340), a direct democratic government by all for all. (Ibid. 100) "This striving for democracy permeates the entire cycle of protests and demonstrations around the issues of globalization, from the dramatic events at the WTO in Seattle in 1999 to the meetings of the World Social Forum in Porto Alegre, Brazil. This desire for democracy is also the core of the various movements and demonstrations against the 2003 war in Iraq and the permanent state of war more generally. The need for democracy coincides immediately, in the present conditions, with the need for peace." *(Ibid. 67)* Immaterial and intellectual labour are thus characteristic for this multitude and an expression of the general intellect of living labour *(Negri 2002)*: "What the multitude produces is not just goods or services; the multitude also and most importantly produces cooperation, communication, forms of life,

and social relationships." *(Hardt/Negri 2002: 339)* However, at the same time the multitude is monstrous *(Negri 2002)* like a vampire, it threatens the existence of the empire and the traditional hierarchical structures of left-wing parties and unions. *(Hardt/Negri 2005: 190-196)* It is also the *flesh of life*, i.e. a living substance in which body and mind are united and indistinguishable. *(Negri 2002) Such a terminology shall express that the multitude is a potentiality for producing new forms of being and thus contains new potentials of societal existence*. It is not geographically restricted, it manifests itself as a global protest movement. *(Hardt/Negri 2000: xvi)* It is the outcome of a radical temporal discontinuity in history: "We do not live in a 'late modernity' but in 'postmodernity' where an epochal rupture is given." *(Negri 2002)* The multitude is also playfully performative and carnevalesque *(Hardt/Negri 2005: 208-211)*; it is finally limitless and excessive. *(Hardt 2004: 236)*

While going back to the original concept of Spinoza (he being the actual inventor of the concept of *multitude*), we notice a primary basic idea of this approach which is also inherent in the works of Negri and Hardt: Essentially, the leading line of argument points to the two-sided implication of two identities which do not necessarily appear to be mutually compatible in the first place:

virtus = potentia <–> civitas = multitudo

In the terminology of Spinoza, this implicational formula interrelates the concepts of "virtue" and "potential" on

the one hand, “citizenry” and “multitude” on the other. The respective identities of the two pairs of concepts however (always understood in terms of being a postulated ideal and thus an ethical demand rather than a concrete situation) cause various difficulties, because their realization in terms of practical daily life seems counter-intuitive and not quite a straightforward operation of illustrating an idealized principle. The underlying problem is in fact one of mediation: This is so because the implication’s identity of the left-hand side refers to individual persons while the identity of the right-hand side refers to (social) groups of persons. Hence, any practical realization of the inferred principle should operate on two different levels, which are dialectically mediated, and this turns out to be the most difficult problem of any ethical approach. (In fact, as it appears, this may also pose a serious problem for the approach offered by Negri and Hardt, because making the multitude topical is only one half of the task, and perhaps it is thus that the latter’s ideas appear a little abstract from time to time.) It will be one task of this present paper to think about a possible reconciliation of both sides of the above implicational formula.

Spinoza himself anticipated this difficulty and appealed to human reason: In the fourth part of his “Ethics” (Of Human Bondage) he writes that a person who strives for a good, will also demand this good for other people the more he/she participates in the knowledge of God. (*Spinoza 1999, E IV, p37)* And in the second note (scholium) to that proposition he adds that it is necessary to achieve a unification of

the multitude of the many within politics *by means of reason*: "It is necessary therefore that humans in order to be able to live in concord with one another and be helpful to each other give up their natural right and secure not to do anything in future which would impair others." *(Spinoza 1999, E IV, p37s2 – our translation)* As it turns out the problem is deeply buried in the anticipation of the above proposition: To assume that a good is also something which is to be desired for all others is not only an idealistic conjecture, but poses the most central problem of ethics, until today, even after the illuminated approach by French existentialism. *(Zimmermann 2002)* As Spinoza has a theory of state contracts and laws in mind, he might have been too rash to assume some sort of ontological altruism where there is only the wish for individual security.

Spinoza (1994) is more precise as to his point when discussing the state in his Political Tractatus where he defines a perspective in terms of natural law such that common laws imply a restriction of personal rights according to the individual potential available. (Usually translated with "power" which is irritating due to a change in connotation: For Spinoza power is the expression of what an individual is able to do (of his/hers potential); for us today what an individual is able to do does not necessarily refer to his/hers potential.) Spinoza continues that hence, nobody has any right beyond what is granted to him/her by common law. *(Spinoza 1994, PT II, § 16)* In other words: *Common law is nothing but coercion after all, because it is primarily a constraint.*

So in order to demand a good (and to assume that it is also a good for others) entails to accept that the others do not share this assumption. This is exactly what Spinoza means when talking of the multitude: "This right [to dissent from the individual] which is defined by the potential [power] of the crowd [multitudo] is usually called sovereignty of the state, if visualized as power of government. It is completely subjected to the person who is in charge of the state administration *out of a common consent* … Is this the task of an assembly which is constituted out of the whole crowd [multitudo] we call the state 'democracy' …" *(Spinoza 1994, PT II, § 17 – our emphasis)*

Wolfgang Bartuschat discusses this point in more detail in his introduction to the German edition of the Political Tractatus *(cf. Spinoza 1994)*: He refers back to the "Ethics" *(II, p13)* where Spinoza speaks about physical bodies. Bartuschat argues that models of that kind cannot be applied to a theory of the state, because humans would not be primarily bodies but also spiritual beings (because they possess a mind). *(Bartuschat, in Spinoza 1994: xvi-xvii.)* This argument however is not valid anymore, because we would visualize today mind as a special case of the attribute of matter – and in fact, it is likely that Spinoza himself did not find this too alien. *(Zimmermann 2000)* If in particular, we visualize the world (as perceived under the attribute of matter) as a self-organized system constituted by agent systems, as we do in some more recent theories, then the state is either no artefact or the Universe is. *(Zimmermann 2008)*

Implicitly however, Bartuschat agrees with that, even under the perspective of Spinoza: He mentions *(Bartuschat, in Spinoza 1994: xxiv-xxv)* that Spinoza defines the right derived from the sovereignty of the state simply as the right which is constituted by the power (potential) of the crowd (multitudo), as we have seen above. But he also notes that while "multitudo" is the name of the actual unity of all people representing the common power of all the individuals (combined), it is not shown that such a power is possible at all. For him, this is only true for a state whose supreme power is in fact the power of the crowd. Hence, we circle around a problem of the state. In a sense, such a state is something that is still in the future, is actually *hoped for* (with Blochian connotations here and hence with a somewhat utopian quality). Spinoza is optimistic in the sense that he argues in favour of such a state, because as a natural object, it strives for self-preservation, and thus creates laws in order to secure this. So in the end, there is (for Spinoza as visualized within the interpretation of Bartuschat's) a fundamental sort of agency acting!

We have here the right-hand side of the above identity implication: Provided we had such a state, then all the fear would vanish, all the citizens would be integrated in the procedures of creating laws such that they could understand these laws as their own laws, and thus they would not have to fear them anymore. This would be indeed the real achievement of the identity of *multitudo* and *civitas* within the concept of common power. *(Ibid.: xxvii-xxix)*

However, there remains the problem of concrete practibility: Bartuschat continues that an unrestricted form of government would be one which is controlled by the crowd itself such that the power which is issuing the laws does not act against groups which have to fear it as long as they themselves are not integrated into the process of creating law. *(Ibid.: xxxiii; cf. PT VIII, 3)* This is the real problem: Does integration in that sense already entail interiorization of common power for the group in question?

In his first book on Spinoza, Negri starts indeed from this juridical point of view. The important formulation is here: "*Civil Right is the power [potentia] of the multitude*." *(Negri 1991: 195 – our emphasis)* This actually demonstrates that the constitution of collectivity as praxis has to precede the process of constituting civil right. In other words, we have to invoke the left-hand side of the aforementioned identity implication again in order to gain an understanding of the right-hand side which is topical in the discussion about the state: "We must not, therefore, look to the precepts of reason [ex rationis documentis] for the causes and natural foundations of the State, but derive them from the common nature or condition of mankind." *(TP I, 7 as quoted in Negri, loc. cit., 189)* Hence, the *struggle of power [potentia] against Power [potestas]* is in fact defining for the problem in question. *(Ibid. 196)* After all, this struggle mirrors another struggle: that of the right-hand side against the left-hand side of our identity implication. A human state system is very much posed on the "edge of chaos": "The best constitution

is posed … on the limit between civil right and the right to war: Freedom is made from the first right, and peace from the second." *(Ibid. 201)*

The foundation therefore comes from the "common nature" of humans *within nature*. (This is indeed conformal with Spinoza's approach that is also based on the explication of an immanent nature.) As Balibar states: "Thus, every *populus* is the continuous regulation of the relation that the powers [potentiae] of the multitude maintain with nature of which they form a part …" *(Balibar 1997: 184)*

Negri shows that essentially, Spinoza follows his approach already laid down in the Theological-political Tractatus *(Negri 1997: 220 sq., 231)*: Here, the concept of "multitudo" however, although being immanent, has not yet acquired an explicitly political dimension. But also here, the life of absolute government is endowed with a systole and diastole and operates on the edge of chaos. *(Ibid.: 229 sq.)* In theological terms it is here the place where the concept of *pietas* is being asked for as the desire that no subject be excluded from universality. (Nowadays we can notice, as visualized within a more political framework, that this is indeed a concept that can be usefully applied to work in daily life.) As Negri points out this is something different from any condition of mere equality, which is not aim of the given project. *(Negri 1999: 316)* Utilizing ethics as a critical method rather than a list of purported results means that this concept of (Spinozist) ethics is near to that of Sartre and Kristeva. *(Cf. ibid.: 321)* Consequently, in their book on the multitude, Hardt and

Negri *(2005)* point to models which assume creative agents and complex networks, leaving open a space of free play in which the self-reference of social systems may be able to productively unfold.

Which also implies the immanence of virtualities and utopian non-locations: It is not a coincidence that Hardt and Negri use the now fashionable concept of "matrix" in order to characterize the structure of social systems. *(Ibid. 335 sq.)* Indeed, in their book on the empire (2000), the category of the possible has its place within the context of virtuality and what they call the circulation of space. *(Ibid. 365, 404)*[1]

Hence, coming back to our original starting position, we realize that for Hardt and Negri the organizational form of the multitude as an open communicative and co-operative network anticipates the true form of society as a participatory democracy. And it is here where their theory is most strongly influenced by Spinoza: "When Spinoza calls democracy absolute he assumes that democracy is really the basis of every society. […] If such democratic interactions were not the basis of our living in common, then society itself would be impossible. That is why for Spinoza other forms of government are distortions or limitations of human society whereas democracy is its natural fulfillment" (Hardt/

1 In fact, critique applied to this approach can usually be easily refuted: see e.g. Marin Terpstra (1994) or Bartuschat (1992: 237). In particular, with a view to Hegel and Marx and their reception of Spinoza see Christopher Norris (1991: 21-53). Here again, agents are prominent (ibid. 45) and the concept of a "theoretical praxis" (in the sense of Bourdieu) (ibid. 49). See also very illuminating altogether Yirmiyahu Yovel (1994/1989).

Negri 2005: 311). The multitude is for Negri and Hardt thus a Spinozist democratic project. This concept of democracy is *radical* in the sense that it visualizes democracy as only given, if all decisions are made by all, i.e. Hardt and Negri put forward a fundamental participatory vision: "Spinoza defines democracy as the absolute form of government because in democracy all of society, the entire multitude, rules; in fact, democracy is the only form of government in which the absolute can be realized" *(Hardt/Negri 2000: 185)*.

So for Hardt and Negri there is not an exterior of democracy, they conceive the latter as the *interior nature of society*.[2] We think that for the philosophical founding of this

2 A similar result is put forward in the recent volume of collected essays edited by Gunnar Hindrichs: Die Macht der Menge. Ueber die Aktualitaet einer Denkfigur Spinozas. Universitaetsverlag Winter, Heidelberg, 2006. See in particular the contributions of Hindrichs himself (Die Macht der Menge – der Grundgedanke in Spinozas politischer Philosophie, 13-40) and Robin Celikates (Demokratie als Lebensform. Spinozas Kritik des Liberalismus. 43-65). It is Martin Saar, on the other hand, who in his contribution (Politik der Multitude. Zeitgenoessische politisch-philosophische Anschluesse an Spinoza. 181-202) is very near to our own viewpoint when he defines the Empire as "power network" in which structures of power mutually catalyze each other, while he defines the Multitude in the sense of Negri and Hardt as the Empire's global opponent consisting of manifold productive subjectivities encompassing all working (producing) humans. (Ibid. 191) Saar discusses the differences in the approach of Negri's and Hardt's as compared with the original approach of Spinoza's by listing four crucial points: 1. the heterogeneous nature of the Multitude (parallel to Spinoza's view), 2. the explicit and collective productivity of the Multitude (which endows it with a Marxist connotation, different from Spinoza), 3. the ontological relevance of the biopolitical nature of the Multitude (in so far Negri and Hardt enhance the ontological domain as compared to the political function of the concept), 4. the self-organizing autonomy of the Multitude (more a conceptual viewpoint of Negri's rather than Spinoza's).

argument in favour of a participatory co-operative democracy there are essentially two ways open:

A *humanist materialist* approach (2.2) that visualizes immanence and transcendence as being founded on society and thinks of participatory democracy as of society's essence.

A (naturalist) *transcendental materialist* approach (2.3) that visualizes immanence and transcendence as being founded on the Universe as a whole and thinks of participatory democracy as of nature's essence.

Both lines of argument assume a formal identity of immanence and transcendence (cf. chapter 2.4), but in the first approach the system of reference is society, in the second it is nature. The common ground here is to assume that transcendence is not something that is externally given to being, but as immanent essence (and thus existence) of that being.

2.2 Ethics of Participatory Democracy I: Humanist Materialism

Marx and Engels considered morals as ideologies that try to legitimate religious, economic, and political domination and oppression and serve class interests by postulating the authority of an absolute subject. Marx considered religion and morals as opium of the people and right (the defence of morals in the form of laws by the state) as a mechanism for protecting private property. Marxists like Antonio Gramsci, Theodor W. Adorno, Max Horkheimer, and Louis Althusser have further elaborated this aspect of Marxism as critique of ideology. Marx and Engels argue that morals are an expression of coercive societies and that morality will vanish with the disappearance of class antagonisms because there will be no fundamental conflicts of interests that have to be legitimated ideologically. Moral theories would be a consequence of the economic conditions of society and morality class morality. They argue that their approach is not a moralistic, but a scientific one because they identify tendencies of the development of the productive forces that produce the potential for Communism as a higher form of existence. The alternative to preaching morality here seems to be the identification of deterministic laws of history. Steven Lukes (1985) has pointed out that the writings of Marx and Engels on moral questions are paradox because besides the stress on historical laws instead of morals one can find a lot of moral expressions that condemn capitalism as

oppressive, exploitative, alienating, estranging, heteronomous, and present the vision of a better world ("the realm of freedom") that is characterized by well-rounded individuality, pluralistic activities, abundance, the abolition of hard work and wage labour due to technological productivity, the disappearance of the performance principle and exchange, the free production and distribution of goods ("… from each according to his ability, to each according to his needs …"), and free time for idle and higher activity. The concept of freedom that Marx and Engels put forward questions freedom as the freedom *of* private property in means of production and understands it instead as freedom *from* scarcity and domination and as a community of associated individuals that provides wealth, self-ownership, self-realization of human faculties, and self-determination for all. They considered the bourgeois concept of freedom as narrow and as reducing freedom to free trade, free market, free buying, free wage labour, i.e. to the sphere of money that radically constrains the practical alternatives of action. Bourgeois freedom would make the producers free from their product and would hence in fact be a form of unfreedom. In this context the notion of alienation arises and signifies compulsory wage labour, dispossession, and the crippling of human faculties.

Especially Lenin, Trotsky, and Stalin took up Marx's and Engels' concept of morality as class morality and of social development as lawful, pre-determined process. Determinist readings of Marx argue that a better society does not

come about because it is ethically justified, but because it is causally produced. Paradoxically this ended up in a new morality that became an ideology that legitimated an oppressive regime *(Marcuse 1958, Fuchs 2005a: 140-150)*. Stalinism recoded bourgeois values like family, performance, hard work in order to arrive at an alternative morality that argued that under a Socialist rule old values serve higher principles. The result was a moral that resembled the Protestant Ethics of capitalism, but was characterized as Socialist Ethics. Soviet Ethics were based on the idea that privations and dictatorship were needed in order to establish a free society and to develop the productive forces. The idea of communism became an ideology and a transcendental absolute idea that legitimated a coercive system that was not all too different from capitalist principles of domination. The idea that history is a lawful process and that hence socialism follows capitalism became an ideology that allowed Stalin to persecute all critics by arguing that the Soviet system in any form is a Socialist society because it is a social formation following capitalism and that any criticism of the system is counter-revolutionary and means critique of Socialism and to suggest a return to capitalism.

The alternative to a determinist interpretation of Marx and Engels is to acknowledge a certain importance of morality in Marxism and to understand it as a philosophy of praxis that aims at the sublation of domination and exploitation in the practice of human emancipation and self-organization. For Hegel the essence of things means that

they have fundamental characteristics and qualities as such that frequently are different from their appearance. Truth for Hegel is the direct correspondence of essence and existence, only true existence being real and reasonable. In Marxism especially Herbert Marcuse has taken up Hegel's notion of essence and has stressed that essence is connected to possibilities and that a true society is one that realizes the possibilities that are enabled by its structural aspects such as technological forces, economic productivity, political power relations, world-views, etc. *(Marcuse 1937, 1964; Fuchs 2005a: 20-37)*. Essence in society is connected with what humans could be. *(Marcuse 1937)* Ernst Bloch *(1959)* utilizes in this context the ontological category of "not yet" in order to signify concrete potentials that can be realized, but have not yet been realized. "What humans can be in a given situation can be described when taking the following factors into accout: the measure of utilization of natural and social productive forces, the organizational state of work, the development of needs with respect to their realizability (above all the relationship between the reproduction of what is necessary for life and the 'free' needs of consumption and joy, of the 'beautiful' and the 'good'), the opulence of cultural values in all fields of daily life which is available as material to be appropriated." *(Marcuse 1937: 71, translation by the authors)*. For Marcuse, ethics is connected with questions of what can and should be because it can reduce pain, misery, and injustice *(Marcuse 1964: 106)* and use existing resources and capacities in ways that satisfy human needs in the best possible

way and minimize hard labour *(Ibid.: 112)*. A false condition of society or a social system would mean that its actuality and its potentiality differ. Marcuse stresses that in capitalism oppressed humans are alienated because they are dispossessed and that alienation means that humans and society are alienated from their essence. The sublation of the alienation of labour and man by establishing a realm of freedom means then the realization of the human and social essence. One can read the works of Marx as a deconstruction of ideology, the identification of potentials that strengthen the realization of human freedom, and the suggestion that humans should act in ways that realize potentials that increase the co-operative character of society. Here both chance and necessity are important: Existing structures, i.e. social relations and forces of production in economy, polity, and culture, determine certain potentials of societal development (necessity), the human being in its social practices realizes potentials by creating actuality (chance). Freedom here is freedom to create novelty that is conditioned (enabled and constrained) by societal reality. Marx's works can be interpreted as an ethics of liberation and co-operation in so far as they suggest that humans should act in ways that bring society closer to the latter's co-operative essence. Marx's stress on socialization (Vergesellschaftung) shows that he saw co-operation as an essential societal phenomenon and considered the realm of freedom as the realization of the co-operative essence of society. This is what Marx means when he e.g. speaks of "the return of man from religion, family,

state, etc., to his human, i.e., social, existence“[3] *(Marx 1844b: 537)*, the “complete return of man to himself as a social (i.e., human) being“ *(ibid.: 536)*, “the positive transcendence of private property as human self-estrangement, and therefore as the real appropriation of the human essence by and for man“ *(ibid.: 536)*. For Marx co-operation is an objective principle that results in a categorical imperative that in contrast to Kant stresses the need for an integrative democracy: Marx argues that critique ends with the insight that “man is the highest essence for man - hence, with the categoric imperative to overthrow all relations in which man is a debased, enslaved, abandoned, despicable essence“ (Marx 1844a: 385). Critique of domination and ideology is the consequence of this categorical imperative. Such an interpretation of Marx and Engels stresses that morals do not fade if injustice vanishes, but that there is a potential for the emergence of an alternative co-operative ethics/morality, a “really human morality” *(Engels 1877/78: 132)*.

Such a reading of the Marxian works implies the Ethics of Co-operation. Co-operation (as originally defined by Marx in his “Capital” *(Marx 1867, 344 sq, 350 sq)*[4] is a type of social relationship for achieving social integration that is different from competition. Co-operation is a specific type of communication where actors achieve a shared understanding of social phenomena, make concerted use of re-

3 The English translation of this and all subsequent quotations by Marx have been obtained from http://www.marxists.org. The page numbers refer to the German sources.

4 See in more detail in Zimmermann (1991, app. 2, 95-98).

sources so that new systemic qualities emerge, engage in mutual learning, all actors benefit, and feel at home and comfortable in the social system that they jointly construct. We argue that co-operation in this sense is (or at least can be visualized as being) the *highest principle of morality*, it is the foundation of an objective dimension of ethics, a co-operative ethics. All human beings strive for happiness, social security, self-determination, self-realization, inclusion in social systems so that they can participate in decision processes, co-designing their social systems. Competition means that certain individuals and groups benefit at the expense of others, i.e. there is an unequal access to structures of social systems. This is the dominant organizational structure of modern society, modern society hence is an excluding society. Co-operation as it is understood here includes people in social systems, it lets them participate in decisions and establishes a more just distribution of and access to resources. Hence co-operation is a way of achieving and realizing basic human needs, competition is a way of achieving and realizing basic human needs only for certain groups and excluding others. We argue that co-operation forms thus the essence of human society, and that competition alienates humans from their essence. One can imagine a society that functions without competition, a society without competition is still a society. One cannot imagine a society that functions without a certain degree of co-operation and social activity. A society without co-operation isn't a society, it is a state of permanent warfare, egoism and mutual destruction

that sooner or later destroys all human existence. If co-operation is the essence of society then a truly human society is a co-operative society. Full co-operation is just another formulation for a participatory democracy. Co-operation as the highest principle of morality is grounded in society and social activity itself, it can be rationally explained within society and need not refer to a highest transcendental absolute principle such as God that can't be justified within society. Co-operative ethics is a critique of lines of thought and arguments that want to advance exclusion and heteronomy in society, it is inherently critical, it subjects commonly accepted ideas, conventions, traditions, prejudices, and myths to critical questioning. It questions mainstream opinions and voices alternatives to them in order to avoid one-dimensional thinking and strengthen complex, dialectical, multi-dimensional thinking.

A co-operative society is the essence of the multitude, a society in which all decisions are taken by all in joint processes. The co-operation and participation of the multitude is the essence and truth of society. An important achievement of Hardt and Negri is that they show that the logic of domination of the empire advances and intensifies potentials of co-operation that they grasp with the categories of the multitude and immaterial labour. Their failure is that they have a rather strictly subjective and too optimistic concept of contemporary reality that is due to the neglect of dialectical subject-object-relations, a critique of ideology, and ethical foundations that draw on some form of transcendentals.

The latter can be visualized with by the Marcusean logic of essence.

During the past decades, much critique of notions like essence and truth has been given by postmodern and poststructuralist thinkers. Therefore attention should be given to this critique, although, as we will argue, it shouldn't be shared. The main postmodern critique of notions such as essence, ground, foundation, truth, unity, or universals is the argument that such categories can be used for legitimating grand narratives of domination. Especially Soviet Marxism would have used such a strategy. Therefore it would be better to assume that all social structures are pure social constructions, that history is fully relative and open to chance, and that there are no forms of unity and universal commonalities of humans or society. Judith Butler in this context argues against dialectical thinking that dialectical causation introduces a primacy of certain categories that she sees as "imperializing gesture of dialectical appropriation" *(Butler 1990: 19)*. "Dialectical appropriation and suppression of the Other is one tactic among many, deployed centrally but not exclusively in the service of expanding and rationalizing the masculinist domain" *(Butler 1990: 19)*.

The poststructuralist critique of universal essence has most clearly been formulated by Foucault and goes back to his interpretation of Nietzsche. The method of genealogy would be opposed to the search for origins, things would "have no essence or [...] their essence was fabricated in a piecemeal fashion from alien forms" *(Foucault 1977: 142)*. His-

tory wouldn't have the inherent potential for freedom and reason: "Humanity doesn't gradually progress from combat to combat until it arrives at universal reciprocity, where the rule of law finally replaces warfare; humanity installs each of its violences in a system of rules and thus proceeds from domination to domination" (151). Genealogy "refuses the certainty of absolutes" (152), history would be negative, dominative, chance, conflict, lost, and an error. Genealogy would be directed against the notion of history as: 1. Reminiscence or recognition; 2. Continuity or representative of a tradition; 3. Truth and knowledge (160). Things should be defined "without reference to the ground, the foundation of things, but by relating them to the body of rules that enable them to form as objects of a discourse and thus constitute the conditions of their historical appearance" *(Foucault 2002: 53)*.

Similar ideas were formulated by Rorty. "So we have come to distrust the people who tell us that 'you cannot change human nature' – a slogan that was employed against the education of women, interracial marriage, and gay liberation" *(Rorty 1998)*.

It is certainly true that a certain version of the notion of essence has been used as an ideology that legitimates oppression. So e.g. Hitler argued that the inner essence of Jews is parasitism. He wrote in *Mein Kampf* that the Jew in "order to carry on his existence as a parasite on other peoples, he is forced to deny his inner nature" *(Hitler 1925: 335)*[5]. Herbert

5 "Er muß, um sein Dasein als Völkerparasit führen zu können, zur Verleugnung seiner inneren Wesensart greifen".

Marcuse *(1999)* has argued that the Nazi notion of essence is based on particularism and is opposed to the Hegelian and Marxian notion of essence, which assumes the existence of universal qualities of humans and society. For Hegel, Essence isn't a particularistic, but a universalistic concept. He argues: "The Absolute is the Essence" *(Hegel 1830: §112)*. Essence is ground of existence. The ground is the unity of identity and difference [...] It is essence put explicitly as a totality" *(Hegel 1830: §121)*. In Marx's philosophical writings, Hegelian Essence is interpreted as sociality and co-operation. "The individual is the social being" *(Marx 1844b: 538)*. The implication of this assumption is that co-operation is something that all humans share, that capitalism alienates the potentials for capitalism, and that societal conditions should be created that allow all humans to participate and to have equally realized rights and to live in equity. It is this stress on universal equity that led to the Nazis' hostility towards Hegel and Marx. So e.g. in the main work by Alfred Rosenberg *(1930)*, the Nazis' primary ideologist, Hegel is opposed because for him the state was a universal concept. Rosenberg argues that Hegel's and Marx's writings are foreign to the notion of blood ("blutfremd") *(Rosenberg 1930: 525)*, whereas Nietzsche is celebrated as someone who destroyed all values and stood for the breeding of a higher race ("rassische Hochzucht") *(Rosenberg 1930: 525)*. Herbert Marcuse summarizes the Nazi's opposition towards Hegel's universalism: "The state as reason – that is, as a rational whole, governed by universally valid laws, calculable and

lucid in its operation, professing to protect the essential interest of every individual without discrimination – this form of state is precisely what National Socialism cannot tolerate" *(Marcuse 1999: 413)*.

The postmodernist enmity towards universalism and essence makes it impossible to envision a state of society, in which there is universal wealth and well-being for all, and impossible to assess such conditions as normatively desirable. Postmodernism doesn't have a political vision. Butler *(1990)* and Rorty *(1998)* argue that an emerging unity is acceptable if it is not apriori envisioned, but emerges spontaneously. Foucault *(1977)* argues that human history is a sequence of domination, he sees no possibility for the realization of universal reason and happiness. That something emerges spontaneously from below doesn't guarantee that it benefits all. Butler's and Rorty's postmodern anti-essentialism and anti-foundationalism is relativistic, it equalizes all societal conditions, e.g. fascism and participatory democracy, and therefore in our opinion trivializes the bestiality of fascism because it doesn't provide categories that allow normative judgement of such conditions. Foucault's anti-essentialism and anti-foundationalism results in a negative concept of history, although he opposes universalism and essentialism, he essentializes human history as necessary dominative. Foucault's method of genealogy doesn't know the possibility of human and societal betterment, wealth and equity for all.

The alternative for us is to assume, as Herbert Marcuse did, that there are universal human characteristics such as sociality, co-operation, or the desire for wealth, happiness, freedom, reason, that conditions should be created that allow the universal realization of these qualities, that societies that don't guarantee the realization of these human potentials are false societies, and that consciousness that wants to perpetuate such false societal conditions is false consciousness. Such a form of universalism isn't totalitarian, but should be read as a form of humanism that struggles for universal equity. Only the assumption that there is something positive that all humans have in common allows the envisioning of a state where all humans are guaranteed equal fundamental rights as desirable. Such essential conditions are not given and envisioned automatically, they have historical character and under given economic, political, cultural, and technological conditions they can be reached to a certain degree. Humans have the ability to struggle and to act consciously in transformative ways. Therefore each societal epoch is shaped by the question if humans will or will not act to create and realize the epoch's inherent and dynamically developing potentials or not. They shape and potentially enhance the space of possibilities and at the same time act or don't act to realize these created possibilities. Human essentials are substantial, if they are achieved or not and to which extent they can be realized and how they develop is completely historical, i.e. based on human agency. In Marx's works "the negativity of reality becomes

a historical condition which cannot be hypostatized as a metaphysical state of affairs. [...] The given state of affairs is negative and can be rendered positive only by liberating the possibilities immanent in it. [...] Truth, in short, is not a realm apart from historical reality, nor a region of eternally valid ideas. [...] Not the slightest natural necessity or automatic inevitability guarantees the transition from capitalism to socialism. [...] The revolution requires the maturity of many forces, but the greatest among them is the subjective force, namely, the revolutionary class itself. The realization of freedom and reason requires the free rationality of those who achieve it. Marxian theory is, then, incompatible with fatalistic determinism" *(Marcuse 1999: 314 sq, 318 sq)*.

Marcuse anticipated the critique of postmodern relativism when he argued in 1936 for a Marxist notion of essence: "A theory that wants to eradicate from science the concept of essence succumbs to helpless relativism, thus promoting the very powers whose reactionary thought it wants to combat" *(Marcuse 1968: 45)*. It makes practical political sense to argue that there is a truth immanent in society that is not automatically realized and that this truth is given in the need and possibility for a good life for all. What one can take as an important insight from postmodern theory is that oppression takes on different forms and contexts and that oppressed individuals and groups frequently stand in contradictory relations to each other. Bringing both arguments together allows to assume that truth is subdivided into partial truths that are interconnected, oppressed groups

and individuals share common interests because they are all confronted by the same global system of oppression, at the same time they also have differing sub-interests because oppression is contextualized in many forms. What is needed is a differentiated unity, a form of politics that is based on unity in diversity.

2.3 Ethics of Participatory Democracy II: Transcendental Materialism

An alternative view derives from a more formal derivation of the above-mentioned identity implication following more strictly a materialistic interpretation of Spinoza's approach: This is so because Spinoza does not merely cumulate the various strings of philosophy which had been developed earlier in the stoic tradition. He also visualizes philosophy as something that is practically identical with ethics. *It is a theory of the conditions according to which human life is defined*, if it is succeeding with respect to an ethical frame of references. Ethics itself unfolds the conditions according to which the human striving can be realized. In other words: The realization of the human *conatus perseverandi* is the existential aim of the world which is nothing but the appropriate form of that finite mode which is determining human being. (In this sense this aim is also true for systems of abstract agents called nature, in order to use the modern terminology here.) Humans are capable of finding and conserving their own mode of being, if they act according to adequate knowledge. Hence, there is a close connection between freedom and insight. It is necessary therefore, to find the adequate way (inveniri) in an appropriate project, which is to be designed by humans themselves. If proposition 34 in part I of the "Ethics" *(Spinoza 1999: 1p34)* states that the power of God is his own essence (Dei potentia est ipsa

ipsius essentia), then, for humans, one could add that the power of humans is their own *existence* (Humani potentia est ipsa ipsius existentia). And the adequate form of this existence is prescribed in terms of the virtue that leads forward to blissful happiness (beatitudo/eudaimonía). For humans therefore, virtue in this sense and power, are identical. (4d8: "Per virtutem et potentiam idem intelligo.") Hence, *virtue is human essence or nature*, in so far as it is subjected to its capability (potestas) to actually cause something.

We note here that the ethical foundation of Spinoza's philosophy is basically a consequent re-formulation of the stoic idea and rests essentially on the concept of nature. But more than this: Spinoza also tries to define God as *causa immanens* of the world, but in terms of a twofold perspective taken according to whether the relationship between God and world is visualized under the substantial perspective of God himself, or under the modal perspective of humans who represent a finite mode of what worldly exists. Obviously, the former perspective can be taken in speculative terms only, but because God represents himself completely in each of his attributes, it is possible that humans could grasp his existence in principle, provided they have developed the adequate knowledge about this due to their adequate reflexion. In this sense, everything is in God (quicquid est, in Deo est), but the vice versa is also true. Reflexion itself is an outcome of the organization of substance: The constitution of the latter according to which it is productive with respect to the

field of modi, is its organization in terms of attributes.[6] This means that God does not really produce attributes, but he (as substance) is *attributively organized* instead. Hence, God is *causa sui* only in so far as he produces everything what there is, but this is only true with respect to the finite perspective of humans. Nevertheless, a finite mode is in God, because it is a created mode within the totality of nature. But in this mode as its cause, it is only God who acts as immanent cause of permanency, it is not the totality of nature which is acting as this cause.[7] *Hence, the central position of nature,* which is classified by Spinoza in a twofold way according to the classification given earlier by Averroes: He actually differs between *natura naturans* (the actively creating nature producing things) and *natura naturata* (the passively produced nature which is the outcome of processes performed by natura naturans). The former represents the productivity of God, the latter its result. Nature is the form of mediation in which God acts upon the world as seen (and interpreted) under the modal perspective of humans. But in reality, he does not think himself, because it is only humans who do *(Spinoza 1999: 2a2: "Homo cogitat.")*, and therefore, he is not a spirit either.[8] So nature has an important role to play within the frame of references that constitutes the world. But as it is only humans that think (and have thus the task of reflecting about the world), the basic concept of worldly orientation

6 In Bartuschat (1992: 66) a precise discussion of this aspect in given in more detail.

7 Ibid.: 37, 44-49 par.

8 Ibid.: 65.

is *intersubjectivity* in first place, nature only in second. It is reflexion, and it is the political form of communication that determines adequate knowledge. But the latter can only be achieved, if the structure of the world in terms of its nature is uncovered and logically displayed. *Hence, to study nature means to lay the ground for adequate knowledge, and in the end, for adequate action according to ethical principles*.

For Spinoza therefore, substance is what is in-itself and what can only be comprehended by itself and out of itself. This means that it is something the concept of which does not need the concept of anything else in order to be formed. Hence, substance is its own reason (causa sui), and its essence involves its own existence. But humans can only perceive attributes of this substance, but not substance itself. Substance has an infinity of such attributes, but humans can only perceive two such attributes which fall into their mode of being: matter (res extensa) and mind (res cogitans). Although the infinite substance is undividable (has no parts), humans can perceive parts of the attributes, but the difference of these parts is only given in modal, not in real terms *(Spinoza 1999: 1p15s)*.

Substance is therefore the unifying background of being, pointing to future realizations of the worldly as a dynamical project, within a given field of possibilities. Hence, substance is foundation of being. Worldly objects come into existence by an initial emergence of the world, which is thus exteriorization of substance (in the sense that substance unfolds its organizational structure – which is not quite a

process when visualized under the substantial perspective, but rather an equivalent self-representation of substance itself, very much in the sense of Bruno). And the worldly state is therefore a deficient state, because it appears only in terms of restrictions. Substance is foundation of being, but it is itself without foundation. Hence, it is constituted in terms of self-reference, and it propagates aspects of this self-reference into the world. So, substance is basically non-local, beyond space and time, in a sense, it is pre-geometry. At the same time, the world as the product of substance is constituted in a transcendental sense, because there is an immanent tendency of the worldly towards returning to its own origin. (Under the substantial perspective this means that substance has the tendency to re-integrate its own unfolding (representation) into itself, which is nothing but an alternative expression of its own totality.) In principle, the world can be re-interiorized again, and it is this final stage of development, in which worldly existence is sublated again in its original (primordial) unity, – in the threefold Hegelian sense. (And in a way, this can also be achieved by gaining adequate knowledge in order to grasp God's essence within the medium of the attributes that are available to human reflexion.)

Note that motion is ill-defined in terms of substance. It is rather that substance is constituted as potentially self-moving in the sense that it is in a state of permanent self-fluctuation, which represents an intrinsic sort of motion (a motion in-itself) and a potential for real, worldly motion, at

the same time. It is in this way that the intrinsically dynamical constitution of substance points to a concept of freedom, which means "freedom to eventually produce a structured world".

In order to define the human striving for adequate knowledge in a consistent way, it is necessary to show that, in principle, there is an obvious possibility to actually gain such knowledge at all, despite the primary restriction, which is significant property of worldly being as compared with the substantial perspective of God. It is in fact the identity theorem *(Spinoza 1999: 2p7: "Ordo, et connexio idearum idem est, ac ordo, et connexio rerum.")* which secures the basic communicability of the taking in sight of the world in terms of different attributes which represent substance completely for themselves, but which do not communicate directly with each other, because according to their infinite, overlapping union which constitutes the complete representation of substance, they are disjoint. But because order and connexion of ideas are the same as order and connexion of things, there is a strong epistemic parallelism between worldly objects, which fall under the two different attributes. *It is in this sense, that Spinoza's ontology is a theory of the universal intelligibility of being such that being and understanding fall into one. (Bartuschat 1996: 52; Deleuze 1988: 90 sqq).* But because this understanding must be adequate in order to produce any useful insight into the architecture of the relationship between (real) substance and (modal) attributes, it is the explicit method of thinking – Spinoza calls it the "geometrical

method" and thinks of it as a kind of mathematical hermeneutic well in the tradition of "universal languages" as they were developed in the Renaissance – which is necessary condition for attaining the actual framework of reflexion which may serve as a starting point to taking the world in sight. Hence, the method actually applied in the "Ethics" is not just an external form of representation, of something which could also be represented otherwise, but it is instead the only appropriate method available, because its form is identical with the constitutional form of the world, and its performance is identical with the dynamical process which is actually underway within the unfolding of the world.

So for Spinoza, the whole project is basically one of improving human reflexion by means of contemplating the systematic structure of knowledge according to an appropriate method, which is basically organized in mathematical terms. In a letter to Bouwmeester *(10th of June, 1666)*, Spinoza writes: "The true method ... consists of the knowledge of pure intelligence ... In order to awaken it one has to differ in first place, between intelligence and imagination, or between the true ideas and the false." This basic point is taken up later by Leibniz again when he aims at theorems *(of contradiction and of foundation, formulated in "Monadology", numbers 31 and 32)* which may serve as a fundamental convention of how to lay the grounds for a consistent philosophical speculation of universal relevance. On the other hand, this is also a normative aspect prescribed by the methodological rules: Obviously, there is no other choice as far as the

epistemically correct procedure "of thinking" is concerned, because there is no alternative way to actually acquire adequate knowledge of the world, and of its relationship to God. In a sense, this conception is reproducing somehow the stoic perspective: The Stoa thought that once one has improved human reflexion such that correct knowledge is achieved, then adequate behaviour (as ethical objective) would be realized automatically, because the mere impact of adequate knowledge would guide human freedom immediately toward the only rational solution available. Spinoza re-phrases the problem accordingly, but he is more liberal, in so far he admits that failures are possible. For him, the ethical guidelines are nothing but rational informations given to anyone who might be interested. If someone is not acting adequately however, this is for Spinoza not a reason for moral condemnation. This only means that the knowledge on which action had been based was not yet adequate knowledge, and has to be improved therefore.

The point is actually one of political relevance, and a philosopher who explicitly dealt with political praxis as Spinoza had done, could see the implications of ethical adequation: It is indeed a structural problem of social organization to decide about the optimal scenario which guarantees a permanent re-feeding of ideas into the system, in order to gain the necessary flexibility for stably overcoming spontaneous changes. And this question of practically applying the system put forward here leads us back to the problem of

the identity implication mentioned in the beginning of this present paper.

Of course, nowadays we cannot really rely on Spinoza's approach anymore. But what we can do is to point the ansatz more strictly towards a materialistic view by deciding that we deal essentially with one attribute only now, which is matter alone. Mind is visualized as a form of matter then, and so is the unified combinative action of social systems. This is the reason why this materialistic view is actually a transcendental one: because everything is matter, *but only within the observable (modal) world,* which is the one humans can cognitively perceive under the attribute of matter. But the foundation of this attribute is substance itself, which is nothing but the real world as it is altogether (but as humans cannot observe it). Hence, although the modelling of the laws and rules of worldly processes (in modal terms) constitute what we call knowledge, this is not the complete knowledge on which social praxis in ethical terms is to be based: Instead the knowledge needed consists of two (not necessarily mutually compatible) components. One is the worldly knowledge of models humans have created in order to describe their observable environment. But the other one is the theoretical speculation about the foundation of the world. Beside what is known intersubjectively about the observable part of the world, speculation adds insight about what could be possible otherwise. (In fact, speculation does not refer to arbitrary fantasies, instead it is a kind of pointed

fantasy taking into account what is known already and utilizing this as a framework of orientation.)

In other words: Basing ethics on knowledge means comparing the field of those lines of development which are possible with those which have been achieved in the past under given concrete social conditions. (In fact, the same procedure can be easily applied to the process of acquiring knowledge itself in the first place. Hence, it is *onto-epistemic* by nature.) And this is exactly where the recent conception of Negri and Hardt comes in: Essentially, the re-introduced concepts of "empire" and "multitudo" open up our onto-epistemic horizons in order to achieve some more insight in the above-mentioned comparison. And indeed, this can be called the merit of Negri and Hardt.

The multitude then can be seen as a movement that observes social existence in collective processes and speculates in practical struggles about how the world could become. It is a force of change, as autonomous self-organizing manifestation of the substance it tries to be itself, which means that it wants to realize a society free of heteronomous constraints, a co-operative, participatory society.

2.4 Ethics of Participatory Democracy III: Why Transcendentalism?

The two approaches just outlined – materialist humanism (2.2) and transcendental materialism (2.3) – share the view that transcendentals are important for grounding political praxis in general and in contemporary society in particular. But isn't any transcendental approach bound to fail as it implies establishing large alternative historical projects? Hasn't the collapse of the Soviet Union shown that such projects ultimately have to fail and that transcendental projects therefore have no legitimacy? We think that the opposite is true: The current neoliberal form of capitalism that is presented as inevitable by many can best be challenged and questioned by arguing for the need of a complete rupture and an alternative historical project because the "there is no alternative" (TINA)-ideology functions by making alternatives unlikely by arguing that these alternatives can no longer be thought and aren't possible, whereas alternative thinking imagines and draws out the possibility of real alternatives in order to counter instrumental thought that wants to limit imagination and by doing so limit potential futures to that which already exists. Transcendentalism allows us to imagine that which doesn't exist now, but could exist, the Not-Yet to speak with Ernst Bloch.

Marxian critique from its beginning was a critique of religion, the critique of capitalism can be considered as

an enhancement of the critique of religion that shows the historical and ideological character of capitalism. As Marxian critique analyzes the inherent contradictions of capitalism that produce crises, it shows that capitalism through the antagonism between productive forces and relations of production contains and develops its own negativity. Such a method of critique is immanent critique, it starts from the conditions of capitalism without appealing to transhistorical values. However, such an interpretation of Marxian critique as pure immanent critique has historically resulted in deterministic interpretations of history that have been historically falsified. Therefore it has been stressed that Marxian critique also contains transcendental elements *(e.g. Lukes 1985, Sayers 1997)* – the vision of a co-operative society as the best form of human existence. Marxian critique is transcendental not in an idealistic or religious sense, the transcendence that it imagines is a not-yet existent society that is anticipated by the existence of the proletariat and that has its material preconditions in capitalist itself. It is an immanent transcendence coming from the inside of society itself. Marxian critique can in this sense be best interpreted as dialectic of immanence and transcendence. Since the late 1970s Marxian critique and transcendentals in general have come under heavy attack by postmodern thought, which argued that all notions of truth and essence are totalitarian. Marxian critique was increasingly superseded by strictly immanent critiques *(cf. e.g. Deleuze 2001, Foucault 1977, Lyotard 1979)* oriented on identity politics and local reforms. Post-

modernism has in recent years been challenged by various approaches that show a new focus on transcendental notions of Marxist critique: transfactuality/transcendental realism by Roy Bhaskar (1993), transcritique by Kojin Karatani (2003), or the transempirical as totality of the world that is given reason for by dialectical philosophy in the works of Hans Heinz Holz (2005).

Fotini Vaki (2005) has argued that transcendental elements in Marxist thinking, especially Habermas' notion of communicative rationality in dominationless discourse, are unhistorical, idealistic, fetishistic, and based on the notion of an essential and pure identity. An alternative would be a complete immanent critical theory. He sees such an immanence realized in Adorno's *Negative Dialectics*, which is focusing on internal contradictions and negations of capitalism and doesn't assume a transcendental outside. However, it can be argued that in Adorno's theory, non-identity realized in the position of the critical theorist who maintains a position outside of instrumental reason and autonomous art in his *Aesthetic Theory* constitute transcendentals because they are considered as resisting moments that question the repressive totality. All Marxist thinking to a certain extent contains transcendental elements[9]. Immanence for Horkhe-

9 For Max Horkheimer transcendental elements of Critical Theory are important. So e.g. he speaks of the need for a society without injustice or conditions without exploitation and oppression (Horkheimer 1970, 238, 257). In the chapter on *The Concept of Enlightenment in the Dialectic of Enlightenment*, Although Adorno (1951) designated his version of dialectics as immanent critique, Horkheimer and Adorno argued in the *Dialectic of Enlightenment* that transcendentalism is important and is destroyed by Positivist thinking that is based on pure

imer and Adorno wasn't a positive feature of critical theory, but was seen as the feature in society that critical theory questions.

Even those who argue that capitalism through its inner contradictions produces crises and hence its own demise, which will result in communism, have the notion of a not-yet existing outside. The question is only to which degree this transcendentalism is stressed and how it is related to agency or potential agency. Here, various traditions of Marxian thinking differ. All of them have in common that the transcendental elements are not posited outside of society, but are anchored in the inner contradictions of capitalism, such as the antagonism between the productive forces and the relations of production. Hence Marxist transcendentalism is materialist and based on a societal immanence, it is an immanent transcendentalism or transcendental immanence. Structural Marxists tend to argue that the future of society is mainly shaped by the internal contradictions of capitalism, which are seen as constituting a potential outside and/or a repressive ideological affirmation of the status quo. Humanist Marxists tend to argue that the poten-

immanence: "The pure immanence of positivism, its ultimate product, is nothing other than a form of universal taboo. Nothing is allowed to remain outside, since the mere idea of the 'outside' is the real source of fear. [...]. Enlightened thinking has an answer for this, too: finally, the transcendental subject of knowledge, as the last reminder of subjectivity, is itself seemingly abolished and replaced by the operations of the automatic mechanisms of order, which therefore run all the more smoothly" (Horkheimer and Adorno 2002: 11, 23). These passages show that Horkheimer considered transcendentalism very important and as a form of non-identity that needs to be upheld against Positivism.

tial outside is constituted mainly through class struggles. A third position tries to combine both structural and agency-oriented immanent transcendentalism. The position that we have tries to ground in the two preceding chapters (2.2 and 2.3) should be read as such figures of dialectical immanent transcendentalism.

Transcending means transgressing parts of reality towards their total context *(Zimmermann 2004: §2)*, i.e. totality. To assume the existence of transcendentals means to argue that there is something beyond that which exists actually today that can act is guiding principle of ethics and therefore political behaviour. Transcendental naturalism sees this principle embodied in nature, whereas transcendental humanism sees it embodied in society. Both share the insight that transcendentals are immanent features of totality that can help us determining what is desirable and what we should politically struggle for.

Also Marx's critique of the political economy of capitalism can best be interpreted as a form of immanent transcendence *(cf. Haug/Karydas/Weber 2004)*. On the one hand he doesn't criticize capitalism and bourgeois thinkers dogmatically from the outside, but tries to show the inner contradictions – the difference between reality and what capitalism and its thinkers promise that capitalism is – of capitalist development and bourgeois thought. Communism as the transcendental other is as dialectical movement grounded in the inner antagonisms of capitalism, but doesn't automatically emerge from it. On the other hand, Marx has a normative

and political agenda, but one that isn't abstract or dogmatically postulated as absolute idea or God, but that is grounded in and can only develop out of material reality itself and its antagonisms, i.e. immanence. This figure of transcendental immanence or immanent transcendence as method of ruthless critique was summarized by Marx in a letter to Ruge: "It is precisely the advantage of the new trend that we do not dogmatically anticipate the world, but only want to find the new world through criticism of the old one. [...] We do not confront the world in a doctrinaire way with a new principle: Here is the truth, kneel down before it! We develop new principles for the world out of the world's own principles" *(Marx 1843: 344 sq)*. By showing the immanent "contradiction between its [society's] ideal function and its real prerequisites, [...] it is possible everywhere to develop the social truth" *(Marx 1843: 345)*. The truth of society, an alternative to capitalism, is based within capitalism itself, in its contradiction between potentiality and actuality, essence and appearance, Sagen (=to say ideas, but also: =myth, which shows the possibility of expressing in German language the double character of bourgeois ideas as thought and ideology/empty promises) and Versagen (=failure, but also: =denial, which shows the possibility of expressing in German the double character of capitalism as systemic crisis-ridden failure and denial of the possible to the human subjects). The capitalistic dialectic of Sagen and Versagen is a dialectic of idea (das Sagen) and empty and disappointing reality (das Ver-

sagen), ideological myth (die Sage) and denial (jemanden etwas Versagen).

3. Multitude and Immaterial Labour

For Negri and Hardt the multitude is a class concept and connected to immaterial labour. We will now discuss implications of the notion of the multitude for the class concept in contemporary information society.

3.1 The Revolutionary Class Revisited

Hardt und Negri argue that the industrial working class has lost its hegemonic status to immaterial labour and that hence a new open class concept is actually needed. *(Hardt/Negri 2005: xiv)* It is the multitude that produces knowledge in networks, and it is thus "embedded in cooperative and communicative networks." *(Ibib.: xv)* Immaterial labour would be labour "that creates immaterial products, such as

knowledge, information, communication, a relationship, or an emotional response" *(Hardt/Negri 2005: 108; cf. also 2000: 280-303)*, or services, cultural products, knowledge in general. *(Hardt/Negri 2000: 290)* There are essentially two forms of labour then: intellectual labour that produces ideas, symbols, codes, texts, images, etc.; and affective labour that produces and manipulates affectations such as a feeling of well-being, satisfaction, excitement, passion, joy, sadness, etc. This labour is of a networked character today – " … each of us produces in collaboration with innumerable others" *(Hardt/Negri 2005: 144)*, "… labour power has become increasingly collective and social; … labour cannot be individualized and measured." *(Hardt/Negri 2005: 403)* The basic idea here is that if profit and value production are increasingly based on knowledge work then one can no longer argue that surplus value is only produced by industrial labour, which forms the exploited proletariat. Maurizio Lazzarato *(1996)* visualizes immaterial labour as what the contemporary working class is actually producing; it is an abstract activity that involves the application of subjectivity and produces the informational and cultural content of commodities.

For Negri and Hardt labour and exploitation have become more general, hence they argue in favour of a generalized notion of the proletariat. Before introducing the term "multitude", Negri used the term "social worker" for arguing that there is a broadening of the proletariat that is "now extended throughout the entire span of production and reproduction." *(Negri 1982: 209)* Relationships, commu-

nication, and knowledge would be goods that are produced in common, but appropriated by capital for economic ends. Hence, exploitation today is "the expropriation of the common." *(Hardt/Negri 2005: 150)* Exploitation today is also the exploitation of human creative capacities. The multitude or proletariat today are "all those who labour and produce under the rule of capital" *(2005: 106)*, "all those whose labour is directly or indirectly exploited by and subjected to capitalist norms of production and reproduction" *(2000: 52)*, the "entire cooperating multitude." *(2000: 402)* The industrial working class does not possess any political priority among the forms of labour: "… all forms of labour are today socially productive, they produce in common and share too a common potential to resist the domination of capital." *(2005: 106 sq)* One problem of this concept of class is that it fetishizes subjectivity and neglects the influence of objective structures on classes, groups, and individuals. Hence Hardt and Negri argue that classes are defined by "the lines of collective struggle" and determined by class struggle. *(2005: 104)* They neglect that classes can exist objectively without class struggles which can be forestalled by ideological structures that separate classes and alienate their consciousness.

Hardt and Negri put forward that other groups than those who produce wage labour such as reproductive workers in the household, the growing mass of the unemployed, migrants, students, and the informal and precarious workers are necessary aspects of the existence and accumulation of capital in contemporary society. Hence they argue that

all of these groups produce the societal conditions of the reproduction of capital that are consumed by the latter for free, hence are exploited and form a class. What they are missing however is that this overall class is itself segmented and antagonistic, e.g. workers might support the existence of racist relations of production in which migrant workers are extremely exploited by receiving very low wages in order to assure for themselves a higher portion of property in the form of wages; wage labourers frequently consume the housework, affective, educational, sexual, and social care labour of their wives or husbands that reproduces their labour power for free, etc. Certain class fractions of the multitude exploit other fractions or participate in and support such exploitation in order to improve and reproduce their own material class position.

Hardt and Negri argue moreover *(2000)* that in order to remain productive and profitable, capitalism has transformed itself into a global network structure that they call "empire". Production in the empire would be based on intellectual, immaterial and communicative labour. The three aspects of immaterial labour are then communication, interactivity in using symbols/solving problems and manipulation of affects. Immaterial labour produces services, cultural products, knowledge or communication. Transnational corporations produce communicative networks and a new type of sovereignty that weakens the power of the nation state. The diffusion of computer, information, and communication technologies is part of the social restructuring that has

resulted in the empire. The process of industrial modernization has reached its limits, hence postmodern capitalistic production based on informatization and the rise of service industries have emerged during the last decades. Computer technology homogenizes the labour processes in the sense that it becomes the universal tool of production. Affective labour is another aspect of immaterial labour besides computerized labour. Negri and Hardt say that all three aspects of immaterial labour (communication, symbolic analysis, affective labour) are immanently co-operative. *Today, productivity, wealth and creation possess the form of co-operative interaction that makes use of linguistic, communicative and affective networks*. Labour in the information sector would be what they call abstract co-operation: Production is coordinated by information-technologies and hence the workers do not have to be co-present at one place.

The analysis of Negri and Hardt is important because it shows that the development of the productive forces has reached a stage where capitalism is based on co-operative economic, political and cultural networks. There are high degrees of productivity and socialization which can both be visualized as material preconditions of a fully participatory, democratic and co-operative society where socialization permeates all areas of public life including ownership of the means of production that are today still treated as private property (although with the increased importance of information as a social, collective and historical product the concept of private ownership no longer seems to make

sense). Today, we actually find the objective, material conditions for a free society, but at the same time the culminating antagonisms of society produce global problems and false consciousness. The new technologies equally advance the forestalment of social change by control and manipulation.

Negri and Hardt are probably too optimistic concerning the progress already achieved: Certainly, immaterial workers are not automatically revolutionary subjects. Despite their emancipatory potential, technologies that are based on and foster co-operation do not automatically mean that their users possess a liberated consciousness and practice critique. The recently emerging progressive social movements can be considered as a type of liberating subjectivity, but the immaterial workers in software companies, the IT-branch and the New Economy can hardly be seen as revolutionary subjects. Well-qualified employees tend to reproduce the existing ideologies of competition, achievement, career and productivity. Negri and Hardt neglect that participatory and co-operative management is mostly an ideology that successfully integrates workers and forestalls liberating subjectivity.

However, the material foundations of a society in which individuals co-operate with a high degree of solidarity and where they can actualize a new degree of self-realization and well-rounded development do indeed exist. But the establishment of a sustainable and self-organized society needs self-organizing subjects who develop critical consciousness and make use of it in social struggles. It is not

certain whether or not such a consciousness can be developed and what the outcome of potentially resulting struggles might actually be. The productive forces that are entangled into the existing antagonisms are nevertheless ready for a higher type of existence. The outcome depends after all on the conditions of social struggles and of consciousness that develops itself in these struggles.

Class and the multitude are expressions of subjectivity. In the works of Negri there is a strong emphasis on the human subject. He opposes the subject to the logic of dialectics. In the next section we will discuss the question if dialectics is necessarily the opposite of the subject or if a dialectic of objective and subjective dialectics – a dialectic of dialectics – can be applied to the phenomenon of the multitude.

3.2 Negri, Dialectics, and Class Struggle

That Hardt and Negri consider all changes as effects of the spontaneous militancy of workers and neglect the influence of objective structures on change and continuity of society is also due to the influence of Spinozian thought. Spinoza focuses on the affectations of love and joy as they are oriented against hate, fear, and sadness. The stress on affectations constitutes Spinoza's subjectivism. For Spinoza love is a productive potential (potentia) as intellectual love; love of the mind would be salvation, freedom and liberation. Negri *(2004)* argues that Hegelian philosophy focuses on change and dialectics and that Hegel is hence a modern thinker while Spinoza focuses on singularity, presence, and immediacy and hence is an anti-modern thinker so that he is a philosopher of immanence who focuses on a "… praxis without teleology." *(Negri 2004: 90)* Hegelian dialectics instead would be deterministic, a "schematism of reason and transcendentality" and "reformist teleology." *(Negri 2004: 84)* Negri reads Spinoza's subjectivism as an "ethics of struggle." *(Negri 1991: 181)* Hardt and Negri oppose dialectical thinking, they argue that contemporary society is a result of "proletarian internationalism" and "mass struggles" – "there is nothing dialectical or teleological." *(Hardt/Negri 2000: 51)* Liberation would be an immanent process "with no possibility of any even utopian outside." *(Hardt/Negri 2000: 65)* Hardt and Negri obviously misunderstand Hegelian dialectics when

they argue that dialectical thinking requires an "alternative between the One and the Many." *(Hardt/Negri 2005: 225)* The logic of "both and neither" that Hardt and Negri prefer is the very essence of dialectics: "the One is being-for-itself and related to itself, but this relationship only exist in relationship to others (being-for-another) and hence it is one of the Many and repulses itself. But the Many are one the same as another: each is One, or even one of the Many; they are consequently one and the same. As those to which the One is related in its act of repulsion are ones, it is in them thrown into relation with itself and hence repulsion also means attraction." *(Hegel 1874: §§ 97, 98)* "Dialectics, which likewise knows no hard and fast lines, no unconditional, universally valid 'either…or' which bridges the fixed metaphysical differences, and besides 'either…or' recognises also in the right place 'both this – and that' and reconciles the opposites, is the sole method of thought appropriate in the highest degree to this stage." *(Engels 1886: 482)*

The critique of dialectics as it is put forward by Hardt and Negri is at most adequate for vulgar dialectical thinking such as the one of Stalin and Mao in which the development of society has been conceived as based on deterministic natural laws so that human practice could be considered as unimportant and the Soviet and Chinese systems could ideologically be legitimated as free societies. That these regimes were indeed highly repressive was ideologically concealed by a deterministic interpretation of Hegelian dialectics. Hence the subjective turn of Hardt and Negri can be read

as a critique of vulgar dialectics. But it is premature to bypass dialectical thinking altogether: In the case of Hardt and Negri this results on the one hand in neglecting structural influences such as ideology on human consciousness and practice. On the other hand the main argument of Hardt and Negri that the logic of networks produces both the Empire as a reconfiguration of dominance and the multitude as a movement that makes use of the immanent systemic logic in order to anticipate a free society is a dialectical and a topical reformulation of the dialectical antagonism of the productive forces and the relations of production in the network society. Hardt and Negri fetishize the human subject, for them all activity is revolting, their theory lacks the component of structural influences that condition, i.e. enable and constrain, human practices.

The dialectic of society must instead be based on the dialectic of human subjectivity and societal objects in order to be truly dialectical and non-deterministic. Such a reading of dialectics can be found in the philosophical writings of Marx, and it was for the first time explicitly formulated against deterministic interpretations by Herbert Marcuse. Marcuse argues that capitalism is based on structural antagonisms that cause crises, the tendency of crises would be an aspect of objective dialectics: “Capitalist society is a union of contradictions. It gets freedom through exploitation, wealth through impoverishment, advances in production through restriction of consumption. The very structure of capitalism is a dialectical one: every form and institution

of the economic process begets its determinate negation, and the crisis is the extreme form in which the contradictions are expressed." *(Marcuse 1999: 311 sq)* Marcuse tried to avoid a deterministic understanding of dialectics; he pointed to accomplishing a turn from structuralism towards human practice in Marxism. In this sense, capitalism is defined as dialectically negative by its very own antagonistic structure, but the negation of this negativity could only be achieved by human practice: "The negativity and its negation are two different phases of the same historical process, straddled by man's historical action. The 'new' state is the truth of the old, but that truth does not steadily and automatically grow out of the earlier state; it can be set free only by an autonomous act on the part of men, that will cancel the whole of the existing negative state." *(Marcuse 1999: 315)* And: "Not the slightest natural necessity or automatic inevitability guarantees the transition from capitalism to socialism. … The realization of freedom and reason requires the free rationality of those who achieve it. Marxian theory is, then, incompatible with fatalistic determinism." *(Marcuse 1999: 318 sq)*

Applying Marcusean dialectics to the phenomena of the empire and the multitude means to assume that the rise of networks in capitalism has produced a new objective dialectic such that the networked forms of production and life encounter some mutual antagonism with the individual control of property and power and anticipate a co-operative society. This objective dialectic is topical in Hardt and Negri, but they interpret it as a purely subjective process. The

emergence of a co-operative society in the end is not a predetermined fact, but the outcome of social struggles in network society. Here subjective dialectics is dialectically connected to the objective dialectical structure of contemporary society. There are networked forms of power, manipulation, and control that can very well forestall the rise of networked revolutionary consciousness. Hence, the argument of Hardt and Negri appears to end up in a kind of fatalistic subjective determinism.

But although there are limits to Hardt's and Negri's concepts of dialectics, the category of multitude seems to be useful for constructing a contemporary model of class that grasps exploitation in informational capitalism. This shall be accomplished in the next section.

3.3 Class in Informational Capitalism

For the year 2003 the US Bureau of the Census (2004: 8) reports that the top quintile of the American population controlled 49,8% of the total income, whereas the bottom quintile received only 3.4%. This means that the top 20% had 14.6 times the income of the lowest 20%. In 2004 and 2005 the income before taxes and benefits of the top quintile of UK households was £ 66 300 and hence approximately 16 times larges than that of the bottom quintile which ranged at £ 4 300. *(Office for National Statistics 2006)* These data show exemplarily that there are income disparities; this is an indication that there are different economic classes controlling different amounts of wealth. Nonetheless there are approaches that claim that the class concept is obsolete and that there are no classes in contemporary society.

Ulrich Beck *(1992)* argues that contemporary society is a risk society in which risks and dangers such as radioactivity, harmful and noxious substances in the air, water, and food are not class-specific, but affect all humans. "Even the rich and powerful are not safe from them." *(Beck 1992: 201)* Risks would have an equalizing effect. "In this sense risk-societies are not class societies, nor can their conflicts be comprehended as class conflicts." *(205)* There would be a transition from class to risk-society. *(207)* Beck announces the end of class, but he overlooks that the logic that has produced global risks that threaten the further survival of

humankind as a whole is the modern logic of instrumental reason that treats humans and nature as mere exploitable resources for production processes and has for a long time largely ignored the effects of such modes of production. Instrumental reason is the very logic that modern class societies are built upon. Hence there is no end of class, but class societies today are high-risk class societies. The unequal distribution of wealth here still plays a role because those who are well-off can afford to purchase risk-avoiding strategies (e.g. moving to another country or continent after a nuclear event). So e.g. Michael Perelman *(1998: 33)* argues that the information society is a society with a hardening class system because "more and more wealth and income flows to the upper classes, leading to a scandalous distribution of income".

In another work Beck *(1983)* argues that class locations have become detraditionalized by processes of individualization that have been caused by increased mobility, the rise of the welfare state, improved educational opportunities, more competitive social relationships, urbanization, and the expansion of wage-labour relationships. The effect would be the destruction of unified experiences and life-worlds of classes and the rise of individualized forms of existence in which people have to manage their lives all by themselves and hence also have to individually cope with risks that have become more likely to occur. He argues that individualization processes and class formation are reciprocally proportionally related. For Beck risk is a subjective

category oriented on common life-world experiences and class solidarity. But that there is less class consciousness and class solidarity today than some decades ago doesn't mean that classes don't exist, because another logical possibility is that classes still exist objectively, but that they have been transformed and perceive themselves less as classes. Individualization is not the opposite of class formation, but an expression of class separation as an objective class formation process in the age of neoliberal capitalism. It is a typical move of neo-Weberians to conceive class in subjective terms linked to attitudes. Also Anthony Giddens *(1980)* argues that a class has a common awareness and acceptance of similar attitudes and beliefs linked to a common style of life. We find more convincing the position of representatives of Critical Theory such as Herbert Marcuse who argued that in contemporary capitalism we find classes without class consciousness because of manipulation, ideology, the scientific-technological revolution, and increasing relative wealth. Under these circumstances the working class for Marcuse is "revolutionary class 'in-itself' but not 'for-itself', objectively but not subjectively." *(Marcuse 1969a: 54)*

The approach on class taken in this paper is oriented on Marxist thinking and hence stresses the concept of exploitation in objective class formation. The two main approaches on class in the social sciences are the Marxian and the Weberian concepts of class.

How did Marx and Engels conceive class? "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."[10] *(Marx/Engels 1848: 462, Fn*)* In this footnote written by Engels in 1885 the proletariat is considered as the class of industrial wage labour and might not be suitable for defining the more expanded notion of the working class in the information age because it excludes non-wage labour. The traditional concept of the working class implies "productive or useful activity, which would leave all who were not working class unproductive and useless" *(Williams 1985: 64)*. Using such a concept hence means to argue that reproductive workers, the unemployed, knowledge workers, etc. are useless and unproductive which under extreme political conditions can also imply that they are parasites that need to be annihilated.

But fortunately a more appropriate definition of class has been given by Marx: He argued that members of the exploited class are "free from, unencumbered by, any means of production of their own", which would mean the "separation of the labourers from all property in the means by which they can realize their labour" in a "process which takes away from the labourer the possession of his means of production; a process that transforms, on the one hand, the social means of subsistence and of production into capital,

10 English translation of this and all subsequent Marx and Engels quotations obtained from http://www.marxists.org

on the other, the immediate producers into wage-labourers.“ *(Marx 1867: 742)* Here Marx argues that the exploited class can’t control its condition and means of production and that capital is exploitative. The exploited class is “double-free labour”, free from serfdom so that it can offer its labour power on the market and hence “he has no other commodity for sale, is short of everything necessary for the realisation of his labour-power.” *(Marx 1867: 183)* For wage labour and self-employed labour this condition is true in the sense that capital appropriates the produced goods, owns them, sells them on the market, and owns the resulting profit. Self-employed labour (that owns certain means of production by itself, doesn’t hire labour, but sells its own labour to capital) also produces goods and value that is appropriated by capital. Self-employed labour just like wage-labour is “double-free”, both “live only as long as they find work, and who find work only so long as their labour increases capital” *(Marx/Engels 1848: 468)*. These two classes as well as the non-wage labour classes and the irregular labour class work under conditions under which capital takes away from them the fruits that they have produced, either (material or immaterial) goods if they are employed directly by capital or in any case the common goods that are produced by society, under indirect command of capital, appropriated by capital and transformed into profit. Marx in his analysis had to limit the class concept to wage labour under the conditions of 19th century industrialism, but his idea of the capitalist class separating, exploiting, and taking away factors of

production and goods in order to achieve profit is still valid for an expanded model of classes that is appropriate for informational capitalism. Exploitation is a central notion to the Marxian concept of class, the category of exploitation is closely related to the one of surplus value in the Marxian theory. In informational capitalism the exploitation of non-wage and irregular labour as a necessary condition for the production of surplus value has become of high importance, exploitation, class, and surplus value have a more general societal character.

Marx highlights exploitation as the fundamental aspect of class in another passage where he says that "the end and aim of capitalist production" is "to exploit labour-power to the greatest possible extent." *(Marx 1867: 350)* From exploitation antagonistic class relations would arise: "The control exercised by the capitalist is not only a special function, due to 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 rooted in the unavoidable antagonism between the exploiter and the living and labouring raw material he exploits." *(Marx 1867: 350)* The living and labouring raw material that is exploited by capital is of a more general nature today, it is the whole socially productive multitude that includes besides regular wage-labour also self-employed labour, non-wage labour, and irregular labour.

The stress on exploitation distinguishes the Marxian class-concept from the Weberian concept in which a class is

understood as a group of people who have in common certain life chances in the market; these chances would have to do with the possession of goods and opportunities for income and would be represented under the conditions of the commodity or labour market. *(Weber 1978: 926)* A class for Weber is made up of "all persons in the same class situation", i.e. those who share "a typical probability of 1. Procuring goods, 2. Gaining a position in life and 3. Finding inner satisfaction." *(Weber 1978: 302)* Weber tends to see the kind of services offered and the type of goods produced as important characteristics of class. Exploitation and the different conditions generated by it are not considered as important factors of class. The most well-known neo-Weberian class model is the one of John H. Goldthorpe *(2000)* who distinguishes a total of eleven classes. The criteria for drawing distinctions in this model are the type of employment relationship (labour contract or service relationship) that allows different extents of monitoring difficulty and the asset-specificity concerning skills. Goldthorpe's class model on the one hand distinguishes different occupations (farmers, self-employed, small employers, non-manual employees, service employees, manual workers) and on the other hand different skills (upper skills, semi-skills, unskilled). Who appropriates and controls capital and profit is no explicit criterion, hence it is not surprising that capitalists are missing in the scheme, Goldthorpe`s neo-Weberian model might be more appropriate for distinguishing different types of occupation, but it fails to grasps exploitation, contradictions, and struggles as

important moments of class. In this model there is a service class and a manual class, hence a sharp distinction is drawn based not on the position in the relations of production and towards the means of production, but based on the type of output one produces. Another neo-Weberian model is the one of Anthony Giddens *(1980)* who distinguishes classes according to which type of market capacity they control: the upper class (property in the means of production), the middle class (educational or technical qualifications), and the working class (manual labour-power). Just like Weber who distinguishes in his model of four social classes besides the petty bourgeoisie and classes privileged through property and education between the working class and the propertyless intelligentsia and specialists, Giddens distinguishes manual labour and white-collar labour as two different classes. Here we can see the typical characteristic of Weberian approaches to distinguish classes by the types of occupation and products or services that they produce. But the question is if today the class position of e.g. an unskilled blue-collar-assembly-line worker in a car factory is so different from the one of e.g. an unskilled white-collar-call centre agent – both have to sell their labour power, have rather low wages, hardly any authority, and low skills.

If class is still of some relevance, then the question is how the class structure has changed in informational capitalism: Have new classes emerged? Which role does knowledge labour play in the contemporary class structure? For discussing this question some existing approaches are

discussed in this section. The discussion will show that the existing assessments of knowledge and class are very diverse. On the one hand there are models that see knowledge producers as exploited class: There are approaches that consider all internet users as an exploited new class, there are those who see knowledge labour as a whole as a new class or even revolutionary class, those who consider parts of knowledge labour as forming a new class. On the other hand there are models that consider knowledge producers as dominant class, either as petty bourgeoisie or as a unity of capital and labour in knowledge-producing industries.

Seven approaches on knowledge and class in the information society are identified:

- Internet users as a new class
- Knowledge labour as a new class
- Knowledge labour as revolutionary class
- Precarious knowledge labour as new class
- Knowledge labour as unproductive subsumed labour class
- Knowledge Labour and knowledge capital as one new class
- Knowledge Labour as Petty Bourgeoisie

3.3.1 Internet Users as a New Class

Tiziana Terranova *(2000)* describes the rise of a class that works for free in the "social fabric" of the internet: "Simultaneously voluntarily given and unwaged, enjoyed and exploited, free labour on the Net includes the activity of build-

ing Web sites, modifying software packages, reading and participating in mailing lists, and building virtual spaces on MUDs and MOOs." *(Terranova 2000: 74)* Such activities would be an expression of the collective productive capacities of immaterial labour. The concept of free labour has become of particular importance with the rise of web 2.0 in which capital is accumulated by providing free access. Accumulation here is dependent on the number of users and the content they provide. They are not paid for the content, but the more content and the more users join the more profit can be made by advertisements. Hence the users are exploited – they produce digital content for free in non-wage labour relationships. Terranova's concept of free labour points out that in the gift economy that is subsumed under capital consumers become producers of value and capital. An example of how free labour struggles was when in 1999 seven people who acted as volunteer administrators in AOL chatrooms without receiving payment sued AOL for maintaining what has been described as "cyber-sweatshop." *(Margonelli 1999)*

3.3.2 Knowledge Labourers as a New Class

Ursula Huws *(2003: 161 sq)* sees as information-processing workers content-designers, clerks, managers, supervisors, jobs in the area of circulation such as in banking and financial services, reproductive work, and civil servants. The computer would produce a convergence of activities in large

parts of the workforce. Upskilling and deskilling are two tendencies in information-processing work, but as the number of data workers who have standardized activities would grow rapidly the second tendency would be the predominant one. Many information-processing jobs would be delocalizable and hence economic globalization and outsourcing would put downward pressures on such jobs. Deskilling and delocalization would result in the emergence of a new class of information-processing workers – the cybertariat.

McKenzie Wark *(2004)* defines the "hacker class" as a group of e.g. "programmers, […] artists or writers or scientists or musicians" that produces information which would be an abstraction. The vectoral class would dispossess the hacker class of their intellectual property by patents and copyrights. By such moves information would no longer be a social property belonging to all.

Franco Berardi *(2003)* argues that in the 1990ies immaterial labour organized itself as capital in order to found companies. With the dotcom crash at the end of the 1990s cognitive labour would have separated itself from capital and would have started to see itself as cognitariat, a "new consciousness of cognitive workers" *(Berardi 2003: 4)* would emerge that is a foundation for "building institutions of knowledge, of creation, of care, of invention and of education that are autonomous from capital." *(Berardi 2003: 5)* For Berardi a class is subjective, conscious, and struggling.

Manuel Castells *(2000)* identifies based on median weekly earnings four classes in the information society:

the upper class (managers and professionals), the middle class (technicians and craft workers), the lower middle class (sales workers, clerical workers, and operators), and the lower class (service occupations and agricultural workers). The upper class and the lower class would be increasing in the USA, the other classes shrinking, in reference to the growth of the lower class and the lower middle class Castells speaks of "the formation of a 'white collar proletariat', made up of clerical and sales workers." *(Castells 2000: 244)* In Castells' approach the increasing group of low-paid service workers is considered as a new class.

3.3.3 Knowledge Labourers as the Revolutionary Class

The position of Hardt and Negri described in sections 3.1 and 3.2. can be considered as a separate approach on the question of the role of class in informational capitalism: They argue that knowledge labour is co-operative, includes all immaterial workers and is exploited by capital who make uses of the commons of society for free. The multitude would produce knowledge in networks. For Negri and Hardt labour and exploitation have become more general, hence they argue for an expanded notion of the proletariat. Relationships, communication, and knowledge would be goods that are produced in common, but appropriated by capital for economic ends. Exploitation would today be the exploitation of human creative capacities. Negri and Hardt visualize the

multitude as a revolutionary-class-in-and-for-itself, they assume that the capitalist production process automatically produces forms of resistance, rebellious consciousness, and struggle, they don't take into account the objective aspects of accumulation and domination.

3.3.4 Precarious Knowledge Labourers as New Class

In Italy Operaist thinkers have coined the term "social worker" in order to describe a new working class consisting of workers that produce information, communication, social relationships, and affects. Michael Hardt and Antonio Negri have termed this class multitude. The boundary between wage-labour and non-wage labour would be blurred, also houseworkers, immigrants, the unemployed, students, etc. would be integrated into an expanded production and reproduction process of capital. Nick Dyer-Witheford points out that this new class is internally divided into a sector of highly skilled, well-paid service workers who may even identify with their work, and a sector of "poorly paid, insecure, untrained, deskilled" *(Dyer-Witheford 1999: 88)* service workers. The first would be predominantly white and male, the second of colour, female, and young. Hence race, gender, and age would further stratify the class of knowledge workers. These disorganized, dispersed, and divided service workers would constitute the "new high-technology proletariat" *(Dyer-Witheford 1999: 96)*/"virtual proletariat" *(Ibid.: 123)*. Hence

the difference between Hardt/Negri and Dyer-Witheford is that the first consider all services workers as revolutionary and as new proletariat, whereas the latter sees a precarious class of service workers as new proletariat. Dyer-Witheford *(2006)* uses the Marxian concept of species-being for describing the importance of the commons that result from social co-operation in high-technology capitalism. He argues that it is not immaterial labour that generates spontaneous insurgencies, but the class of "immizerated labour" that forms species-being movements that struggle against the appropriation of the commons by capital predominantly in developing countries.

Nelson Peery *(1997)* argues that the unemployed and precarious workers form a new working class not characterized by lack of ownership and operation of new equipment (such as ICTs). They would be throwaway workers with few benefits and no job security created by the new means of production. The same argument had been made earlier by André Gorz who sees those expelled from production by automation and computerisation, the underemployed, probationary, contracted, casual, temporary, and part-time labour as "post-industrial neo-proletariat." *(Gorz 1980: 69)*

3.3.5 Knowledge Labourers as Unproductive Subsumed Labour Class

Hardt and Negri go beyond orthodox Marxist class concepts that distinguish between productive labour that produces surplus value and physical goods in employment relationships and unproductive labour. But orthodox class concepts are still around. E.g. Stephen A. Resnick and Richard D. 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. Although they first argue that there is no hierarchy of importance of fundamental and subsumed class processes *(Resnick/Wolff 1987: 118)*, the diction and their later comments show that this distinction is framed by value choices. Subsumed classes would be unproductive and include e.g. 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. The consequence of such arguments is that parts of the labour force are considered as not being exploited. With the rise of service jobs in contemporary society the theoretical implication of "post-industrialism" for such a concept of class is that there is a tendency towards an end of exploitation. To argue that e.g. a salesperson working under precarious conditions is unproductive is also problematic due to the fact that labour is highly networked and

it hence becomes almost impossible to judge for a single labour relationship if it is productive or unproductive. The rise of precarious service and information jobs and the increase of unemployment in many developed countries require a revision of orthodox class concepts.

3.3.6 Knowledge Labourers and Knowledge Capitalists as One New Class

Richard Florida *(2002)* 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" *(Florida 2002: 8)* 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" *(Ibid.)*. For Florida the "new class" is defined not as in the Marxian concept of class by the control of the capital produced in the production process, but by the form of the end-product (knowledge). He doesn't distinguish between capital and labour, doesn't see antagonistic interests, 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." *(Barbrook 2006: 41)*

For Arthur Kroker and Michael Weinstein *(1994)* the "virtual class" consists of visionary capitalists and business capitalists of the "new economy", but also of "the perhaps visionary, perhaps skill-oriented, perhaps indifferent technointelligentsia 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." *(Kroker/Weinstein 1994: 15)* The interest of the virtual class would be the "absolute control over intellectual property by means of war-like strategies of communication, control, and command." *(Kroker/Weinstein 1994: 3)* It would have a strict capitalist determination, would advance cyber-authoritarianism, and "subordinate digital reality to the will of capitalism." *(Kroker/Weinstein 1994: 18)* Kroker and Weinstein merge representatives of capital and labour in an overall concept of the virtual class that is defined by activities that contribute to the rise of virtuality. By this move also the Marxian criterion of exploitation as defining characteristic of class is lost.

3.3.7 Knowledge Labourers as Petty Bourgeoisie

Nicos Poulantzas argues that knowledge labour is part of the service industries that don't produce surplus value, but contribute to its circulation and realization. Hence they would

be unproductive labour. In his class model he locates these workers as part of the petty bourgeoisies and describes them as "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 labour and the petit bourgeoisie.

3.3.8. An Alternative Approach: Knowledge Labourers as Non-Class and Class

As we have seen in the previous sections the understandings of the class-character of knowledge producers is very diverse ranging from the option revolutionary to the one of bourgeoisie. In this section we will present our own approach, which is different from those presented thus far. What at first must seem to be a rather paradoxical statement shall become clear during this section: that knowledge labour is both a non-class and a class of informational capitalism.

So what then are knowledge workers? Are they a new class? What does class in the information society mean? I don't think so because knowledge work is quite heterogeneous. Think e.g. of a manager who exerts command and

control in a company, which are primarily informational and communicative activities, and compare this job to the one of a call-centre agent who is low-paid, low-skilled, and has hardly any authority. Or compare the call-centre agent to a software engineer who receives a high wage, is highly-skilled, and has a medium-level of authority in the team he works in. Although all of these workers produce knowledge, they have different levels of wages, skills, and authority. Hence I think that economic class is a category that describes groups that have comparable amounts of economic (property, income), political (authority, power), and cultural capital (skills) in economic production processes. Related to this category is the formation of different classes and the phenomena of economic exploitation, organizational exploitation, and skills exploitation.

Given such circumstances knowledge labour is not a class category, but a category that can be applied at the vertical dimension of the economy, at the level of describing which types of goods or services are produced in different sectors of the economy. In all of the sectors of the economy one finds classes, classes and class fractions are made up of workers (capitalists) that stem from different economic sectors, class is a category that spans over several economic sectors.

Here is an overview of a four-sector model of the economy:

- Primary sector: Here natural products are produced in agriculture and mining.

- Secondary sector: Here industrial/physical products are manufactured in branches such as utilities, construction, metal, wood, machinery, electrical equipment, vehicles, furniture, food, drinks, tobacco, textiles, or chemicals.
- Tertiary sector: In this sector we find labour that produces services that don't belong to agriculture, manufacturing industries, or knowledge services/manufacturing. These are activities in the areas of trade, transportation, warehousing, real estate, rental, leasing, finance, insurance, accommodation, food, waste management. One can say that these are services for distributing, managing and taking care of manufactured products and money.
- Quaternary sector: Here knowledge goods and services are produced by knowledge labour. Knowledge labour is labour which produces information, communication, social relationships, affects, and information and communication technologies. This involves on the one hand the manufacturing of information- and communication technologies (computers, computer equipment, paper, printing), information and communication goods and services (music industry, motion picture industry, software industry, publishing industry, broadcasting, telecommunications), scientific services, technological services, legal services (legal affairs are primarily communicational and informational activities), management and administration (these are primarily cognitive and communicative tasks of command and control, including governmental administration except military and government enterprises), edu-

cational services (these are activities that help individuals in developing skills and producing knowledge), arts and entertainment (both art and entertainment are forms of cultural knowledge), and health and social care. We have hesitated to include health care in the knowledge sector because it is about regenerating body and mind and the body is traditionally considered as external to knowledge. But we have come to the conclusion that health and social care are primarily about aid that experts provide for individuals not primarily due to instrumental economic reasons, but due to more altruistic motives. Aid, altruism, and co-operation are an expression of emotional care and lie at the very heart of society and social action. Hence we consider health and social care as knowledge work.

In comparison to the distinction of traditional transformative labour, traditional services and post-industrial services provided by Erik Olin Wright *(1997: 138)* we haven't included finance and insurance in the post-industrial sector because we think that handling money hasn't so much to do with knowledge because money is a very traditional medium of circulation. Other than Wright we consider entertainment as part of the knowledge sector because it is oriented on recreating the mind.

In order to develop our own class model we first have to outline some foundations of class theories that we consider as important. The most important neo-Marxist concept of economic class on which the theoretical model

outlined here is based is the one of Erik Olin Wright *(1997: 10, 2005b: 23)* who defines three aspects of exploitation and hence class formation:

- Inverse interdependent welfare: The material welfare of one group of people causally depends on the material deprivations of another.
- Exclusion: The exploited are asymmetrically excluded from access to certain productive resources (frequently by force and with property rights)
- Appropriation: The fruits of labour of the exploited are appropriated by those who control the productive resources.

If only the first and the second criteria are given Wright speaks of non-exploitative economic oppression. For Wright groups such as the unemployed, retirees, the 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 doesn't take into account that the "economically oppressed" are growing in number and hence can't be seen as a side-effect of economic exploitation. Wright limits his concept of economic class to wage labour and capital (as well as contradictory class positions). In informational capitalism the brain has become an important productive force. Many precarious workers – which are characteristic for service jobs and knowledge labour – work as free lancers, one-man companies, hence formally they are self-employed and they own and control their means

of production (brain, computer, etc.), but they are forced to permanently sell their own labour power per contracts to capitalist corporations that outsource or subcontract labour power. This class of self-employed workers that owns its own means of production, doesn't hire others, but sells its own labour power, has been characterized by Wright and Pierre Bourdieu as the petty bourgeoisie. We don't think that such a term is suitable because it implies that this class is more part of the capitalist class than of the proletariat. We don't think that this is the case because many in this class struggle to survive and have very low earnings. Hence we would more precisely describe this class as self-employed labour class. This class is a characteristic expression of capital's move under neoliberal conditions to outsource labour (which means not having to take care of labour rights, ancillary wage costs, technology, etc.) in order to reduce variable costs. Knowledge labour requires little physical capital and hence is predestined for new forms of employment and exploitation. *(Wright 1997: 130, 135)* Self-employed labour in informational capitalism is highly likely to be precarious labour, it is not a fixed, but a dynamic category as many of these individuals shift from self-employment to temporary labour, unpaid labour, and back again, etc.

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 Bourdieuian terms) and skills/knowledge (or cultural capital in Bourdieuian

terms) as defining characteristics of class position. Based on this distinction he arrives at a class model that is based on twelve different class locations. There are similarities between Wright's and Bourdieu's class-model, one can see Wright's class concept as an expanded Marxist model of economic class that takes into consideration the two structural aspects of political/social capital and cultural capital that have been stressed by Bourdieu 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 labour power." *(Wright et al. 1989: 201)* Wright here speaks of organizational exploitation.

Philippe Van Parijs sees jobs as scarce assets in advanced capitalism, hence he argues that there is an "unequal distribution of job assets among the employed" *(Van Parijs 1989: 235)* and an exploitation of the unemployed by wage labour. He speaks of a "job exploiter" as "someone who would be worse off if job assets were equally distributed", and sees a job exploited as someone who would be

better off under these conditions. *(Van Parijs 1989: 233)* It is a courageous move of Van Parijs to leave behind the orthodoxy of considering the unemployed as an unorganized and hence for class struggle unimportant group (as expressed by the Marxian term "Lumpenproletariat") and to define it as part of the exploited multitude that is itself antagonistically constituted by exploiting and exploited classes and class fractions. Based on these concepts Van Parijs has developed the concept of asset-based inequality and external endowments for arguing that humans have a right for a universal guaranteed basic income. *(Van Parijs 1995)*

The argument in this paper has thus far been that knowledge labour isn't a class, but forms an economic sector. This argument will now shift and it will be shown that knowledge can be considered as the foundation of a broad exploitation process in informational capitalism.

If one defines economic exploitation as the existence of a exploiting class that deprives at least one exploited class of resources, excludes them 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, if one considers knowledge labour as central to contemporary society. Knowledge labour is labour which produces information, communication, social relationships, affects, and information and communication technologies. It is a direct and indirect aspect of the accumulation of capital in informational capitalism: There are *direct knowledge workers* (either employed as

wage labour in firms or as outsourced, self-employed labour) 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-labour such as education, social relationships, affects, social relationships, communication, sex, housework, common knowledge in every life, natural resources, nurture, care, etc. These are forms of unpaid labour that are necessary for the existence of society, they are performed not exclusively, but to a certain extent by those who don't have regular wage labour – houseworkers, the unemployed, retirees, students, precarious and informal workers, underpaid workers in temporal or part-time jobs, and migrants. This unpaid labour is reproductive in the sense that it reproduces and enables the existence of capital and wage-labour that consumes the goods and services of unpaid reproductive workers for free, hence both capital and wage-labour exploit reproductive workers – which is just another term for indirect knowledge workers. Capital could not be accumulated without a common societal infrastructure in the areas of education, spare time, health and social care, natural resources, culture, art, sexuality, friendships, science, media, morals, sports, housework, etc. that it takes for granted and doesn't pay for (in the form of shares of its profit). Wage-labour is reproduced, i.e. it consumes reproductive and public goods and services in order to restore its

labour power, it exploits reproductive workers in order to be able to be exploited by capital. *Hence we can define the multitude as the class of those who produce material or knowledge goods and services directly or indirectly for capital and are deprived and disappropriated of resources by capital*. Such exploited resources are consumed by capital for free. Here the arguments of Negri and Hardt are important: In informational capitalism knowledge has become a productive force, but knowledge is not only produced in corporations in the form of knowledge goods, but also in everyday life by e.g. 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, etc. who produce informational content that is appropriated by capital, radio listeners and television viewers who call in live on air in order to discuss with studio guests and convey their ideas that are instantly commodified in the real-time economy, etc. *Hence the production of knowledge is a social, common process, but knowledge is appropriated by capital, and by this appropriation the producers of knowledge become just like traditional industrial labour an exploited class*. The multitude is an expanded notion of class that goes beyond manual wage-labour and takes into account that labour has become more common.

The multitude as the class of all those who are in some sense exploited consists of the following class fractions:

1. Traditional industrial workers that produce physical goods in wage-relationships. Capital appropriates the physical

goods of these workers and the surplus value contained in them.

2. Knowledge workers that produce knowledge goods and services in wage-relationships or self-employed labour relations. Capital appropriates the knowledge goods and services of these workers and the surplus value contained in them.
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 labourers for free in order to reproduce manpower.
4. The unemployed: This class is deprived of job assets by capital and wage labour. It is the result of the tendency of the organic composition of capital to rise which is due to technological progress. The unemployed are just like houseworkers involved in unpaid reproductive knowledge labour that is a necessary condition of the existence of capital. Furthermore the unemployed are frequently forced to take on very low-paid precarious or illegal jobs and hence are also subjected to extreme economic appropriation. Increasingly unemployed persons are forced by the state to perform extremely low paid compulsory over-exploited work.
5. Migrants and workers in developing countries: Migrants are frequently subjected to extreme economic exploitation in racist relations of production as illegal over-ex-

ploited workers. They are exploited by capital and this exploitation is ideologically supported by a certain share of wage labour that hopes to increase its wages and to reach better positions if migrants can be forced to do unpaid or extremely low-paid unskilled work. Developing countries are either completely excluded from exploitation or they are considered as a sphere of cheap, unskilled wage labour that is over-exploited by capital by paying extremely low wages and ignoring labour rights and standards.

6. The retired: They 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 they produce and reproduce intellectual knowledge and skills that is appropriated by capital for free as part of the commons. Students are furthermore frequently over-exploited as precarious workers, a phenomenon for which terms such as "precariat", "generation internship" or "praktikariat" (from the German term "Praktikum" which means internship combined with the term "precariat") can be employed.
8. Precarious and informal workers: Part-time workers, temporary workers, the fractionally employed, contract labour, bogus self-employment, etc. are work relations that are temporary, insecure, and low paid. Hence these workers are over-exploited by capital in the sense that such jobs would cost capital much more if they were done by regularly employed wage-labour (the same is true for

racist labour relations and compulsory work done by unemployed persons). Self-employed persons who don't employ others themselves are forced to sell their own labour power by contracts, they control their means of production, but produce surplus for others who control capital and use the appropriated labour for achieving profit.

We have used the term "over-exploitation" here several times: By over-exploitation capital can gain extra surplus-value, extra surplus-value is a term employed by Marx for describing relations of production in which goods are produced so that the "individual value of these articles is now below their social value." *(Marx 1867: 336)* By employing illegal migrants, unemployed compulsory or illegal workers, students, precarious and informal workers, capital can produce goods at a value that is lower than the average social value because it pays less wages than in a regular employment relationship, hence the commodities produced contain less variable capital, but are nonetheless sold at regular prices so that an extra profit can be obtained.

Already in 1913, Rosa Luxemburg argued that the process of primitive accumulation is not finished, but that capital generates milieus and spheres of unpaid labour that are exploited by violent means: "… 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: 363)[11] This idea was used for explaining the existence of colonies of imperialism by Luxemburg and was applied by Marxist Feminism in order to argue that unpaid reproductive labour can be considered as an inner colony and milieu of primitive accumulation of capitalism. *(Bennholdt-Thomsen/Mies/Werlhof 1992, Mies 1996, Werlhof 1991)*

In Postfordist capitalism the inner colonies of capitalism are expanded so that profits rise by generating milieus of low-paid and unpaid labour. This phenomenon has been termed "housewifization" *(Bennholdt-Thomsen/Mies/Werlhof 1992, Mies 1996)*, 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. The economic logic underlying housewifization is oriented on the reduction of variable capital. Identifying inner colonies of capitalism as classes means to argue like Negri and Hardt that class relationships have become generalized and that the production of value and hence exploitation are not limited to wage-labour, but reach society as a whole.

Knowledge is a social and historical product: It emerges from the historical heritage of knowledge in society and is in many cases produced co-operatively. Hence Marx argued that knowledge "depends partly on the co-operation of the living, and partly on the utilisation of the labours of those who have gone before." *(Marx 1894: 114)* Nature, knowledge

11 English Translation from http://www.marxists.org

and societal infrastructures are due to their collective or natural form of production common property, they are not produced and controlled by single individuals. 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 these are goods that are a necessary condition for capital accumulation, enter production processes and from which capital profits. Capital however, consumes the commons for free, it exploits the results of societal and natural production processes such as education, science, health, reproductive labour, etc. But the essence of the commons is its social character, in capitalism the commons are individually appropriated as proprietary goods by capital. In terms of Hegelian categories one can argue that essence and existence of knowledge on the one hand and the commons on the other are non-identical, because exploitation alienates existence.

Philippe Van Parijs *(1995)* argues that the right of a universal basic income guarantee can be derived from the share of collective resources that each person is entitled to. He speaks of external endowments as wealth that is available without human activity and that must not be earned and is available due to e.g. the appropriation of nature, inheritance or privileged economic positions. *(Howard 2002)* "There is a non-arbitrary and generally positive legitimate level of basic income that is determined by the per capita value of

society's external assets and must be entirely financed by those who appropriate these assets. [...] External endowments, in other words, include whatever usable external object in the broadest sense individuals receive access to. Such material objects as factories and stamp collections, private houses and public bridges, such immaterial objects as nursery rhymes and computer programmes, the work ethic and nuclear technology constitute external assets on a par with beaches, pumpkins, and parrots. The relevant pool coincides with the external wealth with which people are endowed. [...] Many of the technologies we use are incorporated in an age-old wisdom that has become common knowledge [..] Even in a world of equal talents, legally unprotected technologies are not equally available to all. Many technologies can be used only by those who possess the amount and the type of physical capital on which they can be used. Whenever there is such a restriction, the technologies enhance the competitive value of the material goods that confer upon their possessors the ability to use them." *(Van Parijs 1995: 99, 101, 104, 105 sq)*

Van Parijs continues that there is an unequal access to external assets, so that in order to attenuate this inequality a universal basic income guarantee should be available to all. Knowledge can be considered as an external asset in Van Parijs' understanding. Knowledge and skills are produced in processes of education and in everyday life, it is an input to production that is consumed for free by capital in the form of technology and the skills of workers. Knowledge

is not produced once, but continuously and it is reproduced permanently.

On the other hand, all humans benefit from the 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), 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 aspect of education and socialization (practical knowledge). These three forms of knowledge are handed down to future generations and enriched by present generations during the course of the development of society, all humans contribute. Another form of knowledge is technological knowledge, i.e. knowledge that is objectified in machines and practices that function as means for reaching identified means so that labour processes are accelerated and the amount of externalized labour power can be reduced. Not all humans and groups benefit to the same extent from these four types of knowledge, especially corporations consume an over-average high share: educational, entertainment, and practical knowledge are aspects of the reproduction of manpower, these processes are performed to a large extent outside of firms and labour time by individuals and society. Technological progress helps corporations in increasing productivity, i.e. the ability of capital to produce ever more profit in ever less time. Technological knowledge doesn't enter the production process indirectly as the other

three forms of knowledge, it is directly employed by capital in the production process. Technological knowledge is produced by society, but individually appropriated by capital as a means of production. One argument here is that corporations pay for technological progress in the form of machines, software, hardware, etc. that they buy as fixed capital. But the value produced by labour with the help of technology is much larger than the value of technology as such and each individual 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 technology-producing industries 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 doesn't have to pay, but 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 (institutions 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 aren't capitalists and small employers also part of the multitude in the sense that they also contribute to the production and reproduction of the commons in everyday life? There is no doubt that all humans contribute certain shares of unpaid labour to the production and reproduction of nature, knowledge, and public services, etc. But the capitalist class is the only class in society 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 shouldn't be considered as forming a part of the multitude due to its specific general interest in exploiting other classes.

What happens if the multitude as a class enters cyberspace? This question will be treated in the next chapter.

4. Multitude in Cyberspace

There are three aspects of the multitude in cyberspace, an economic (4.1), a political (4.2), and a cultural (4.3) one.

4.1 The Multitude in Cyberspace I – Economy: The Open Source Internet Economy

Global network capitalism has created novel methods and qualities of domination, but at the same time it has advanced new opportunities for co-operation and participation of the multitude that question domination and point towards alternative futures. *(Fuchs 2008)*. It is an antagonistic space that by producing new networks of domination also produces potential networks of liberation that undermine the centralization of wealth and power that has thus far been achieved by networking. Network logic has effects that advance both the sustainable, co-operative, inclusive as well

as the unsustainable, competitive, exclusive character of society. The central conflicts and struggles of modern society (on property, power, and skills) have been transformed in the information age; transnational networks and knowledge have become strategic resources in these struggles. Network commons challenge network capitalism, networked control is challenged by networked participation, and networked manipulation by networked wisdom.

The dialectical antagonistic character of networks in contemporary society reflects Marx's idea that the productive forces of capitalism are at the same time means of exploitation and domination and produce potentials that go beyond actuality, point towards a radically transformed society, and anticipate a societalization of the means of production. (Fuchs 2008) The productive forces of contemporary capitalism are organized around informational networks. It is due to three specific characteristics of such structures that they come in contradiction with the capitalist relations of production and are a germinal form (Keimform) of a society that is based on fully co-operative and socialized means of production:

- Information as a strategic economic resource is globally produced and diffused by networks. It is a good that is hard to control in single places or by single owners.
- Information is intangible, it can easily be copied which results in multiple ownerships and hence undermines individual private property.

- The essence of networks is that they strive for establishing connections. Networks are in essence a negation of individual ownership and the atomism of capitalism.

Informational networks aggravate the capitalist contradiction between the collective production and the individual appropriation of goods. "The contradiction between the general social power into which capital develops, on the one hand, and the private power of the individual capitalists over these social conditions of production, on the other, becomes ever more irreconcilable, and yet contains the solution of the problem, because it implies at the same time the transformation of the conditions of production into general, common, social, conditions." *(Marx 1894: 274)*

In one of the most well-known, but also most misunderstood passages of Karl Marx he says that the "material conditions for the existence" of "new superior relations of production" mature "within the framework of the old society" and that the "productive forces developing within bourgeois society create also the material conditions for a solution of this antagonism." *(Marx 1857/58: 9)*[12] The informational networks that form the major productive forces of informational capitalism have turned into fetters of the

12 The more famous formulation is: "At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or — this merely expresses the same thing in legal terms — with the property relations within the framework of which they have operated hitherto. From forms of development of the productive forces these relations turn into their fetters." (Marx 1858/59: 9).

relations of production. The misinterpretation of Marx is that he might have argued that the development of the productive forces automatically results in revolution and a free society. But Marx always spoke of *material conditions* of a new society. If productive forces are tied up by existing relations there is in no way assured that they can be liberated, they can as well remain enchained and will remain enchained as long as individuals let enchain themselves. Networks are a material condition of a free association, but the co-operative networking of the relations of production is not an automatic result of networked productive forces, a network society – in the sense of a distinctive sublation of network capitalism that constitutes itself as "associations of free and equal producers" *(Marx 1868: 62)* and an "association, in which the free development of each is the condition for the free development of all" *(and vice versa! Marx/Engels 1848: 482)* and that is self-organizing according to the principle "From each according to his ability, to each according to his needs" *(Marx 1875: 21)* – hence, a network society is something that people must struggle for and that they can achieve under the given conditions, but that could very well also never emerge if the dominant regime will be successful in continuing its reign. Networks anticipate a society in which "the antithesis between mental and physical labour has vanished", "the productive forces have also increased with the all-around-development of the individual", and "the springs of co-operative wealth flow more abundantly" *(Marx 1875: 21)*. Networks are forms of development as well

as fetters of capitalism; paraphrasing Marx one can say that informational capitalism is a point where the means of production have become "incompatible with their capitalist integument." *(Marx 1867: 791)*

Knowledge is in global network capitalism a strategic economic resource; property struggles in the information society take on the form of conflicts on the public or proprietary character of knowledge. Its production is inherently social, co-operative, and historical. Knowledge is in many cases produced by individuals in a joint effort. New knowledge incorporates earlier forms of knowledge; it is based on the whole history of knowledge. Hence it is a public good and it is difficult to argue that there is an individual authorship that grounds individual property rights and copyrights. Global economic networks and cyberspace today function as channels of production and diffusion of knowledge commodities, the accumulation of profit by selling knowledge is legally guaranteed by intellectual property rights. Richard Stallman *(2005)* argues that the practice of persecuting the unauthorized redistribution of knowledge by robot guards, harsh punishments, information ads, legal responsibility of internet service providers, and propaganda reminds him of Soviet totalitarianism in which the unauthorized copying and redistribution known as Samizdat was prohibited.

In cyberspace an alternative production model has been developed that visualizes economic goods not as property that should be individually possessed, but as common goods to which all people should have access and from

which all should benefit. This model stresses open knowledge, open access, and co-operative production forms, it can e.g. be found in virtual communities like the Open Source community that produces the Linux operating system which is freely accessible and to which due to the free access to the source code of its software applications people can easily contribute. The open access principle has resulted in global open source production models where people co-operatively and voluntarily produce digital knowledge that undermines the proprietary character of knowledge (if knowledge is free and of good quality, why should one choose other knowledge that is expensive?). The open source principle has also been applied to other areas such as online encyclopaedias (Wikipedia) and online journalism (Indymedia).

Open source communities and peer-to-peer networks are global networked spaces of production in which the multitude co-operates in cyberspace and that advance principles of open access, free distribution, co-operative production, and common ownership of goods. Networking not only produces new models of capital accumulation, but also alternative production models that undermine corporate power and suggest social spaces in which goods are jointly produced and freely distributed.

These are economic potentials for co-operation that result from the multitude's entrance into cyberspace. Next we will discuss political implications.

4.2 The Multitude in Cyberspace II – Politics: Cyberprotest and New Social Movements

In the political realm the multitude expresses itself (among other forms) as global grassroots networks that want to establish a more just and participatory society and challenge global networks that centralize political power. Participatory movements that would like to create a global democratic public sphere question the establishment of new hierarchies with the help of networks. Cyberspace is a system that is embedded into the political antagonism between networked control on the one hand and networked participation on the other. It is organized in a decentralized way and allows many-to-many-communication of people who do not need to be present at the same place at the same time in order to establish a social relationship. Cyberspace enables time-space-distanciation of social relationships; humans are less dependent on physical, geographical space. Some scientists argue that the decentralized organization of the Internet allows the emergence of direct democratic "grassroots" communities that challenge the centralization of power and that hence a participatory society could be eventually established. Others say that the global networked information space allows the rise of totalitarian forms of surveillance and control. Obviously, cyberspace has both the potential to strengthen participation and surveillance; these are the two tendencies that are at work at the same time and

that contradict each other. There are examples that show that cyberspace can strengthen participation as in the case of the networking of global social movements and the emergence of alternative online media *(cf. Fuchs 2006a, b, c)* or the circumvention of censorship with the help of the Internet as in the case of the Serbian opposition during the war in Yugoslavia. And there are also examples that show that cyberspace can advance surveillance of individuals as in the case of the filtering and scanning of internet communication by secret services after the terrorist attacks of September 11th, internet cookies, profiling of online behaviour for economic purposes, Trojan horses that spy on passwords, etc. If information is power and cyberspace provides a global decentralized infosphere, then the idea of a global networked political community implies to give power to the many. We think that cyberspace has thus an inherent democratic potential and could strengthen the deliberative character of society by providing public forums for communicative action in which people could discuss in participatory ways. Cyberspace is *not yet* a democratic space though, but a segmented, divided space in which access, skills, and benefits are asymmetrically distributed along separating lines of demarcation such as income, origin, nationality, class, race, gender, age, educational level, language, etc. As long as cyberspace is primarily a sphere of commerce and capital accumulation, the problem of the digital divide will not be solved.

The new forms of global networked domination have produced networked struggles that challenge the es-

tablished system, express disagreement, and stand for alternative identities and models of society *(Fuchs 2006a, b, c)*. The interactions in the new social movements (such as the anti-corporate movement) often have a co-operative grass roots character that is different from the traditional centralistic style of organization in parties, bureaucracies, and labour unions. The fascination that these movements exert on many people is partly due to the fact that they make grass roots democracy vivid, noticeable, and sensible within a world of heteronomy and alienation.

A social movement is not a singular group, but a network of protest groups that are communicatively linked. Protest negates certain existing social structures and stands up for the negation of the negation (sublation) of certain social antagonisms that cause social problems. Protest groups such as ATTAC or Amnesty International are forms of critical protest, whereas e.g. Al Qaida, neo-fascists, and anti-abortionists are non-progressive and non-critical protest groups. This is mainly so, because critical protest is oriented towards the future, it identifies possibilities within existing society that help to improve the situation of mankind and to reach a higher and progressive level of societal organization. Fundamentalist protest movements are not oriented towards the future, but towards the past, i.e. they do not want to substitute structures of domination by co-operative and participatory structures, but rather want to conserve, transform, or rebuild ancient hierarchies of domination.

The anti-globalization movement e.g. is a new social movement that has emerged at the turn of the millennium and questions neoliberal globalization *(Fuchs 2006a)*. It can be considered as a reaction to the frictions and stratifications that have been caused by neoliberal globalization. There are both right wing and left-wing anti-globalization activists. Extreme right-wing groups such as the British National Party, the Nationaldemokratische Partei (NPD) in Germany, Front National in France, and the Austrian Freedom Party (FPÖ) see globalization as a threat to national economies and national identity and argue that the economy should be nationally controlled and immigration should be strictly restricted in order to guarantee national identity. Right-wing anti-globalism tends to argue that globalization is an ideology that is advanced by Zionism, Marxism, and Liberalism. Globalization is presented as a worldwide conspiracy against national identity, Western culture, and/or the white man. Such arguments frequently have racist and anti-Semitic implications. For right-wing anti-globalism neoliberal globalization is not the result of the structural logic of capitalism, but the result of a conspirative political plan of powerful elites. They do not argue in favour of an alternative globalization, but suggest nationalism and particularism as cure for the problems caused by the dominant form of globalization.

Far more important in number of activists and public attention than right-wing anti-globalism has been left-wing anti-globalism. It has called public attention by protests such as at the gathering of the WTO in Seattle in November 1999,

at the gatherings of the IMF and the World Bank in Washington in April 2000 and in Prague in September 2000, at the G8-gathering in Genoa in July 2001, and by annually organizing the World Social Forum in Porto Alegre as a counter event to the meetings of the World Economic Forum.

Left-wing anti-globalism can be considered in the terminology of Jürgen Habermas as a reaction to the increasing colonization of the life-world by capital and power. The term "anti-globalization movement" is mistakable because the movement is not purely defensive and reactive, but a proactive movement for global democracy and global justice. Hence it can better be characterized by terms such movement for an alternative globalization or movement for democratic globalization. The insurgency of the Mexican Ejército Zapatista De Liberación Nacional (EZLN) against impoverishment, neoliberalism, NAFTA, land expropriation, and for freedom, dignity, justice, human rights, and democracy has resulted in the emergence of a global solidarity movement that makes use of the Internet. The EZLN has been characterized as the first informational guerilla *(Castells 2004)* and as the germ cell of the anti-globalization movement.

The movement is a transnational protest movement that is global in character and has a decentralized, networked form of organization that mediates the production of common values, identities, goals and practices that transcend spatial and temporal boundaries. It communicates mainly with the help of the Internet that is used in order to organize

worldwide protests and online-protests, discuss strategies, reflect political events and past protests, and to build identities. Internet-based protest forms that can be termed *cyberprotest* or cyberactivism *(Fuchs 2006b)*, mailing lists, Web forums, chat rooms, and alternative online media projects such as Indymedia are characteristic for this movement that has a high degree of openness, accessibility, and globality. The term cyberprotest means that for protest movements the Internet is a medium of communication that is used for preparing and co-ordinating global protests, as a discussion medium for exchanging views, strategies, and goals, an information- and dissemination-medium for the dispersion of alternative knowledge, as a medium of mobilization for so-called "consciousness-raising groups", and as medium of co-operation for virtual protests *(Fuchs 2006b)*.

The "anti-globalization" movement is pluralistic and to a certain extent contradictory, groups that are involved include traditional and autonomous labour unions, art groups, landless peasants' groups, indigenous groups, socialists, communists, anarchists, autonomous groups, trotskyists, parts of the ecology movement and the feminist movement, Third World initiatives, civil rights groups, students, religious groups, human rights groups, groups from the unemployment movement, traditional left-wing parties, critical intellectuals, etc. from all over the world. It is a network of groups from different social movements, a global network of networks, a movement of social movements, a universal protest movement, a coalition of coalitions that aims at re-

claiming the common character of goods and services that are increasingly privatized by agreements such as GATS (General Agreement on Trade and Services) and TRIPS (Trade-Related Aspects of Intellectual Property Rights).

Due to its structure and diversity the movement is rather undogmatic and decentralized, it cannot be controlled and dominated. The unity of this plurality emerges by the common mobilization against the neoliberal intensification of the global problems. The different issues and concerns of the involved groups are connected by the fact that they all consider problems that have been caused by the logic of capitalistic globalization. The goals and practices of the movement are not homogeneous; there is e.g. a large difference between reformist and revolutionary activists and between non-violent and militant methods of protest. Another difference concerns those parts that argue in favour of the strengthening of the regulation of capitalism at a national level and those parts that want to put a global democracy in place of national sovereignty.

As a collective actor that is composed of many interconnected non-identical parts the movement can as a whole be considered as striving for global democracy, global justice and the global realization of human rights. It tries to draw public attention to the lack of democracy of international organizations and puts pressure to support democratization on dominant institutions. It is a global non-parliamentary opposition that acts and thinks globally. The movement is spontaneous, decentralized, networked, self-organizing, and is

based on grassroots democracy. Its organizational form is an expression of the changing organizational features of society that is increasingly transformed into a flexible, decentralized, transnational, networked system of domination.

We have described political potentials of the multitude in cyberspace, next we will discuss some cultural implications.

4.3 The Multitude in Cyberspace III – Culture: Virtual Communities

The multitude in the sense discussed above organizes itself in cyberspace not only in the political realm of society, but also in everyday life (the cultural system of society) in the form of communication and co-operation in virtual communities. A *virtual community* (VC) is thus a global socio-technological system that is based on a technological structure consisting of networked computer networks that stores objectified human knowledge, human actors permanently re-create this global knowledge storage mechanism by producing new informational content, by communicating in the system, and consuming existing informational content in the system; the technological infrastructure enables and constrains human communication *(Fuchs 2006d)*.

Modern society is characterized by an antagonism of co-operation and competition. Competition dominates social interaction, and in Postfordist capitalism colonizes cultural spheres of life that have during Fordism been more influenced by co-operation (such as friendships, everyday life, family, science, education, health, belief). One hence cannot expect that under such conditions virtual communities are harmonious, solitary, consensus-oriented spaces that display a great deal of togetherness as expected by Ferdinand von Tönnies and other early representatives of communitarian thinking. *Instead, virtual communities are social spaces that are shaped by the antagonisms of late-modern*

society and hence are characterized by both competitive and co-operative relationships. Competition (for prices and market shares of commodities) is obvious in economic virtual communities and is also rather easy to find in contemporary political virtual communities in the form of competition for better political arguments. Virtual communities are spatially disembedded and technologically mediated social spaces of permanent communication, fields of free play where meanings – interpretations of the world – are being confronted with each other. *Virtual communities are thus social spaces for the production and representation of symbolic distinction and state differences*. Hence, in the sense of Bourdieu, virtual communities are social spaces for accumulating symbolic capital, a capital of state (status), rank, and reputation that produces differences that gives single users a feeling of superiority (to be more precise: of *eigenrank* stating one's own desired position) *and* communicates this to others. *Virtual communities are thus also social spaces of semiotic struggle*.

But the competition of different worldviews and meanings for distinction and appreciated status is only one aspect; another one is the co-operative sharing of meaning and the joint production of new (synthetic & synergetic) meaning online. Users communicate interpretations of the world (whether fictitious or grounded in their own life) in virtual communities, in doing so they meet a lot of other personae communicating other meanings that signify interests, ideas, tastes, experiences, feelings, body look, etc. The quality of anonymity enables users to potentially con-

struct meanings (virtual meanings) that do not correspond to the meanings that they give to the world and that represent their bodily, social, and cognitive identities ("real life" meanings). Participants in virtual communities do not only look for difference and status, they also look for friends, new acquaintances, shared interests in culture and politics, advices, opportunities for discussion, etc. The construction of differences (distinction) to other users might be used for impressing other users. Besides competition there is also a great deal of shared meanings and joint meaning production in virtual communities. This happens in conversations in which users discover interest in certain characteristics of other online personae (ideas, look, manner of online behaviour, shared experiences, humour, shared hobbies or love for certain bands, movies, TV series, celebrities, political ideologies, destinations, etc.). It is probable that users engage in continued conversation with online persons with whom they share certain communicated meanings.

At this level virtual community acquires a new dimension beyond common technologies and common general interests, a certain degree of togetherness, i.e. an overlap of meanings, is discovered and creates attraction and continued conversations *(Fuchs 2006d)*. The trajectory of such a conversation, i.e. a common history of online persons, is undetermined and unpredictable, they might end the online contact once one discovers that the other doesn't fulfil certain expectations, they might transfer conversation to face-to-face meetings and either become friends (or even lovers)

or never meet again afterwards, they might continue conversation at the virtual level for a long time, etc. Everything's possible in the virtual world just like in the "real" world with the difference that online conversation requires more imagination as it is frequently less rich in contextual information and hence more prone to misunderstandings. Whenever online persons discover common interests and attraction they start producing to a certain extent joint meanings that they all agree upon. Here community acquires its original sociological sense as defined by Tönnies, Weber, and others, a virtual (i.e. technologically mediated) structure of feelings is produced that is characterized by a feeling of togetherness and belonging, shared meanings and beliefs, co-constructed new meanings, common values, intimacy, emotional commitment, bonds and emotional ties, consented values and interpretations.

Not all virtual communities and not all users reach the third level though; community in many cases remains a technologically mediated space of repeated communication. Raymond Williams *(1985: 75)* has pointed out that etymologically community on the one hand indicates actual social groups (in the sense of common people, state, people of a district) and on the other hand a particular quality of relationship (community of interests, community of goods, common identity and characteristics). All virtual communities and all online relations are communities in the broader first sense, not all of them are communities in the second understanding of the term. The first and second level of vir-

tual community that we pointed out are an expression of the first meaning of community, the third level is an expression of the second meaning of community.

It is important to stress that virtual communities are not idyllic and harmonious; they are an online arena of co-operation and struggle. Characteristics of late-modern society such as the colonization of the life-world and the whole society by economic logic are again reproduced in cyberspace; hence virtual communities are not only spaces of co-operation, but also colonized spaces governed by competition. Cyberspace is a contested terrain, on the one hand it is dominated by the forces of commercialization and commodification, on the other hand it is also a space for a great deal of voluntary, altruistic co-operation as in the case of open source and open content communities, Wikipedia, online friendships, online love, etc. Today cyberspace is (like society altogether) dominated by competition, a process that following the theory of Jürgen Habermas be termed colonization of virtual communities. Howard Rheingold speaks in this context with a reference to Marx of the "notion of community as commodity" *(Rheingold 2000: 341)* and of the "commodification of community." *(Rheingold 2000: 389)* Colonization takes place on the one hand in the form of competition for status and prestige in VCs and on the other hand in the form of commodification of VCs, i.e. the closure of VCs and the imposition of financial access barriers that make VCs non-public (i.e. freely accessible for all) spaces. But there is a real potential for change (of both society and cyberspace)

towards a future space dominated by highly co-operative communities that engage in the joint production of meaning and digital resources. Virtual communities then will not only be spaces where humans share technological standards and broad interests that structure online communication, but also social spaces of co-operation and participation from which strong ties and common identities emerge that are open, democratic, joyful, and allow plurality. But for achieving this condition, the predominantly competitive character of society will have to be change towards much more co-operative conditions.

Some important qualities of virtual communities are:

- *Anonymity*: Communication is potentially anonymous communication.
- *Identity-building*: Anonymity enables the construction of identities online. These identities are based on and connected to the life offline; they are a continuously changing product of online activity and they feed back into the offline world.
- *Flexible membership*: There is a non-binding membership (retreat from communication is easily possible).
- *General interest and topics*: There is a shared interest or context that structures communication.
- *Communication*: There is permanent interaction going on.
- *Rules*: There are formal or informal conventions of online behaviour, style, and language.

- *Space-time*: Communication is spatially disembedded (non-local in the weak sense) and temporally asynchronous (non-temporal).
- Meaning: Meaning is communicated and shared in VCs, new meaning is jointly produced and emerges from social practices and engagement with others in VCs.
- *Voluntariness*: Interaction in virtual communities is voluntary.
- *Globality*: Virtual communities have a global dimension.
- *No contextual queues*: In text-based VCs verbal and non-verbal forms of expression (body language, gestures, facial expression, voice pitch) cannot be communicated. Therefore, VCs are more prone to misunderstandings than face-to-face communication and require more articulation work for communicating extra knowledge that conveys feelings and the context of communication (e.g. in the form of emoticons). Communicating emotions explicitly (to "emote" them) in textual form is a strategy for overcoming contextual limitations of computer-mediated communication (CMC). Text based CMC can result both in a neglect of the body and an increased attention to the body *(Döring 2003: 287)*.
- *Expressive communication*: Due to the potential anonymity and a lack of non-verbal expression in text-based VCs the Habermasian claims to validity of truthfulness (correspondence of intention and statements) and normative rightness (clarification of and agreement on the normative context of communication) are often harder to achieve

online than offline. Online communication easier than offline communication shifts into a more expressive and affective mode and is more prone to breaking normative rules of communication (as e.g. in flame wars). In order to avoid such problems moral rules develop in cyberspace and in VCs (netiquette, chatiquette).

- *Speed*: Relationships can quickly become more enhanced online than offline in a positive and a negative sense because anonymity and the lack of visual cues encourage projection *(Turkle 1997: 206sq)*. People feel more courageous online than offline because they can more easily terminate a conversation, and they feel that there are potentially less consequences of actions in a symbolic space than there are in a physical space. There are thus lower inhibition thresholds online than offline and one arrives at private topics more quickly *(Döring 2003: 457)*. Online communication in some respect seems to accelerate social contact and social relationships, which also means that online contacts are not only quickly created, but can also be quickly abandoned. Anonymity allows masking handicaps and accentuating certain individual characteristics, which might lower inhibition *(Döring 2003: 460)*. VCs are generally more easily to join and to leave, which will result in more dynamic and continuous membership evolution *(McLaughlin/Osborne/Smith 1995)*.
- *Sociality*: Communication in VCs is a social activity, but it is in most cases carried out physically alone in front of a screen. Max Weber argued that "action is social, in so

far, by virtue of the subjective meaning attached to it by the acting individual (or individuals), it takes account of the behaviour of others and is thereby orientated in its course." *(Weber 1947: 88)* Online communication of one individual is in this sense oriented on the messages typed/communicated by others; hence it is always a social activity.

- *Reflexion*: In a VC other than in an offline community where people meet face-to-face one can postpone reactions and take more time for reflexion before giving answers to questions.

VCs are not necessarily global though: Douglas Schuler *(1996)* has coined the term community networks for computer-mediated communication that encourages communication and participation in local communities. Examples are the Free-Nets in the USA and the Seattle Community Network. "Community networks are an attempt to use computer network technology to address the needs of the community. A major part of that effort is spent making computing facilities available to everybody in a community, especially those without ready access to the technology. [...] While virtually all community network systems do offer access to at least some Internet services (e-mail at a minimum) the focus of a community network is on the local community. To that end it is important to involve local organizations and individuals in a democratic process that guides both the design and the operation of the network." *(Schuler 1995)* The internet is an

evolutionary system, hence new overall systemic qualities will emerge sooner or later. Terms like Web 2.0 and social software indicate that many people perceive a more fundamental change of the internet. How does this change affect virtual communities?

Information, communication, and co-operation represent the main aspects of the internet: This has been stressed recently by the concepts of Social Software and Web 2.0 that focus on the transition from information consumption and publishing to applications that support more communication, co-operation, and participation on the internet *(O'Reilly 2005)*. Tim O'Reilly *(2005)* has stressed that the transition from Web 1.0 to Web 2.0 means a change from the web as a publishing platform to a tool supporting participation. Communication applications have been supported by the internet since its beginning, but at least since the rise of the world wide web is has been dominated by information provision applications. With the rising importance of social software the character of the world wide web changes, many-to-many-communication and co-operative knowledge production seem to become new dominant qualities of the web. Social software (like discussion boards, mailing lists, wikis, blogs) has become a central foundation of internet activities. "Social software is a set of tools that enable group-forming networks to emerge quickly. It includes numerous media, utilities, and applications that empower individual efforts, link individuals together into larger aggregates, interconnect groups, provide metadata

about network dynamics, flows, and traffic, allowing social networks to form, clump, become visible, and be measured, tracked, and interconnected." *(Saveri/Rheingold/Vian 2005: 22)* Maria Bakardjieva *(2005)* distinguishes between a rationalistic model of Internet communication and committed online communities. In the first model users focus on finding information for instrumental reasons, in the second model the central value is socialbility and an important characteristic is interpersonal commitment. The first would be a consumption model of the internet, the other a community model. "The qualitative distinction between the two models lies in the absence or presence of users' involvement with one another." *(Bakardjieva 2005: 180)* We think that these two social models can be mapped to the two versions of the web: Web 1.0 was more oriented on infosumers, Web 2.0 is more oriented on community or what Bakardjieva calls virtual togetherness. Hence Web 2.0 seems to be closer to the idea of virtual communities than Web 1.0.

In the self-organization of the World Wide Web what permanently emerges are new websites and links and the users permanently browse websites and links and hence give meaning to the provided data *(Fuchs 2005b)*. In newsgroups and mailing lists self-organization means the dynamic emergence of new postings and replies. In blogs self-organization is achieved by the emergence of new postings by one author in the case of an individual blog and by many authors in the case of groups blogs, by the browsing of entries, and by the production of comments to postings

by many users. In a wiki self-organization is achieved by permanent changes to content pages by many different authors, new text of pages emerges dynamically.[13] The entity that is permanently produced and reproduced is the overall hypertext structure in the www, postings in the case of newsgroups, mailing lists, and blogs, and content pages in the case of wikis. The world wide web and wikis are page-centred, but a single wiki page is much more dynamic than most webpages and allows many/all users to permanently make changes, whereas ownership of a webpage is individualized. If one could compare technologies metaphorically to political systems, than a webpage were close to the capitalist idea of the individual property of means of production and wikis close to the communist idea of the public property of means of production. Mailinglists, newsgroups, and blogs are post-centred, individual contributions in the form of single messages and comments that have one author are the units of reproduction of the overall system.

Some important aspects of social software and Web 2.0 are:

- *Many-to-many communication*: Social software enables many users to reach many recipients; each receiver can

13 A *blog* is a website on which users can post messages that are chronologically stored and other users can comment on these entries. It is a sort of online diary that has public character and hence breaks down the border between private and public. The main difference between mailinglists/newsgroups and a blog is that a blog is always web-based and archived in reverse chronological order (newest entries first). A *wiki* is a dynamic website on which all pages can be edited by all users with the help of special editing tools in which users make use of a wiki markup language.

be a sender of information, each consumer a producer. The dialectical figure of the *prosumer* emerges.

- *Co-operation*: Wikis enable users to collaboratively produce digital knowledge without being physically co-present. Users read existing texts or create new ones (cognition), they discuss how texts could be changed, appended, and enhanced (communication), and they together produce new content (co-operation).
- *Open source/content*: The wiki software is open source, wiki pages are open content – everyone (in a user group) can access and edit them. People write wikis not for earning money, but because they want to share knowledge. The motivation for producing wikis is a social one, not an economic one. Large wikis like the Wikipedia attract interest by being freely available on the internet. Hence the knowledge of Wikipedia and other open content projects is not a commodity from which economic actors derive profit, it transcends instead the instrumental logic of accumulation, profit, competition, and commodification and is based on an ethos of co-operation, public goods, and shared knowledge that constitutes a new logic, the one of a gift economy. However, this should not be taken for granted: One can well imagine that such systems are suddenly colonized by capitalist logic, i.e. that their knowledge is sold in order to accumulate money capital. Non-commodified open content projects are what Jürgen Habermas has described as life world-spheres of communicative action that enable rational co-operation, but are

threatened by the influence of the steering media money (commodification, big business) and power (bureaucratization, big power). This would mean that all active users have produced surplus value for absolutely no wage. Such a strategy would be an extremely sophisticated and perfidious way of exploiting knowledge labour. But such an ideology would probably also put an end to such projects because for many users the non-proprietary character and free availability of open content knowledge is a driving factor for their commitment.

- *Real participation vs. participation as ideology*: Stephen Coleman *(2005)* argues that blogs could help establishing a new politics of listening in which everyone has a voice. They could become "sophisticated listening posts of modern democracy" and sources "of nourishment for a kind of democracy in which everyone's account counts." *(Coleman 2005: 274)* A centralized control of public opinion by totalitarian regimes or market forces (as in the case of private media monopolies) can be undermined by internet platforms that pose opportunities for alternative information and communication. Social software due to its ability of supporting many-to-many-communication has a potential for acting as tool that helps establishing a more participatory democracy in which decisions are discussed and taken by those affected by them. It can also strengthen the voices of civil society and hence help create alternative public spheres that are critical of dominant societal structures and communicate protest. Hence social software

can act as a tool supporting cyberprotest *(cf. Fuchs 2006b)*. Chris Atton *(2004: 26)* speaks in this context of an alternative internet that creates a counter-public sphere and is "opposed to hierarchical, elite-centred notions of journalism as a business". But, obviously, for all of these positive developments to take place what is first of all needed are institutional changes. The impact of social software on the political system depends on the societal embeddedness of technology. Blogs can also be appropriated by politicians, parties, and the representative political system for giving voice to the people without listening and giving people a say in political decisions so that they can communicate political ideas and have the illusionary impression that they can make a difference, but in reality can't influence policies. In such a case blogging becomes an ideology and an expression of repressive tolerance *(Marcuse 1969b)*. Social software can support grassroots digital democracy just like it can support representative and plebiscitarian forms of digital democracy. It is an ethical and political choice which of these models one considers as more desirable and democratic. Blogs that are not used for citizen-citizen-communication, but mainly for the communication of politicians with citizens within the existing representative institutions and without establishing more participatory institutions, are not a form a participatory digital democracy, but of representative digital democracy. In the US Presidential pre-elections 2004 Howard Dean was very successful in mobilizing supporters and funds by making

use of blogs *(Kline/Burstein 2005)* and the blog of the Bush campaign was successful, but didn't invite comments from readers *(ibid.)*. This shows that social software can be incorporated into big politics (as well as big business) that can result in a destruction of its participatory potentials. In such cases social software is colonized in the Habermasian sense of the word by power and money. Social software can have empowering effects if it is used as a tool for communication and co-operation in civil society. David Kline and Dan Burstein *(2005: xiv)* argue that blogging can contribute "to restoring the lost voice of the ordinary citizen in our culture" and that it can broaden "the range of voices and issues for political debate". *(9)* There is certainly a potential of social software to support the rise of alternative public spheres, but this is not technologically determined, there is no technological fix to the lack of institutions that guarantee political participations, besides technological tools most importantly institutional reforms are needed. There is no automatism in the effects of blogging, it will not as Kline and Burstein claim "inevitably lead to a strengthening of the civic mindedness of the citizenry." *(Kline/Burstein 2005: 11)* The effects of technology are not determined as technodeterministic positions argue, they depend on the social embededdness and construction of technology.

- *Self-organized structures*: Open content projects that are based on social software are in many cases not controlled

by an elite-group that takes decisions, but self-managed networks of activists.

- *Citizen journalism vs. Corporate journalism*: In journalism blogs can be an opportunity for marginalized voices to be heard and listened to because blogging does not require much money capital as establishing a newspaper does. All citizens can in principle become journalists by political blogging. Dan Gillmor in this context considers blogs as online grassroots journalism, he argues that they "can be acts of civic engagement" *(Gillmor 2006: 139)* and establish a "read/write Web". *(24)* For Chris Atton blogs are a less reticulated and less social movement-minded version of alternative online media that applies "similar principles of native reporting, media critique, discussion and dialogue amongst its writers and readers." *(Atton 2004: 55)* However, that everyone is in principle able to post political ideas in a blog doesn't mean that (s)he will be heard and listened to because blogging today takes place in a hierarchical and stratified society in which public attention can be bought and is controlled by media corporations and political elites. Hence a blog run by established actors might be more listened to than one by marginalized actors. Wide-spread blogging alone doesn't solve the problem that there is a lack of political participation, institutional reforms of society are needed besides technological change that can support, but not substitute such reforms. Social software like blogs could challenge and weaken the domination and monopolization of political information and commu-

nication by large media corporations that commodify and industrialize culture, but it is not determined that it has positive effects on the public sphere.

- *Collective Intelligence*: A wiki is more than the knowledge of single individuals and more than the agglomeration of knowledge of many single individuals, due to co-operation knowledge emerges that is more than the sum of the knowledge of the contributors and as a new quality has a shared perspective to which the contributors all agree. Pierre Lévy *(1997)* has termed the new quality of such emergent knowledge systems Collective Intelligence.

Some people argue that blogging is an inherently self-centred activity without political relevance. This might indeed be the case for individual blogging that supports the dominant idea of distinctive lifestyles as strategy for accumulating symbolic capital, but there is a more radical potential in group blogs and the political usage of blogs. There are many examples of the influence political blogs such as their role in the debate on the French plebiscite on the European constitution in 2005 and the protests against the deregulation of dismissal protections for young French people in 2006, in the Iraq war (WarBlogs), in communicating political opposition in Iran, or in the US Presidential elections in 2005. Richard Kahn and Douglas Kellner *(2004)* argue that the political developments after 9/11 have produced a social movement that makes use of the internet for political activism. These activities would transform the internet itself and result in

phenomena such as political blogs that form a "vital new space of politics and culture." *(Kahn/Kellner 2004: 94)*

The blogosphere is the "world of blogs as a collective group" *(Kuhns/Crew 2006: 7)*, "an alternative universe created by the aggregation of hundreds of thousands of blogs". It is a network of blog systems, blogs are interrelated by permalinks and can be indexed, searched, and assessed with the help of meta-blog-systems such as Technorati, Feedster, Bloglines, Blogpulse, Pubsub, or Blogdex.

Web 2.0 is more dynamic than Web 1.0 and hence self-organized changed is at its very nature. It is more connected to co-operation than Web 2.0 and hence has a potential to realize the co-operative potentials of the multitude in virtual communities.

5. Conclusions: Implications of Cyberspace

In this present text we have discussed the philosophical implications of the notion of the multitude for contemporary society. We will now shortly summarize the main line of argument:

For Spinoza the multitude is a collective potential in society that aims at a common consent by means of reason. For him, an assembly constituted by the whole multitude is a democracy, and democracy would be needed for society to work. This is a radical assumption insofar as it assumes that without participatory democracy there can be no true society. Negri and Hardt have pointed out that Spinoza's position is one of absolute immanence: In the participatory democracy defined by the multitude there is no outside, there is nobody who is not participating and co-operating. Hence Spinoza can be read as a radical negation and critique of domination and political alienation: all decisions are taken by all. It could be said that to the vision of the economic

ownership of the means of production by all, Spinoza added a democratic political vision. It is in this respect that Marx and Spinoza have in common a democratic universalist view of society.

We have pointed out two materialist lines of argument for philosophically grounding participatory democracy. Both views have in common *the transcendental assumption that there is absolute immanence*, the first approach sees this immanence in society, the second in nature.

In the line of thought of humanist materialism co-operation is seen as the very essence of society. There would be no society at all without co-operation. A true society would be one in which existence corresponds to essence, which implies that a co-operative participatory society is a true society.

In the line of thought of transcendental naturalist materialism matter is seen as an active, producing substance of nature (natura naturans that dynamically produces a natura naturata). If there is an immovable substance behind all things, then nature is self-organizing and autonomous from external creation. If society is mapped as an attribute and organizational level of substance, then autonomy and self-organization means that heteronomous influences are not needed for the functioning of society and that hence it can best work as a co-operative participatory society devoid of domination and exploitation.

Negri and Hardt have given a contemporary meaning to the concept of the multitude. They argue that in the

Empire exploitation and struggles are networked, many different subjects co-operate in the multitude for producing surplus value, they are all exploited by capital because they jointly produce the commons of society that are appropriated and expropriated by capital and turned into money profit. Negri and Hardt oppose dialectics, but they fail to recognize that the antagonistic character of the Empire that they describe – as a structure that networks exploitated subjects in order to better exploit them, but by networking produces new forms of co-operation that could question capitalism and anticipate a co-operative, participatory society – is nothing but a reformulation of the Marxian dialectic of the productive forces and the relations of production with an added emphasis on human practice and struggles so that a deterministic interpretation of history can be avoided.

If we read Negri in more detail, we recognize that a true opposition to dialectics is more than unprobable after all. As he says himself: "Collective human praxis, while becoming politics, supersedes and comprehends the individual virtues in a constitutive process tending toward a general condition. The dialectic between the 'multitude' of citizens or subjects and the prudence of administrators or politicians, which seems to constitute the problem, comes to a resolution only as a dialectical formula itself [...] negated." *(Negri 1991: 188)* This is of prime importance for the quality of the multitude itself: "The collective dimension", as Negri continues with a view to Spinoza's political tractate *(II, 13 through 17)*, "dislocates the antagonistic process of be-

ing. The *multitudo* is no longer a negative condition but the positive premise of the self-constitution of right." *(Ibid., 194)* In other words: "The multitude has become a productive essence." *(Ibid., 195)* This is indeed what we usually would call a *natura naturans*. And finally again: "This absolute [of the multitude] is not … an absolute in the proper sense: it is, rather, the product of open and negative dialectical conditions and the result of a historical process. [...] The constituent principle thus represents and concludes the principle of modernity, because it leads the structure of modern producing to the subject of this producing." *(Negri 1999: 306)*

Next we showed what happens when the co-operating multitude enters cyberspace. In the Empire dominant classes use the internet for co-ordinating exploitation and domination, but this heteronomous use can be questioned by the multitude in economic, political, and cultural processes: The internet allows the emergence of an open gift-economy in which the multitude shares knowledge for free and hence undermines capital accumulation. Cyberspace is a networked global system, it can support the co-ordination, communication, and co-operation of social protest movements. This phenomenon can be termed cyberprotest. In the cultural realm the emergence of virtual communities can connect individuals at a global scale, the rise of social software and Web 2.0 has the potential to advance co-operative knowledge production and communicative action in society.

These three tendencies all speak in favour of the potential of cyberspace to support co-operation of the multitude. The interconnected, open, global structure of cyberspace anticipates a participatory co-operative society. But there is no technological determinism, new technologies don't bring social progress automatically. It will be decided in social struggles if the multitude can advance the co-operative character of society, cyberspace, and the information society, the result of these struggles is not determined.

As a conclusion we now want to outline at a more general level the democratic potentials of cyberspace for helping to establish a participatory democracy, which is the very nature of Spinoza's concept of the multitude.

5.1 eParticipation: Democracy and Multitude in Cyberspace

It is the term *eParticipation* that describes the fact that computer-based information and communication technologies (ICTs) can be used by the multitude for empowering cognition, communication, and co-operation processes such that they can jointly construct participatory social systems. In eParticipation processes ICTs provide individuals with capacities and resources for changing organizations and society according to their will, they provide groups and organizations with capacities and resources for changing society and better including individuals, and they provide society with capacities to better include groups and individuals.

The grassroots concept of digital democracy (eParticipation) mainly stresses citizen-citizen digital communication, and communication processes of and in non-governmental civil society protest groups and movements. Whereas plebiscitary and representative models of digital democracy stress the relationship of governments and citizens, the concept of grassroots digital democracy stresses the communication of civil society and citizens and has the vision that from these communication processes an alternative participatory society that is self-managed and self-organized could emerge. Technologies and tools that are favoured for online politics include online-discussion boards (web-based, non web-based), mailing-lists, wikis, political

blogs, political chats (which are very rare, examples are PoliticalChat! *(http://www.4-lane.com/politicalchat/)* which is technically very old-fashioned and hardly used and usable for discussion, and the IRC channel #politics), cyberprotest tools (like FloodNet that allow ping attacks/denial of service attacks, e-mail bombs, or IRC jamming), online petitions, and online protest campaigns.

The concept of eParticipation is close to the models of bottom-up-digital democracy of Manuel Castells, Benjamin Barber, and Howard Rheingold. Castells *(2004)* argues that digital democracy will be exclusive and one-way as long as it is controlled by parties and governments, he is optimistic concerning the use of ICTs by non-government organizations and citizens and speaks of an "empowerment for grassroots groups using the Internet as an instrument of information, communication, and organization", argues that "the Internet can contribute to enhance the autonomy of citizens to organize and mobilize around issues that are not properly processes in the institutional system" and that a "new kind of civil society" and the "electronic grassrooting of democracy" could emerge *(Castells 2004: 417)*.

Another grassroots understanding is provided by Benjamin Barber: "The Net offers a useful alternative to elite-mass communication in that it permits ordinary citizens to communicate directly round the world without the mediation of elites – whether they are editors filtering information or broadcasters shaping information or facilitators moderating conversation. By challenging hierarchical dis-

course, the new media encourage direct democracy and so, as I suggested fifteen years ago, can be instruments of strong democracy." *(Barber 1998)*

Howard Rheingold *(2000)* has argued that many-to-many communication in virtual communities has a potential for enhancing democratic deliberation if the interests of "big power" and "big money" *(xix)* can be kept out and learning people form an informed population. Commercial media would have co-opted and narrowed political discourse; open virtual communities in which "every citizen can broadcast to every other citizen" could "revitalize citizen-based democracy" *(xxix)*. The effects of computer-mediated communication on society could either be a panopticon or an "electronic agora", the latter understood as "the vision of a citizen-designed, citizen-controlled worldwide communication network" *(xxx)*, a "worldwide citizen-to-citizen conversation." *(133)* Rheingold's focus is on online discourse and the challenging of information monopolies by many-to-many-communication, not on online voting and plebiscites. He is aware that media-manipulated plebiscites as political tools go back to Joeseph Goebbels and that they can easily advance authoritarian politics. *(306 sq)* In a chapter added to the revised 2000 edition of "The Virtual Community" *(originally published in 1993)* Rheingold answers his critics by stressing that there is no technodeterministic development of society, that the future of the internet depends on social forces, and that just like in "real life" one finds both the establishment of strong and weak relationships and isolation

in virtual life. “No tool can make democracy happen without the actions of millions of people – but those millions of people won’t succeed without the right tools.“ *(382)* We read Rheingold’s book as an indication for virtual communities being socio-technical potentials for participatory democracy that can only be realized in a society that avoids the colonization of communication and public spheres by commodification and bureaucratization. Rheingold describes that he experienced himself that the turning of virtual communities into commodities threatens open access and communication when the online community The WELL was commercialized and when he founded Electric Minds with venture-capital financing *(chapter 11)*.

The term “electronic agora“ is also employed by Gerhard Vowe and Martin Emmer *(2001)*, but their account lacks an explicit definition. We understand an electronic or digital agora as a participatory social structure that is based on permanent political discussion of citizens, aims at finding political agreements, has no primary focus on voting, but on decision-making by communicative action, and makes use of new ICTs for supporting communication processes.

The main criticism of grassroots models is that they can only work at a local level and that modern societies are too complex and large for grassroots democracy. Due to the assumed complexity of society, representation and elite formation would be unavoidable in politics. Political efficiency is considered as the most important value by such arguments. The (yet-to be realized) vision of a participatory

information society gives contemporary answers to such arguments. In the information society economic productivity has gained a level that could enable human beings to minimize compulsory labour time and to maximize freely chosen activities and free time so that huge free spaces for political activity could emerge. Furthermore new ICTs enable local, regional, and global many-to-many communication that could allow humans to form interest groups and to rationally discuss problems. Rational discourse can be easier achieved in smaller communities, e.g. at the municipal level. What about communities of thousands or millions of individuals? Here models of confederation might be practicable, i.e. federal councils that involve delegates from all organizational units that are organized on lower levels. A major issue is if the delegates can decide all by themselves or if they are only seen as communicators. Some council models argue that delegates should be elected and that their base should have the possibility to withdraw their decision, which will result in the end of the delegates' function. An alternative is a horizontal model in which delegates only organize and simplify the communicative flows between different organizational units or interest groups. If a federal decision shall be reached, delegates of all units and groups that are affected meet and discuss the problem. But they cannot reach a decision before they consult their social bases. New arguments might emerge; the ideas and views of some groups and units might be altered by extensive communicative flows. And it could be possible that members of different groups and

units who are no delegates meet in order to discuss the problem. One possibility for exchanging views besides face-to-face-assemblies are electronic discussion boards (such as web-based discussion boards, newsgroups, mailing-lists) and social software (wikis, blogs). Decision mechanisms for federated councils are consensus, majority votes taken by all affected citizens or by their delegates, weighted majority votes, or chance decisions. Communities might deselect their delegates at any time and a frequent rotation (decided democratically or by chance) can guarantee a dynamic democratic process. The concept of decentralized communes and federated communes of communes that reach from the local to the regional to the global level seems feasible in the age of the internet that allows decentralized, global many-to-many communication. Networking individuals, interest groups, communities, organizations, and municipalities on the local, the regional, and the global level is a foundation of a participatory society because networks allow the sharing of ideas and resources. In a network society achieving more democratic participation of all in decision processes has become a real possibility.

In the internet each receiver is a possible transmitter, a prosumer. It is technologically based on a decentralized network that forms a polydirectional medium of interaction where many-to-many-communication can take place. In comparison to traditional media that were based on one-to-many communication this is a new quality that has a fundamental political potential that is not automatically realized.

Traditional media such as television, radio or printed media have a one-dimensional character, they only work in one direction from the sender to the receiver without possibilities for mutual interaction. The interactivity of the internet can extenuate the elitist character of traditional media, there is a shift from one-to-many- to many-to-many- and all-to-all-communication. The technological networking of the world pits forward a new principle: all-embracing, participative, networked co-operation and grassroots direct democracy in all realms of society. It is up to the human beings to change society in such a way that it can make full use of and realize the opportunities the internet poses.

The internet forms on its technological level a system of networked dialogue, but on the social level society doesn't make adequate use of this potential because it is dominated by discourses in all realms of social life. Realizing the democratic potential of the Internet would mean that a technological system of network dialogue is coupled to a social system of network dialogue. A democratic form of network dialogue would replace the old system of amphitheatre discourse that still dominates society in all of its realms. The form of network dialogue that Flusser e.g. describes as simplistic gossip and the spreading of "false consciousness" in the life world would be transformed into a form of network dialogue that is participatory, co-operative, inclusive, and direct democratic. Human beings would be enabled to shape their lives and decisions all by themselves, self-determination, permanent dialogical decisions and consensus democracy would

be central aspects of the dialogical society. Social network dialogues would no longer be dominated by discourses, but would be fully dialogic and supported in their democratic character by a technological infrastructure that is organized itself as network dialogue.

For Flusser discourse means conservative stabilization and distribution of information, it forms a tracing where there is a lack of openness, modification, and connectedness. Moving from discourse to dialogue in this sense, from the tracing to the map, from the segmented internet to the rhizomatic internet, from the segmented society to the rhizomatic society, means to realize the inclusive, co-operative, participatory, direct democratic potential that is immanent in the new media and to move from the conservative distribution model of information to the progressive model of the participatory constitution of information. The internet has a rhizomatic potential, the human being can realize and build the rhizome, but doesn't automatically do so.

Benjamin Barber *(1997, 1998, 2002)* adds that ICTs speed up life whereas for strong democracy slowing down is needed, that their binary dualism might foster a reductive and simple participatory democracy, that they advance advertising, manipulation, and propaganda by the power of imagery it provides for corporative interests, that they compartmentalize knowledge and hence lack an integrative common ground of knowledge, and that they have a privatizing nature that lacks the empathy needed for community building. Virtual communities "turn out to be vicarious con-

glomerations lacking the empathy and need for common ground that define real world communities. [...] The act of going on-line is in its predominant form always a privatizing act of simply solitude [...] it undermines the needs of strong democracy for community and common ground." *(Barber 1998)* For Barber ICTs imply speed, simplicity, solitude, pictoriality, and segmentation, qualities that impair the possibilities for a strong democracy; as well as lateralness and immediacy (due to being a point to point medium) that might advance strong democracy. Similarly to Barber Murray Bookchin argues that electronic media cannot produce interdependence because they lack body language, personal intimacy, and face-to-face modes of expression. That ICTs can advance isolation is only one side of the story. Empirical studies show that cyberspace in its current form both advances individualism *(Nie et al. 2002)* and new forms of community *(Howard et al. 2002, Katz and Rice 2002)*. It is both a tool for the reinforcement and shrinking of sociability. The phenomenon of cyberlove, i.e. people that learn to know each other in chat rooms or online dating forums and fall in love after having met each other face-to-face or not, shows the power of the internet to mediate the establishment of social relationships and social bonds. Social capital can indeed be created online, if this is possible in personal relationships then it might also be possible in political relationships if society provides individual with overall much more time, resources, and capacities to develop more interest in politics and political activity. Under more participatory societal

conditions the internet could potentially mediate the emergence of global, regional, and local public spheres. Probably such spheres can be most dynamic and alive if they have a blended character, i.e. contain a mixture of online and face-to-face relationships. An inclusive cyberspace enables the emergence of global public spheres or what John Keane *(2000)* terms "macro-public spheres" that link citizens worldwide and enable millions or billions of people to interact politically. This is due to the fact that the internet transcends spatial and temporal borders, it is a system that enables the spatio-temporal distanciation of communication and co-operation. Due to the existence of global problems such as ecological degradation, poverty, wars, exploitation, unemployment, precarious working conditions, etc. global public spheres of concerned citizens that share equal values and experiences although they live far apart have already emerged. Protest movements such as the movement for democratic globalization make use of the internet for communicating and co-ordinating protest and for staging protest online. The public spheres that have emerged from these global political communications are blended ones, partly taking place online and partly in face-to-face meetings, assemblies, and protests. The majority of virtual communities are not purely taking place in cyberspace; they are places for maintaining friendships and creating and maintaining relationships over spatio-temporal distances. Many people who build trusting relationships online also meet offline, and many who have trusting relationships communicate online

in order to stay more easily in touch. Continuous relationships today are frequently a combination of online (mediated by communication technologies) and offline communication. Especially for social groups (such as political ones) maintaining permanent relationships is supported by new communication technologies which enable people to stay in touch, exchange opinions, create further contacts, and to plan meetings and activities. In many cases these activities wouldn't be possible without technological support because finding time and space for meeting frequently in order to discuss and plan activities is often rather difficult for groups that are larger than two people. Computer-mediated communication enables groups to co-operate without meeting permanently face-to-face and it enables the building of relationships with people whom one would never meet offline. Global political activists feel a sense of belonging together and commonality although many of them have learned to know each other on the web. Alternative public spheres on the internet are marginal, but they nonetheless exist, hence it is wrong to argue that the net lacks "common places to gather and common turf on which grieve or celebrate" *(Barber 1998)*. Virtual communities form around shared interests, people in contemporary society have frequently much more to say to individuals on the net whom they have never met and with whom they share interests than to most people in their neighbourhood with whom they hardly share cultural and political interests. Neighbourhood and proximity today don't automatically mean open communities, but in many

cases "narrow-mindedness and bigotry" that lack alternative outlooks and experiences *(Rheingold 2000: 361)*. Depending on the type of relationships one establishes virtual communities can both advance open-minded and narrow-minded thinking, like neighbourhoods they are spaces for contact with the difference that in cyberspace you have much more potential options of whom you want to meet and whom not; and hence it potentially enables users to learn from people who have different experiences and live under different societal circumstances.

Cyberspace can advance information war, electronic surveillance, dictatorship just like it can advance eParticipation. The difference between the first phenomena and eParticipation just like the difference between eGovernment (the use of the internet by governments to make administration more efficient, transparent, and to bring it closer to the citizen) is that eParticipation forms the very truth and essence of cyberspace just like in Spinoza's concept of the multitude participatory democracy is the essence of society. A true information society in a Spinozist sense (which in this line of argument is also a Marxist sense) hence is a participatory democracy that makes use of cyberspace for advancing and helping to co-ordinate communicative action so that all can be included in taking all decisions in co-operative processes.

In a multitudous society all people are included in society and participate in it, all collective decision are taken by all. If such a vision can be realized with the help of cy-

berspace is not determined, first of all an overall change of society is needed, under the current conditions many are excluded from society and cyberspace – a phenomenon that limits the power of the multitude and that in its combination is discussed as the topic of the digital divide.

5.2 Digital Divides: Limits to the Democracy of the Multitude?

The notion of informational capitalism was first introduced by Manuel Castells *(2000)*. However, a more theoretical account of this notion is still missing *(cf. Fuchs 2008, 2007)*. The concept of informational capitalism is here employed for stressing that the production and accumulation of economic, political, and cultural capital (in the Bourdieuian sense) is increasingly shaped by knowledge work and networked, computer-based information and communication technologies. In contemporary society production, exploitation, power, hegemony, and struggles are increasingly organized with the help of and embedded into transnational networks: The productive forces are strongly based on computerized network technologies, the relations of production are taking on transnational networked forms that result in the emergence of a flexible regime for the accumulation of economic, political, and cultural capital and the rise of transnational organizations that try to centralize power. The stratifying and centralizing accumulation processes that make use of networks are challenged by alternative transnational networks. The rise of global networks advances the antagonism of the collective and networked production of capital and its individual appropriation and the antagonism of the networked productive forces and the relations of production *(Fuchs 2008)*. At the heart of informational capitalism is an antagonism of information as commodity and information

as gift, it is made up of two interwoven and antagonistic systems: a commodity economy and a gift economy. Given all of these conditions it is feasible to speak of contemporary society as transnational network capitalism or global informational capitalism *(Fuchs 2008, 2007)*. The historical novelty is not that social relationships are networked, but that processes of production, power, hegemony, and struggles take on the form of transnational networks that are mediated by networked information- and communication technologies. Global informational capitalism is based on a transnational organizational model, organizations cross national boundaries, the novel aspect is 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 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 don't serve or contribute to the overall aim of capital accumulation. Hence global informational capitalism is a stratified class-society. It is in this context that the phenomenon of the digital divide can be discussed.

5.2.1 The Digital Divide Defined

Manuel Castells defines the digital divide as "inequality of access to the internet" *(Castells 2002: 248)*. Access to the internet is moreover "a requisite for overcoming inequality in a society which dominant functions and social groups are increasingly organized around the internet." *(Castells 2002: 248)* Jan van Dijk defines the digital divide as "the gap between those who do and do not have access to computers and the internet." *(Van Dijk 2006: 178)* Pippa Norris sees it as "any and every disparity within the online community" *(Norris 2001: 4)*, Ernest J. Wilson III as "an inequality in access, distribution, and use of information and communication technologies between two or more populations." *(Wilson 2006: 300)*

Which types of the digital divide can be identified? Jan Van Dijk and Kenneth Hacker *(2003)* argue that there are four types of barriers to access:

- The lack of "mental access" refers to a lack of elementary digital experience.
- The lack of "material access" means a lack of possession of computers and network connections.
- The lack of "skill access" is a lack of digital skills.
- The lack of "usage access" signifies the lack of meaningful usage opportunities.

Van Dijk has demonstrated that in terms of physical access to computers and the internet, the digital divide is closing in developed countries, whereas in developing societies it is still growing. In terms of skill access and usage access, the digital divide is both widening and deepening. He argues that information skills (the skills needed to search, select, and process information in computer and network sources) and strategic skills (the capacities to use these sources as the means for specific goals and for the general goal of improving one's position in society) as aspects of the skill access are "extremely unevenly divided among the populations of both developing and developed societies." *(Van Dijk 2006: 181)* Concerning usage access Van Dijk has found that people with high levels of education and income tend to use database, spreadsheet, bookkeeping, and presentation applications significantly more than people with low levels of education and income who favour simple consultations, games, and other entertainment *(Van Dijk 2006: 182 sq)*. It is naive to believe that mental and material access is enough so that problems of skill access and usage access will diminish *(Van Dijk and Hacker 2003)*. But faith in bridging the digital gap in this way is widespread in science.

Pippa Norris *(2001)* describes the digital divide as a multidimensional phenomenon, she distinguishes between the global digital divide, the social divide, and the democratic divide:

Types of digital divide	Signified by
Global divide	Divergence of internet access between industrialized and developed societies
Social divide	Gap between information rich and poor in each nation
Democratic divide	Difference between those who do, and do not, use the opportunities of digital resources to engage, mobilize and participate in public life

Table 1: Pippa Norris' dimensions of the digital divide (Norris 2001: 4)

For Norris the social divide includes the income gap, which makes a difference between those who can afford computer and internet access and those who can't. Castells furthermore identifies an education gap, an ethnical divide, an age gap, a family/single gap, and an ability/disability gap *(Castells 2002)*. For Wilson *(2006)* there are eight aspects of the digital divide: physical access (access to ICT devices), financial access (cost of ICT services relative to annual income), cognitive access (ICT skills), design access (usability), content access (availability of relevant applications and information online), production access (capacity to produce one's own content), institutional access (availability of institutions that enable access), and political access (access to the governing institutions where the rules of the game are written). Wilson relates these eight aspects to six demographic dimensions of the digital divide: gender, geography, income, education, occupation, and ethnicity.

The core of society consists of three subsystems: the economic system in which use values and property that satisfy human needs are produced, the political systems in which power is distributed in a certain way and collective decisions are taken, and the cultural system in which skills, meaning, and competencies are acquired, produced, and enacted in ways of life. This distinction can e.g. be found in the works of Anthony Giddens who says that symbolic orders and forms of discourse are concerned with the constitution of rules (culture), that political institutions deal with authoritative resources (polity), and that economic institutions are concerned with allocative resources (economy) *(Fuchs 2003b)*; as well as in the works of Pierre Bourdieu who distinguishes economic, political, and cultural capital as the three structural features of society *(Fuchs 2003a)*. Hence we argue that besides general social forms of the digital divide, there is also an economic divide, a political divide, and a cultural divide.

Technologies enable and constrain human practices, their main dimensions are the material access to them (in modern society mainly with the help of money as technologies are sold as commodities), the capability to use them, the capability to use them in such ways that oneself and others can benefit, and embedding institutions. The digital divide refers to unequal patterns of material access to, usage capabilities of, and benefits from computer-based information- and communication technologies that are caused by certain stratification processes that produce classes of win-

ners and losers of the information society, and participation in institutions governing ICTs and society. Material access refers to the availability of hardware, software, applications, networks, and the usability of ICT devices and applications. Usage and skills access refer to the capabilities needed for operating ICT hardware and applications, for producing meaningful online content, and for engaging in online communication and co-operation. Benefit access refers to ICT usage that benefits the individual and advances a good society for all. Institutional access refers to the participation of citizens in institutions that govern the internet and ICTs, and to the empowerment of citizens by ICTs to participate in political information, communication, and decision processes. Stratification patterns are on the one hand social hierarchies such as age, family status, ability, gender, ethnicity, origin, language, and geography (urban/rural). These categories have resulted in different types of the social divide. On the other hand unequal patterns of material access, usage capabilities, benefits, and participation concerning ICTs are also due to the asymmetric distribution of economic (money, property), political (power, social relationships), and cultural capital (skills). Hence there is also an economic divide, a political divide, and a cultural divide. In modern society structures take on the form of capital that is accumulated and unevenly distributed so that different social classes and class fractions with a different (high, medium, low) total amount of economic, political, and cultural capital are created. The reason why there are gaps in access, usage/skills,

benefit, and participation concerning ICTs is the multidimensional class-structure of modern society that creates structural inequalities. People with high income, far-reaching and influential social relationships, good education and high skills are much more likely to have access to ICTs, to be capable of using ICTs, to benefit from this usage, and to be supported in political participation by ICTs than people who are endowed with only a little amount of economic, political, or cultural capital. The following table 2 summarizes items and dimensions of the digital divide:

	Economic capital	Political capital	Cultural capital	Age	Family status	Gender	Ability	Ethnicity	Origin	Language	Geography
Material access											
Usage and skills access											
Benefit access											
Institutional Access											

Table 2: Aspects and dimensions of the digital divide

Jeffrey James *(2003: 45)* defines the global digital divide as "the strikingly differential extent to which rich and poor countries are enjoying the benefits of information technology" and as "the unequal distribution of computers, internet connections, fax machines and so on between countries." *(James 2003: 23)* What Pippa Norris and Jeffrey James call the

global digital divide is mainly an aspect of the economic divide because it concerns the difference in access to and usage of ICTs between rich countries and poor countries. Poor countries are those endowed with little economic capital, people there are much less likely to be able to access ICTs, to know how to use them, to benefit from usage, and to participate in embedding institutions. Developing countries are not only economically excluded, but also deprived of political power and cultural skills needed for active participation in the information society.

5.2.2 Africa and the Digital Divide

The topic of the digital divide concerns the unequal access to and usage of new technologies. Why is Africa of special interest in this discourse? The UN Human Development Report 2005 shows that Sub-Saharan Africa is the least developed region of the world in terms of life expectancy, school enrolment ratio, income *(UNHDR 2005: 222)*, and undernourishment *(UNHDR 2005: 243)*. Somebody born in a Sub-Saharan country can expect to live 33 fewer years than a person born in a rich country *(UNHDR 2005: 26)*. Africa is the continent most struck by poverty and other global problems. Globalization is based on an unequal geography that excludes larges part of Africa. The issue of global inequality is connected to the topic of the digital divide because technology is one aspect of material wealth and wealth production is more and

more based on technology and knowledge. Africa is of particular importance here because it is the most marginalized and excluded region of the world. This fact brings up the question if Africa benefits more or less than industrialized countries from the rise of the internet and new media.

Also UN Secretary General Kofi Annan has pointed out that communication and the access to communication technologies are just like social security fundamental human rights and that the digital divide is a pressing humanitarian issue: "Three days from now, the world's population will pass the six billion mark. Five out of those six billion live in developing countries. For many of them, the great scientific and technical achievements of our era might as well be taking place on another planet. [...] The capacity to receive, download and share information through electronic networks, the freedom to communicate freely across national boundaries - these must become realities for all people. [...] These people lack many things: jobs, shelter, food, health care and drinkable water. Today, being cut off from basic telecommunications services is a hardship almost as acute as these other deprivations, and may indeed reduce the chances of finding remedies to them." *(Annan 1999)*

The following scale shows the urgency of the problem of the global digital divide in Africa. Table 3 presents an actual internet usage statistic for Africa *(Africa internet Usage and Population Stats, data from 2006)*. An internet user is in this statistical analysis defined as a person having available access to an internet connection point and the basic

knowledge required to use the internet *(http://www.internetworldstats.com/surfing.htm)*.

Region	Population (2006 Est.)	Share of World Pop.	Internet Users, Latest Data (March 2006)	Internet Penetration (% Population)	% Users in World
Total for Africa	915 210 928	14.1 %	23 649 000	2.6 %	2.3 %
Rest of the World	5 584 486 132	85.9 %	999 214 307	17.9 %	97.7 %
World total	6 499 697 060	100.0 %	1 022 863 307	15.7 %	100.0 %

Table 3: Internet usage in Africa and on the globe 2006 (Source: Internet World Statistics: http://www.internetworldstats.com/stats1.htm, data accessed on November 1st, 2006)

Although Africa makes up 14,1 percent of the world population, only 2,6 percent of all internet users live in Africa.

A case-study by Banji Oyelaran-Oyeyinka and Catherine Nyaki Adeya *(2003)* on internet access in Africa shows as an example of the global digital divide that the costs of internet use in Kenya and Nigeria are extremely high: "The mid-2002 average cost of using a local dial-up internet account for 20 h per month is about $60 (including usage fee and local call time but excluding telephone line rental). In the US, the average cost is less than this cost including telephone charges " *(Oyelaran-Oyeyinka/Nyaki Adeya 2003: 71)*.

Table 4 shows the internet access and human development of African countries *(data from 2006)*:

Table 4: Internet access in and human development of African countries, March 2006. Source: Internet World Statistics: http://www.internetworldstats.com /stats1.htm

Internet usage statistics for Africa

Africa	Population (2006 Est.)	Internet Users Dec/2000	Internet Users, Latest Data (March 2006)	% Population (Penetration)	UN HDI Rank (UNHDR 2005)
Algeria	33 033 546	50 000	845 000	2.6 %	103
Angola	13 115 606	30 000	172 000	1.3 %	160
Benin	7 513 946	15 000	100 000	1.3 %	162
Botswana	1 856 800	15 000	60 000	3.2 %	131
Burkina Faso	12 113 523	10 000	53 200	0.4 %	175
Burundi	7 909 395	3 000	25 000	0.3 %	169
Cameroon	17 378 386	20 000	167 000	1.0 %	148
Cape Verde	485 355	8 000	25 000	5.2 %	105
Central African Rep.	3 268 182	1 500	9 000	0.3 %	171
Chad	8 720 110	1 000	60 000	0.7 %	173
Comoros	666 044	1 500	8 000	1.2 %	132
Congo	3 672 441	500	36 000	1.0 %	142
Congo, Dem. Rep.	58 731 656	500	50 000	0.1 %	167
Cote d'Ivoire	19 617 714	40 000	300 000	1.5 %	163
Djibouti	779 684	1 400	9 000	1.2 %	150
Egypt	71 236 631	450 000	5 000 000	7.0 %	119
Equatorial Guinea	1 102 748	500	5 000	0.5 %	121
Eritrea	4 189 934	5 000	50 000	1.2 %	161
Ethiopia	72 238 014	10 000	113 000	0.2 %	170
Gabon	1 430 453	15 000	40 000	2.8 %	123
Gambia	1 471 863	4 000	49 000	3.3 %	155
Ghana	21 355 649	30 000	368 000	1.7 %	138
Guinea	8 080 211	8 000	46 000	0.6 %	156
Guinea-Bissau	1 460 253	1 500	26 000	1.8 %	172
Kenya	34 222 866	200 000	1 500 000	4.4 %	154
Lesotho	2 453 810	4 000	43 000	1.8 %	149
Liberia	3 108 312	500	1 000	0.03 %	N/A
Libya	6 135 578	10 000	205 000	3.3 %	58
Madagascar	18 475 940	30 000	90 000	0.5 %	146
Malawi	11 359 669	15 000	46 100	0.4 %	165
Mali	10 751 139	18 800	50 000	0.5 %	174
Mauritania	2 897 787	5 000	14 000	0.5 %	152
Mauritius	1 280 579	87 000	180 000	14.1 %	65
Mayotte (FR)	188 483	-	-	-	N/A
Morocco	30 182 038	100 000	3 500 000	11.6 %	124
Mozambique	19 881 392	30 000	138 000	0.7 %	168
Namibia	2 038 791	30 000	75 000	3.7 %	125
Niger	12 226 270	5 000	24 000	0.2 %	177
Nigeria	159 404 137	200 000	1 769 700	1.1 %	158
Reunion (FR)	791 167	130 000	200 000	25.3 %	N/A
Rwanda	8 807 212	5 000	38 000	0.4 %	159
Saint Helena (UK)	4 893	-	1 000	20.4 %	N/A
Sao Tome & Principe	170 319	6 500	20 000	11.7 %	126
Senegal	10 842 622	40 000	482 000	4.4 %	157
Seychelles	84 189	6 000	20 000	23.8 %	51
Sierra Leone	5 093 570	5 000	20 000	0.4 %	176
Somalia	12 206 142	200	89 000	0.7 %	N/A
South Africa	48 861 805	2 400 000	3 600 000	7.4 %	120
Sudan	35 847 407	30 000	1 140 000	3.2 %	141
Swaziland	1 147 741	10 000	36 000	3.1 %	147
Tanzania	37 979 417	115 000	333 000	0.9 %	164
Togo	5 399 239	100 000	221 000	4.1 %	143
Tunisia	10 228 604	100 000	835 000	8.2 %	89
Uganda	27 771 997	40 000	200 000	0.7 %	144
Western Sahara	442 291	-	-	-	N/A
Zambia	11 249 789	20 000	231 000	2.1 %	166
Zimbabwe	12 247 589	50 000	820 000	6.7 %	145
TOTAL AFRICA	915 210 928	4 514 400	23 649 000	2.6 %	

Table 3 shows that in 2005 15.2% of the world population had access to the internet. Table 4 demonstrates that of the 57 African countries only 3 countries have an access rate that is higher than the worldwide internet usage rate of 15,7% (Reunion 25.3 %, Saint Helena 20.4%, Seychelles 23.8%). Only six of 57 African countries have an access rate higher than 10% (Mauritius, Morocco, Reunion, Saint Helena, Sao Tome & Principe, Seychelles). 20 of the 57 countries have an access rate that is lower than one percent: Burkina Faso, Burundi, Central African Republic, Chad, Congo Democratic Republic, Equatorial-Guinea, Ethiopia, Guinea, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, Tanzania, Uganda.

This shows that the digital divide is a very pressing problem for Africa; most African countries are excluded from the information society. If the information society should really be a global village *(Marshall McLuhan)*, a digital agora, or virtual community *(Howard Rheingold)*, internet access and usage for developing countries would have to be assured because communities and democracy are inclusive and participatory rather than exclusive and segmented. Cyberspace in its current form as a socio-technical system that only gains meaning through human activities and communication is a segmented space that reflects the inequalities of society. Concerning Africa one hence can also speak of a digital apartheid that has real-world causes such as the unequal global distribution of resources. Digital apartheid means that certain groups and regions of the world are sys-

tematically excluded from cyberspace and the benefits that it can create.

Empirically digital apartheid can be verified by taking a look at the UN Human Development Report 2005. 16 of the 20 African countries with internet access of less than 1% are considered by the UN as ranging among the least developed countries in the world measured by the Human Development Index (these are those countries ranked 146-177). The HDI is based on measurements of life expectancy, education, and income. The only two exceptions are Equatorial-Guinea and Uganda that are considered by the UN as medium-developing countries, but have a low internet access rate. For Liberia and Somalia, which are also two extremely poor countries, no HDI data is available.

Burkina Faso	HDI rank 175
Burundi	HDI rank 169
Central African Republic	HDI rank 171
Chad	HDI rank 173
Congo Democratic Republic	HDI rank 167
(Equatorial-Guinea)	(HDI rank 121)
Ethiopia	HDI rank 170
Guinea	HDI rank 156
Liberia	no data available
Madagascar	HDI rank 146
Malawi	HDI rank 165
Mali	HDI rank 174
Mauritania	HDI rank 152
Mozambique	HDI rank 168
Niger	HDI rank 177
Rwanda	HDI rank 159
Sierra Leone	HDI rank 176
Somalia	no data available
Tanzania	HDI rank 164
(Uganda)	(HDI rank 144)

Table 5: Human development index of those African countries with internet access below 1%

E.g. the data for Niger seem to indicate that high poverty and low human development correspond with low internet access. Niger is the country with the third lowest internet access rate in Africa (only Liberia (0,03%) and Congo Democratic Republic (0,1%) have a lower rate; Ethiopia has an equal rate of 0,2%), and it is ranked the lowest developing country in the world in the Human Development Report *(2005: 222)*. 61,4% of the population in Niger live on less than 1$ per day which is considered as the measure of absolute income poverty by the UN, 85,3% live on less than 2$ per day *(United Nations Human Development Report 2005: 229)*.

The statistical data show that almost all African countries with very low internet access are among the least developed countries in the world in terms of health, education, and income. This indicates that there seems to be a connection between global social gaps and the global digital divide. The UN in this context argues that "the network society is creating parallel communications systems: one for those with income, education and literally connections, giving plentiful information at low cost and high speed; the other for those without connections, blocked by high barriers of time, cost and uncertainty and dependent upon outdated information". *(United Nations Human Development Report 1999: 63)*

Correlating the data on internet access and HDI for 51 African countries (as presented in table 4) results in a correlation coefficient of –0,733, which means a very high correlation. This shows that higher rates of literacy, health,

and income of a developing country have positive effects on internet penetration.

The digital divide concerns not only material access, but also skills and usage patterns. Material access is a necessary, but not sufficient precondition for skills access and usage access. As most African countries lack and are deprived of basic economic, social, educational, and technological resources that result in a lack of material internet access, one can assume that this also results in a lack of digital skills and meaningful internet usage. For benchmarking eEurope 2005 the European Union used information society indicators, some of which also focus on skills and usage. E.g. one indicator measures the percentage of individuals using the internet for specific purposes (broken down by purposes: sending/receiving emails, finding information about goods and services, reading/downloading online newspapers, playing/downloading games and music, internet banking) in the previous 3 months; other ones focus on the percentage of individuals having used the internet in relation to training and educational purposes or the percentage of population (aged 16 and over) using internet to seek health information whether for themselves or others. Unfortunately such statistics are hardly available on the global level, global studies such as the Global Information Technology Report *(Dutta et al. 2006)* and the World Telecommunication/ICT Development Report *(ITU 2006)* focus mainly on material access and infrastructure. For measuring digital literacy, i.e. the capacity to use ICT hardware and software in meaningful ways,

the United Nations use the UNDP education index which is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio with two third weight given to adult literacy and one third to the gross enrolment ratio *(United Nations 2005)*. The same indicator for measuring digital literacy is used in a study on "Measuring Infostates for Development" by the ITU *(Sciadas 2005)* and in the ITU's Digital Access Index *(ITU 2006)*. No data relating directly to digital literacy is collected. Concerning global information society indicators there is not yet a unified standard and corresponding data available in a database. A "Partnership on Measuring ICT for Development" has been formed by the ITU, the OECD, the UNCTAD, the UNESCO Institute for Statistics, the UN Regional Commissions (UNECLAC, UNESCWA, UNESCAP, UNECA), the UN ICT Task Force, and the World Bank. Its aims include to achieve a common set of 42 core ICT indicators and to develop a global database on ICT indicators. In 2005 a core set of ICT indicators was established and adopted at the WSIS Thematic Meeting on Measuring the Information Society *(Partnership on Measuring ICT for Development 2005)*. Concerning usage access the indicator on "HH10 Internet activities undertaken by individuals in the last 12 months" is of particular importance *(Partnership on Measuring ICT for Development 2005: 4)*. But there are not yet global statistics available for this indicator. The UNESCO has proposed 33 indicators for measuring ICT in education *(UNESCO 2003)*, but data based on these indicators is not collected. Digital capacities are enabled by digital

education, digital experience, and the provision of online applications and services. If the technological foundations for digital practices are missing for most people as in Africa, one can expect that there is also a global divide concerning usage access and skills access.

Jan Van Dijk based on the class concept of the Marxist Erik Olin Wright who defines a social class in broad terms in the dimensions of ownership of the means of production, control of organization, and ownership of skills and qualifications, argues that there is a tripartite class structure of the network society *(Van Dijk 2006: 174-177, 185-186)*:

1. The Information Elite consists of people with high levels of education and income, the best jobs and societal positions, and a nearly 100 percent access to ICTs.
2. The Participating Majority which contains a large part of the middle class and the working class who do have access to computers and the internet, but also possess fewer digital skills than the elite, information and strategic skills in particular, and use thus fewer and less diverse ICT applications.
3. The Disconnected and Excluded who are largely excluded from participation in several fields of society and have no access to computers and the internet.

This class model first of all describes the social structure of contemporary Western societies, but it also has relevance on the global level for the relationship of developing and developed countries. Interpreting Van Dijk's class structure

of the network society and connecting it to the statistical data just mentioned, we can argue that the gap between the information elite, the participating majority, and the disconnected and excluded in developing countries is larger than in developed countries. Applying the class model to the global level means that on the global level most African countries and people living in Africa are part of the class of the disconnected and excluded. Van Dijk argues that the Matthew effect (the effect that strong and powerful actors tend to become more powerful and important which results in an increase of inequality) plays an important role in the class-divided network society *(Van Dijk 2006: 183-186)*: In a network society that is characterized by structural inequality there is a tendency of centralization of information, knowledge, and power, the already powerful gain more and more (material and immaterial) resources, hence based on a divided social structure usage gaps would be likely to grow. "Progressively, more and more people will even be completely excluded from particular fields of society. The result will be first-, second-, and third-class citizens, consumers, workers, students, and community members." *(Van Dijk 2006: 184)*

Van Dijk says that structural inequality means that the disconnected class has less chances on the labour market, less educational opportunities, and less chances of participation in politics and society. The network society is a global society in terms of the extension of communication and markets, but it is also as important scientists in the area of information society research as Van Dijk and Castells have

shown a society characterized by polarization and structural inequality. For Africa this means that in the current form of the global network society the continent has much less possibilities for participating in economy, polity, culture, and technology; i.e. economic wealth, global political decision-making, worldviews and lifestyles that shape globalization, and technological standards and applications are controlled by Western countries. Globalization is an uneven process that is dominated by a hegemonic triad made up of the United States, Europe, and Japan. Michael Hardt and Antonio Negri argue in this context that a new global system that they term Empire emerges that is "composed of a series of national and supranational organisms united under a single logic of rule," *(Hardt/Negri 2000: xii)* A few Western economic and political actors define this global single logic of rule that aims at the restructuration of capitalism and domination. This logic is the fundamental force causing the divide between developed and developing countries, it has resulted in the global digital divide and other effects. For improving the situation of Africa an alternative network society that is based on alternative principles of production, distribution, and regulation is needed.

In global network capitalism the accumulation of economic, political, and cultural capital (in the sense of Bourdieu) is shaped by knowledge and computer-based information and communication technologies. This has resulted in flexible, networked, and transnational regimes of accumulation that allow the increase of profit and the

minimization of the turnover time of capital. The class of the Disconnected and Excluded identified by Van Dijk is poor in and deprived of economic, political, and cultural capital and lacks benefits from as well as material access and usage capacities to the technological capital that shapes accumulation processes in global network capitalism. Most Africans are part of this new class.

In the book "Knowledge Societies. Information Technology for Sustainable Development" edited by Robin Mansell and Uta Wehn there is a chapter on "The Potential Uses of ICTs for Sustainable Development" that wants to focus on ICT applications that could assist developing countries to reap the "social and economic benefits associated with extremely rapid innovation in advanced ICT-based goods and services" *(Mansell/Wehn 1998: 82)*. Sustainable development is here understood as social and economic development. The chapter lists and discusses a number of ICT applications in the areas of e-travelling, e-government, e-transport, e-health, e-education, e-inclusion, and e-learning. Mansell and Wehn show the urgency of the problem of the digital divide.

We don't think that Western technologies can be the main means for solving the digital divide. The Third World is not only largely excluded from wealth, but also from technological progress. There is a total value transfer from developing countries to developed countries. We think what is needed for improving the situation of developing countries is on the one hand the radical global redistribution of wealth

starting with measures such as the increase of human aid, basic income for the absolute poor in the world, the elimination of debt burdens on Third World countries, and on the other hand a non-colonizing technology that is adapted to the needs of people in Third World countries and integrates their traditional knowledge and technologies.

Solutions to the global divide can't be provided by Western technologies that are applied in Third World countries. Such positions are an expression of cultural imperialism that neglect that local and traditional ideas are of high cultural importance in solving the problems of the Third World. Western habits, colonialism, and post-colonial practices are part of the causes of the problems that Third World countries are facing today. What is hence needed in addressing issues such as poverty and ICTs in the Third World is unity in diversity management.

Another aspect of cultural imperialism is "the Washington Consensus", a policy package of the World Bank focusing on "good governance" combined with Structural Adjustment Loans (SAL). It was developed in the 1980s and 1990s and stresses privatization and deregulation of the telecommunication sector and other economic areas *(Stovring 2004)*. Western institutions such as the World Bank demand such measures as a condition for providing developing countries with credits. The SALs of the early 1980s didn't produce the expected economic effects and poverty-reduction couldn't be achieved *(Stovring 2004: 13)*. "The implementation of privatization and deregulation in Africa has produced very

weak results compared to Latin America and South East Asia in terms of growth of service provision of telecommunication services." *(Stovring 2004: 12)* "For the African States the average penetration level [of fixed lines] only grew from 0.4 in 1990 to 0.75 per 100 inhabitants in SSA in 2000." *(Stovring 2004: 19)* SSA-countries are countries south of the Sahara and north of South Africa and Namibia. Only in a few smaller countries like Cape Verde, Reunion, Seychelles, Botswana, and Mauritius higher penetration rates could be achieved. None of these countries belong to the least developed countries in the world (in terms of the HDI-index). Therefore it is not surprising that examples in the scientific literature focus on smaller countries, which have had some success in the de-monopolization and privatization of the IT-sector.

5.2.3 Africa and the Digital Divide: The Case of Ghana

Ghana's tele-centres offer a low cost opportunity to phone or internet connection. One tele-centre includes two telephone lines, two phones, a fax, a photocopier, and one or two computers *(Falch 2004)*. The tele-centres outside the capital Accra are generally less advanced. In 2001 there were about 150 tele-centres with internet access, 90% of these were located in Accra. Tele-centres in Ghana are usually created by the initiative of small entrepreneurs. Most of them are not very profitable and competition is increasing. The managers of the tele-centres are sometimes not able to gain enough

profit in order to pay their bills to Capital Telecom. In the business centre of Accra the density of tele-centres is lower than in the surroundings because people there are better equipped with fixed phone lines and mobile lines. The main problem of the tele-centres seems to be that low incomes disable the large-scale use of tele-centres and telecommunications services *(Falch 2004)*.

The liberalization of Ghana's telecommunication sector began in 1996 with the privatization of 30% of Ghana Telecom. In 1997 two other providers were licensed (Westel, Capital Telecom), between 1992 and 2000 four mobile operators were licensed. Ghana is "one of the most liberalized telecom markets in Africa." *(Sciadas 2005: 67)*. "In 1997 Ghana became the first developing country to introduce privatization and competition in all areas of service, in all parts of the country." *(World Bank 1999: 68)* Liberalization of telecommunications markets has not resulted in a significant increase of phone and internet users in Ghana: The number of fixed lines increased from 0.4 per 100 inhabitants in 1995 to 1.35 in 2003 *(Sciadas 2005: 68)*. Although the number of mobile lines meanwhile is much larger than the one of fixed lines, the problem is that lines are clogged because of a shortage of cell stations and that the price of "a one-minute wireless conversation, under the most common plan, is ten times higher than it would be in the United States. [...] After all, development experts have long presumed that lags in technology, much like lags in medicine, stem from poverty – and only reducing poverty can close the technology gap." *(Zach-*

ary 2002). It should be added that eradicating poverty doesn't automatically close the digital divide because also needed is the establishment of technological infrastructures, applications, and digital literacy. But poverty eradication is a necessary precondition for overcoming the digital divide. Systems struck by poverty probably won't find the time, income, resources, and human capacities needed for building information societies.

Table 6 shows the evolution of internet and PC users in Ghana. Telecommunication investment refers to "the annual expenditure associated with acquiring ownership of property and plants used for telecommunication services and includes land and buildings." *(ITU 2006: 187)*. The material access data refer to personal computers in use per 100 population and internet users per 100 population.

Year	Internet Users per 100 Inhabitants	PCs per 100 Inhabitants	Telecommunication Investment (in million US$)
1995	0,0	0,12	
1996	0,01	0,14	7,32
1997	0,03	0,16	41,29
1998	0,03	0,21	23,96
1999	0,10	0,25	86,78
2000	0,15	0,30	
2001	0,19	0,33	37,55
2002	0,78	0,38	59,4
2003	1,17	0,45	
2004	1,72	0,52	59,4

Table 6: Internet and PC access in Ghana + Telecommunication investment (Sources: internet, PC: United Nations Statistical Databases, http://unstats.un.org, 1995-2002), International Telecommunication Association, ITU, http://www.itu.int, 2003-2004; Investment: International Telecommunication Association Statistics, ITU, http://www.itu.int)

The data show that internet and PC access is still very low in Ghana although some growth has been achieved recently. The example of Ghana makes clear that the neoliberal recipes of market liberalization and privatization don't automatically close the digital divide and the lack of access to ICT because poverty and social problems are major hindrances. "The low economic and development status of Ghana and most other African nations will also continue to be a major problem for telecommunications users and a hindrance to the introduction of new technologies." *(Addy-Nayo)* The United Nations Human Development Report 2005 shows that in Ghana the poorest 20% have 5,6% and the richest 20% 46,6% of the total income, there are 9 physicians per 100 000 people, the adult illiteracy rate is 45,9%, and 78,5% of the population has less than $2 per day **(UNHDR, United Nations Human Development Report, 2005: 272, 238, 228)**.

Ernest J. Wilson III *(2006)* argues that "progressive and visionary leaders" *(Wilson 2006: 174)* such as Edward Salia – the former Minister for Transport and Communication – , and Nii Quaynor – CEO of the Ghanian telecommunications corporation Network Computer Systems (NCS) – that opposed "conservative" strategies of regulating markets helped advancing internet in Ghana by pressing for continuous liberalization, deregulation, and privatization of the Ghanian telecommunication market. For Wilson the social and economic problems that Ghana is facing are a result of selfish and corrupt governments, not of structural inequality in the world system, i.e. of Western colonialism and the

unequal distribution of global wealth. The goal of the "visionaries" was to open markets for foreign investment. As a result e.g. Malaysian Telecom bought 30% of the privatized shares of Ghana Telecom and the foreign direct investment in Ghana increased. Opening up markets has resulted in more investment in telecommunications since the mid 1990s as table 6 shows. But this doesn't correlate with a corresponding increase in internet and PC access. Correlating data on internet access and telecommunication investment (table 6) for the years 1996-1999, 2001, 2002, 2004 results in a correlation coefficient of 0,373. Correlating data on PC access and telecommunication investment for the same years (Table 6) results in a correlation coefficient of 0,494. Both coefficients show that there is no significant relationship between capital investment and telecommunications and ICT access. Hence opening markets and attracting investment will not automatically increase ICT usage significantly and other factors such as political and institutional ones seem to be important. Wilson *(2006: 306)* argues that one measure for solving the digital divide should be the enhancement of competition and the promotion of investment. But analysis shows that neoliberal policies don't guarantee increased access, hence public or communal ownership of telecommunication infrastructure might be a better solution for poor countries.

5.2.4 Africa and the Digital Divide: The Case of South Africa

In South Africa the telecommunications sector has since 2003 been continuously liberalized and privatized.

The State-owned Telkom was given a 25-year-license for providing fixed telephone lines and hence controls this area of telecommunications. One condition was that it should build 2,69 million new telephone lines by May 2002, of these 62% should serve under-serviced areas, including townships and rural areas *(Barendse 2004)*. Penalties for underachievement were fixed. Liberalization of the telecommunications market started in 1993 with the licensing of two mobile operators (Vodacom and MTN), which, as a condition for licensing were committed to covering 70% of the population within four years. In 2001 a third mobile operator (Cell C) entered the market. An increase in fixed main lines from 4.3 million in 1996 to a high of 5.5 million in 1999 was achieved, but an increase in local call costs by 25% between 2002 and 2003 resulted in a drop to 4,8 million in 2003 *(Sciadas 2005: 76)*. Following liberalization of telecommunications SBC Communications (US-owned) and Malaysia Telecom together acquired ownership of 30% of Telkom from 1997-2003. Telkom was listed in 2003, the South African governments is the biggest shareholder with a 37,7% equity stake. Telkom controls the fixed line broadband internet access infrastructure; ISPs can rent bandwidth in order to sell internet access. In 2005 there were more than 200 ISPs *(Lewis*

2005: 7) and there are numerous providers of wireless broadband such as Sentech, WBS, Burst, Vodacom, or MTN In November 2001 the Telecommunications Amendment Act introduced the licensing of a second telecommunications infrastructure provider, but to date no license could be issued *(Lewis 2005: 20)*.

In 1997 the Universal Service Agency (USA) was established, one of its tasks is to finance tele-centres with the help of the Universal Service Fund. In May 2002 72 tele-centres were set up, most of them located in disadvantaged areas *(Barendse 2004)*. In 2002 the Telecommunications Amendment Bill was passed, it allows the issuing of licenses for small telecommunications businesses in geographic areas where less than 5% of the population have access to telecom services or facilities. Andrew Barendse *(2004)* in a paper on ICT connectivity in South Africa argues that the number of market players should be considered as the major success criterion and that market liberalization automatically results in reduced costs and higher access rates for low-income customers. The South African example shows that market liberalization has resulted in a higher potential for access, but not in solving the digital divide because the existence of phone lines, mobile lines, and internet connections doesn't mean that low- and medium income classes can afford access. Hence it is a false conclusion that the number of market players in the telecommunications sector is the relevant criterion for success. Neo-liberal discourse focuses on market access, but leaves out the role of income

distribution and educational and skill barriers. The paper by Barendse does not focus on aspects of the digital divide in South Africa such as the ethical divide, the regional divide, and the gender divide.

Table 7 shows the evolution of internet and PC users and of telecommunication investment in South Africa.

Year	Internet Users per 100 Inhabitants	PCs per 100 Inhabitants	Telecommunication Investment (in million US$)
1995	0,71	2,79	1 130 535
1996	0,88	3,54	1 116 448
1997	1,70	4,37	1 790 380
1998	3,00	5,46	3 038 920
1999	4,23	6,04	1 947 627
2000	5,49	6,64	1 743 516
2001	6,49	6,96	1 393 728
2002	6,82	7,26	712 049
2003	7,17	7,58	871 164
2004	7,89	8,27	

Table 7: Internet and PC access in South Africa + Telecommunication investment (Sources: Internet, PC: United Nations Statistical Databases, http://unstats.un.org, 1995-2002), International Telecommunication Association, ITU, http://www.itu.int, 2003-2004; Investment: International Telecommunication Association Statistics, ITU, http://www.itu.int)

The table makes clear that there has been a continuous increase in the number of South-African internet and PC users. Correlation analysis shows that there is no significant relationship between telecommunication investment on the one hand and on the other hand internet usage (correlation coefficient = –0,261) or PC usage (correlation coefficient = –0,103). Although private annual telecommunication investment after a first increase decreased, internet and PC usage

increased in South Africa during the last decade. This shows that the neoliberal assumption that capital investment automatically brings technology to the people is a myth and that the main interest for corporations is not enabling access for all, but enabling opportunities for capital accumulation. That the major interest is an economic one has been verified by a global survey of business leaders conducted by the Global Information Infrastructure Commission in 2001 that shows that "the search for market opportunities was their principle motivation for caring about the global digital divide." *(Wilson 2006: 181 sq)*.

Although the total number of internet users has been continuously increasing, mainly white male well-situated individuals have benefited, whereas black and female individuals are largely excluded. In 2003 18% of black households had a telephone service compared to 82% of white households *(Barendse 2004: 53)*. The South African market research company Webchek found out that only 0.1% of black men and women have Web access at home, 0.6% of black women have Web access at work, 1.2% of black men have Web access at work, 0,9% of black women have a PC at home and 2,9% at work, and 1,3% of black men have a PC at home and 4,7% one at work *(Webchek: What percentage of black South Africans have Web access? http://www.webchek.co.za/library_black.html)*. A study conducted one year later showed that there had been no growth in Web access for black South African males and females, whereas the number of male white Web users had increased from 35.6% in April 1999 to

37.4% in April 2000 and the number of female white Web users from 7.4% to 10.6% *(Webchek: Growth rates in black and white male and female South African Web Users between May 1999 and May 2000. http://www.webchek.co.za/library_growth.html)*. Even Andrew Barendse who is keen on stressing liberalization admits that liberalism hasn't been successful in addressing "the problem of affordability" *(Barendse 2004: 65)*. These data show that because there are decisive underlying social, ideological (racism), and economic factors that result in structural inequalities, the digital divide is not closed by fostering privatization and liberalization. South Africa is still facing major social problems. The UNHDR *(2005)* calculated that 34,1% of the South African population lives on less than $2 per day, the life expectancy at birth decreased from 53,7 years in 1970-75 to 49,0 years in 2000-05, the public expenditures on education decreased from 5,9% of the GDP in 1990 to 5,3% of the GDP in 2000-02, the poorest 20% have 3,5% and the richest 20% 62,2% of the total income *(UNHDR, United Nations Human Development Report 2005: 228, 252, 256, 272)*. In 2005 South Africa with a gini index of 57,8 ranked number 9 in the list of countries with the highest income inequality *(Paraguay ranked evenly, UNHDR, United Nations Human Development Report, 2005: 270-273)*. As an effect of the polarization of the social structure there are very high crime rates: In 2003 22,9% of the population became victims of crime, 0,2% of the population were murdered (1 in 500 persons) *(Crime Levels in South Africa, National Victims of Crime Survey, http://www.issafrica.org/pubs/Monographs/No101/Chap6.htm)*

5.2.5 Africa and the Digital Divide: The Case of Nigeria

As an example of the global digital divide we will now discuss the situation in Nigeria.In 2005 Nigeria was among the least developed countries in the world, with a HDI of 0,453 it was ranked number 158 out of 177 countries *(UNHDR 2005: 221)*. In 2003 the life expectancy at birth was 43,4 years, the adult literacy rate 66,8% *(Ibid.: 221)*. In 2003 90,8% of the population had to live on less than $2 a day, and 70,2% on less than $1 a day *(Ibid.: 229)*. In 1996 (latest available data) the richest 10% of the population had 40,8% of the income, the poorest 10% 1,6% *(Ibid.: 272)*. Nigeria is the country with the 21st highest income inequality in the world *(2005, Gini coefficient=50,6, UNHDR 2005: 272)*.

The recent history of Nigeria, a former British colony that gained independence in 1960, has been characterized by frequent military coups and changing totalitarian regimes, ethnic violence, and civil war. Ibrahim Babangida became head of state in 1986 after yet another military coup. He agreed to sign up to the IMF's Structural Adjustment Program which has resulted in a continued focus of Nigerian politics on privatization and deregulation of the economy. Babangida was overthrown in 1993 by Sani Abacha who died in 1998. After Abacha's death Olusegun Obasanjo gained power as head of state after elections were held. The Obasanjo government has continued the neo-liberal reforms that were in former times rather blocked by political instability

and has accelerated the speed of privatization and liberalization.

In 1985 Nigerian Telecommuniations Limited (NITEL) was established as a public monopoly provider for telecommunications services by a merger of two prior existing public telecommunications institutions. In 1992 the Nigerian Communications Commission (NCC) was founded in order to provide licenses to private telecommunications operators. NITEL (which provides fixed lines as well as mobile lines (Mtel)) was privatized in 2006, the Nigerian firm TransCorp purchased 75% of the company's shares. In the cellular phone market the major providers are MTN, Econet, NITEL, and Globacom. In the area of fixed lines there are NITEL and Globacom. One also finds a number of smaller private operators such as Mobitel, Multi-Links , Reliance, Starcomms, and Intercellular in the areas of telephony and internet.

The National Policy of Telecommunications by the Federal Ministry of Communication of Nigeria *(2000)* has set itself as a goal the "total liberalization, competition and the private sector-led growth of the telecommunications sector", it argues that the "longer term objective of this policy is to enable all Nigerians [to] have access to all forms of modern information and communication technologies and services" and that "the privatisation programme is guided by the primary objective of expanding access to communications for all Nigerians, and ensuring that services are as affordable and technically advanced as possible." The dogma that pri-

vatization and commercial and profit-oriented organizations best advance universal service and universal access for all is never questioned. Experiences from many countries show that privatization and private investment can improve the quality and speed of telecommunications services, but there are several reasons why it is unlikely that such policies will promote universal access for all in developing countries:

Private-led companies are first of all profit-oriented which means that they will provide cheap access only as long as they are not faced by crisis which is an integral feature of capitalism and competitive markets. Hence there is an antagonism between cheap (or even free) access and the capitalist crisis economy.

Increasing quality and speed of services require continuous investments, the fixed capital costs will increase which requires increases in tariffs so that profitability is assured. Hence the poor and low-income classes might not be able to afford access. This is especially a problem in countries with high income inequality such as Nigeria.

Private firms might see the poor and low-income classes as financially weak and might want to focus on financially strong customers and hence exclude the first from their services.

Several critical studies have questioned the idea that privatization brings more well-being and quality of life to the poor in Nigeria *(Ariyo/Jerome 2004, Igbuzor 2003, Osimiri 2006)*.

Year	Internet Users per 100 Inhabitants	Internet Subscribers per 100 Inhabitants	PCs per 100 Inhabitants	Total annual investment in telecom (in million US$)	Total Phone Subscribers (Mobile and Fixed) per 100 inhabitants	Price of a 3- minute fixed telephone call (peak rate)	Price of a 3-minute local mobile call (peak rate)
1993		0,45	0,40	448	0,35	5,8	23
1994		0,19	0,43	458	0,37	5,8	23
1995		0,21	0,48	771	0,41		23
1996	0,01	0,20	0,53	1009	0,41		
1997	0,02		0,57	1090	0,40		
1998	0,03	0,49	0,61	1611	0,43		
1999	0,05	0,56	0,64	394	0,46		
2000	0,07	0,27	0,66	355	0,51		
2001	0,10	0,26	0,68	710	0,86	12,9	120
2002	0,35	0,47	0,71	1217	1,92	12,9	117
2003	0,61	0,69	0,70	-	3,27	12,9	50
2004	1,39		0,68	2780	8,00	19,5	36
2005	3,80		0,68	3287	15,07		

Table 4: Telecommunications statistics for Nigeria

The statistics in table 4 show that the accelerated speed of neo-liberal reforms since 1999 has increased the capital investments in telecommunications, but the number of internet subscribers per 100 inhabitants is in 2006 still below 1 user per 100 inhabitants and the price of phone calls from mobile and fixed lines is today much more expensive than 10 years ago. So e.g. a three-minute local call at peak time from a fixed line was in 2004 almost three times as expensive as in 1994. The number of total phone subscribers and internet users has increased during the last years in Nigeria, but that more people can afford owning a phone doesn't mean that they can afford using it. Also the number of in-

ternet subscribers and PCs per 100 people is still far below 1%[14], which is an indication that people (besides a lack of skills) lack the financial capacities for participating in the information age. In 2005 the average dial-up internet access cost US$67 per month and the average cost for wireless access was US$1000 per month *(Adomi 2005)*, whereas the per capita income per month was US$87,5 *(UNHDR 2005: 221)*. In Nigeria besides financial access and skills access also power outages pose a problem for ICT usage *(Adomi 2005, Oyelaran-Oyeyinka/Adeya 2004)*. Liberalization and privatization of telecommunications markets haven't solved the problem of the digital divide in Nigeria. This result is similar with the situation in other African countries such as Ghana and South-Africa that have experienced heavy phases of neoliberal deregulation. Nigeria is a country in which many people don't have access to a phone, let alone internet. This is an expression of the globally stratified class structure of informational capitalism. A study based on a total of 5616 interviews in Nigeria has shown that 36% of the respondents have to travel to other towns for making phone-calls, the average travel distance is 51 km, and the average duration for such a trip 1 hour and 41 minutes *(Intelcon 2005)*.

Some scholars have expressed hopes that the internet could be a technological fix to Nigeria's social problems. So e.g. ISOC Nigeria *(2005)*, Chris O. Ahiakwo *(1999)*, and

14 That there is an increase in internet users per 100 inhabitants might be due to the popularity of cyber cafés in Nigeria (Adomi 2005, Adomi/Adogbeji/Oduwole 2005, Oyelaran-Oyeyinka/Adeya 2004). In 2005 there were more than 2000 cyber cafés in Nigeria, most of them in Lagos (Adomi 2005).

Mike Jensen *(1999)* argue rather naively that telemedicine can provide a solution to the lack of medical practitioners in Nigeria because patients and doctors could be connected to doctors in developed countries. Telemedicine "will greatly face a change to the old and obsolete Nigerian medical system, thus granting even the people that cannot afford good medical attention without having to travel out" *(ISOC Nigeria 2005)*. Similar hopes were expressed by the Nigerian Minister of Science and Technology in his opening address at the conference at which the papers by Ahiakwo and Jensen were presented. Internet can improve health and other social communication, but first of all among other things much more financial resources and skilled practitioners are needed on site in developing countries.

Another suggestion for improving the situation is to install centres that allow free access to computers and the internet, to conduct internet awareness campaigns, and organize courses in digital literacy *(e.g. ISOC Nigeria 2005)*. Although this strategy also ignores larger societal issues such as the income divide between developing and developed countries, it at least is looking for public institutions and considers free access as important, whereas the commercial strategy simply sees capital accumulation with the help of ICTs as a solution.

Liberalizing telecommunications markets hasn't solved the problem of the digital divide in Nigeria and if there is a technological fix to social problems is highly questionable. These two strategies are two frequently suggested

solutions, but as the more systematic discussion of strategies that will follow now shows there are alternative and less one-dimensional strategies for solving the problem of the digital divides.

5.2.6 Solutions to the Global Digital Divide?

We agree with Jan van Dijk that "most likely, the digital divide within developing countries and between them and the developed world will continue to rise". *(Van Dijk 2005: 185)* But this is only the case if the current unequal economic and social development of global society continues, which clearly is not a foregone conclusion. We will now discuss six potential strategies for dealing with the global digital divide.

Wolfgang Hofkirchner *(2002)* has introduced a typology of worldviews that is based on the potential relationships between two categories: Reductionism establishes identity by eliminating the difference for the benefit of the smaller, less differentiated part, projectionism establishes identity by eliminating the difference for the benefit of the larger, more differentiated side, dualism eliminates identity by establishing a difference of the two sides, it is a disjunctive approach, finally dialectical thinking integrates the two sides so that the two sides have different and identical aspects, they yield a unity in diversity. Applying this typology to the realm of identifying potential solutions for the digital divide means

to consider technology as one category and society as the other. Technology in this case is the less differentiated side, it forms a part or subsystem of society.

Worldview	Technology	Society
Reductionism	Technological Reductionism: Innovationism, Leapfrogging, Technophilia	
Projectionism		Market Fundamentalism
Dualism	Technophobia	Technophobia
Dialectics	Dialectical Integrationism	

Table 8: A Typology of Potential Solutions to the Digital Divide

Strategy 1: Technological Reductionism 1 (Innovationism): Wait and see, market and technological development will cheapen access

Some say that historically new technologies such as electricity, the car, the telephone, or television have at first always been expensive and reserved to a small elite before they have diffused into society and have become accessible for the broad masses. Concerning the internet the same would be the case and hence one should just wait because after a certain time the digital divide would decline due to declining costs of technology and the effects of Moore's law[15] *(e.g. Compaine 2001, Norris 2001)*. This argument is not suitable for the topic of the global digital divide because

15 Moore's law says that the number of transistors on integrated circuits and hence processing power doubles every 18 months while the costs don't increase.

the wealth gap between Western and Third World countries is continuously increasing and developing countries are systematically excluded from wealth and technological progress. Hence to wait and see won't solve the problem. Also older technologies such as electricity, the telephone or TV are not widespread in developing countries, there is a general global technological divide.

This strategy can be seen as a form of technological reductionism because it is believed that the digital divide can be solved due to the characteristic feature of computer technology that it develops rapidly.

Strategy 2: Technological Reductionism 2 (Leapfrogging): By entering into markets and competition third world countries will be able leapfrog directly into information societies

Will ICTs help developing countries in leapfrogging certain stages of technological development and the industrial development stage so that they will catch up with Western societies and become information societies? Technological leapfrogging means "the implementation of a new and up-to-date technology in an application area in which at least the previous version of that technology has not been deployed." (Davison et al. 2000: 2) "In developed economies, newer versions of technology are often used to upgrade older versions, but in developing economies where still older versions of technology are often prevalent (if they exist at all), the opportunities for leapfrogging over the successive

generations of technology to the most recent version are that much greater." *(Davison et al. 2000: 2)* Leapfrogging might indeed be possible (e.g. establishing wireless communication in developing countries without requiring the earlier stage of a well-developed wire-line infrastructure), but the important question is not if leapfrogging is possible, but if it will benefit all people or only a tiny class. Market liberalization doesn't automatically result in the affordability of ICTs for all human beings, hence we doubt that liberalization enables leapfrogging as e.g. argued by Pippa Norris *(2001: 42)*: "Given a high-speed backbone, and market liberalization of telecommunication services, African nations may also be able to 'leapfrog' stages of industrialization through new technology by investing in fully digitized telecommunications networks rather than outdated analog-based systems."

This strategy is also technologically reductionist because here it is argued that computer technologies are so flexible that they allow the instant introduction of the newest standards and that the availability of these standards automatically transforms developing countries into information societies.

Strategy 3: Technological Reductionism 3 (Technophilia): Technologies for the Third World

Jeffrey James *(2003)* argues that one possibility for solving the global divide is to transport old computers from rich to poor countries. The lifetime of a Western business computer

is only 2-3 years, this is due to rapid technological progress and the non-upgradeability of most hardware which causes people to buy new computers every 2 or 3 years as well as heavy profits of the hardware and software industry. The danger in exporting old computers to developing countries is that the latter will become dumps for electronic waste just like many Western corporations and countries consider them as dumps for atomic waste. Besides that we see no reason why developing countries should not have the same right as Western countries to benefit to a full extent from technological progress just like other countries do. Nicholas Negroponte and the One Laptop Per Child (OLPC) association have introduced the $100 laptop as a strategy for advancing computer technology in developing countries. The problem is that this is a technology that is inferior to Western standards (very slow processor, no hard disk and drives, etc.) and hence can be produced and sold rather cheaply. If the $100 laptop is widely diffused in the Third World, Western actors selling these computers will derive profits, and a global divide in technological progress and standards will emerge that separates advanced Western technology users from users of less-advanced technologies in the Third World. What is needed are not new business strategies, but solutions to the material and social causes of the global digital divide as well as free advanced hardware, infrastructure, and software that are based on open standards and copy-left licenses. That Microsoft and Intel are critical of the $100 laptop doesn't mean that it is automatically a good idea;

this is rather a manifestation of the competition for profit and customers in developing countries. Open source technologies have a potential to transcend market logic, what is needed is an advanced $0 laptop with free software for people in developing countries as well as criticism of the capitalist logic that has caused the divide between developing and developed countries and solutions to the social, economic, political, and cultural inequalities that underpin the global digital divide.

Open source software or free software is software that provides four kinds of freedom for the user (Free Software Foundation 1996):

- The freedom to run the program, for any purpose.
- The freedom to study how the program works, and adapt it to specific needs. Access to the source code is a precondition for this.
- The freedom to redistribute copies so that someone can help his neighbour.
- The freedom to improve the program, and release these improvements to the public, so that the whole community benefits. Again access to the source code is a precondition for this.

Open source software has been realized mainly within projects such as the Linux operating system. Special licences (termed copy-left) such as the GNU-public license have been developed for assuring that free software has an open access to its source code. Free software hardly yields

economic profit; it is freely available on the internet and constitutes an alternative model of production that questions proprietary production models. The main reason why free software is a good opportunity for developing countries is not that it is cheap *(James 2003)*, but rather that by using free software developing countries don't depend on Western corporations such as Microsoft which aim not primarily at solving the digital divide, but at accumulating capital in developing regions by creating dependencies on Western technological standards such as Windows. Examples for a large-scale adoption of open source software can be found e.g. in Mexico, China, Zimbabwe, Ethiopia, and Mozambique *(Grassmuck 2004: 323-328)*.

The technophile strategy is a specific form of technological reductionism, it is very optimistic concerning the introduction of new and alternative computer technologies and argues that such technologies should be given to the third world for free or at low costs.

Strategy 4: Economic Projectionism (Market Fundamentalism): Attracting foreign capital will increase wealth for all and access in developing countries

Some stakeholders and scientists argue that liberalizing telecommunications markets in developing countries will attract Western corporations to invest in the ICT sector in these regions and that this will result in economic growth that benefits all and lowers internet and phone prices due

to competition *(e.g. Murelli 2002)*. It is naïve to assume that capitalists aim primarily at solving the digital divide, Western investment is only due to the search for new opportunities of expanding capital accumulation. The reality is as that the economic growth caused by Western investments in ICT markets benefits Western corporations and a small local elite, but does not at all assure access for all to ICTs and benefits from ICTs for all.

ICT applications in the areas of e-commerce, e-travelling, e-government, e-transport, e-health, e-education, e-learning, etc. are mainly developed in Western countries and benefit under current conditions mainly Western corporations if they are exported to developing countries because these corporations can extract profit by establishing dependencies on Western-defined standards. The Third World is not only largely excluded from wealth, but also from technological progress. In 1999 there was 56 billion dollars in Western foreign aid for the Third World and the latter paid 136 billion dollars debt service to Western countries *(Fuchs 2002: 370)*. Hence in total there was a value transfer from developing countries to developed countries. Although Africans make up 14,1% of the world population, Africa only accounts for 3,0% of the number of global internet users.

The World Summit on the Information Society (WSIS) sees a sustainable information society as a society in which ICTs promote participation and poverty eradication. For achieving a sustainable information society in developing countries, the WSIS Plan of Action *(WSIS 2003a, b)* argues on

the one hand that debt cancellation is needed, on the other hand that more private national and international markets for ICTs should be provided by developing countries. What is missing here is the insight that markets don't automatically eliminate poverty because they don't determine how wealth is distributed. Hence public institutions and regulatory practices are needed that ensure that all can enjoy the benefits from ICTs and economic production. WSIS sees capital only as a positive factor in achieving sustainable development. It assesses ICT markets as very positive means for advancing social sustainability, it neglects aspects of political regulation of the economy and income distribution, and gives priority to economic logic.

The market-oriented strategy is a form of projectionism, it argues that the solution to the digital divide can be achieved within only one subsystem of society, the economy. Market-driven and profit-oriented development is considered as best practice.

Strategy 5: Dualistic Technophobia: The Third World doesn't need technology

Some analysts argue that there is no need for technology in the Third World because there would be more basic problems such as poverty, health issues, and illiteracy. E.g. Ted Turner, the founder of CNN, has argued: "We talk about the digital divide. We talk about it all the time at Time-Warner

too. We want to get computers in everyone‘s hands. But half the people in the world don‘t have electricity. Over a billion don‘t have access to clean drinking water. Forget the digital divide, they need food, water, clothing, shelter and a chance for an education“[16].

Information and communication is just like social security a fundamental human right. This right is explicitly mentioned in article 19 of the Universal Declaration of Human Rights: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers“. In information societies opinions are increasingly expressed and articulated with the help of the internet and other new media. Hence material, usage, and skills access to new technologies is a contemporary expression of a fundamental human right. It is unjust that Western citizens enjoy more human rights and economic, social, cultural, and technological resources than citizens in developing countries.

The technophobe strategy is dualistic, it considers technology as completely unimportant, as a mechanism that can under no societal circumstances do any good. Technology and society are completely separated and technology is considered as unimportant.

16 http://www.geni.org/globalenergy/library/donor-letters/2000/Donor2000-07.shtml, accessed on October 31st, 2006.

Strategy 6: Dialectical integrationism: An integrated strategy combining the global redistribution of wealth, educational and health programs, digital literacy programs; public and free access to computers and technologies, open source technologies, and computers for the Third World

All five strategies discussed so far are reductionistic and one-dimensional, they don't see the interconnectedness of technology access, social factors, uneven development, human rights, and global capitalism. In order to tackle the global digital divide a fundamental redistribution of resources is needed as a precondition. Modern society is so rich and productive that it could easily afford a modest income, social security, literacy, and free access to computers and the internet for all humans. If this is a real possibility, then the best and most desirable option is to realize it. But this requires a redesign of global society because the digital divide is not first of all a technological problem, but an economic, social, and political issue. The digital divide is not only a divide in the access to and benefits from technology, but it also an expression of a more general divide in wealth and power. In order to close the global divide first of all measures such as a fundamental global redistribution of wealth, a full cancellation of all debts of development countries, a multiplication of development aid, the provision of free public health and educational programs, and a basic income guarantee for all absolutely poor individuals (that could be financed e.g. by a Tobin tax) could be realized. Based on such a material

foundation further measures such as the support of publicly provided free access to computers and internet for all, the public provision of digital literacy programs, local hardware production that aims at free or cheap local products and the large-scale adoption and production of free software-technologies (that are adapted to local needs) by developing countries seem to be feasible. Western actors or countries could also provide computers and equipment for free to the Third World, but these technologies should be technologically advanced, non-commercial, non-proprietary, free of cost, and open source in order to avoid the deepening of existing or emergence of new dependencies. Access to technologies should be universal, guaranteed by the public, free of cost, and based on open source. That it should be universal means that it should be guaranteed to all people. This can best be achieved if provided not by private organizations, but by public ones (such as communities) because the latter are not based on profit interests that might undermine universality, but on the common interest in common goods. The best guarantee for avoiding the emergence of capitalist interests in technology that might undermine universal access and the dependency of developing countries on Western capital, technologies, and interests, is the provision and development of technologies that are free of cost ("free access for all") and open source (accessible source code in order to advance co-operative engineering, high quality, and free access). Open source technologies can advance the emergence of local and regional communities for co-oper-

ative technology development that act independently from Western interests and the logic of profitability.

One innovative measure is to establish public funds for free access telecommunication services. In Brazil the Partido dos Trabalhadores (PT) government has established a fund for universal telecommunications services (FUST) financed in part by a one per cent tax on the gross revenues of telecommunications service providers. It provides ICT resources for schools, health facilities, and rural communities. Such funds can be financed as the Brazilian example shows by taxing capital and/or by development aid. An integrative strategy of fundamental redistribution mechanisms, free public access, educational and health programs, a gift economy, open source and open access technologies seems most promising to us. One-dimensional strategies ignore the interconnectedness of technological and societal issues. For overcoming the digital divide more fundamental strategies that aim at changing society and departing from the dominance of capitalist logic are needed.

The strategy of dialectical integrationism integrates societal and political measures in the areas of poverty reduction, development aid, debt service, health, or education, with the introduction of alternative technologies that can support local societal development and are in line with local knowledge and needs. This strategy is not one-sided and much more complex and realistic than the other five.

6. References

Addy-Nayo, Chris: 3G Mobile Policy: The Case of Ghana. International Telecommunication Union (ITU). http://www.itu.int/osg/spu/ni/3G/casestudies/ghana/ghanafinal.pdf

Adomi, Esharenana (2005) Internet Development and Connectivity in Nigeria. In: Electronic Library and Information Systems. Vol. 39. No. 3. pp. 257-268.

Adomi, Esharenana E./Adogbeji, Benson Oghenevwogaga/Oduwole, A.A. (2005) The Use of Internet Service Providers by Cybercafés in Nigeria. An Update. In: The Electronic Library. Vol. 23. No. 5. pp. 567-576.

Adorno, Theodor W. (1951) Kulturkritik und Gesellschaft. In: Kulturkritik und Gesellschaft I. Frankfurt am Main. Suhrkamp. pp. 11-30.

Ahiakwo, Chris O. (1999) The Role of Internet Connectivity in Nigeria. Paper presented at the ISOC 1999 Conference. Port Hartcourt, Nigeria. January 20-22, 1999. http://www.isocnig.org.ng/ConferencePapers/paper17.htm (accessed on October 31st, 2006).

Annan, Kofi (1999) Speech at the ITU Telecom Opening Ceremony. October 9th, 1999. http://www.itu.int/telecom-wt99/press_service/information_for_the_press/press_kit/speeches/annan_ceremony.html

Ariyo, Ademola/Jerome, Afeikhena (2004) Utility Privatization and the Poor. Nigeria in Focus. Global Issue Papers No. 12. Berlin. Heinrich Böll Foundation.

Atton, Chris (2004) An Alternative Internet. Edinburgh. Edinburgh University Press.

Bakardjieva, Maria (2005) Internet Society. The Internet in Everyday Life. London. Sage.

Balibar, Etienne (1997) Ius – Pactum – Lex. On the Constitution of the Subject in the Theologico-Political Tractate. In: Montag, Stolze (eds.), op. cit., 171-205.

Barber, Benjamin (2002) The Ambiguous Effects Of Digital Technology On Democracy In A Globalizing World. Berlin. Heinrich-Böll-Stiftung. http://www.wissensgesellschaft.org/themen/demokratie/democratic.pdf

Barber, Benjamin (1998) Which Technology and which Democracy? Transcript of a Talk at the Democracy and Digital Media Conference, MIT, May 8-9, 1998. http://web.mit.edu/m-i-t/articles/barber.html

Barber, Benjamin (1997) The New Telecommunications Technology: Endless Frontier or the End of Democracy? In: Constellations. Vol. 4. No. 2. pp. 208-228.

Barbrook, Richard (2006) The Class of the New. London. Openmute.org.

Barendse, Andrew (2004) Innovative regulatory and policy initiatives at increasing ICT connectivity in South Africa. In: Telematics and Informatics. Vol. 21. pp. 49-66.

Bartuschat, Wolfgang (1996) Baruch de Spinoza. München. Beck.

Bartuschat, Wolfgang (1992) Spinozas Theorie des Menschen. Hamburg. Meiner.

Beck, Ulrich (1992) Modern Society as a Risk Society. In: Stehr, Nico/Ericson, Richard V. (Eds.) (1992) The Culture and Power of Knowledge. Berlin. De Gruyter. pp. 199-214.

Beck, Ulrich (1983) Jenseits von Stand und Klasse? In: Kreckel, Reinhard (Ed.) (1983) Soziale Welt. Sonderband 2: Soziale Ungleichheiten. Göttingen. Otto Schwarz. pp. 35-74.

Bennholdt-Thomsen, Veronika/Mies, Maria/Werlhof, Claudia von (1992) Frauen, die letzte Kolonie. Zur Hausfrauisierung der Arbeit. Zürich. Rotpunktverlag. 3rd Edition.

Berardi, Franco (2003) What is the Meaning of Autonomy? http://www.republicart.net/disc/realpublicspaces/berardi01_en.pdf

Bhaskar, Roy (1993) Dialectic: The Pulse of Freedom. London: Verso.

Bloch, Ernst (1959) Das Prinzip Hoffnung. Frankfurt/Main. Suhrkamp.

Butler, Judith (1990) Gender Trouble: Feminism and the Subversion of Identity. New York. Routledge.

Castells, Manuel (2004) The Power of Identity. The Information Age: Economy, Society and Culture. Volume 2. Malden. Blackwell. Second Edition.

Castells, Manuel (2002) The Internet Galaxy. Oxford. Oxford University Press.

Castells, Manuel (2000) The Rise of the Network Society. Malden. Blackwell.

Coleman, Stephen (2005) Blogs and the New Politics of Listening. In: The Political Quarterly. Vol. 76. No. 2. pp. 273-280.

Compaine, Benjamin M. (2001) Information Gaps. Myth or Reality? In: Compaine, Benjamin (ed.) (2001) The Digital Divide. Facing A Crisis or Creating a Myth? Cambridge, Massachussetts. MIT Press. pp. 105-117.

Davison, Robert et al. (2000) Technology Leapfrogging in Developing Countries – An Inevitable Luxury? In: Electronic Journal of Information Systems in Developing Countries. Vol. 1. No. 5. pp. 1-10.

Deleuze, Giles (1988) Spinoza. Praktische Philosophie. Berlin. Merve.

Deleuze, Gilles (2001) Pure Immanance. New York: Zone Books.

Döring, Nicola (2003) Sozialpsychologie des Internet. Göttingen. Hogrefe.

Dutta, Soumitra et al. (2006) The Global Information Technology Report 2005-2006. Basingstoke. Macmillan.

Dyer-Witheford, Nick (2006) Species-Being and the New Commionism. Notes on an Interrupted Cycle of Struggles. In: The Commoner. No. 11. pp. 15-32.

Dyer-Witheford, Nick (1999) Cyber-Marx. Cycles and Circuits of Struggle in High-Technology Capitalism. Urbana/Chicago. University of Illinois Press.

Ehrenreich, Barbara (1976) What Is Socialist Feminism?. In: Hennessy, Rosemary/Ingraham, Chrys (Eds.) (1976) Materialist Feminism: A Reader in Class, Difference, and Women's Lives. London. Routledge. pp. 65-70.

Engels, Friedrich (1886) Dialektik der Natur. In: MEW, Vol. 20. Berlin. Dietz. pp. 305-570.

Engels, Friedrich (1877/78) Anti-Dühring. Moscow. Foreign Languages Publishing House.

Falch, Morten (2004) Tele-centres in Ghana. In: Telematics and Informatics. Vol. 21. pp. 103-114.

Federal Ministry of Communication of Nigeria (2000) National Policy of Telecommunications. http://www.ncc.gov.ng/NationalTelecomsPolicy/National%20Policy%20on%20Telecommunications.pdf (accessed on October 31st, 2006).

Florida, Richard (2002) The Rise of the Creative Class. New York. Basic Books.

Flusser, Vilém (1996a) Ins Universum der technischen Bilder. Göttingen. European Photography.

Flusser, Vilém (1996b) Kommunikologie. Frankfurt/Main. Fischer.

Foucault, Michel (1977) Nietzsche, Genealogy, History. In Language, Counter-Memory, Practice: Selected Essays and Interviews. Ithaca: Cornell University Press. pp. 139-164.

Foucault, Michel (2002) The Archaeology of Knowledge. Oxon: Routledge.

Free Software Foundation (1996) The Free Software Definition. http://www.gnu.org/philosophy/free-sw.html

Fuchs, Christian (2008) Internet and Society: Social Theory in the Information Age. New York. Routledge.

Fuchs, Christian (2007) Transnational Space and the "Network Society". In: Twenty-First Century Society. Vol. 2. No. 1. pp. 49-78.

Fuchs, Christian (2006a) Anti-Globalization. In: Bevir, Mark (Ed.) (2006) Encyclopedia of Governance. London. Sage.

Fuchs, Christian (2006b) The Self-Organization of Cyberprotest. In: Morgan, Konrad/Brebbia, Carlos, A./Spector, J. M. (Hrsg.) (2006) The Internet Society II. Southampton/Boston. WIT Press. pp. 275-295.

Fuchs, Christian (2006c) The Self-Organization of Social Movements. In: Systemic Practice and Action Reseearch. Vol. 19. No. 1. pp. 101-137.

Fuchs, Christian (2006d) The Self-Organization of Virtual Communities. In: Journal of New Communications Research. Vol. 1. No. 1. pp. 29-68.

Fuchs, Christian (2005a) Emanzipation! Technik und Politik bei Herbert Marcuse. Aachen. Shaker.

Fuchs, Christian (2005b) The Internet as a Self-Organizing Socio-Technological System. In: Cybernetics & Human Knowing. Vol. 12. No. 3. pp. 57-81.

Fuchs, Christian (2003a) Some Implications of Pierre Bourdieu's Works for a Theory of Social Self-Organization. In: European Journal of Social Theory. Vol. 6. No. 4. pp. 387-408.

Fuchs, Christian (2003b) Structuration Theory and Self-Organization. In: Systemic Practice and Action Research, Vol. 16 (2003), No. 4. pp. 133-167.

Fuchs, Christian (2002) Krise und Kritik in der Informationsgesellschaft. Wien/Norderstedt. Libri BOD.

Fuchs, Christian/Horak, Eva (2008) Africa and the Digital Divide. In: Telematics and Informatics. Vol. 25. No. 2. pp. 99-116.

Fuchs, Christian/Horak, Eva (2007) Informational Capitalism and the Digital Divide in Africa. In: Masaryk Journal of Law and Technology. Vol. 1. No. 2. pp. 11-32.

Garnham, Nicholas (1990) Capitalism and Communication. London. SAGE.

Giddens, Anthony (1980) The Class Structure of the Advanced Societies. London. Hutchinson. 2nd Edition.

Gillmor, Dan (2006) We the Media. Grassroots Journalism by the People, for the People. Beijing. O'Reilly.

Goldthorpe, John H. (2000) On Sociology. Oxford. Oxford University Press.

Gorz, André (2004) Wissen, Wert und Kapital. Zürich. Rotpunkt.

Gorz, André (2001) Welches Wissen? Welche Gesellschaft? Textbeitrag zum Kongress „Gut zu wissen", Heinrich-Böll-Stiftung, 5/2001.

Gorz, André (1980) Farewell to the Working Class. London. Pluto.
Grassmuck, Volker (2004) Freie Software. Zwischen Privat- und Gemeineigentum. Bonn. Bundeszentrale für politische Bildung.

Hacker, Kenneth L./Van Dijk, Jan (Eds.) (2000) Digital Democracy. Issues of Theory and Practice. London. SAGE.
Hardt, Michael (2004) Today's Bandung? In: Mertes, Tom (Ed.) (2004) A Movement of Movements. Is Another World Really Possible? London. Verso. pp. 230-236.
Hardt, Michael/Negri, Antonio (2004) Multitude. War and Democracy in the Age of the Empire. New York. Penguin Press.
Hardt, Michael/Negri, Antonio (2000) Empire. Cambridge, MA. Harvard University Press.
Haug, Wolfgang Fritz/Karydas, Dimitris/Weber, Thomas (2004) Immanente Kritik. In: Haug, Wolfgang Fritz (Ed.) Historisch-Kritisches Wörterbuch des Marxismus, Vol. 6/1. Hamburg: Argument. pp. 798-810.
Hegel, Georg Wilhelm Friedrich (1830) Enzyklopädie der philosophischen Wissenschaften im Grundrisse. Erster Teil: Die Wissenschaft der Logik. Frankfurt am Main: Suhrkamp.
Hegel, Georg Wilhelm Friedrich (1874) The Logic of Hegel. translated from the encyclopaedia of the philosophical sciences by William Wallace. 2nd Edition. London. Oxford University Press.
Hindrichs, Gunnar (ed.)(2006) Die Macht der Menge. Über die Aktualität einer Denkfigur Spinozas. Heidelberg, Winter.
Hitler, Adolf (1925) Mein Kampf Band 1. München. Eher.
Hofkirchner, Wolfgang (2002) Projekt Eine Welt. Oder. Kognition, Kommunikation, Kooperation. Münster. LIT Verlag.
Holz, Hans Heinz (2005) Weltentwurf und Reflexion: Versuch einer Grundlegung der Dialektik. Stuttgart. J.B. Metzler.
Horkheimer, Max (1970) Traditionelle und kritische Theorie. Frankfurt am Main. Fischer.
Horkheimer, Max/Adorno, Theodor W. (2002) Dialectic of the Enlightenment. Stanford, MA. Stanford University Press.
Howard, Michael W. (2002) Liberal and Marxist Justifications for Basic Income. Paper for the 1st Congress of the US Basic Income Guarantee Network, New York, March 8th-9th, 2002.
Howard, Philip E.N./Rainie, Lee/Jones, Steve (2002) Days and Nights on the Internet. In: In: Wellman, Berry/Haythornethwaite, Catherine (Eds.) (2002) The Internet in Everyday Life. London. Blackwell. pp. 45-73.
Huws, Ursula (2003) The Making of a Cybertariat. New York. Monthly Review Press.

Igbuzor, Otive (2003) Privatization in Nigeria. Critical Issues of Concern to Civil Society. Paper presented at the roundtable discussion on "The Privatization Programme in Nigeria", Abuja, September 3rd, 2003. http://www.cdd.org.uk/pdf/nigeria_privatisation.pdf (accessed on October 31st, 2006).

Intelecon (2005) Final Report on Expanded National Demand Study for Universal Access Project Part 1: Household Survey. Vancouver, BC, Canada. Intelecon.

International Telecommunication Union (2006) World Telecommunication/ICT Development Report. Geneva. ITU.

ISOC Nigeria (2005) ISOC Nigeria Chapter Presentation and Activities. http://www.isoc.org/isoc/conferences/inet/04/ISOC-NIGERIA.pp (accessed on October 31st, 2006).

James, Jeffrey (2003) Bridging the Global Digital Divide. Cheltenham. Edward Elgar.

Jensen, Mike (1999) Models for Sustainable Internet Development in Nigeria. Paper presented at the ISOC 1999 Conference. Port Hartcourt, Nigeria. January 20-22, 1999. http://www.isocnig.org.ng/ConferencePapers/Paper9.htm (accessed on October 31st, 2006).

Jones, Steven G. (Ed.) (1995) Cybersociety. Computer-Mediated Communication and Community. Thousand Oaks. Sage.

Kahn, Richard/Kellner, Douglas (2004) New Media and Internet Activism. From the 'Battle of Seattle' to Blogging. In: New Media & Society. Vol. 6. No. 1. pp. 87-95.

Karatani, Kojin (2003) Transcritique. On Kant and Marx. Cambridge, MA. MIT Press.

Katz, James E./Rice, Ronald E. (2002) Syntopia. Access, Civic Involvement, and Social Interaction on the Net. In: Wellman, Berry/Haythornethwaite, Catherine (Eds.) (2002) The Internet in Everyday Life. London. Blackwell. pp. 114-38.

Keane, John (2000) Structural Transformation of the Public Sphere. In: Hakker/Van Dijk (2000). pp. 71-89.

Kline, David/Burstein, Dan (2005) blog! How the Newest Media Revolution is Changing Politics, Business and Culture. New York. CDS Books.

Kroker, Arthur/Weinstein, Michael (1994) Data Trash. The Theory of the Virtual Class. New York. St Martin's Press.

Kuhns, Peter/Crew, Adrienne (2006) Blogosphere. Best of Blogs. Indianapolis. Que.

Lazzarato, Maurizio (1996) Immaterial Labor. In: Virno, Paolo/Hardt, Michael (Eds.) (1996) Radical Thought in Italy. Minneapolis. University of Minnesota Press. pp. 133-147.

Lewis, Charley (2005) Negotiating the Net: The Internet in South Africa (1990-2003). In: Information Technologies and International Development. Vol. 2. No. 3. pp. 1-28.
Lévy, Pierre (1997) Collective Intelligence. New York. Plenum.
Lukes, Steven (1985) Marxism and Morality. Oxford. Oxford University Press.
Luxemburg, Rosa (1913/1979) Die Akkumulation des Kapitals. Berlin. Buchhandlung Vorwärts Paul Singer.
Lyotard, Jean-Francois (1979) The Postmodern Condition. Manchester. Manchester University Press.

Mansell, Robin/Wehn, Uta (Eds.) (1998) Knowledge Societies. Information Technology for Sustainable Development. Oxford. Oxford University Press.
Marcuse, Herbert (1999) Reason and Revolution. Hegel and the Rise of Social Theory. New York. Humanity Books.
Marcuse, Herbert (1969a) An Essay on Liberation. Boston. Beacon Press.
Marcuse, Herbert (1969b) Repressive Tolerance. In: Wolff, Robert Paul/ Moore jr., Barrington/Marcuse, Herbert (1969) A Critique of Pure Tolerance. Boston. Beacon Press. pp. 95-137.
Marcuse, Herbert (1968) The Concept of Essence. In: Negations. Boston. Beacon Press. pp. 43-87.
Marcuse, Herbert (1964) Ethik und Revolution. In: Schriften, Vol. 8. Frankfurt/Main. Suhrkamp. pp. 100-114.
Marcuse, Herbert (1958) Soviet Marxism. New York. Columbia University Press.
Marcuse, Herbert (1937) Zum Begriff des Wesens. In: Schriften, Vol. 3. Frankfurt/Main. Suhrkamp. pp. 45-84.
Margonelli, Lisa (1999) Inside AOL's "Cyber-Sweatshop". In: Wired. Vol. 7. No. 10 (October 1999).
Marx, Karl (1894) Das Kapital. Band 3. MEW, Vol. 25. Berlin. Dietz.
Marx, Karl (1875) Kritik des Gothaer Programms. In: MEW, Vol. 19. Berlin. Dietz. pp. 13-32,
Marx, Karl (1868) Über die Nationalisierung des Grund und Bodens. In: MEW, Vol. 18. Berlin. Dietz. pp. 59-62.
Marx, Karl (1867) Das Kapital. Band 1. MEW, Vol. 23. Berlin. Dietz.
Marx, Karl (1858/59) Zur Kritik der politischen Ökonomie. In: MEW, Vol. 13. Berlin. Dietz. pp. 3-160.
Marx, Karl (1857/58) Grundrisse der Kritik der politischen Ökonomie. MEW, Vol. 42. Berlin. Dietz.
Marx, Karl (1844a) Einführung in die Kritik der Hegelschen Rechtsphilosophie. In: MEW, Vol. 1. Berlin. Dietz. pp. 378-391.

Marx, Karl (1844b) Ökonomisch-Philosophische Manuskripte. In: MEW, Vol. 40. Berlin. Dietz. pp. 465-588.

Marx, Karl (1843) Briefe an Ruge. In: MEW, Vol. 1. Berlin: Dietz. pp. 337-346.

Marx, Karl/Engels, Karl (1848) Manifest der Kommunistischen Partei. In: MEW, Vol. 4. Berlin. Dietz. pp. 459-493.

McLaughlin, Margaret L./Osborne, Kerry K./Smith, Christine B. (1995) Standards of Conduct on Usenet. In: Jones (1995). pp. 90-111.

Mies, Maria (1996) Patriarchat und Kapital. Frauen in der internationalen Arbeitsteilung. Zürich. Rotpunkt. 5. Auflage.

Montag, Warren / Ted Stolze (eds.)(1997) The New Spinoza. University of Minnesota Press, Minneapolis, London.

Murelli, Elena (2002) Breaking the Digital Divide. Implications for Developing Countries. London. Commonwealth Secretariat.

Negri, Antonio (2004) Subversive Spinoza. Manchester. Manchester University Press.

Negri, Antonio (2002) Approximations: Towards an Ontological Definition of the Multitude. In: Multitudes. No. 9. pp. 36-48. http://multitudes.samizdat.net/article.php3?id_article=269 (Accessed on November 21st, 2006).

Negri, Antonio (1999) Insurgencies. Constituent Power and the Modern State. University of Minnesota Press, Minneapolis, London.

Negri, Antonio (1997) Reliqua Desiderantur. A Conjecture for a Definition of the Concept of Democracy in the Final Spinoza. In: Montag, Stolze (eds.), op. cit., 219-238.

Negri, Antonio (1991) The Savage Anomaly. The Power of Spinoza's Metaphysics and Politics. Minneapolis. University of Minnesota Press.

Negri, Antonio (1982) Archaeology and Project. The Mass Worker and the Social Worker. In: Negri, Antonio (1988) Revolution Retrieved. Selected Writings on Marx, Keynes, Capitalist Crisis & New Social Subjects 1967-83. London. Red Notes. pp. 199-228.

Nie, Norman H./Hillygus, D. Sunshine/Erbring, Lutz (2002) Internet Use, Interpersonal Relations and Sociability. In: Wellman, Berry/Haythornethwaite, Catherine (Eds.) (2002) The Internet in Everyday Life. London. Blackwell. pp. 215-243.

Norris, Christopher (1991) Spinoza and the Origins of Modern Critical Theory. Oxford: Blackwell.

Norris, Pippa (2001) *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide. New York. Cambridge University Press.*

Office for National Statistics (2006) Household Income. Published on May 12th, 2006. Internet: http://www.statistics.gov.uk/CCI/nugget.asp?ID=334&Pos=2&ColRank=2&Rank=224 (Accessed on November 20th, 2006).

O'Reilly, Tim (2005) What Is Web 2.0? http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html?page=1 (Accessed on November 21st, 2006)

Osmiri, Peter (2006) Neoliberalism and the Quest for Good Governance in Nigeria. Paper presented at the Conferenct on Accountability, Responsibility, and Integrity in Development. Makerere University. Kampala, Uganda. July 19th-22nd, 2006. http://www.dev-ethics-uganda.org/Peter%20Osimiri.pdf (accessed on October 31st, 2006).

Oyelaran-Oyeyinka, Banji/Adeya, Catherine Nyaki (2004) Internet Access in Africa. Empirical Evidence from Kenya and Nigeria. In: Telematics and Informatics. Vol. 21. No. 1. pp. 67-81.

Partnership on Measuring ICT for Development (2005) Core ICT Indicators. Beirut. UN-ESCWA

Peery, Nelson (1997) The Birth of a Modern Proletariat. In: Davis, Jim/Hirschl, Thomas/Stack, Michael (Ed.) (1997) Cutting Edge. Technology, Information, Capitalism and Social Revolution. London/New York. Verso. pp. 302.

Perelman, Michael (1998) Class Warfare in the Information Age. New York. St. Martin's Press.

Poulantzas, Nicos (1973/1982) On Social Classes. In: Giddens, Anthony/Held, David (Eds.) (1982) Classes, Power, and Conflict. Berkeley. University of California Press. pp. 101-111.

Resnick, Stephen A./Wolff, Richard D. (1987) Knowledge and Class. A Marxian Critique of Political Economy. Chicago. University of Chicago Press.

Rheingold, Howard (2000) The Virtual Community. Homesteading on the Electronic Frontier. Cambridge, MA. MIT Press.

Rorty, Richard (1998) Against Unity. In: The Wilson Quarterly. No. 22. pp. 28-38.

Rosenberg, Alfred (1930) Der Mythus des zwanzigsten Jahrhunderts. München. Hoheneichen.

Saveri, Andrea/Rheingold, Howard/Vian, Kathi (2005) Technologies of Cooperation. Palo Altho, CA. Institute for the Future.

Sayers, Sean (1997) Progress and Social Criticism. In: The European Legacy: Towards New Paradigms. Vol. 2. No. 3. pp. 554-559.

Schuler, Douglas (1996) New Community Networks. Wired For Change. Reading, MA. Addison-Wesley.

Schuler, Douglas (1995) Creating Public Space in Cyberspace. The Rise of New Community Networks. http://www.scn.org/ip/commnet/iwdec.html

Sciadas, George (Ed.) (2005) From the Digital Divide to Digital Opportunities. Measuring Infostates for Development. Montreal. NRC Press.

Spinoza, Baruch de (1999) Ethik in geometrischer Ordnung dargestellt. Hamburg. Meiner.

Spinoza, Baruch de (1994) Theologisch-politischer Traktat. Hamburg. Meiner.

Stallman, Richard (2005) Copyright and Globalization in the Age of Computer Networks. In: Aiyer Ghosh, Rishab (Ed.) (2005) CODE. Collaborative Ownership and the Digital Economy. Cambridge, MA. MIT Press. pp. 317-335.

Stovring, John (2004) 'The Washington Consensus' in relation to the telecommunication sector in African developing countries. In: Telematics and Informatics. Vol. 21. pp. 11-24.

Terpstra, Marin (1994) What does Spinoza mean by 'potentia multitudines"? In: Etienne Balibar, Helmut Seidel, Manfred Walther (eds.), Freiheit und Notwendigkeit. Wuerzburg: Koenighausen und Neumann, 85-98.

Terranova, Tiziana (2000) Free Labor. Producing Culture for the Digital Economy. In: Social Text. Vol. 18. No. 2. pp. 33-57.

Turkle, Sherry (1997) Life on Screen. Identity in the Age of the Internet. New York. Touchstone.

United Nations (2005) UN Global E-government Readiness Report 2005. From E-government to E-inclusion. New York. United Nations.

United Nations Educational, Scientific and Cultural Organization (2003) Performance Indicators for ICT in Education. Bangkok. UNESCO.

United Nations Human Development Report (2005) UNHDR 2005. New York/Oxford. United Nations Development Programme (UNDP).

U.S. Census Bureau (2004) Income, Poverty, and Health Insurance Coverage in the United States. Washington, DC. U.S. Government Printing Office.

Van Dijk, Jan (2006) The Network Society. Social Aspects of New Media. Second Edition. London. SAGE.

Van Dijk, Jan (2005) The Deepening Divide. Inequality in the Information Society. London. SAGE.

Van Dijk, Jan/Hacker, Kenneth (2003) The Digital Divide as a Complex, Dynamic Phenomenon. In: The Information Society. Vol. 19. pp. 315-326.

Van Parijs; Philippe (1995) Real Freedom for All. Oxford. Oxford University Press.

Van Parijs, Philippe (1989) A Revolution in Class Theory. In: Wright, Erik Olin et al. (1989). pp. 213-241.

Vaki, Fotini (2005) Adorno contra Habermas. The Claims of Critical Theory as Immanent Critique. In: Historical Materialism. Vol. 13. No. 4. pp. 79-120.

Vowe, Gerhard/Emmer, Martin (2001) Elektronische Agora? Digitale Spaltung? Der Einfluss des Internet-Zugangs auf politische Aktivitäten der Bürger. Ergebnisse einer empirischen Untersuchung. In: Baum, Achim/Schmidt, Siegfried J. (Eds.) (2001) Fakten und Fiktionen. Über den Umgang mit Medienwirklichkeiten. Konstanz. UVK. pp . 419-432.

Wark, McKenzie (2004) A Hacker Manifesto. Version 4.0. http://subsol.c3.hu/subsol_2/contributors0/warktext.html (November 12th, 2006)

Wayne, Mike (2003) Marxism and Media Studies. London. Pluto Press.

Weber, Max (1947) The Theory of Social and Economic Organisation. London. Hodge.

Werlhof, Claudia von (1991) Was haben die Hühner mit dem Dollar zu tun? Frauen und Ökonomie. München. Frauenoffensive.

Williams, Raymond (1985) Keywords. New York. Oxford University Press.

Wilson, Ernest J. (2006) The Information Revolution and Developing Countries. Cambridge, MA. MIT Press.

World Bank (1999) World Development Report 1998/99: Knowledge for Development. Washington, DC. World Bank.

World Summit on the Information Society (WSIS) (2003a) Declaration of Principles. Building the Information Society: A Global Challenge in the New Millennium Online: http://www.itu.int/wsis/docs/geneva/official/dop.html

World Summit on the Information Society (WSIS) (2003b) Plan of Action. Online: http://www.itu.int/wsis/docs/geneva/official/poa.html

Wright, Erik Olin (Ed.) (2005a) Approaches to Class Analysis. Cambridge. Cambridge University Press.

Wright, Erik Olin (2005b) Foundations of a Neo-Marxist Class Analysis. In: Wright (2005a). pp. 4-30.

Wright, Erik Olin (1997) Class Counts. Comparative Studies in Class Analysis. Cambridge. Cambridge University Press.

Wright, Erik Olin et al. (1989) The Debate on Classes. London. Verso.

Yovel, Yirmiyahu (1994/1989) Spinoza. Die Abenteuer der Immanenz. Goettingen: Steidl (2 vols.), Princeton University Press.

Zachary, Pascal G. (2002) Ghana's Digital Dilemma.
http://www.ghanaweb.com/GhanaHomePage/features/artikel.php?ID=25024
Zimmermann, Rainer E. (1991) Selbstreferenz und poetische Praxis. Cuxhaven. Junghans.
Zimmermann, Rainer E. (2000) Loops and Knots as Topoi of Substance. Spinoza Revisited. www.arxiv.org/pdf/gr-qc/0004077 [long version].
Zimmermann, Rainer E. (2002) Kritik der interkulturellen Vernunft. Paderborn. Mentis.
Zimmermann, Rainer E. (2004) System des transzendentalen Materialismus. Paderborn. Mentis.
Zimmermann, Rainer E. (2008) Co-operative Games of Universal Agents. In press. Minneapolis. Minnesota University Press.